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Resilience and Mental Health of Students Attending California's Continuation High Schools

A Dissertation by

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Chapman University

Orange, CA

Attallah College of Educational Studies

Submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Education, Emphasis in School Psychology

August 2021

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June 2021

Resilience and Mental Health of Students Attending California's Continuation High Schools

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DEDICATION

For my three wild ones, *Skylar Lee*, *Jordan Lynne*, and *Jude Dixon*, who have proved to be both adorable masters of distraction and tremendous sources of inspiration.

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I would be remiss not to acknowledge my village, whose unwavering support helped fuel my motivation for completing this study. To my family, I never could have achieved this without your support. To my children's grandparents, thank you for stepping in to help with the kids and providing much-needed relief. To my life partner, Kevin, thank you for always supporting me in my endeavors and for all that you do for our family. We make a good team, and I am very grateful for that.

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ABSTRACT

Resilience and Mental Health of Students Attending California's Continuation High Schools

by Brianna J. Meshke McLay

In California, most students who transfer to continuation high schools have not earned sufficient credits to graduate on time with their peers. As a group, these students are more likely to engage in risk behaviors. Despite this, very few studies have focused on mental health outcomes and sources of resilience for this specific population. This study utilized data from the California Healthy Kids Survey (CHKS) to explore resilience assets and mental health outcomes (depression and suicidality) for continuation high school students. Overall, continuation students had significantly lower levels of most resilience assets and higher rates of both depression and suicidal ideation than their peers attending traditional schools. Female continuation students had the highest rates of adverse mental health outcomes. Continuation students who reported low levels of school connectedness were nearly twice as likely to attend a school with a low or medium cohort graduation rate versus a high rate. Results of logistic regression models indicated that continuation students who reported a high level of caring staff-student relationships were more likely to report depression symptoms than students who reported low levels. Higher levels of school connectedness, student meaningful participation, and internal resilience were associated with a decreased likelihood of reporting depression. Meanwhile, the strongest predictor of not reporting suicidal ideation was a high level of school connectedness. Higher levels of student meaningful participation also decreased the likelihood of reporting suicidal ideation compared to those with low levels. Although high levels of caring student-staff relationships were not predictive, students who reported medium levels were less likely to report suicidal ideation than those who reported low levels. Additionally, higher levels of supportive

adult relationships at home and internal resilience were associated with a decreased likelihood of reporting suicidal ideation. With knowledge of how specific resilience assets function to reduce the likelihood of adverse mental health outcomes for continuation students, staff working in continuation settings are well-situated to foster resilience for these at-promise youth.

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Meaning</u>
----------------------------	-----------------------

A.B. 570	Assembly Bill Number 570
ACEs	Adverse Childhood Experiences
API	Academic Performance Index
ASAM	Alternative Schools Accountability Model
CalSCHLS	California School Climate, Health, and Learning Survey
CDE	California Department of Education
CHKS	California Healthy Kids Survey
CU IRB	Chapman University Institutional Review Board
DASS	Dashboard Alternative School Status
LCAP	Local Control and Accountability Plan
LCFF	Local Control Funding Formula
MOU	Memorandum of Understanding
RYDM	Resilience & Youth Development Module
SBE	State Board of Education
S.E.	Standard Error
SES	Socioeconomic Status
TUPE	Tobacco Use and Prevention Education
WASC	Western Association of Schools and Colleges
CCEA	California Continuation Education Association

LIST OF SYMBOLS

<u>Symbol</u>	<u>Meaning</u>
B	Beta coefficient
df	Degrees of freedom
n	Sample
p	Probability value
r	Correlation coefficient
χ^2	Chi-square statistic

Chapter 1: Introduction

Continuation high schools in California offer an alternative education program for students who struggle in a traditional high school setting. While some students may require a more flexible school schedule due to work or family obligations (California Department of Education [CDE], n.d.-c), the majority of students attending continuation high schools in California have not earned sufficient credits to remain on track to graduate on time with their peers (Ruiz de Velasco et al., 2008). Although the idea behind continuation high schools is to offer students an additional opportunity to earn their high school diploma, continuation schools have higher rates of school failure than traditional schools (Taylor & Rumberger, 2010), which raises questions about the effectiveness of this system.

Nearly 30 years ago, Kelly (1993) criticized policymakers for providing an additional opportunity for students without ensuring that it was a better one. Years later, Ruiz de Velasco et al. (2008) found that despite the tens of thousands being served by California's continuation schools each year, these schools and their students remained "largely invisible" (p.1). Since then, there have been some encouraging developments in terms of accountability for continuation schools, such as Assembly Bill Number 570 (A.B. 570), which requires districts to establish written procedures for the identification and voluntary placement of students in continuation schools (Continuation Schools: Policies and Procedures: Voluntary Placement, 2013). In addition, the Dashboard Alternative School Status (DASS) program is part of a new online accountability system for California's alternative schools, including continuation schools (CDE, n.d.-d). To fairly evaluate school progress, the program includes two modified measures (CDE, n.d.-f). However, more work needs to be done to ensure that districts and individual schools are complying with the expectations set forth by A.B. 570 and the DASS program.

In an effort to move away from a deficit-centered approach, the term *at-risk* in California Education Code has been replaced with *at-promise* (McKenzie, 2019). The term at-risk comes up frequently in the existing literature on continuation students, with a heavy focus on demographics and risk behaviors. We know that students who are Hispanic, African American, English learners, and in foster care tend to be overrepresented in California's continuation schools (Henderson, 2018; Ruiz de Velasco et al., 2008). We have also known for quite some time that as a group, students attending continuation schools are more likely to engage in risky behaviors (Johnson & Taliaferro, 2012; Lenzi et al., 2015b; Ruiz de Velasco et al., 2008; Sussman et al., 1995). Despite this, very few studies have focused on mental health outcomes and sources of resilience for these students.

A strengths-based construct, resilience refers to an individual's ability to persist and cope successfully despite exposure to adverse circumstances (Hollister-Wagner et al., 2001). Individuals are inherently capable of demonstrating resilience, and our ability to be resilient is strengthened by protective factors found in our environment (Benard, 2004). In the compensatory model of resilience, *promotive factors* are positive personal attributes and environmental factors that directly affect an outcome by offsetting risk factors (Fergus & Zimmerman, 2005). From an ecological-transactional perspective, social problems occur when risk factors outweigh compensatory ones (Cicchetti & Rizley, 1981), which highlights the importance of identifying sources of resilience. More information about potential compensatory factors for this population is critical for effective program development and improvement for these youth.

Statement of Purpose

It is imperative to identify promotive factors that may offset risk factors and increase the overall probability of positive outcomes for continuation high school students. With this knowledge, educators working in continuation schools are in a position to help foster resilience for these at-risk students who have been historically underserved by their districts.

Therefore, the purpose of this study was to identify resilience assets and mental health outcomes for these students and to explore the relationships between specific resilience assets and negative mental health outcomes (depression and suicidality) for continuation students. Additionally, the relationships between school-based resilience assets and school-level graduation rates were examined. To achieve these aims, this study used data from the 2017-2018 and 2018-2019 administrations of the California Healthy Kids Survey (CHKS) Core Module and Resilience & Youth Development Module. These surveys were an ideal source of extant data as they are designed to provide school districts with information to promote positive school environments, foster resilience, and prevent risk behaviors and other obstacles to achievement (WestEd, n.d.-b).

Research Questions

This study explored the following six research questions:

1. Do students attending continuation high schools and those attending traditional high schools differ significantly in terms of their levels of resilience assets and mental health outcomes?
 - a. Are there significant differences in the school-based resilience levels of students attending continuation schools and those attending traditional high schools?

- b. Is there a significant difference in the level of supportive adult relationships at home for students attending continuation schools and those attending traditional high schools?
 - c. Is there a significant difference between the average internal resilience scores for students attending continuation schools and those attending traditional high schools?
 - d. Do students attending continuation high schools experience feelings of depression or thoughts of suicide at significantly higher rates than their peers attending traditional high schools?
- 2. Are there significant differences between resilience assets and mental health outcomes for male and female students attending continuation high schools?
 - a. Are there significant differences between the school-based resilience scores for male and female students attending continuation high schools?
 - b. Is there a significant difference between supportive adult relationships at home for male and female students attending continuation high schools?
 - c. Is there a significant difference between the average internal resilience scores for males and females attending continuation high schools?
 - d. Is there an association between sex and feelings of depression among students attending continuation high schools?
 - e. Is there an association between sex and suicidality among male and female students attending continuation high schools?
- 3. Do school resilience assets among continuation high school students predict school-level graduation rates?

4. Is there a relationship between school resilience assets and mental health outcomes among students attending continuation high schools?
 - a. Is there a relationship between school resilience assets and depression among students attending continuation high schools?
 - b. Is there a relationship between school resilience assets and suicidality among students attending continuation high schools?
5. Is there a relationship between supportive adult relationships at home and mental health outcomes among students attending continuation high schools?
 - a. Is there a relationship between supportive adult relationships at home and depression among students attending continuation high schools?
 - b. Is there a relationship between supportive adult relationships at home and suicidality among students attending continuation high schools?
6. Is there a relationship between internal resilience assets and mental health outcomes among students attending continuation high schools?
 - a. Is there a relationship between internal resilience assets and depression among students attending continuation high schools?
 - b. Is there a relationship between internal resilience assets and suicidality among students attending continuation high schools?

Chapter 2: Literature Review

Given the complexity of accurately predicting who will evade adverse outcomes in the face of risk exposure, it is imperative to examine compensatory factors in addition to risk factors. Therefore, this study will utilize a compensatory model of resilience embedded in an ecological-transactional framework to identify sources of resilience and risk factors for adolescents attending continuation high schools. This chapter takes a closer look at the continuation high school setting and the students served by these schools. Compensatory and potentiating factors for students attending continuation high schools will be identified based on existing literature.

A Closer Look at the Continuation High School Setting

Alternative education is considered an umbrella term encompassing a wide range of options for education outside the traditional public school setting, including charter schools and home school programs (Aron, 2006). In California, schools in the Dashboard Alternative School Status (DASS) program include continuation schools, county or district-run community day schools, opportunity schools, county community schools, juvenile court schools, Division of Juvenile Justice schools, and county-run special education schools (California Department of Education [CDE], n.d.-d). Continuation schools are often considered a preventative measure to keep students from dropping out of school (Lehr et al., 2009). Originally intended for working students who needed a more flexible option, continuation schools were the first alternative education schools adopted by the state of California (Legislative Analyst's Office, 2015).

Purpose

In California, continuation schools are typically for high school students who are credit deficient compared to their peers and offer programs to help them catch up (EdSource, 2008). More specifically, continuation high schools are intended to address the needs of 16 to 18-year-

olds who have yet to graduate and may otherwise not complete school. Although most students entering these schools are behind in credits, some may require a more flexible school program due to employment or family obligations (CDE, n.d.-c). According to Sussman et al. (1995), students transfer to continuation schools when they are unable to remain in a comprehensive or traditional school for various reasons, including substance use, emotional and behavioral factors. In these cases, an implied goal of the continuation school setting is to “channel students back into mainstream society” (Sussman et al., 1995, p. 192). Despite this, students attending continuation high schools leave school at higher rates than their peers attending traditional high schools, which suggests a need for program development and improvement to address the complex needs of these students more effectively.

Enrollment

According to the California Alternative Education Research Project (EdSource, 2008), basic information about continuation schools, such as enrollment numbers, are often indeterminate due to when and how often students move in and out of these schools. Despite high mobility and varying enrollment numbers, continuation schools are typically much smaller than traditional schools. In a study of 20 continuation schools throughout southern California, the average number of students attending each continuation school was approximately 230 students, which was about one-sixth of the size of the comprehensive high schools in the same districts (Sussman et al., 1995). During the 2013-2014 school year, the average length of stay for students in California’s continuation schools was five months, with a median school size of 96 students per site (Legislative Analyst’s Office, 2015).

The number of continuation schools and students served by these schools has declined over the past several years. Meanwhile, California has also experienced an overall decline in

student population and a rise in enrollment at charter schools (Harrington, 2019). In October of the 2005-2006 school year, there were 68,371 students enrolled in continuation high schools across the state. However, when it came time for state testing in the spring, the total enrollment was estimated at 116,551 (EdSource, 2008). Though the overall numbers have decreased, this trend has maintained over time. During the 2013-2014 school year, continuation high school enrollment on census day was 62,830, with a total enrollment of 103,793 for the school year (Legislative Analyst's Office, 2015). According to the CDE (n.d.-b), 435 continuation high schools reported a total enrollment of 85,343 over the course of the 2017-2018 school year.

Characteristics of Students

Gender, Race, and Ethnicity

Ruiz de Velasco and McLaughlin (2010) noted that although 11th grade males and females are equally represented in traditional schools statewide, males are overrepresented in continuation schools. Additionally, the majority of students attending continuation schools in California are Hispanic. When compared to total enrollment for 11th grade across the state, which is an appropriate grade cohort for comparisons due to most students in continuation schools being at least 16 years of age, Hispanic students accounted for 55% of total enrollment in continuation schools compared to 42% of all 11th graders in the state. California continuation schools also tend to have a higher percentage of English learners and African American students enrolled and fewer non-Hispanic White and Asian students compared to comprehensive school settings (EdSource, 2008). More recently, a snapshot of enrollments in select urban districts indicated similar demographics. In these school districts, the majority of students attending alternative schools, which included continuation schools, were Hispanic or Latino and African American, while Asian and non-Hispanic White students were underrepresented (Henderson,

2018). With limited access to resources such as extracurricular activities (e.g., sports) and courses required for admission into four-year universities, Dunning-Lozano (2016) suggested that overrepresentation of Latino and African American students at one continuation school in particular acted as a mechanism for stratification that would likely affect the students' future professional outcomes.

Living Arrangements

Data collected from the California Healthy Kids Survey (CHKS) indicated that students attending continuation schools are almost three times more likely than their peers in traditional high schools to be living in foster care or with another family member other than a parent. These students are also more likely to move schools due to changes in foster placements and family moves. Nearly half of continuation students reported that they were enrolled at any one continuation school for less than 90 days, reflecting high mobility (Ruiz de Velasco et al., 2008).

Substance Use

Students attending continuation high schools have historically used substances at higher rates than their peers attending traditional schools. This trend has maintained over time. Sussman et al. (1995) found high rates of substance use among continuation high school students in southern California, with only one-fifth of students reporting that they had previously participated in some type of drug abuse prevention program. Based on the CHKS data, 24 percent of students attending continuation schools reported that they had been intoxicated at school on at least seven occasions, which was over three times the percentage of 11th grade students from traditional high schools reporting the same level of use at school (Ruiz de Velasco et al., 2008). Continuation students were also at least three times more likely to report that their alcohol or drug use led to them getting into trouble at school (Austin et al., 2007). Additionally,

when Johnson and Taliaferro (2012) reviewed 43 research articles published from 1997-2010 on risk behaviors of alternative high school students, substance use was the most commonly studied risk behavior, addressed in 17 of the studies. The authors concluded that alternative high school students are at considerable risk for unfavorable health outcomes due to health risk behaviors, including, but not limited to, substance use.

Other Risk Behaviors

Grunbaum et al. (2001) found that when compared to students attending traditional high schools, youth attending alternative schools were at increased risk for injuries related to violent behavior (getting in a fight, carrying a weapon), sexually transmitted diseases and pregnancy (more likely to be sexually active and less likely to wear a condom), health problems related to tobacco use, and poor diet. Students attending continuation high schools were also less likely to participate in team sports. The prevalence of health risk behaviors between these groups of students was compared on a national level using data from the 1998 Alternative High School Youth Risk Behavior Survey and the Youth Risk Behavior Survey, which was administered in traditional high schools in 1997. Additionally, data collected from the CHKS indicated that students attending continuation schools were approximately three times more likely to have carried a gun to school and twice as likely to have been in a gang compared to their same-grade peers statewide (Ruiz de Velasco et al., 2008).

Mental Health

Johnson and Taliaferro (2012) reviewed over 40 articles to establish information about the health-risk behaviors and mental health of students attending alternative schools. The authors pointed out the critical need for more studies focusing on mental health outcomes for students attending alternative high schools, particularly given that the handful of existing studies suggest

that social-emotional difficulties are prevalent among this population. Poor mental health outcomes addressed in existing literature include loneliness, depression, and suicidal ideation.

Importance of Quality and Accountability for Continuation Schools

Continuation schools have been criticized for falling short of the potential to help more students complete school and contributing to negative outcomes for students (Dunning-Lozano, 2016). A statistical brief from the California Dropout Research Project indicated a cumulative dropout rate of 11.8 percent for continuation schools versus 2.5 percent for regular high schools during the 2007-2008 school year (Taylor & Rumberger, 2010). It is important to discuss the quality of programs offered at continuation high schools; higher rates of school failure may indicate that at least some of these students are being underserved by their districts or local community.

According to Ruiz de Velasco et al. (2008), there is considerable variation in focus and quality of alternative education at the district level. However, some continuation schools have been acknowledged for providing quality academic and social supports for their students. According to the CDE (n.d.-c), schools that are recognized as “Model Continuation High Schools” receive sufficient support from their districts and are typically accredited by the Western Association of Schools and Colleges (WASC). Obtaining WASC accreditation is one way to demonstrate to the community that the school is a dependable organization for education (Accrediting Commission for Schools WASC, n.d.). In 2020, 43 continuation schools were acknowledged for things such as improving their graduation rate and daily attendance, developing robust partnerships with community colleges, and offering programs for students to learn entrepreneurial skills (CDE, 2020). According to the California Continuation Education Association Plus (CCEA Plus, 2020), when representatives from school districts and state

associations request a list of effective continuation schools to visit, the Model Continuation Education Recognition Program provides this resource.

California initially developed a statewide accountability system for public schools in the late 1990s. Previously, alternative schools in California were monitored using the Alternative Schools Accountability Model (ASAM) in place of the Academic Performance Index (API) required for traditional schools. As reforms were on the horizon, budget cuts resulted in ASAM being eliminated completely in 2009. From 2009 to 2013, API scores were the only measure of accountability for alternative schools, though the state did not publish API scores for many alternative schools, including continuation schools, during this time. These schools did not have enough standardized test scores to calculate the API score, especially given the policy that scores would go towards the school where the student started off the school year (Legislative Analyst's Office, 2015). In 2013, the state suspended the use of the API and enacted the Local Control Funding Formula (LCFF), providing districts flexibility on how they choose to spend their funds. The LCFF also required the State Board of Education (SBE) to develop a new accountability system (CDE, n.d.-a). That same year, Assembly Bill Number 570 (A.B. 570) was passed (Continuation Schools: Policies and Procedures: Voluntary Placement, 2013). In 2017, the SBE and CDE launched the California School Dashboard (CDE, n.d.-a). This meant a new accountability system for alternative schools as well, known as the Dashboard Alternative School Status (DASS) program (CDE, n.d.-d).

A.B. 570

A.B. 570 resulted in section 48432.3 being added to the California Education Code. This section requires school district boards to establish specific written policies and procedures regarding the identification and placement of students transferring to a continuation school, a

copy of which is to be provided to the student and parents when a transfer is being considered. All transfers must be on a voluntary basis and the student retains the right to return to their previous school. Furthermore, the adopted policies and procedures should ensure that no specific groups of students are disproportionately enrolled in continuation schools (Continuation Schools: Policies and Procedures: Voluntary Placement, 2013). Nearly four years after A.B. 570 was enacted, Ruiz de Velasco and Gonzales (2017) found that no research had been completed to determine how the CDE and school districts implemented the requirements outlined in A.B. 570. With no verification system in place, there is no way to determine whether districts are communicating the voluntary nature of the transition to a continuation school or if active efforts are being made to ensure that specific groups of students are disproportionately enrolled.

Dashboard Alternative School Status (DASS)

Continuation schools automatically qualify for DASS (CDE, n.d.-d). DASS schools have their information displayed on the California School Dashboard just as traditional schools and are measured on the same six indicators. The academic indicator is measured with standardized test results (English language arts and mathematics). Additionally, there are indicators for chronic absenteeism, college and career readiness, English learner progress, graduation rates, and suspension rates. Each indicator has performance levels that are coded by color. From lowest to highest, the colors are red, orange, yellow, green, and blue. The DASS graduation rate is one of two modified measures in an effort to fairly evaluate the progress of these schools (CDE, n.d.-f).

DASS Graduation Rate

The current year graduation rate for a continuation school is calculated by first adding the number of students who earned their high school diploma, the students with IEPs who earned a certificate of completion, those who earned a high school equivalency certificate, and those who

earned an adult education diploma. This total is divided by the total number of 12th graders enrolled at the school. The resulting percentage falls into one of five categories with levels ranging from very low to very high. Additionally, rates for the current year are compared to the prior year. The Dashboard reflects whether a school's cohort graduation rate has increased, maintained, or declined (CDE, 2019). This measure of accountability is essential for continuation schools, given their purpose.

An Ecological-Transactional Approach

Bronfenbrenner's ecological model focused on the role of connected environmental systems in shaping youth development (Bronfenbrenner, 1977). Rosa and Tudge (2013) discussed the evolution of the model over time; notable changes included more emphasis on the individual child's role in their own development and a focus on interactions over time. Cicchetti and Rizley (1981) also identified the need to go beyond an ecological framework in order to gain a deeper understanding of how various factors interact to impact social problems. To conceptualize social problems such as youth maladjustment using an ecological-transactional lens, individual characteristics, interactions between the child and any key individuals in the child's life, and environmental influences should be examined simultaneously. Child development is considered a transactional process; just as changes within the environment may impact the child, changes within the individual child may affect the environmental systems (Wilmshurst, 2013).

Risk factors and their transactions are central to the ecological-transactional model and are categorized as either *compensatory* or *potentiating*, with compensatory factors decreasing the likelihood of an outcome and potentiating factors increasing the risk. Adverse outcomes occur when potentiating factors outweigh compensatory ones (Cicchetti & Rizley, 1981; see also

Cicchetti & Lynch, 1993). Cicchetti and Rizley (1981) further distinguished these broad categories by *transient*, or fluctuating, factors and *enduring*, or more permanent, factors. Fluctuating compensatory factors, such as having good grades, may act as *buffers* from stressful events. Permanent compensatory factors are considered *protective factors* and include both individual positive attributes and environmental elements. Meanwhile, *challengers* may pave the way for predisposed youth to experience depression or engage in substance use. Challengers are potentiating factors that are transient, such as the death of a loved one. Permanent potentiating factors, labeled more specifically by the authors as *vulnerability factors*, include individual, family, or environmental characteristics that increase overall risk. Table 1 indicates how each type of risk factor impacts the probability of social problems.

Table 1

Impact of Risk Factors on the Probability of Social Problems

Time dimension	Compensatory factors	Potentiating factors
Transient factors	Buffers: Temporary compensatory factors may act as buffers from stressful events	Challengers: Temporary but significant stressors
Enduring factors	Protective factors: Permanent individual attributes or environmental conditions which decrease risk	Vulnerability factors: Permanent individual attributes or environmental conditions which increase risk

Note. Adapted from “Developmental Perspectives on the Etiology, Intergenerational Transmission, and Sequelae of Child Maltreatment,” by D.Cicchetti and R.Rizley, 1981, *New*

Directions for Child & Adolescent Development, 11, p. 43. Copyright 1981 by Wiley Periodicals, Inc. A Wiley Company.

Barr et al. (2012) examined the impact of family factors on the relationship between exposure to community violence and delinquent behaviors in a large national sample of adolescents. The findings of the study supported an ecological-transactional model of community violence; family cohesion was revealed as a protective factor for delinquent behavior for those who had been exposed to violence in the community. Adolescents with low family cohesion who had witnessed community violence were nearly twice as likely to engage in criminal behaviors. Additionally, there was essentially no difference between adolescents with high family cohesion who had witnessed community violence and those with cohesive families who did not witness community violence. The presence of compensatory factors helps to explain why some fare better than others when exposed to violence (Cicchetti & Lynch, 1993). This brings us to the much-needed discussion about the role and importance of resilience.

Resilience Theory

Resilience is a strengths-based construct that refers to an individual's ability to persist and cope successfully despite exposure to adverse circumstances (Hollister-Wagner et al., 2001). The concept of resilience also includes the process of surmounting the harmful outcomes of risk exposure and evading the negative paths commonly connected to risks (Fergus & Zimmerman, 2005). According to Benard (2004), individuals are inherently capable of demonstrating resilience, and our ability to be resilient is strengthened by protective factors found in our environment. Ungar (2008) emphasized the importance of outside resources and the personal agency required to find said resources.

Educators and consumers of research should keep in mind that although resilience has been a topic of interest for academics for many years, there are varying ideas about the function of resilience. In their framework for understanding adolescent resilience, Fergus and Zimmerman (2005) discussed three models of resilience (compensatory model, protective model, and the challenge model) to illuminate how promotive factors (personal assets or environmental resources) work to steer an individual away from negative outcomes given risk exposure. Personal assets refer to positive individual factors, such as healthy coping skills. Meanwhile, resources, also positive, are external factors in the individual's environment. Environmental resources include everything from family support to community organizations that encourage healthy adolescent development.

Compensatory Model of Resilience

In the compensatory model of resilience, promotive factors directly affect an outcome by offsetting risk factors. The effect of the promotive factor is independent of the effect of any risk factors (Fergus & Zimmerman, 2005). This means that if the risk factor is constant, the outcome will vary depending on the presence of the promotive (compensatory) factor (Wang et al., 2015). For example, although exposure to violence was associated with increased depressive symptoms among 824 high schoolers, the presence of social support (specifically, from the mother) had a direct and opposing effect on depression (Eisman et al., 2015). The compensatory model fits well within an ecological-transactional framework, as promotive factors (individual assets and environmental resources) can easily fall under the umbrella of compensatory factors referred to in the framework. Additionally, this model is appropriate for use with our specific population (continuation high school students), having previously been utilized to examine aggressive

behavior, substance abuse, sexual risk-taking behavior, violence exposure, social support, and depression among adolescents (Eisman et al., 2015; Fergus & Zimmerman, 2005).

Influence of Compensatory and Potentiating Factors

This section discusses compensatory and potentiating factors and the broad impact of these factors on various outcomes for adolescents overall and for students in alternative education settings, with an emphasis on mental health. Due to the limited research involving continuation students specifically, studies representing youth in alternative education settings were included in addition to those including students with similar demographics.

Compensatory Factors

As previously mentioned, compensatory factors include both individual attributes and environmental conditions that decrease the likelihood of adverse outcomes (Cicchetti & Rizley, 1981). This section discusses environmental resources and internal assets broadly, in addition to reviewing existing research specific to students in alternative education settings. The environmental resources of caring relationships, high expectations, and opportunities for meaningful participation across the school, home, and community settings play a critical role in healthy development (Benard, 2004). Figure 1 depicts how these environmental supports promote resilience and lead to positive outcomes for youth.

Figure 1

Conceptual Model of Positive Outcomes for Youth

Note. This conceptual model of positive outcomes for youth is the developmental framework of the California Healthy Kids Survey (CHKS). Reprinted from *CalSCHLS*, developed by WestEd for the California Department of Education, Retrieved May 16, 2021 from <https://calschls.org/about/the-surveys/#chks>. Copyright 2021 CalSCHLS.

Caring Relationships

Caring relationships include supportive connections across family, school, and community settings. These connections are evident when another individual takes an active interest, characterized by being there to listen and talk with the youth (Austin et al., 2013a). These relationships are further portrayed by a “nonjudgmental love that looks beneath negative behaviors in search of their causes” (Benard, 2004, p. 45). High expectations are a part of caring relationships and involve a sense of structure and clear boundaries for youth (Benard, 2004). The expectations should be tailored to the individual and convey the belief in the youth’s ability to be resilient and succeed (Austin et al., 2013a).

As previously mentioned, Eisman et al. (2015) found that social support (specifically, from the mother) had a direct and opposing effect on depression for urban high schoolers who had been exposed to violence. Ackard et al. (2006) found that low levels of caring and communication with parents were significantly associated with mental health concerns for youth. Overall, adolescents who valued the opinions of friends over their parents and indicated that they were unable to talk to their parents about problems were more likely to report body dissatisfaction, low levels of self-esteem, and depression. Adolescents who perceived low (versus high) levels of maternal caring were significantly more likely to endorse unhealthy weight control behaviors and previous suicide attempts. Additionally, male adolescents who reported that they never, or only sometimes, could talk to either parent about their problems were

significantly more likely to report unhealthy weight control behaviors, substance use, and suicide attempts. Zhang et al. (2013) found that both home and peer caring relationships were negatively associated with depression for Chinese adolescents, suggesting that caring relationships function as compensatory factors for youth mental health across cultures.

Data from the 2009-2010 administration of the CHKS revealed that 9th and 11th graders who endorsed suicidal ideation within the previous year were much less likely to have high levels of caring relationships with adults at school than their peers who did not report suicidal ideation (Austin et al., 2012). Using data from the 2013 New Mexico Youth Risk and Resiliency Survey, Hall et al. (2018) found that despite identified risk factors for attempting suicide (e.g., not having enough food to eat) among Hispanic students in New Mexico, the probability of an attempt was diminished by positive connections with adults at school. For females specifically, having a teacher or other adult at school who believed that they could be successful decreased the likelihood of attempting suicide within the past year. Meanwhile, having a teacher or other adult at school who listened to them was protective for males.

Existing research also supports caring relationships as a compensatory factor for students in alternative education settings. In a study examining depressive symptoms among 268 high school students attending alternative education schools in New Zealand, which are designed to support adolescents who may otherwise drop out of school, caring connections with family and support from peers were negatively associated with symptoms of depression. Family relationships emerged as the most significant protective factor, having more influence than the individual risk factors (Denny et al., 2004). Using data from the Texas Alternative School Health Survey, Thurman et al. (2018) explored the relationship between teacher support and depression symptoms. The sample of 515 adolescents included students attending mandated disciplinary

alternative schools, though the majority attended alternative schools of choice. Nearly half of the students (251) reported current or past parental incarceration. Teacher support was measured using a four-item scale from the survey. The items included whether the student had a teacher or another adult at school who cared about them, believed they would be a success, told them when they did a good job and noticed when they were not at school. Teacher support was significantly associated with depression symptoms for male students only; those who reported high levels of support were significantly less likely to endorse depression symptoms.

Meaningful Participation

Opportunities to participate in a group can help fulfill the need for belonging. Additionally, giving youth the opportunity to share their beliefs and feelings about important topics relevant to them is a means of empowering them to think critically and make important decisions (Benard, 2004). In this sense, meaningful participation also meets the need for autonomy. Overall, opportunities to participate, make decisions, and contribute across settings are associated with positive outcomes for youth (Austin et al., 2013a).

On the CHKS, adolescents who reported seriously contemplating suicide within the previous year were less likely to report high levels of meaningful participation at school than their peers who did not report suicidal ideation (Austin et al., 2012). Armstrong and Manion (2013) measured youth engagement among secondary students with a self-report survey that included items regarding the meaningfulness, breadth, and intensity of engagement. The authors found that meaningful youth engagement acted as a buffer between depression symptoms and risk behaviors and suicidal ideation. Youth with higher levels of meaningful engagement were less likely to report suicidal ideation despite the presence of risk factors. In addition to caring

relationships, Zhang et al. (2013) found that high levels of meaningful participation in family activities were significantly associated with lower levels of depression.

School Connectedness

School connectedness refers to a student's overall sense of belonging to their school and is related to academic motivation and performance, school attendance, and graduation. Using data from the CHKS, Austin et al. (2013b) found school connectedness to be an indicator of school quality distinguishing between low and high performing high schools. Additionally, the authors noted that students attending schools where they experienced high levels of caring relationships, expectations, and meaningful participation also reported high levels of connectedness.

Theron et al. (2013) studied pathways to resilience for 951 adolescents in South Africa. Although the sample of students did not attend school in an alternative education setting, all were students who faced multiple risk factors, such as poverty and living in dangerous communities affected by HIV and AIDS. The Pathways to Resilience Youth Measure was utilized to investigate students' risks, resources, experiences at school, and resilience processes. The students who reported feeling respected by school staff and those who experienced a school environment that supported their personal agency (measured by overall school satisfaction, having a voice in school activities, and accessibility and application of their school experience) had significantly higher scores on the resilience measure compared to those who experienced disrespect from school staff and those who did not have a supportive school environment. The authors concluded that positive school experiences that support personal agency of youth and respect and clear communication from teachers helped foster resilience.

School connectedness is also associated with mental health. On the CHKS, high school students who reported suicidal ideation within the previous year were significantly less likely to report high levels of school connectedness compared to their peers who did not endorse suicidal ideation (Austin et al., 2012). Langille et al. (2015) studied the association between school connectedness and suicidality for Canadian adolescents. The authors found that higher levels of school connectedness were independently associated with a decreased likelihood of suicidal ideation in both male and female adolescents and with a lower likelihood of suicide attempts within the previous year. When including the risk of depression in the model, the protective association of school connectedness was reduced but remained significant, except for suicide attempts for male adolescents.

Using data from the 2016 Minnesota Student Survey, Areba et al. (2021) examined the associations between adverse childhood experiences (ACEs), school connectedness, and suicidal ideation and attempts for Hispanic or Latino(a), Somali, Hmong, and non-Hispanic White adolescents. School connectedness was measured using a four-item scale that included questions about whether adults at school listen to the student, if adults at school treat students fairly overall, whether teachers care about students, and whether most teachers are interested in the student as a person. School connectedness was associated with decreased odds of suicidal ideation for Hispanic or Latino(a) youth overall and with decreased odds of a suicide attempt for Latina adolescents. However, when the authors examined the interactions between ACEs and school connectedness, they found that high levels of school connectedness were associated with increased odds of suicidal ideation and attempts for Latina youth who experienced multiple ACEs.

In a longitudinal study, Steiner et al. (2019) found that school connectedness during adolescence had implications for health outcomes in adulthood. Higher levels of school connectedness were also associated with an increased likelihood of obtaining a four-year degree. School connectedness was revealed as an independent protective factor for several adverse outcomes, including suicidal ideation, violence, sexual health, and substance use. Those who reported high levels of both school and family connectedness were further protected from adverse health outcomes in adulthood.

Internal Assets

Although personal strengths do not cause resilience, they are considered positive outcomes that are manifestations of our natural capacity to be resilient (Benard, 2004). The general categories of personal strengths include social competence, problem solving skills, autonomy, and a sense of purpose, with each category encompassing a number of more specific personal assets. Social and emotional competence encompasses the requisite skills and perspectives to establish and maintain healthy relationships with others. Problem solving includes a number of related specific skills such as resourcefulness and the ability to think critically. Attributes related to autonomy involve developing positive self-identity and self-efficacy. Sense of purpose includes assets related to goals and motivation (Benard, 2004).

Benard's work on resilience was used in the development of the conceptual framework of the CHKS Resilience & Youth Development Module (Hanson & Kim, 2007). Following a study of the psychometric properties of the module, four scales were recommended to measure internal resilience assets among secondary school students; self-efficacy, empathy, problem solving, and self-awareness (Hanson & Kim, 2007). Self-efficacy, empathy, and self-awareness are narrow assets that fall under two of the more general categories previously mentioned; self-efficacy and

self-awareness may be considered manifestations of autonomy, while empathy is encompassed by social competence (Benard, 2004). The CHKS Resilience & Youth Development Module was used for the current study and will be further described in Chapter 3.

Though the terms for various personal strengths may differ across researchers and theoretical perspectives, there is consensus that internal assets are associated with positive outcomes for youth (Benard, 2004). In a secondary analysis of data from the Minnesota Student Survey, Fredkove et al. (2019) found that higher levels of internal assets (i.e. social competence and positive self-identity) were associated with decreased likelihood of bullying and emotional distress among eighth graders. In a very small experimental study of 21 adolescents attending an alternative high school in the Midwest, Freedman (2018) found that forgiveness was associated with improved mental health. All of the students had experienced an unfair, personal hurt (e.g. abuse, abandonment) from another individual. Those who participated in an educational intervention focused on forgiveness had higher levels of hope and forgiveness and significantly lower levels of anxiety and depression than those in the control group (communication class). After controlling for demographic characteristics and sources of external stress, Szlyk (2020) found that positive academic self-concept decreased the odds of suicidal ideation among 103 students attending a nondisciplinary alternative high school in the southwestern United States. Worrell and Hale (2001) identified having hope in the future (measured using three single-item variables) as a protective factor for dropping out of school for 97 continuation high school students in the San Francisco Bay area. Hope in the future, or lack thereof, correctly categorized 78% of those who completed school and those who did not, despite equivalent levels of self-reported risk. Additionally, Hall et al. (2018) found that the more certain Hispanic males were about their education plans after high school, the less likely they were to have had a suicide

attempt within the past year. For Hispanic females, education plans after high school were only protective when the girls were reasonably certain about their plans. These studies indicate that internal assets are associated with positive outcomes for adolescents, including those attending alternative schools.

Furlong et al. (2014) discussed the concept of *covitality*, which refers to the mental health benefits resulting from the interactions of multiple coexisting positive assets. In lieu of focusing on any single asset, the authors emphasized encouraging the development of as many internal assets as possible. Pennell et al. (2015) explored covitality (i.e. belief in self, belief in others, emotional competence, and engaged living) in relation to subjective wellbeing and depression among adolescents. Although emotional competence did not significantly predict subjective wellbeing, the construct of covitality was positively associated with wellbeing, with a greater combined effect than each component separately. Similarly, covitality as a whole was predictive and negatively associated with depression, with a greater effect than each individual component.

Potentiating Factors

Gender

In the aforementioned study of teacher support and depression among alternative high school students in Texas, gender was the most significant predictor of depression symptoms among the students who reported parental incarceration. Female students with a history of parental incarceration were significantly more likely to report depression symptoms. Although male students with higher levels of teacher support were less likely to report depression symptoms, female students with higher levels of teacher support were significantly more likely to report depression symptoms (Thurman et al., 2018). Dowdy et al. (2012) found that although chronic sadness and risk behaviors were significantly associated with suicidal ideation for both

males and female adolescents attending public schools in California, females reported higher rates of depression symptoms (36.7%) and suicidal ideation (16.9%) than males, with 24.3% of males reporting depression symptoms and 11.5% endorsing suicidal ideation within the previous year. In the study of ACES, school connectedness, and suicidal ideation, Areba et al. (2021) found that Hispanic or Latina adolescents reported significantly higher rates of suicidal ideation (33.3%) than their male peers (15%) and of all other Somali, Hmong, and non-Hispanic White students in the sample. Additionally, a significantly higher proportion of Latina youth reported having had a suicide attempt (17.2%) compared to Latino males (6.3%).

Poverty

Hall et al. (2018) found that being born outside of the United States and not having enough food to eat were risk factors for attempting suicide among both female and male Hispanic high school students; not having enough to eat had the most significant influence. Although this study was not specific to continuation high school students, this finding is relevant due to the increased number of Hispanic students in continuation high schools, many of whom are likely to have experiences similar to those in the New Mexico study. Additionally, in the aforementioned study of 268 high schoolers attending alternative education schools in New Zealand, risk factors for depression included poverty. Over half reported struggling with having enough money to buy food (Denny et al., 2004).

Victimization and Violence

In one study of 490 middle and high school students attending alternative schools in Texas, nearly one-fifth of the female students and seven percent of male students reported having a forced sexual experience in the past, which was significantly associated with depression among the female students and with recent suicidal ideation for the male students (Buzi et al., 2003).

From an ecological-transactional perspective, a forced sexual experience may be considered a challenger, with the potential to pave the way for depression and suicidal ideation for individuals who are predisposed due to other individual, family, or environmental factors.

In the New Zealand study, risk factors for depression aside from poverty included being a victim of bullying at school and observing violence in the home, with 70% of the students in the sample reporting that they frequently observed violence at home (Denny et al., 2004). Szlyk (2020) found that the external stressors of perceived discrimination and stigmatization increased the odds of suicidal ideation for a small group of alternative high school students. In the study of violence exposure and social support on depression for over 800 students attending urban high schools, exposure to violence was associated with increased depressive symptoms among the youth (Eisman et al., 2015).

Rosenfeld et al. (2006) found that the experience of danger in the neighborhood, especially having a personal experience with danger, affected school attendance, school behavior, satisfaction with school, and had some effect on grades. Although this study was not specific to continuation high school students, the sample included over 1,100 public high school students from throughout the United States. Meanwhile, Lenzi et al. (2015b) found that at the school level, perceived lack of safety and type of school (alternative school) were associated with a greater probability of being in a gang. When considering the plethora of potentiating factors shared by continuation high school students, it is imperative to keep in mind that living in a dangerous community may pose additional risks.

Summary

Continuation high schools in California exist as one form of alternative education for students who struggle in a comprehensive high school setting for various reasons. Students

entering continuation schools are often not on track to graduate with their grade cohort and may require a more flexible school schedule to help them get caught up (CDE, n.d.-c; EdSource, 2008). As a group, these students have higher rates of adverse outcomes (EdSource, 2008; Johnson & Taliaferro, 2012; Lenzi et al., 2015b; Sussman et al., 1995). Additionally, students who are Hispanic, African-American, and English learners are overrepresented in California's continuation schools. Although the purpose of continuation high schools is to offer an additional opportunity for students to earn their high school diploma, some criticize the system as one that falls short of the potential to help more students achieve success and, in some cases, may even contribute to negative outcomes (Dunning-Lozano, 2016). Students attending continuation schools tend to leave school at higher rates than their peers at comprehensive schools, though some continuation schools appear to be sufficiently meeting the needs of their students (Taylor & Rumberger, 2010). According to the CCEA PLUS (2020), representatives from school districts and state associations often express interest in visiting model continuation schools. While this is encouraging as it implies that there is awareness regarding the quality of schools and the need for improvement, there is no readily available information regarding how frequently this occurs.

It is imperative to examine all types of risk factors and their transactions, including promotive (compensatory) factors, as negative outcomes tend to occur when potentiating (risk) factors outweigh compensatory factors (Cicchetti & Rizley, 1981). From the lens of a compensatory model of resilience, promotive factors have a direct effect on an outcome and can offset risk factors (Fergus & Zimmerman, 2005). Unfortunately, the existing literature has done a better job of revealing risk factors and adverse outcomes than of identifying sources of resilience for this specific population of students. However, there is broad support for a number of promotive factors and environmental resources for adolescents in general, and a handful of

studies focusing on this specific population have indicated that many of the factors mentioned in this chapter function similarly for continuation students.

Existing studies of continuation students are limited by small sample sizes. One such study is of interest due to the authors finding of hope in the future as a protective factor, with those exhibiting hope being more likely to complete school (Worrell & Hale, 2001). In a very small experimental study, Freedman (2018) found that an intervention focused on forgiveness resulted in significantly lower levels of anxiety and depression. Szlyk (2020) found that positive academic self-concept decreased the odds of suicidal ideation. Another study specific to students attending continuation high schools in New Zealand indicated that family relationships were a significant compensatory factor for depression (Denny et al., 2004). Other studies are not specific to continuation high school students, but include themes such as positive school connections helping to foster resilience (Hall et al., 2018; Theron et al., 2013). Potentiating (risk factors) for continuation students include low self-esteem, poverty, victimization and violence, which includes living in a dangerous neighborhood (Buzi et al., 2003; Denny et al., 2004; Eisman et al., 2015; Hall et al., 2018; Lenzi et al., 2015b; Rosenfeld et al., 2006).

Moving Forward

The issue of overrepresentation in California's continuation schools is troubling, especially as these schools, which are supposed to offer students an additional opportunity for academic success, often fall short with higher rates of school failure. It raises the question as to why there are more English learners, Hispanic, and African American students referred to continuation schools in the first place. There is a need for more accountability for traditional high schools in terms of the quality of their programs, including culturally relevant interventions, and

the consistency and transparency of the referral processes used to transfer students to alternative schools.

In addition to the scarcity of research on resilience for this specific population, Johnson and Taliaferro (2012) noted the dearth of research on mental health outcomes for students attending alternative high schools. Given that students attending continuation schools are exposed to many risk factors, it is imperative to identify compensatory factors that may offset risks. More information about resilience assets is needed for program development and improvement for these youth. With this knowledge, educators working in continuation schools are in a unique position to help foster resilience for this at-risk population.

Chapter 3: Methodology

The purpose of this study was to identify resilience assets and mental health outcomes for continuation high school students. This study utilized data from the California Healthy Kids Survey to explore the relationships between resilience assets and mental health outcomes (depression and suicidality). Additionally, the relationships between school-based resilience assets and school-level graduation rates was investigated. This chapter describes the data sources, measures, participants, analysis, and methods for this cross-sectional study.

Data Sources

This study was completed utilizing extant data from the 2017-2018 and 2018-2019 administrations of the California Healthy Kids Survey (CHKS) Core Module and Resilience & Youth Development Module. The California Department of Education (CDE) allows requests for complete raw data sets for the purpose of analysis. A Memorandum of Understanding (MOU) was signed between Chapman University and the California Department of Education (CDE) to ensure that student and school confidentiality were preserved (WestEd, n.d.-b). This study received exempt review approval from the Chapman University Institutional Review Board (CU IRB) on 10/19/2020.

In addition to the surveys, the California School Dashboard was used to retrieve school-level graduation rates for research question number three. The Dashboard is an online accountability system that provides school, district, and state-level information to the public. Graduation rates are posted on the Dashboard and are considered an indicator of academic engagement (California Department of Education [CDE], n.d.-e). Graduation rate indicators for continuation schools in Dashboard Alternative School Status (DASS) are calculated as the percentage of students who earn a regular high school diploma, certificate of completion,

California high school equivalency certificate, or an adult education diploma divided by the total number of 12th graders enrolled at the school (CDE, 2019).

California Healthy Kids Survey

The California Healthy Kids Survey (CHKS) is a statewide survey developed by WestEd as part of the California School Climate, Health, and Learning Survey (CalSCHLS) system. CalSCHLS was created by the California Department of Education (CDE) in 1997 with the intent to provide school districts and their local communities with information that would enable them to improve the social-emotional, physical health and educational performance of their students. Most districts administer the survey online, though there is a print option (WestEd, n.d.-a). Passive parent consent is used for grades seven and above. The self-report questionnaires are anonymous and crosschecks are completed in order to determine whether each respondent answered truthfully (WestEd, n.d.-b).

From 2016-2018, the CHKS was administered in over 73 percent of school districts in California, with the majority administering it every other year (WestEd, n.d.-a). Districts that receive Tobacco Use and Prevention Education (TUPE) grants from the CDE are required to administer the CHKS Core Module at least every other year to grades seven, nine, and eleven. Although participation is voluntary for all other districts, those who want the CDE to subsidize the costs associated with the CHKS must administer it in grades seven and nine at a minimum, though the CDE recommends that the survey also be administered in grades five and eleven and to students in continuation high schools. The results of the CHKS provide districts with data to help promote positive school environments, foster resilience, and prevent risk behaviors and other obstacles to achievement (WestEd, n.d.-b). Most districts use this data as indicators for their Local Control and Accountability Plan (LCAP) (Mahecha & Hanson, 2020).

Core Module

Version H21 – Fall 2017-Spring 2018 of the CHKS Core Module – High School Questionnaire consists of 130 items. Version HS22 – Fall 2018-Spring 2019 of the CHKS Core consists of 131 items. For reference, the surveys can be found in Appendix A and C. The survey includes demographic questions in addition to items about school climate, relationships with adults at school, participation at school, substance use for non-medical reasons, safety, harassment, and bullying at school. Students are also asked about their tendency towards depression (“During the past 12 months, did you ever feel so sad or hopeless almost everyday for two weeks or more that you stopped doing some usual activities?”) and suicidality (“During the past 12 months, did you ever seriously consider attempting suicide?”).

Reliability and Validity

A recent analysis of the psychometric properties of the secondary CHKS Core Module by Mahecha and Hanson (2020) confirmed that the items reliably measure nine aspects of school climate and wellbeing for students that it is intended to measure. The total sample included 556,961 students in grades seven, nine, and eleven who completed the CHKS Core Module in 2017-2018. Approximately two percent of the total sample attended continuation schools. The constructs measured include school connectedness, caring staff-student relationships, student meaningful participation, academic motivation, substance use at school, violence victimization, harassment/bullying victimization, delinquency, and promotion of parental involvement. The correlations between these factors were small enough to keep them separate with the exception of the two victimization constructs, though it was recommended for these to remain distinct to allow for the monitoring of bias-motivated victimization, which is captured by the harassment/bullying items. The internal consistency reliability estimates for each construct

exceeded .70 for the total sample and also by grade, sex, race, and English proficiency with the exception of delinquency for female students (Mahecha & Hanson, 2020). The current study utilized the constructs of caring staff-student relationships, student meaningful participation and school connectedness from the CHKS Core Module in addition to the individual items about depression and suicidality. Table 2 shows the reliability coefficients for each school resilience scale used in the present study. Approximately 76% of the non-traditional group consisted of students attending continuation schools (Mahecha & Hanson, 2020).

Table 2

2017-2018 Reliability Coefficients for the Secondary CHKS Core Module

Construct	Total sample	Non-traditional	Male	Female
Caring staff-student relationships	.90	.93	.89	.90
Student meaningful participation	.86	.90	.85	.86
School connectedness	.83	.84	.83	.83

Note. Adapted from *Measurement Structure of the California School Climate, Health, and Learning Surveys: Student, Staff, and Parent Surveys* (p. 48) prepared by J. Mahecha and T. Hanson for the California Department of Education’s School Health and Safety Office, 2020, San Francisco, CA: WestEd. Copyright 2020 by WestEd.

Resilience & Youth Development Module

The Resilience & Youth Development Module (RYDM) is an optional module for middle and high school students that was created to track collective levels of resilience factors. The survey measures environmental and internal resilience assets and consists of 47 items. Although this survey is an extension of the CHKS, some of the items (those measuring school and community assets) from the Resilience Module are also embedded in the Core Module (Hanson

& Kim, 2007). Approximately half of the items ask the student to determine how true a statement is of them personally; the other half is dedicated to statements about their friends, home, and community. For reference, the 2017-2018 Resilience Module can be found in Appendix B and the 2018-2019 survey can be found in Appendix D, though there were no changes made to the items on the 2018-2019 survey.

This module was developed at the request of the Healthy Kids Survey Advisory Committee, who tasked WestEd with developing a strengths-based survey to complement the CHKS Core Module. A Resilience Assessment Expert Panel developed a survey based on resilience research that was initially designed to measure eleven environmental assets and six internal assets. The eleven environmental assets consisted of caring relationships, high expectations, and meaningful participation across school, home, and community settings in addition to caring relationships and high expectations of peers. These environmental assets were selected for meeting specific youth needs and fostering the development of internal resilience assets and improved outcomes. The original six internal resilience assets were cooperation, empathy, problem-solving, self-efficacy, self-awareness, and goals and aspirations (Hanson & Kim, 2007).

Reliability and Validity

The Resilience Module was initially validated in 2000. After several modifications, the psychometric properties of the survey were analyzed by Hanson and Kim (2007). The authors completed several factor analyses resulting in recommendations for scale and item changes. Internal consistency estimates were calculated using Cronbach's alpha, with a cutoff of 0.70 to be considered acceptable. Ultimately, the authors concluded that eight environmental assets were consistent and valid measures in addition to four of the internal resilience assets (self-efficacy,

empathy, problem solving, and self-awareness). The reliability estimates for the four valid internal resilience assets for the total analytic sample were acceptable at .82 for self-efficacy, .85 for empathy, .73 for problem solving, and .81 for self-awareness (Hanson & Kim, 2007).

Hanson and Kim (2007) recommended that two indistinguishable environmental scales (caring relationships and high expectations) be combined to form one supportive relationships scale, assessed across home, school, and community settings. The school-based environmental asset of supportive relationships is now known as caring staff-student relationships and is also included in the Core Module. The reliability estimate of this construct for the total sample was recently found to be .90 (Mahecha & Hanson, 2020). For the internal resilience assets, Hanson and Kim (2007) recommended that the constructs of cooperation and goals and aspirations be dropped from the survey. Two of the items for cooperation measured more than one construct and for goals and aspirations, two of the three items functioned differently across racial groups.

In addition to the school-based resilience assets from the Core Module, the current study utilized the construct of supportive adult relationships at home from the RYDM. The reliability coefficient for home support for the total analytic sample was .89 (Hanson & Kim, 2007).

Additionally, the current study included the variable of total internal resilience assets, which was comprised of the four valid internal resilience assets from the RYDM. The reliability coefficient for total resilience assets was .93 for males and .91 for females (Furlong et al., 2009).

Participants

The sample consisted of continuation and traditional high school students in California who completed the California Healthy Kids Survey (CHKS) Core Module – High School Questionnaire during the 2017-2018 or 2018-2019 school year. More specifically, the main sample of interest included 18,567 continuation students. Research question one included a

randomly selected comparison sample of 18,567 traditional high school students, while questions two through six included continuation students only. The random sample of traditional high school students was pulled from the total sample of 587,138 traditional students. For research question three, the sample included only include 11th graders who took the survey in 2017-2018 and whose schools had their 2019 cohort graduation rates posted on the California School Dashboard. For questions including variables from the RYDM, the sample was limited to those students who completed both the CHKS Core Module and the Resilience & Youth Development Module – Middle and High School Questionnaire.

Validity Checks

For research involving self-report questionnaires, mischievous responders can introduce bias and lead to inaccurate conclusions about differences between groups. Mischievous responders include youth who are purposefully dishonest in their responses (Robinson-Cimpian, 2014). Prior to addressing the research questions, four validity checks were completed in order to identify and remove dishonest and inconsistent responders from the sample. Student responses were removed from the sample if they met two or more of the following criteria: inconsistent responses, improbable responses, indicated that they used a fake drug, or indicated that they did not respond honestly to all or most of the questions on the survey.

Two questions regarding alcohol use were utilized to identify inconsistent responders, with one question asking about lifetime use and the other asking about alcohol use within the past 30 days. Students who reported that they had never used alcohol in their lifetime while also reporting that they had five or more drinks of alcohol in a row within the past 30 days were deemed inconsistent responders. Students were flagged for improbable responses if they marked all 11 possible responses to the question, “If you are Asian or Pacific Islander, which groups best

describe you?” For the item regarding fake drug use, respondents were asked about lifetime use of a fake drug, “Derbisol.” Lastly, dishonest responders were identified with responses to a direct question about how many questions in the survey they answered honestly. Students were considered dishonest if they reported that they answered hardly any or only some of the questions honestly. After removing 5,036 respondents who had two or more validity issues and 176,643 with missing responses to any of the validity questions, the secondary data file was further filtered to include only 9th through 12th graders attending traditional public or continuation high schools.

Variables

Resilience Assets

School Resilience Assets

The three variables identified as school resilience assets are caring staff-student relationships, student meaningful participation, and school connectedness. All three constructs are measured by items found in the CHKS Core Module. Caring staff-student relationships consists of six items, meaningful participation consists of five items, and school connectedness includes five items. For caring staff-student relationships and student meaningful participation, each item has four possible responses indicating level of agreement from “not at all true” to “very much true.” For the school connectedness scale, each item has five possible responses indicating level of agreement from “strongly disagree” to “strongly agree” and includes an option for students who “neither disagree nor agree.” The items making up each variable can be found in Table 3. See Appendix A for all items in the 2017-2018 CHKS Core Module and Appendix C for the 2018-2019 CHKS Core Module.

For the research questions utilizing school-based resilience assets and logistic regression, the school-based resilience assets were entered as categorical independent variables. In the data file, the scales were transformed to nominal variables and categorized as low, medium, or high based on the average score for the scale. The existing scales and nominal variables in the CHKS raw data file were used as a guide when assigning the scores for caring staff-student relationships and student meaningful participation. Items have four possible responses ranging from “not at all true” to “very much true.” For each of these variables, the score range was one (low) to four (high), representing the average response for all items within those scales. Scores under two were considered low, scores of two to three were medium, and scores above three were high. There are five response options for the items measuring school connectedness ranging from “strongly disagree” to “strongly agree.” The range for school connectedness was one to five, representing the average response for all items within the scale. Scores were assigned to a low, medium or high rating based on the work of Austin et al. (2013b), who used the CHKS to examine school connectedness and academic achievement in high schools. Average scores below 2.5 were classified as low, scores between 2.5 and 3.75 were medium, and scores above 3.75 were considered high.

Table 3*School Resilience Assets Scale Items*

Caring relationships	Meaningful participation	School Connectedness
35. At my school, there is a teacher or some other adult who really cares about me.	41. At school, I do interesting activities.	22. I feel close to people at this school.
36. At my school, there is a teacher or some other adult who tells me when I do a good job.	42. At school, I help decide things like class activities or rules.	23. I am happy to be at this school.
37. At my school, there is a teacher or some other adult who notices when I'm not there.	43. At school, I do things that make a difference.	24. I feel like I am part of this school.
38. At my school, there is a teacher or some other adult who always wants me to do my best.	44. At school, I have a say in how things work.	25. The teachers at this school treat students fairly.
39. At my school, there is a teacher or some other adult who listens to me when I have something to say.	45. At school, I help decide school activities or rules.	26. I feel safe in my school.
40. At my school, there is a teacher or some other adult who believes that I will be a success.		

Note. The item numbers correspond to both the 2017-2018 and 2018-2019 CHKS Core Module - High School Questionnaire. Adapted from *Measurement Structure of the California School Climate, Health, and Learning Surveys: Student, Staff, and Parent Surveys* (p. 38) prepared by J. Mahecha and T. Hanson for the California Department of Education's School Health and Safety Office, 2020, San Francisco, CA: WestEd. Copyright 2020 by WestEd.

Supportive Adult Relationships at Home

The variable of supportive adult relationships at home is comprised of two scales from the CHKS Resilience & Youth Development Module – Middle and High School Questionnaire. These scales are caring relationships at home and high expectations at home, which are both considered home-based environmental resilience assets. The combination of these two scales to form one scale is supported by the recommendation of Hanson and Kim (2007), who analyzed the psychometric properties of the module and found that these two scales were not clearly distinguishable from one another when measured separately. There are a total of six items which correspond to item numbers 30-35 on the Resilience & Youth Development Module. See Table 4 for specific items. Respondents are asked to evaluate how true a series of statements are about their home or the adults with whom they live. Item numbers 32, 34, and 35 parallel three of the items from the caring staff-student relationships scale. Each item has four possible responses ranging from “not at all true” to “very much true.” The range for supportive adult relationships at home was one to four, representing the average response for all items within the scale. See Appendix B for all items in the CHKS Resilience & Youth Development Module.

Table 4*Supportive Adult Relationships at Home Items*

Caring relationships	High expectations
31. In my home, there is a parent or some other adult who is interested in my school work.	30. In my home, there is a parent or some other adult who expects me to follow the rules.
33. In my home, there is a parent or some other adult who talks with me about my problems.	32. In my home, there is a parent or some other adult who believes that I will be a success.
35. In my home, there is a parent or some other adult who listens to me when I have something to say.	34. In my home, there is a parent or some other adult who always wants me to do my best.

Note. The item numbers correspond to the CHKS Resilience & Youth Development Module – Middle and High School Questionnaire. Adapted from *Measuring Resilience and Youth Development: The Psychometric Properties of the Healthy Kids Survey* (p. 6) prepared by T.L. Hanson and J. Kim, 2007, U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West.

Internal Resilience

Internal resilience was measured using items from the Resilience & Youth Development Module. Following their analysis of the psychometric properties of the module, Hanson and Kim (2007) recommended four scales to measure internal resilience assets among secondary school students. These scales include self-efficacy, empathy, problem solving, and self-awareness.

Table 5 shows the individual items that make up each recommended scale. Each item is prefaced

by the question, “How true do you feel these statements are about you personally?” Each item has four possible responses ranging from “not at all true” to “very much true.” The range for internal resilience was one to four, representing the average response across all scales.

Table 5

Internal Resilience Assets Scale Items

Self-efficacy	Empathy	Problem solving	Self-awareness
10. I can work with someone who has different opinions than mine.	13. I feel bad when someone gets their feelings hurt.	15. When I need help I find someone to talk with.	21. There is purpose to my life.
7. I can work out my problems.	14. I try to understand what other people go through.	6. I try to work out problems by talking or writing about them.	22. I understand my mood and feelings.
9. I can do most things if I try.	19. I try to understand what other people feel and think.		23. I understand why I do what I do.
11. There are many things that I do well.			

Note. The item numbers correspond to the number of the item on the Resilience & Youth Development Module. Adapted from *Measuring Resilience and Youth Development: The Psychometric Properties of the Healthy Kids Survey* (p. 14) prepared by T.L. Hanson and J. Kim, 2007, U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West.

Mental Health Outcomes

Depression

Depression was measured with responses to the question about depression on the CHKS Core Module – High School Questionnaire. The question is worded as follows: “During the past 12 months, did you ever feel so sad or hopeless almost everyday for two weeks or more that you stopped doing some usual activities?” Possible responses are “no” or yes.”

Suicidal Ideation

Suicidal ideation was measured with responses to the question about suicidality on the CHKS Core Module – High School Questionnaire. The question is worded: “During the past 12 months, did you ever seriously consider attempting suicide?” Possible responses are “no” or “yes.”

Research Questions

Research Question 1

Do students attending continuation high schools and those attending traditional high schools differ significantly in terms of their levels of resilience assets and mental health outcomes?

Research Question 1 (RQ1) consisted of four parts, RQ1a-RQ1d.

RQ1a

Are there significant differences in the school-based resilience levels of students attending continuation schools and those attending traditional high schools?

Variables. The continuous measures were caring staff-student relationships, student meaningful participation, and school connectedness. School type was the categorical variable with two independent groups (continuation or traditional).

Analysis. Due to the non-normal distribution of the continuous data, three Mann-Whitney U Tests were completed to test for differences between the two groups, one for each continuous variable.

RQ1b

Is there a significant difference in the level of supportive adult relationships at home for students attending continuation schools and those attending traditional high schools?

Variables. The continuous variable was the supportive adult relationships at home from the RYDM. School type was the categorical variable with two independent groups (continuation or traditional).

Analysis. A Mann-Whitney U Test was completed to test for differences between continuation and traditional high school students. The sample for this sub question was small due to the limited number of continuation school students who completed the CHKS Resilience and Youth Development Module. These students were compared to a random small sample of traditional high school students who also completed the RYDM. There were 293 students in each group.

RQ1c

Is there a significant difference between the average internal resilience scores for students attending continuation schools and those attending traditional high schools?

Variables. The continuous variable was average internal resilience, calculated from the four valid internal resilience scales on the RYDM. The categorical variable was school type.

Analysis. A Mann-Whitney U Test was completed to test for differences in average internal resilience assets between continuation and traditional high school students. As with RQ1b, the sample for this sub question was small due to the limited number of continuation

school students who completed the CHKS RYDM. This question included 276 continuation students and 279 traditional high students.

RQ1d

Do students attending continuation high schools experience feelings of depression or thoughts of suicide at significantly higher rates than their peers attending traditional high schools?

Variables. The categorical variables included school type (continuation/traditional), depression (no/yes) and suicidal ideation (no/yes).

Analysis. Chi-square tests for independence were used to explore the relationship between school type and self-reported depression and suicidal ideation. One test was completed for each mental health outcome and then the analysis was further broken down by sex.

Research Question 2

Are there significant differences between resilience assets and mental health outcomes for male and female students attending continuation high schools?

Research Question 2 (RQ2) consisted of five parts, RQ2a-RQ2e.

RQ2a

Are there significant differences between the school-based resilience scores for male and female students attending continuation high schools?

Variables. The continuous variables were caring staff-student relationships, student meaningful participation, and school connectedness. Sex (male/female) was the categorical variable.

Analysis. Due to the non-normal distribution of the continuous data, three Mann-Whitney U Tests were completed to test for differences between the two groups, one for each continuous variable.

RQ2b

Is there a significant difference between supportive adult relationships at home for male and female students attending continuation high schools?

Variables. The continuous variable was the supportive adult relationships at home from the RYDM, with sex as the categorical variable with two independent groups (male or female).

Analysis. A Mann-Whitney U Test was completed to test for differences between male and female continuation students. The sample for this sub question was small due to the limited number of continuation school students who completed the CHKS Resilience and Youth Development Module. There were 172 males and 113 females included.

RQ2c

Is there a significant difference between the average internal resilience scores for males and females attending continuation high schools?

Variables. The continuous variable was average internal resilience, calculated from the four valid internal resilience scales on the RYDM. Sex (male or female) was the categorical variable.

Analysis. A Mann-Whitney U Test was completed to test for differences in average internal resilience assets between male and female continuation high school students. As with RQ2b, the sample for this sub question was small due to the limited number of continuation school students who completed the CHKS RYDM. This question included 161 males and 108 females.

RQ2d

Is there an association between sex and feelings of depression among students attending continuation high schools?

Variables. The categorical variables included sex (male/female) and depression (no/yes).

Analysis. A chi-square test for independence was used to explore the relationship between sex and self-reported depression among continuation students.

RQ2e

Is there an association between sex and suicidality among male and female students attending continuation high schools?

Variables. The categorical variables included sex (male/female) and suicidal ideation (no/yes).

Analysis. A chi-square test for independence was used to explore the relationship between sex and suicidal ideation among continuation students.

Research Question 3

Do school resilience assets among continuation high school students predict school-level graduation rates?

Variables. The school-based resilience assets of caring staff-student relationships, student meaningful participation, and school connectedness were entered as categorical independent variables. The categorical dependent variable was graduation rate category, with three categories, low (below 70%), medium (70-79.9%), or high (80% or above).

Analysis. A multinomial logistic regression analysis was completed to determine the likelihood of a continuation student's school having a low (below 70%) or medium (70-79.9%) versus a high (80% or above) cohort graduation rate based on their level (low, medium, or high)

of school resilience assets. The sample consisted of 4,467 11th grade continuation students who completed the CHKS Core Module during the 2017-2018 school year. Students who had missing responses to any of the items making up the school-based resilience scales were not included in the analysis. Additionally, students were only included if their school had at least ten students complete the CHKS in addition to having their 2018-2019 cohort graduation rate posted on the California School Dashboard. Based on this criteria, there were 1,038 students that were not included in the analysis. There were 24 continuation schools that had less than ten students complete the CHKS and 27 schools without cohort graduation rates posted on the Dashboard.

Research Question 4

Is there a relationship between school resilience assets and mental health outcomes among students attending continuation high schools?

Research Question 4 (RQ4) consisted of two parts, RQ4a and RQ4b.

RQ4a

Is there a relationship between school resilience assets and depression among students attending continuation high schools?

Variables. The categorical independent variables included caring staff-student relationships, student meaningful participation, and school connectedness. The depression question (no/yes) was entered as the dependent variable.

Analysis. Standard logistic regression analysis was utilized to determine the likelihood of a student endorsing symptoms of depression within the past 12 months based on their level of school resilience assets (low, medium, or high). The overall sample included 16,931 continuation students. There were separate models for each sex in addition to the overall model.

RQ4b

Is there a relationship between school resilience assets and suicidality among students attending continuation high schools?

Variables. As with RQ4a, the categorical independent variables were caring staff-student relationships, student meaningful participation, and school connectedness. The suicidal ideation question (no/yes) was entered as the dependent variable.

Analysis. Standard logistic regression analysis was also completed to determine the likelihood of a student reporting suicidal ideation within the past 12 months based on their level of school resilience assets (low, medium, or high). The overall sample included 16,803 continuation students. There were separate models for each sex in addition to the overall model.

Research Question 5

Is there a relationship between supportive adult relationships at home and mental health outcomes among students attending continuation high schools?

Research Question 5 (RQ5) consisted of two parts, RQ5a and RQ5b.

RQ5a

Is there a relationship between supportive adult relationships at home and depression among students attending continuation high schools?

Variables. The dependent variable was depression (no/yes), and the independent continuous variable was supportive adult relationships at home.

Analysis. Standard logistic regression analysis was utilized to determine the likelihood of a student endorsing symptoms of depression within the past 12 months based on their responses to the questions on the RYDM about supportive adult relationships at home. The total sample for

this question was small, $n = 286$, due to the limited number of students who completed the Resilience Module.

RQ5b

Is there a relationship between supportive adult relationships at home and suicidality among students attending continuation high schools?

Variables. The suicidal ideation question (no/yes) was entered as the dependent variable, with supportive adult relationships at home entered as the independent continuous variable.

Analysis. A standard logistic regression analysis was completed to predict the likelihood of a student reporting suicidality within the past 12 months based on their responses to questions about home support. As with RQ5a, the total sample for this sub question was small, $n = 287$, due to the limited number of students who completed the Resilience Module.

Research Question 6

Is there a relationship between internal resilience assets and mental health outcomes among students attending continuation high schools?

Research Question 6 (RQ6) consisted of two parts, RQ6a and RQ6b.

RQ6a

Is there a relationship between internal resilience assets and depression among students attending continuation high schools?

Variables. The continuous independent variable was average internal resilience. The categorical dependent variable was depression (no/yes).

Analysis. Standard logistic regression analysis was used to determine the likelihood of a continuation student endorsing symptoms of depression within the past 12 months based on their

responses to the questions about internal resilience assets. The total sample for this question was small, $n = 270$, due to the limited number of students who completed the Resilience Module.

RQ6b

Is there a relationship between internal resilience assets and suicidality among students attending continuation high schools?

Variables. Average internal resilience was the independent continuous variable. The categorical dependent variable was suicidal ideation (no/yes).

Analysis. Standard logistic regression analysis was used to determine the likelihood of a continuation student reporting suicidal ideation within the past 12 months based on their responses to the questions about internal resilience assets. As with RQ6a, the total sample for this question was small, $n = 271$, due to the limited number of students who completed the RYDM.

Methods of Analysis

Chi-Square Test for Independence

The chi-square test for independence is a non-parametric technique that can be used to explore the relationship between two categorical variables with two or more categories. The chi-square test compares the observed percentage of cases that occur in each category with the proportion that would be expected if there was no association between the two variables (Pallant, 2016).

Assumptions for this test include that the observations or cases are independent of one another. Furthermore, the lowest expected frequency in any cell should not be less than five, with a recommended expected frequency of 10 or more for a two by two table. For two by two tables, IBM SPSS includes a correction value to offset the overestimate of the chi-square value. If there

is an association between the two variables, the effect size indicates the strength of the association. The phi coefficient is included in the output and ranges from 0 to 1. The higher the value, the stronger the association (Pallant, 2016). For the current study, all chi-square tests completed were two by two as there were two categories for each variable. The assumptions were met as all cases were independent of one another and the sample sizes were sufficient.

Logistic Regression

Logistic regression refers to a group of related statistical techniques used to predict an outcome using a categorical dependent variable with two or more categories (such as yes/no, pass/fail). The independent (predictor) variable(s) can be categorical, continuous, or both (Pallant, 2016; Tabachnick & Fidell, 2019). Logistic regression is flexible; there are no assumptions regarding the distributions of the independent variables and the equation cannot generate negative estimated probabilities. All predicted probabilities range from 0 to 1. In addition to probabilities, this method also produces odds ratios for each predictor value. The odds ratios tell us how much the odds of the outcome increases or decreases when the value of the predictor increases by one unit (Muijs, 2011). In standard (direct) logistic regression, all independent variables are entered at the same time. This is the most commonly used method if the researcher does not care about the order of variables. Each independent variable is assessed for its contribution to the model as if it was the last variable entered (Tabachnick & Fidell, 2019).

Multinomial logistic regression is an extension of binary logistic regression, generating probabilities of categorical membership when the outcome variable has more than two categories. As with binary logistic regression, the predictor variables can be categorical, continuous, or both (Starkweather & Moske, 2011).

Assumptions for logistic regression include sufficient sample size, absence of outliers, and absence of multicollinearity (Mertler & Vannatta, 2010; Pallant, 2016; Tabachnick & Fidell, 2019). The number of independent variables should be considered when determining sufficient sample size. Too few cases compared to the number of independent variables may result in exceptionally large parameter estimates and standard errors. Researchers should consider deleting or collapsing categories that have a limited number of cases (Mertler & Vannatta, 2010; Pallant, 2016; Tabachnick & Fidell, 2019). Outliers are problematic and can lead to errors. When performing analysis with grouped data, such as logistic regression, the researcher should screen for outliers within each group. Screening for outliers should take place prior to an initial regression run (Tabachnick & Fidell, 2019). Logistic regression is sensitive to high correlations among independent variables (multicollinearity, $r=.9$ or higher), which are indicated by considerably large standard errors for parameter estimates or failing the tolerance test (Mertler & Vannatta, 2010; Pallant, 2016; Tabachnick & Fidell, 2019). For the current study, the assumptions were met for the questions utilizing logistic regression.

Mann-Whitney U Test

The Mann-Whitney U Test is a non-parametric technique that is used to compare the group medians from two independent groups on a single continuous measure. The test transforms the scores on the continuous variable to ranks and then determines whether the ranks are significantly different. If there is a statistically significant difference between the groups, the median values are an easy point of reference for determining which group is higher. IBM SPSS does not generate the effect size for this test; however, an approximate value of r can be calculated using the z value provided in the output (Pallant, 2016). According to Cohen (1992), an r value of .10 is considered small, .30 is medium, and .50 is considered a large effect. The

assumptions for non-parametric techniques apply to the Mann-Whitney U Test. General assumptions include that the samples are random and that the cases are independent of one another (Pallant, 2016).

Summary

Given the limited research on mental health outcomes and sources of resilience for continuation students, the overall purpose of this study was to explore the relationships between school-based, home-based, and internal resilience assets and mental health outcomes. More information about resilience assets is needed in order to develop and improve programs for these youth. To achieve this aim, this study used data from the California Healthy Kids Survey (CHKS) Core Module and Resilience & Youth Development Module. Given that the data were not normally distributed, nonparametric methods including the Mann-Whitney U Test, chi-square test of independence, and multinomial and logistic regression were utilized to address the research questions.

Chapter 4: Results

This chapter contains the results of the planned analysis presented in Chapter 3. The preliminary analysis section includes a review of the demographics of the sample and variables of interest. Following the preliminary analysis is the primary analysis section, which contains the results of each research question. Discussion regarding the importance and significance of these results will be presented in Chapter 5.

Preliminary Analysis

The preliminary analysis involved taking a closer look at the demographics of the 18,567 continuation students in the sample in addition to the randomly selected comparison sample of 18,567 traditional high school students. Table 6 shows the sex, gender identity, grade, race, ethnicity, and home language of the students by school type. Most of the continuation students were male while the traditional sample was more evenly split between male and female students. Most students reported that their gender identity matched their sex at birth, though there were slightly more transgender students in the continuation sample. The continuation sample consisted of mostly 11th and 12th graders, with 9th and 11th graders comprising most of the traditional high school sample. There were less white and Asian students in the continuation sample. Additionally, there were more Black or African American students, more students reporting mixed (two or more) races, and significantly more Hispanic or Latino students in the continuation group versus the sample of traditional high school students. There were also more continuation students who reported Spanish as their home language.

Table 6*Demographics by School Type: Sex, Gender Identity, Grade, Race, Ethnicity, Home Language*

Demographic	Response options	Continuation (%)	Traditional (%)
Sex	Male	10,974 (59.1)	8,802 (47.4)
	Female	6,642 (35.8)	8,973 (48.3)
	No response	951 (5.1)	792 (4.3)
Transgender	No	16,926 (91.2)	17,242 (92.9)
	Yes	269 (1.4)	169 (.9)
	I am not sure	227 (1.2)	250 (1.3)
	Decline to respond/no response	1,145 (6.2)	906 (4.9)
Grade	9 th	275 (1.5)	9,029 (48.6)
	10 th	960 (5.2)	1,097 (5.9)
	11 th	9,837 (53.0)	7,612 (41)
	12 th	7,495 (40.4)	829 (4.5)
Race	American Indian or Alaska Native	1,082 (5.8)	680 (3.7)
	Asian	393 (2.1)	2,259 (12.2)
	Black or African American	1,222 (6.6)	707 (3.8)
	Native Hawaiian or Pacific Islander	309 (1.7)	320 (1.7)
	White	4,303 (23.2)	5,968 (32.1)
	Mixed (two or more) races	8,741 (47.1)	6,893 (37.1)
	No response	2,517 (13.6)	1,740 (9.4)
Hispanic or Latino	No	5,717 (30.8)	9,115 (49.1)
	Yes	12,752 (68.7)	9,365 (50.4)
	No response	98 (.5)	87 (.5)
Home language	English	11,031 (59.4)	11,854 (63.8)
	Spanish	6,878 (37.0)	5,040 (27.1)
	Other	600 (3.2)	1,631 (8.8)
	No response	58 (.3)	42 (.2)

Note. Percentages indicate the proportion of the indicated school type.

As shown in Table 7, continuation students were less likely to report living in a home with one or parent compared to their peers in traditional high schools. More continuation students reported being in foster care, homeless, or in another living arrangement such as another

relative's home or a friend's home. Continuation students were also significantly more likely to report that they received free or reduced-price lunch at school. In terms of risk behaviors, more than a quarter of continuation students reported having been intoxicated (drunk or high) on school property at least once. Additionally, 2,464 (13.3%) reported that they had been intoxicated on school property on seven or more occasions compared to 545 (2.9%) of the traditional high school students. There were also a higher proportion of continuation students who reported being a member of a gang.

Table 7

Demographics by School Type: Living Situation, Socioeconomic Status, Risk Behaviors

Demographic	Response options	Continuation <i>n</i> (%)	Traditional <i>n</i> (%)
Living situation	Home with one or more parent	15,646 (84.3)	17,025 (91.7)
	Foster home or group care	191 (1.0)	48 (.3)
	Homeless	176 (0.9)	88 (.4)
	Other living arrangement	2,487 (13.4)	1,356 (7.3)
	No response	67 (.4)	50 (.3)
Free or reduced-price lunch	No	3,676 (19.8)	8,149 (43.9)
	Yes	12,381 (66.7)	8,334 (44.9)
	Don't know or no response	2,510 (13.5)	2,084 (11.2)
Intoxicated on school property	0 times	13,528 (72.9)	16,818 (90.6)
	1 – 6 times	2,456 (13.2)	1,129 (6.1)
	7 or more times	2,464 (13.3)	545 (2.9)
	No response	119 (.6)	75 (.4)
Gang membership	No	16,892 (91)	17,631 (95)
	Yes	1,466 (7.9)	755 (4.1)
	No response	209 (1.1)	181 (1.0)

Note. Percentages indicate the proportion of the indicated school type.

Table 8*Preliminary Analysis on all Variables of Interest by School Type*

School Type	Variable	<i>n</i> (%)	Mean	Median	Mode	S.D.
Continuation	Caring staff relationships	17,967	2.82	3.00	3.00	.84
	Low	2,389 (13.3)				
	Medium	9,301 (51.8)				
	High	6,277 (34.9)				
	Meaningful participation	18,146	1.87	1.60	1.00	.81
	Low	10,331 (56.9)				
	Medium	6,390 (35.2)				
	High	1,425 (7.9)				
	School connectedness	17,960	3.41	3.40	4.00	.87
	Low	2,312 (12.9)				
	Medium	8,497 (47.3)				
	High	7,151 (39.8)				
Traditional	Supportive adults at home	293	3.07	3.00	4.00	.76
	Internal resilience	276	2.94	3.00	3.00	.69
	Caring staff relationships	18,113	2.83	3.00	3.00	.80
	Low	2,411 (13.3)				
	Medium	9,052 (50.0)				
	High	6,650 (36.7)				
	Meaningful participation	18,279	1.94	1.80	1.00	.77
	Low	9,866 (54.0)				
	Medium	6,878 (37.6)				
	High	1,535 (8.4)				
	School connectedness	18,083	3.52	3.60	4.00	.82
	Low	1,931 (10.7)				
	Medium	7,918 (43.8)				
	High	8,234 (45.5)				
	Supportive adults at home	293	3.48	3.67	4.00	.61
	Internal resilience	279	3.15	3.25	4.00	.61

Primary Analysis

Research Question 1

Do students attending continuation high schools and those attending traditional high schools differ significantly in terms of their levels of resilience assets and mental health outcomes? This overarching question addressed whether the levels of resilience assets and mental health outcomes differ significantly between students attending continuation high schools and their peers in traditional school settings. To address each part of this question, Research Question 1a (RQ1a) looked at school-based resilience assets, RQ1b examined supportive adult relationships at home, RQ1c addressed internal resilience assets and RQ1d covered mental health outcomes.

RQ1a

Are there significant differences in the school-based resilience levels of students attending continuation schools and those attending traditional high schools? RQ1a compared the levels of school-based resilience assets between continuation high school students and students attending traditional high schools, which included caring staff-student relationships, student meaningful participation, and school connectedness. The results are presented in Table 9.

Table 9*School-Based Resilience Assets by School Type*

School type	Scale	<i>n</i>	Median	Mean	Std. deviation
Continuation	Caring staff-student	17,967	3.00	2.82	.84
	Meaningful participation	18,146	1.60	1.87	.81
	School connectedness	17,960	3.40	3.41	.87
Traditional	Caring staff-student	18,113	3.00	2.83	.80
	Meaningful participation	18,279	1.80	1.94	.77
	School connectedness	18,083	3.60	3.52	.82

Note. Minimum of 1.00, maximum of 4.00 for caring staff-student relationships and student meaningful participation. Minimum of 1.00, maximum of 5.00 for school connectedness.

A Mann-Whitney U Test revealed no significant difference in the levels of caring staff-student relationships of students attending continuation high schools ($Md = 3.00$, $n = 17967$) and those attending traditional schools ($Md = 3.00$, $n = 18113$), $z = .67$, $p = .50$, $r = .004$. However, there was a significant difference in the levels of student meaningful participation, with lower levels reported by students attending continuation schools ($Md = 1.60$, $n = 18146$) than students attending traditional high schools ($Md = 1.80$, $n = 18279$), $z = -13.12$, $p < .001$, $r = .07$.

Additionally, there was a significant difference in the levels of school connectedness, with lower levels reported by students attending continuation high schools ($Md = 3.40$, $n = 17960$) than students attending traditional high schools ($Md = 3.60$, $n = 18083$), $z = -12.39$, $p < .001$, $r = .07$.

Though the differences were statistically significant, the effect sizes for both student meaningful participation and school connectedness were very small.

RQ1b

Is there a significant difference in the level of supportive adult relationships at home for students attending continuation schools and those attending traditional high schools? RQ1b compared the scores for supportive adult relationships at home. The sample for this sub question was small due to the limited number of continuation school students who completed the CHKS Resilience and Youth Development Module. These students were compared to a random small sample of traditional high school students who also completed the Resilience Module. The levels of supportive adult relationships are presented in Table 10.

Table 10

Supportive Adult Relationships at Home by School Type

School type	Scale	<i>n</i>	Median	Mean	Std. deviation
Continuation	Supportive adult	293	3.00	3.07	.76
Traditional	Supportive adult	293	3.67	3.48	.61

Note. There is a minimum of 1.00, maximum of 4.00 for supportive adult relationships.

A Mann-Whitney U Test revealed a significant difference in the levels of supportive adult relationships at home between continuation students. Students attending continuation schools had significantly lower levels of supportive adult relationships at home ($Md = 3.00$, $n = 293$) than their peers attending traditional high schools ($Md = 3.67$, $n = 293$), $z = -7.09$, $p < .001$, $r = .29$. This is considered a medium effect.

RQ1c

Is there a significant difference between the average internal resilience scores for students attending continuation schools and those attending traditional high schools? RQ1c compared the total internal resilience assets. As with RQ1b, the sample for this sub question was small due to

the limited number of continuation school students who completed the CHKS Resilience and Youth Development Module. These students were compared to a random small sample of traditional high school students who also completed the Resilience Module. The levels of average internal resilience assets are presented in Table 11.

Table 11

Internal Resilience Assets by School Type

School type	Scale	<i>n</i>	Median	Mean	Std. deviation
Continuation	Internal resilience	276	3.00	2.94	.69
Traditional	Internal resilience	279	3.25	3.15	.61

Note. There is a minimum of 1.00, maximum of 4.00 for internal resilience assets.

A Mann-Whitney U Test also revealed a significant difference in the levels of average internal resilience assets, with continuation students reporting lower levels of internal resilience assets ($Md = 3.00, n = 276$) than students attending traditional high schools ($Md = 3.25, n = 279$), $z = -3.67, p < .001, r = .16$. This is considered a small effect.

RQ1d

Do students attending continuation high schools experience feelings of depression or thoughts of suicide at significantly higher rates than their peers attending traditional high schools? RQ1d examined the relationship between school type (continuation or traditional high school) and self-reported depression and suicidal ideation. The analysis was further broken down by sex.

Table 12*Depression Symptoms by School Type*

School type	No (%)	Yes (%)	Total	Missing
Continuation	11,525 (62.8)	6,832 (37.2)	18,357	210
Male	7,690 (70.9)	3,157 (29.1)	10,847	
Female	3,172 (48.3)	3,396 (51.7)	6,568	
Traditional	12,091 (65.7)	6,317 (34.3)	18,408	159
Male	6,510 (74.7)	2,203 (25.3)	8,713	
Female	5,070 (56.9)	3,840 (43.1)	8,910	

Note. Students were asked, “During the past 12 months, did you ever feel so sad or hopeless almost everyday for two weeks or more that you stopped doing some usual activities?”

As shown in Table 12, a higher percentage of all students attending continuation high schools (37.2%) reported symptoms of depression within the past 12 months compared to those attending traditional schools (34.3%). A chi-square test for independence (with Yates’ Continuity Correction) indicated a significant association between school type (continuation versus traditional) and symptoms of depression, $\chi^2 (1, n = 36,765) = 33.54, p < .001, \phi = .030$. Students attending continuation schools were more likely to report symptoms of depression in the past year than students attending traditional schools. The phi coefficient value of .030 is considered a very small effect. Additional chi-square tests for independence also indicated a significant association between school type and symptoms of depression for both males, $\chi^2 (1, n = 19,560) = 35.26, p < .001, \phi = .043$, and females, $\chi^2 (1, n = 15,478) = 112.18, p < .001, \phi = .085$. Both male and females attending continuation schools had significantly higher rates of depression compared to their same-sex peers at traditional high schools. Overall, females reported higher rates of depression than their male peers regardless of school type, with females attending continuation schools reporting the highest rates (51.7%).

Table 13*Suicidal Ideation by School Type*

School type	No (%)	Yes (%)	Total	Missing
Continuation	14,718 (80.8)	3,495 (19.2)	18,213	354
Male	9,101 (84.7)	1,641 (15.3)	10,742	
Female	4,802 (73.6)	1,726 (26.4)	6,528	
Traditional	15,311 (83.2)	3,087 (16.8)	18,398	169
Male	7,634 (87.6)	1,078 (12.4)	8,712	
Female	7,008 (78.7)	1,893 (21.3)	8,901	

Note. Students were asked, “During the past 12 months, did you ever seriously consider attempting suicide?”

As with the question about depression, a higher percentage of all students attending continuation schools (19.2%) reported suicidal ideation within the past 12 months compared to those attending traditional schools (16.8%). A chi-square test for independence (with Yates’ Continuity Correction) indicated a significant association between school type (continuation versus traditional) and suicidal ideation, $\chi^2 (1, n = 36,611) = 35.9, p < .001, \phi = .031$. Students attending continuation schools were more likely to report suicidal ideation in the past year than students attending traditional schools. The phi coefficient value of .031 is considered a very small effect. Additional chi-square tests for independence also indicated a significant association between school type and suicidal ideation for both males, $\chi^2 (1, n = 19,454) = 33.47, p < .001, \phi = .042$, and females, $\chi^2 (1, n = 15,429) = 55.84, p < .001, \phi = .060$. As with depression, both male and females attending continuation schools had significantly higher rates of reported suicidal ideation when compared to their same-sex peers at traditional high schools. Overall, females were more likely to report suicidal ideation than their male peers regardless of school type, with females attending continuation schools reporting the highest rates (26.4%).

Research Question 2

Are there significant differences between resilience assets and mental health outcomes for male and female students attending continuation high schools? Research Question 2 addressed whether the levels of resilience assets and mental health outcomes differ significantly between male and female students attending continuation high schools. Research Question 2a (RQ2a) examined the differences in school-based resilience scores, RQ2b looked at supportive adult relationships at home, RQ2c examined total internal resilience scores, RQ2d looked at symptoms of depression, and RQ2e examined the relationship between sex and suicidal ideation.

RQ2a

Are there significant differences between the school-based resilience scores for male and female students attending continuation high schools? RQ2a compared the levels of school-based resilience assets between male and female students attending continuation high schools, which included caring staff-student relationships, student meaningful participation, and school connectedness. The results are presented in Table 14.

Table 14

School-Based Resilience Assets by Sex

Sex	Scale	<i>n</i>	Median	Mean	Std. deviation
Male	Caring staff-student	10,610	2.83	2.75	.83
	Meaningful participation	10,722	1.60	1.85	.81
	School connectedness	10,624	3.40	3.39	.87
Female	Caring staff-student	6,449	3.00	2.95	.82
	Meaningful participation	6,503	1.80	1.90	.82
	School connectedness	6,426	3.60	3.46	.86

Note. Minimum of 1.00, maximum of 4.00 for caring staff-student relationships and student meaningful participation. Minimum of 1.00, maximum of 5.00 for school connectedness.

A series of Mann-Whitney U Tests revealed significant differences in the levels of all school-based resilience assets between male and female students attending continuation schools. Female students reported significantly higher levels of caring staff-student relationships ($Md = 3.00, n = 6,449$) than male students ($Md = 2.83, n = 10,610$), $z = 14.77, p = <.001, r = .11$. Although both males and females reported low levels of student meaningful participation, females had significantly higher levels ($Md = 1.80, n = 6,503$) than males ($Md = 1.60, n = 10,722$), $z = 3.94, p = <.001, r = .03$. Females also had significantly higher levels of school connectedness ($Md = 3.60, n = 6,426$) than their male peers ($Md = 3.40, n = 10,624$), $z = 5.05, p = <.001, r = .04$.

RQ2b

Is there a significant difference between supportive adult relationships at home for male and female students attending continuation high schools? RQ2b compared the levels of supportive adult relationships at home. The total sample for this question was much smaller, $n = 285$, due to the limited number of continuation school students who completed the CHKS Resilience and Youth Development Module. The levels of supportive adult relationships are presented in Table 15.

Table 15*Supportive Adult Relationships by Sex*

Sex	Scale	<i>n</i>	Median	Mean	Std. deviation
Male	Supportive adult	172	3.00	3.04	.74
Female	Supportive adult	113	3.17	3.12	.78

Note. There is a minimum of 1.00, maximum of 4.00 for supportive adult relationships.

A Mann-Whitney U Test revealed no significant difference in the levels of supportive adult relationships at home between male ($Md = 3.00$, $n = 172$) and female students ($Md = 3.17$, $n = 113$) attending continuation high schools, $z = .97$, $p = .33$, $r = .06$.

RQ2c

Is there a significant difference between the average internal resilience scores for males and females attending continuation high schools? RQ2c compared the levels of internal resilience assets. As with RQ2b, the total sample for this question was much smaller, $n = 269$, due to the limited number of continuation school students who completed the CHKS Resilience and Youth Development Module and completed it in its entirety. The levels of average internal resilience assets are presented in Table 16.

Table 16*Internal Resilience Assets by Sex*

Sex	Scale	<i>n</i>	Median	Mean	Std. deviation
Male	Internal resilience	161	3.00	2.94	.69
Female	Internal resilience	108	3.00	2.97	.67

Note. There is a minimum of 1.00, maximum of 4.00 for total internal resilience assets.

A Mann-Whitney U Test revealed no significant difference in the average internal resilience of males ($Md = 3.00$, $n = 161$) and female students ($Md = 3.00$, $n = 108$) attending continuation high schools, $z = -.19$, $p = .85$, $r = .01$.

RQ2d

Is there an association between sex and feelings of depression among students attending continuation high schools? RQ2d examined the relationship between sex (male or female) and self-reported depression.

Table 17

Depression Symptoms by Sex

Sex	Count/%	No	Yes	Total
Male	Count	7,690	3,157	10,847
	%	70.9%	29.1%	100.0%
Female	Count	3,172	3,396	6,568
	%	48.3%	51.7%	100.0%

Note. Students were asked, “During the past 12 months, did you ever feel so sad or hopeless almost everyday for two weeks or more that you stopped doing some usual activities?”

As shown in Table 17, a higher percentage of females attending continuation high schools (51.7%) reported symptoms of depression within the past 12 months compared to males (29.1%). A chi-square test for independence (with Yates’ Continuity Correction) indicated a significant association between sex (male versus female) and symptoms of depression, $\chi^2 (1, n = 17,415) = 889.36$, $p < .001$, $\phi = .23$. Females attending continuation schools were significantly more likely to report symptoms of depression in the past year than male students. The phi coefficient value of .23 is considered a small to medium effect.

RQ2e

Is there an association between sex and suicidality among male and female students attending continuation high schools? RQ2e examined the relationship between sex (male or female) and suicidal ideation.

Table 18

Suicidal Ideation by Sex

Sex	Count/%	No	Yes	Total
Male	Count	9,101	1,641	10,742
	%	84.7%	15.3%	100.0%
Female	Count	4,802	1,726	6,528
	%	73.6%	26.4%	100.0%

Note. Students were asked, “During the past 12 months, did you ever seriously consider attempting suicide?”

As with the question about depression, a higher percentage of female students attending continuation schools (26.4%) reported suicidal ideation within the past 12 months compared to males (15.3%). A chi-square test for independence (with Yates’ Continuity Correction) indicated a significant association between sex (male versus female) and suicidal ideation, $\chi^2 (1, n = 17,270) = 321.7, p < .001$, $\phi = .137$. Female students attending continuation schools were more likely to report suicidal ideation in the past year than their male peers. The phi coefficient value of .137 is considered a small effect.

Research Question 3

Do school resilience assets among continuation high school students predict school-level graduation rates? Research Question 3 explored the relationship between school resilience assets

and continuation school graduation rates. The sample consisted of 11th graders attending continuation schools who completed the CHKS Core Module during the 2017-2018 school year. Students who had missing responses to any of the items making up the school-based resilience scales were not included in the analysis. Additionally, students were only included if their school had its 2019 cohort graduation rates posted on the California School Dashboard.

A multinomial logistic regression analysis was completed to determine the likelihood of a continuation student's school having a low (below 70%) or medium (70-79.9%) versus a high (80% or above) cohort graduation rate based on their level (low, medium, or high) of school resilience assets. The graduation rate category was entered as the dependent variable, with the high rate (above 80%) as the reference category. The school-based resilience assets of caring staff-student relationships, student meaningful participation, and school connectedness were entered as categorical independent variables. Table 19 shows the associations between each graduation rate category and the observed frequencies of each school resilience asset. Most of the students in the total sample reported low levels of student meaningful participation (59.2%), which was consistent across all graduation rate categories. A smaller proportion of students attending schools with high graduation rates had low levels of school connectedness compared to those with low or medium graduation rates.

Table 19*Associations Between Grad Rate Category and School Resilience Assets*

Parameter	Total (%)	Low grad rate (%)	Med grad rate (%)	High grad rate (%)
Caring staff				
Low	630 (14.1)	324 (13.7)	143 (15.4)	163 (13.9)
Medium	2,372 (53.1)	1,328 (56.1)	477 (51.5)	567 (48.4)
High	1,465 (32.8)	716 (30.2)	307 (33.1)	442 (37.7)
Participation				
Low	2,644 (59.2)	1,390 (58.7)	586 (63.2)	668 (57)
Medium	1,534 (34.3)	832 (35.1)	282 (30.4)	420 (35.8)
High	289 (6.5)	146 (6.2)	59 (6.4)	84 (7.2)
Connectedness				
Low	611 (13.7)	342 (14.4)	146 (15.7)	123 (10.5)
Medium	2,195 (49.1)	1,219 (51.5)	458 (49.4)	518 (44.2)
High	1,661 (37.2)	807 (34.1)	323 (34.8)	531 (45.3)
Total		2,368	927	1,172

Note. Total percentage indicated is the proportion of the total sample, $n = 4,467$, whereas the other percentages indicate the proportion of the indicated grad rate category.

The full model was statistically significant $\chi^2 (12, n = 4,467) = 71.32, p < .001$ relative to a baseline model with no predictors. Additionally, the Pearson ($p = .471$) and Deviance ($p = .335$) Goodness of Fit Tests were not significant, indicating that the model fits the data well. However, likelihood ratio tests for each predictor indicated that only caring staff-student relationships ($p = .004$) and school connectedness ($p < .001$) were statistically significant. Student meaningful participation did not significantly contribute to the model, indicated by $p = .120$. Students who reported medium rather than high levels of caring staff-student relationships were more likely to attend schools with low cohort graduation rates, with an odds ratio of 1.29. However, the most salient predictor of graduation rate category was school

connectedness. Compared to students who reported high levels, students who reported low levels of school connectedness were almost twice as likely to attend a school with either a low (*OR* 1.94) or medium cohort graduation rate (*OR* 1.98) versus a high graduation rate.

Table 20*Parameter Estimates for Predicting Grad Category Based on School Resilience Assets*

							95% C.I. for Odds Ratio		
							Odds Ratio Exp(<i>B</i>)	Lower	Upper
Grad rate		<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>			
Low	Intercept	.424	.139	9.360	1	.002			
	Low caring	-.074	.129	.327	1	.567	.929	.721	1.196
	Med caring	.256	.085	9.112	1	.003	1.291	1.094	1.524
	High caring	0			0				
	Low part.	-.140	.155	.819	1	.365	.869	.641	1.178
	Med part.	-.119	.156	.588	1	.443	.887	.654	1.204
	High part.	0			0				
	Low connect	.663	.131	25.603	1	<.001	1.941	1.501	2.510
	Med connect	.411	.083	24.755	1	<.001	1.509	1.283	1.774
	High connect	0			0				
Medium	Intercept	-.447	.172	6.786	1	.009			
	Low caring	-1.29	.156	.690	1	.406	.879	.648	1.192
	Med caring	.072	.104	.474	1	.491	1.074	.876	1.318
	High caring	0			0				
	Low part.	.007	.191	.001	1	.971	1.007	.692	1.465
	Med part.	-.191	.194	.976	1	.323	.826	.565	1.207
	High part.	0			0				
	Low connect	.685	.156	19.286	1	<.001	1.984	1.461	2.694
	Med connect	.352	.103	11.754	1	<.001	1.422	1.163	1.740
	High connect	0			0				

Note. The reference category is high graduation rate. The parameters for the high levels of school-resilience assets are set to zero because they are redundant.

Research Question 4

Is there a relationship between school resilience assets and mental health outcomes among students attending continuation high schools? Research Question 4 investigated the relationship between school-based resilience assets and mental health outcomes. Research Question 4a (RQ4a) examined school-based resilience assets and depression symptoms while RQ4b looked at school-based resilience assets and suicidal ideation.

RQ4a

Is there a relationship between school resilience assets and depression among students attending continuation high schools? Standard logistic regression analysis was utilized to determine the likelihood of a student endorsing symptoms of depression within the past 12 months based on their level of school resilience assets (low, medium, or high). The depression question (no/yes) was entered as the dependent variable. The school-based resilience assets of caring staff-student relationships, student meaningful participation, and school connectedness were entered in Block 1 as categorical independent variables, with the low level as the reference category for each predictor. Due to the significant differences in levels of school-based resilience assets and depression between male and female students attending continuation high schools, there were separate models for each sex in addition the overall model.

The overall model containing all of the predictors was statistically significant $\chi^2 (1, n = 16,931) = 243.17, p < .001$, indicating the model was able to distinguish between students who reported and did not report depression symptoms better than if no predictors were entered. The Hosmer and Lemeshow Goodness of Fit Test also indicated support for the model with a significance level of .073. The model explained 1.4% (Cox and Snell R squared) to 1.9% (Nagelkerke R squared) of the variance in depression symptoms and correctly classified 62.6%

of the cases. However, the model was much better at correctly classifying students who did not endorse depression symptoms (99%) versus only 1.5% of those who reported depression. As show in Table 21, all three independent variables made statistically significant contributions to the predictive ability of the model. The strongest predictor of reporting depression symptoms was a high level of caring student-staff relationships, with an odds ratio of 1.24. This indicated that students who had a high level of caring staff-student relationships were 24% $[(1.24-1) \times 100]$ more likely to report depression symptoms than those with a low level of caring staff-student relationships. Meanwhile, students with a medium level of caring student-staff relationships were less likely to report depression symptoms. Both higher levels of student meaningful participation and school connectedness were associated with decreased odds of depression. The odds ratio for high student meaningful participation was .67, indicating that students in this category were 33% $[(1-.67) \times 100]$ less likely to report depression. Students reporting high levels of school connectedness were 32% $[(1-.68) \times 100]$, less likely to report depression.

Table 21*Logistic Regression Predicting Depression Based on School Resilience Assets*

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Low caring staff			91.846	2	.000			
Medium caring staff	-1.51	.052	8.567	1	.003	.860	.777	.951
High caring staff	.212	.057	13.764	1	.000	1.237	1.105	1.384
Low participation			87.641	2	.000			
Medium participation	-.305	.036	71.295	1	.000	.737	.687	.791
High participation	-.408	.067	37.375	1	.000	.665	.583	.758
Low connectedness			58.784	2	.000			
Med. connectedness	-1.60	.051	9.777	1	.002	.852	.771	.942
High connectedness	-3.87	.056	48.431	1	.000	.679	.609	.757
Constant	-.150	.052	8.196	1	.004	.861		

The model containing all three predictors was also statistically significant when run separately for both males, $\chi^2 (1, n = 10,025) = 141.13, p < .001$, and females, $\chi^2 (1, n = 6,067) = 86.47, p < .001$. The Hosmer and Lemeshow Goodness of Fit Test also indicated support for both models with a significance level of .74 for males and .081 for females. For males, the model explained between 1.4% (Cox and Snell R squared) and 2% (Nagelkerke R squared) of the variance in depression symptoms and correctly classified 100% of those who were not depressed, but none who were. For females, the model explained between 1.4% and 1.9% of the variance in

depression symptoms and correctly classified 49.3% of those who were not depressed and 61.1% of those reported depression symptoms.

As show in Table 22, all three independent variables made statistically significant contributions to the predictive ability of the model for males, with the exception of high levels of caring staff-student relationships. For this asset specifically, males were 15% $[(1-.85) \times 100]$ less likely to report depression symptoms if they had medium levels of caring staff-student relationships compared to those with low levels. Higher levels of both student meaningful participation and school connectedness were associated with decreased odds of reporting depression. Males with high levels of student meaningful participation were 35% $[(1-.65) \times 100]$ less likely to report depression. Those with high levels of school connectedness were 38% $[(1-.62) \times 100]$ less likely to report depression symptoms compared to those with low levels.

Table 22*Logistic Regression Predicting Depression for Males Based on School Resilience Assets*

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Low caring staff			22.803	2	.000			
Medium caring staff	-1.64	.067	5.928	1	.015	.849	.744	.969
High caring staff	.082	.077	1.133	1	.287	1.085	.933	1.262
Low participation			49.115	2	.000			
Medium participation	-.320	.050	40.353	1	.000	.726	.658	.802
High participation	-.427	.098	19.086	1	.000	.652	.538	.790
Low connectedness			41.246	2	.000			
Med. connectedness	-.269	.068	15.631	1	.000	.764	.668	.873
High connectedness	-.476	.075	40.193	1	.000	.621	.536	.720
Constant	-.385	.067	32.872	1	.000	.680		

For females, high levels of caring staff-student relationships and medium levels of school connectedness did not contribute significantly to the model. For female students, caring staff-student relationships were only predictive in medium levels, which corresponded to being 24% $[(1-.76) \times 100]$ less likely to report depression than those with low levels. Higher levels of student meaningful participation were also associated with decreased odds of reporting depression; females who reported medium levels of meaningful participation were 24% $[(1-.76) \times 100]$ less likely to report depression while those who reported high levels were 33% $[(1-.67) \times 100]$

100] less likely to endorse depression symptoms. For school connectedness, females reporting high levels rather than low levels were 22% $[(1-.78) \times 100]$ less likely to report depression.

Table 23

Logistic Regression Predicting Depression for Females Based on School Resilience Assets

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Low caring staff			26.194	2	.000			
Medium caring staff	-.279	.093	9.024	1	.003	.757	.631	.908
High caring staff	.001	.100	.000	1	.991	1.001	.824	1.217
Low participation			30.219	2	.000			
Medium participation	-.278	.058	23.027	1	.000	.757	.676	.848
High participation	-.404	.101	15.987	1	.000	.668	.548	.814
Low connectedness			19.561	2	.000			
Med. connectedness	.004	.087	.002	1	.960	1.004	.847	1.191
High connectedness	-.255	.092	7.646	1	.006	.775	.646	.928
Constant	.459	.095	23.377	1	.000	1.582		

RQ4b

Is there a relationship between school resilience assets and suicidality among students attending continuation high schools? Standard logistic regression analysis was also completed to determine the likelihood of a student reporting suicidal ideation within the past 12 months based on their level of school resilience assets (low, medium, or high). The suicidality question (no/yes) was entered as the dependent variable. As with RQ4a, the school-based resilience assets

of caring staff-student relationships, student meaningful participation, and school connectedness were entered in Block 1 as categorical independent variables, with the low level as the reference category for each predictor. Due to the significant differences in levels both school-based resilience assets and suicidality between male and female students attending continuation high schools, a separate model was run for each sex in addition the overall model.

The overall model containing all three predictors was statistically significant $\chi^2 (1, n = 16,803) = 180.75, p < .001$, indicating the model was able to distinguish between students who reported and did not report suicidal ideation better than if no predictors were entered. The Hosmer and Lemeshow Goodness of Fit Test also indicated support for the model with a significance level of .775. The model explained between 1.1% (Cox and Snell R squared) and 1.7% (Nagelkerke R squared) of the variance in suicidal ideation and correctly classified 80.7% of the total cases. While the model correctly classified 100% of the students who did not report suicidality, it did not correctly predict any of the students who reported suicidal ideation. As show in Table 24, high levels of caring student-staff relationships did not add to the predictive ability of the model. Medium levels of caring student-staff relationships and medium or higher levels of student meaningful participation and school connectedness all decreased the odds of a student reporting suicidal ideation within the past 12 months compared to those with low levels, with high levels decreasing the likelihood more than medium levels. The strongest predictor of not reporting suicidal ideation was a high level of school connectedness. Students who reported high levels of school connectedness were 43% $[(1-.57) \times 100]$ less likely to report suicidal ideation.

Table 24*Logistic Regression Predicting Suicidality Based on School Resilience Assets*

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Low caring staff			45.203	2	<.001			
Medium caring staff	-.295	.060	23.945	1	<.001	.745	.662	.838
High caring staff	-.030	.067	.194	1	.660	.971	.851	1.107
Low participation			17.367	2	<.001			
Medium participation	-.167	.045	13.807	1	<.001	.847	.775	.924
High participation	-.231	.083	7.669	1	.006	.794	.674	.935
Low connectedness			76.926	2	<.001			
Med. connectedness	-.374	.059	40.614	1	<.001	.688	.613	.772
High connectedness	-.571	.065	76.899	1	<.001	.565	.497	.642
Constant	-.804	.058	190.705	1	<.001	.448		

The model containing all three predictors was also statistically significant when run separately for both males, $\chi^2 (1, n = 9,936) = 118.25, p < .001$, and females, $\chi^2 (1, n = 6,028) = 63.96, p < .001$. The Hosmer and Lemeshow Goodness of Fit Test also indicated support for both models with a significance level of .65 for males and .26 for females. For males, the model explained between 1.2% (Cox and Snell R squared) and 2.1% (Nagelkerke R squared) of the variance in suicidality and correctly classified 100% of those who did not report suicidal ideation, but none who did. For females, the model explained between 1.1% and 1.5% of the

variance and also correctly classified 100% of those who did not report suicidal ideation, but none who did.

As show in Table 25, all three independent variables made statistically significant contributions to the predictive ability of the model for males. Males who had medium levels of caring staff-student relationships were less likely to report suicidal ideation compared to those with low levels. Medium levels of student meaningful participation were also associated with decreased odds of suicidal ideation compared to low levels. However, high levels of caring staff-student relationships and high levels of student meaningful participation did not significantly contribute to the model. As with the overall model, the most significant predictor for males was school connectedness, with students reporting medium levels over low levels being 37% $[(1-.63) \times 100]$ less likely to report suicidal ideation while those reporting high levels were 49% $[(1-.51) \times 100]$ less likely to report suicidal ideation within the past year.

Table 25*Logistic Regression Predicting Suicidality for Males Based on School Resilience Assets*

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Low caring staff			20.361	2	.000			
Medium caring staff	-.303	.081	13.877	1	.000	.739	.630	.866
High caring staff	-.071	.094	.574	1	.449	.931	.775	1.119
Low participation			8.739	2	.013			
Medium participation	-.176	.064	7.512	1	.006	.838	.739	.951
High participation	-.212	.123	2.975	1	.085	.809	.635	1.029
Low connectedness			56.164	2	.000			
Med. connectedness	-.467	.080	33.865	1	.000	.627	.536	.734
High connectedness	-.672	.090	55.198	1	.000	.511	.428	.610
Constant	-.986	.077	165.598	1	.000	.373		

For female students, student meaningful participation was only predictive at high levels, with students who reported high levels rather than low levels being less likely to report suicidal ideation. Although both medium levels of school connectedness and high levels of caring student-staff relationships were associated with decreased odds of suicidal ideation, the most significant predictors were medium levels of caring student-staff relationships and high levels of school connectedness. As shown in Table 26, students who reported medium levels of caring student-staff relationships were 34% $[(1-.66) \times 100]$ less likely to report suicidality. For school

connectedness, females reporting high levels rather than low levels were also 34% [(1-.66) x 100] less likely to report suicidal ideation.

Table 26

Logistic Regression Predicting Suicidality for Females Based on School Resilience Assets

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Low caring staff			20.088	2	.000			
Medium caring staff	-.413	.097	17.935	1	.000	.662	.547	.801
High caring staff	-.247	.105	5.548	1	.019	.781	.636	.959
Low participation			5.801	2	.055			
Medium participation	-.125	.066	3.536	1	.060	.883	.775	1.005
High participation	-.235	.119	3.892	1	.049	.791	.626	.998
Low connectedness			17.318	2	.000			
Med. connectedness	-.231	.093	6.237	1	.013	.793	.662	.951
High connectedness	-.412	.101	16.653	1	.000	.663	.544	.807
Constant	-.381	.097	15.313	1	.000	.683		

Research Question 5

Is there a relationship between supportive adult relationships at home and mental health outcomes among students attending continuation high schools? Research Question 5 examined the relationship between home support and mental health outcomes. Research Question 5a (RQ5a) addressed supportive adult relationships at home and depression symptoms while RQ5b focused on suicidal ideation.

RQ5a

Is there a relationship between supportive adult relationships at home and depression among students attending continuation high schools? Standard logistic regression analysis was utilized to determine the likelihood of a student endorsing symptoms of depression within the past 12 months based on their responses to the questions about supportive adult relationships at home. The depression question (no/yes) was entered as the dependent variable, with supportive adult relationships at home entered as the independent continuous variable. The total sample for this question was small, $n = 286$, due to the limited number of students who completed the Resilience Module. The model was not statistically significant $\chi^2 (1, n = 286) = 2.198, p = .138$, indicating that the model was not able to distinguish between students who reported and did not report depression symptoms better than if no predictors were entered. For this small sample of continuation school students, supportive adult relationships at home were not predictive of whether students experienced depressive symptoms within the past year.

Table 27

Logistic Regression Predicting Depression Based on Supportive Adult Relationships at Home

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Supportive adults	-.232	.157	2.181	1	.140	.793	.582	1.079
Constant	.499	.495	1.019	1	.313	1.648		

RQ5b

Is there a relationship between supportive adult relationships at home and suicidality among students attending continuation high schools? As with RQ5a, the total sample for this sub question was small, $n = 287$, due to the limited number of students who completed the Resilience Module. A standard logistic regression analysis was completed to predict the likelihood of a student reporting suicidality within the past 12 months based on their responses to questions about home support. The suicidal ideation question (no/yes) was entered as the dependent variable, with supportive adult relationships at home entered as the independent continuous variable. The model was statistically significant $\chi^2 (1, n = 287) = 9.835, p = .002$, indicating that the model was able to determine who reported suicidal ideation and who did not better than a model with no predictor. The Hosmer and Lemeshow Goodness of Fit Test also indicated support for the model with a significance level of .492. The model explained 3.4% (Cox and Snell R squared) to 5.1% (Nagelkerke R squared) of the variance in suicidal ideation and correctly classified 77% of the cases. However, while the model correctly classified 100% of the students who did not report suicidal ideation, it did not correctly identify any of the students who did report suicidal ideation. As shown in Table 28, the odds ratio was .57, indicating that for each one point increase in the average score for adult supportive relationships at home, there was a 43% $[(1 - .57) \times 100]$ decrease in suicidal ideation.

Table 28*Logistic Regression Predicting Suicidality Based on Supportive Adult Relationships at Home*

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Supportive adults	-.570	.182	9.742	1	.002	.566	.396	.809
Constant	.492	.550	.800	1	.371	1.635		

Research Question 6

Is there a relationship between internal resilience assets and mental health outcomes among students attending continuation high schools? Research Question 6 investigated whether there was a relationship between internal resilience assets and mental health outcomes for continuation students. Research Question 6a (RQ6a) addressed internal resilience and depression while RQ6b addressed internal resilience and suicidality.

RQ6a

Is there a relationship between internal resilience assets and depression among students attending continuation high schools? Standard logistic regression analysis was used to determine the likelihood of a student endorsing symptoms of depression within the past 12 months based on their responses to the questions about internal resilience assets. The depression question (no/yes) was entered as the dependent variable, with average internal resilience assets entered as the independent continuous variable. The total sample for this question was small, $n = 270$, due to the limited number of students who completed the Resilience Module. The model was statistically significant $\chi^2 (1, n = 270) = 6.846, p = .009$. The Hosmer and Lemeshow Goodness

of Fit Test also indicated support for the model with a significance level of .696. The model explained between 2.5% (Cox and Snell R squared) and 3.3% (Nagelkerke R squared) of the variance in depression symptoms and correctly classified 79.7% of the cases who did not report depression and 32% of those who did report depression symptoms within the past 12 months. As show in Table 29, the odds ratio was .63, indicating that for each one-point increase in average internal resilience assets, there was a 37% $[(1 - .63) \times 100]$ decrease in depression symptoms.

Table 29

Logistic Regression Predicting Depression Based on Internal Resilience Assets

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Internal resilience	-.469	.182	6.611	1	.010	.626	.438	.895
Constant	1.181	.548	4.647	1	.031	3.259		

RQ6b

Is there a relationship between internal resilience assets and suicidality among students attending continuation high schools? Standard logistic regression analysis was used to determine the likelihood of a student reporting suicidal ideation within the past 12 months based on their responses to the questions about internal resilience assets. The suicidal ideation question (no/yes) was entered as the dependent variable, with average internal resilience assets entered as the independent continuous variable. As with RQ6a, the total sample for this question was small, $n = 271$, due to the limited number of students who completed the Resilience Module. The model was statistically significant $\chi^2 (1, n = 271) = 4.718, p = .030$. The Hosmer and Lemeshow

Goodness of Fit Test also indicated support for the model with a significance level of .397. The model explained between 1.7% (Cox and Snell R squared) and 2.6% (Nagelkerke R squared) of the variance in suicidal ideation and correctly classified 77.1% of the total cases. However, the model was better at predicting who did not report suicidal ideation (100%) versus those who did report suicidal ideation (0%). As show in Table 30, the odds ratio was .64, indicating that for each one-point increase in average internal resilience assets, there was a 36% $[(1 - .64) \times 100]$ decrease in the odds of suicidal ideation.

Table 30

Logistic Regression Predicting Suicidality Based on Internal Resilience Assets

	<i>B</i>	<i>S.E.</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio Exp(<i>B</i>)	95% C.I. for Odds Ratio	
							Lower	Upper
Internal resilience	-.443	.204	4.719	1	.030	.642	.431	.958
Constant	.065	.596	.012	1	.913	1.067		

Summary

This chapter presented the results of the planned analysis from Chapter 3. The preliminary analysis section included a review of the demographics of the sample and variables of interest. The results indicated that continuation students had significantly lower levels of most resilience assets and higher levels of depression and suicidal ideation than their peers attending traditional schools. Within the continuation sample, females had higher levels of school resilience assets and higher rates of negative mental health outcomes. Compared to students who reported high levels, students who reported low levels of school connectedness were almost

twice as likely to attend a school with either a low or medium cohort graduation rate versus a high graduation rate. For the school resilience assets, both higher levels of meaningful participation and school connectedness were associated with decreased odds of depression. The strongest predictor of not reporting suicidal ideation was a high level of school connectedness. While supportive adult relationships at home were not predictive of depression, higher levels of supportive relationships decreased the odds of suicidal ideation. Lastly, internal resilience was associated with decreased odds of both depression and suicidal ideation.

Chapter 5: Discussion

This study used data from the California Healthy Kids Survey (CHKS) to identify resilience assets for continuation students and to explore the relationships between resilience assets and mental health outcomes (depression and suicidality) in addition to the relationships between school-based resilience assets and cohort graduation rates. The present study was intended to fill a gap in the literature for this group of historically underserved students. This chapter discusses the results presented in Chapter 4, including the significance of the findings followed by a summary of the strengths and limitations of the study. Future research suggestions and implications for practice are also addressed.

Findings

Research Question 1

Do students attending continuation high schools and those attending traditional high schools differ significantly in terms of their levels of resilience assets and mental health outcomes?

RQ1a

Are there significant differences in the school-based resilience levels of students attending continuation schools and those attending traditional high schools?

This sub question compared the levels of caring staff-student relationships, student meaningful participation, and school connectedness between the two groups. The levels of caring staff-student relationships were nearly identical, with continuation students reporting a median of 3.00 and a mean of 2.82 (range = 1.00-4.00) and traditional students reporting a median of 3.00 and a mean of 2.83. In contrast, there were significant differences in the levels of student meaningful participation and school connectedness. Continuation students reported significantly

lower levels of student meaningful participation, with a median of 1.60 and a mean of 1.87 (range = 1.00-4.00). Meanwhile, traditional students reported a median of 1.80 and a mean of 1.94. Continuation students also reported significantly lower levels of school connectedness, with a median of 3.40 and a mean of 3.41 (range = 1.00-5.00), while traditional students reported a median of 3.60 and a mean of 3.52.

RQ1b

Is there a significant difference in the level of supportive adult relationships at home for students attending continuation schools and those attending traditional high schools?

Although the sample size for this sub question was small ($n = 293$ for each group) due to the limited number of continuation students who completed the supplementary Resilience Module, the continuation group reported significantly lower levels of supportive adult relationships at home than their peers in traditional schools. The continuation students reported a median of 3.00 and mean of 3.07 for supportive adult relationships (range = 1.00-4.00) while the traditional students reported a median of 3.67 and mean of 3.48.

RQ1c

Is there a significant difference between the average internal resilience scores for students attending continuation schools and those attending traditional high schools?

As with RQ1b, the sample size for this sub question was small ($n = 276$ continuation students and 279 traditional) and represented a small percentage of the total sample. Nevertheless, the average internal resilience scores for the continuation group were significantly lower than the traditional group. Continuation students reported a median of 3.00 and a mean of 2.94 for internal resilience (range = 1.00-4.00) while traditional students reported a median of 3.25 and a mean of 3.15.

RQ1d

Do students attending continuation high schools experience feelings of depression or thoughts of suicide at significantly higher rates than their peers attending traditional high schools?

Continuation students were more likely to report symptoms of depression and suicidal ideation within the past 12 months than traditional students. Additionally, male continuation students were more likely to report depression and suicidal ideation than their male traditional school peers. The same was true for females. Although female students were more likely to report depression and suicidal ideation than their male peers regardless of school type, female continuation students had the highest rates of both depression and suicidal ideation of all students examined.

Of all continuation students in the sample, 37.2% reported symptoms of depression in the past year versus 34.3% of the traditional students. Although there was a large disparity between the rates of females (43.1%) and males (25.3%) reporting depression in traditional schools, this was even more significant between females (51.7%) and males (29.1%) attending continuation schools. The same pattern was observed with suicidal ideation, with 19.2% of all continuation students reporting suicidal ideation within the past year versus 16.8% of the traditional students. In traditional schools, females had higher rates of suicidal ideation (21.3%) than their male peers (12.4%) while females attending continuation schools had higher rates (26.4%) of suicidal ideation than their male peers (15.3%) and of all students in the sample. Of note, was that although the total number of omitted responses was similar for the depression question, there were more than double the amount of omitted responses for the suicidal ideation question among

the continuation group (354) compared to the traditional group (169). Therefore, the actual difference in rates of suicidal ideation may be greater or less than those captured by the survey.

Summary

Prior to delving into the relationships between resilience assets and mental health outcomes for continuation students, it was important to understand where these students are in terms of resilience assets and mental health when compared to their peers in traditional high schools. As mentioned in Chapter 2, prior studies have established that continuation students are at higher risk for adverse outcomes (EdSource, 2008; Johnson & Taliaferro, 2012; Lenzi et al., 2015b; Sussman et al., 1995). There are also differences in demographics; continuation schools in California have higher rates of English learners, Hispanic or Latino, and African American students (EdSource, 2008; Henderson, 2018). Additionally, there are differences in academic performance, with the majority of continuation students ending up there due to making insufficient progress towards graduation (Ruiz de Velasco et al., 2008). Given these known disparities, it was reasonable to assume that continuation students may have lower levels of resilience and higher levels of negative mental health outcomes than their peers in traditional schools.

Research Question 1 (RQ1) confirmed that there are statistically significant differences in the levels of student meaningful participation, school connectedness, supportive adult relationships at home and internal resilience. On a positive note, both groups had equivalent levels of caring staff-student relationships, which indicates that from the perspective of the students, staff at continuation schools are supportive, caring, and maintain high expectations of their students at the same level as staff in traditional high schools. As expected, continuation students reported lower levels of both student meaningful participation and school

connectedness. They also reported lower levels of both supportive adult relationships at home and internal resilience and higher rates of depression and suicidal ideation. When the mental health outcomes were broken down by sex, both male and female continuation students were more likely to report depression and suicidal ideation than their same-sex peers attending traditional schools. It was also observed that the rates for females were higher than males regardless of school type. This was expected as similar trends have been observed in existing studies (Areba et al., 2021; Dowdy et al., 2012). However, the rates of depression for female continuation students in the present study were surprisingly high, with over half of female continuation students reporting depression and over a quarter reporting suicidal ideation within the past year. Dowdy et al. (2012) found that less than 40% of female adolescents reported depression symptoms.

Research Question 2

Are there significant differences between resilience assets and mental health outcomes for male and female students attending continuation high schools?

RQ2a

Are there significant differences between the school-based resilience scores for male and female students attending continuation high schools?

This sub question compared the levels of caring staff-student relationships, student meaningful participation, and school connectedness between male and female continuation students. Females reported a significantly higher level of caring staff-student relationships ($Md = 3.00$, $M = 2.95$) than their male peers ($Md = 2.83$, $M = 2.75$). Although both males and females reported low levels of student meaningful participation (scale of one to four, with scores under two considered low), females had significantly higher levels ($Md = 1.80$, $M = 1.90$) than males

($Md = 1.60$, $M = 1.85$). Additionally, female students reported significantly higher levels of school connectedness ($Md = 3.60$, $M = 3.46$) than their male peers ($Md = 3.40$, $M = 3.39$).

RQ2b

Is there a significant difference between supportive adult relationships at home for male and female students attending continuation high schools?

There was no significant difference in the levels of supportive adult relationships at home for male ($Md = 3.00$, $M = 3.04$) and female students ($Md = 3.17$, $M = 3.12$). However, the sample for this sub question was very small, representing less than two percent of the total continuation sample. Although females did have higher levels of supportive home relationships, the difference was not statistically significant.

RQ2c

Is there a significant difference between the average internal resilience scores for males and females attending continuation high schools?

There was no significant difference in average internal resilience assets for male ($Md = 3.00$, $M = 2.94$) and female students ($Md = 3.00$, $M = 2.97$). As with RQ2b, the sample for this sub question was very small, representing less than two percent of the total continuation sample. There were also an unequal number of male and female students, with 161 males and only 108 females. However, unlike RQ2b, where females were found to have higher levels of supportive home relationships, the internal resilience scores for males and females were nearly identical.

RQ2d

Is there an association between sex and feelings of depression among students attending continuation high schools?

There was a significant association between sex and depression among continuation students. Over half of the female respondents (51.7%) reported symptoms of depression within the past year versus 29.1% of the male students.

RQ2e

Is there an association between sex and suicidality among male and female students attending continuation high schools?

There was also a significant association between sex and suicidal ideation among continuation students. Over a quarter of female continuation students (26.4%) reported suicidal ideation within the past year versus 15.3% of the male students.

Summary

Female continuation students reported significantly higher levels of all school-based resilience assets than their male peers. Although both male and females reported low student meaningful participation overall, females reported higher levels than males. Male and female students had nearly identical total internal resilience. Although females had higher levels of supportive adult relationships at home, the difference was not statistically significant. However, due to the small sample size, this finding may not generalize to the total continuation population. If higher levels of supportive adults at home were found with only 113 female students, it would be worthwhile to explore what happens when more females, and more continuation students overall, complete the Resilience Module.

As observed with RQ1d and confirmed with RQ2d and RQ2e, there was an association between negative mental health outcomes and sex for students attending continuation schools. A significantly higher proportion of females reported symptoms of both depression and suicidal ideation within the past year. While this finding was expected given that female adolescents have

reported higher rates of mental health problems (Areba et al., 2021; Dowdy et al., 2012; Lenzi et al., 2015a; Thurman et al., 2018), the disparity between negative mental health outcomes for males and females in the current study was surprisingly large, especially for symptoms of depression. Dowdy et al. (2012) reported a 12-point percentage difference between female and males rates of depression. In the current study, the difference was over 22 percentage points.

Research Question 3

Do school resilience assets among continuation high school students predict school-level graduation rates?

Over half of the 11th graders in the sample attended schools with low cohort graduation rates (less than 70%). Approximately 20% attended schools with medium rates (70-79.9%) and just over a quarter attended schools with high graduation rates (80% or above). Given that continuation students leave school at higher rates than their peers (Taylor & Rumberger, 2010), it was expected that many, if not most, of the continuation schools would have low cohort graduation rates. The fact that there were so many schools with medium or high graduation rates was unexpected. This research question explored differences between those attending schools with low versus higher graduate rates in a novel way.

Student meaningful participation did not significantly predict cohort graduation rates, likely due to the overall low level of student meaningful participation among all of the students in the sample. Over half of the students in each grad rate category (low, medium, high) reported low levels of student meaningful participation. Meanwhile, less than eight percent of each group reported high levels. While student meaningful participation did not significantly predict cohort graduation rates, both caring staff-student relationships and school connectedness were significant. Students who reported medium levels of caring staff-student relationships were more

likely to attend a school with a low cohort graduation rate (*OR* 1.29) compared to those who reported high levels of caring staff-student relationships. However, school connectedness emerged as the leading predictor of graduation rate category. Compared to students who reported high levels, students who reported low levels of school connectedness were almost twice as likely to attend a school with either a low (*OR* 1.94) or medium cohort graduation rate (*OR* 1.98) versus a high graduation rate. Austin et al. (2013b) found school connectedness to be an indicator of school quality, distinguishing between low and high performing high schools overall. The current study supports this idea for continuation schools as well.

Research Question 4

Is there a relationship between school resilience assets and mental health outcomes among students attending continuation high schools?

RQ4a

Is there a relationship between school resilience assets and depression among students attending continuation high schools?

All three school resilience assets (caring student-staff relationships, student meaningful participation, school connectedness) were significant predictors of depression, though the model was better at correctly classifying students who did not report depression over those who did report depression. The strongest predictor of depression was a high level of caring student-staff relationships. Interestingly, students who reported a high level of caring student-staff relationships were 24% more likely to report depression symptoms than those with a low level (*OR* 1.24). Meanwhile, high levels of student meaningful participation and school connectedness were both associated with decreased odds of depression. Those who reported high levels of student meaningful participation were 33% less likely to endorse depression compared to those

who reported low levels (*OR* .67). Meanwhile, students who reported high levels of school connectedness versus low levels were 32% less likely to report depression (*OR* .68).

This question was further broken down by sex due to the discrepancies in the levels of school-based resilience assets among male and female students. For males and females separately, a high level of caring staff-student relationships was not significantly predictive of depression. However, there was a small decrease in the odds of depression for males reporting medium levels of caring staff-student relationships. Males were 35% less likely to report depression if they had high levels of student meaningful participation versus low levels (*OR* .65) and 38% less likely to report depression if they had high levels of school connectedness (*OR* .62). For females, high levels of school connectedness and medium levels of caring staff-student relationships or student meaningful participation over low levels all decreased the odds of depression. The most significant predictor for females was high levels of student meaningful participation, which reduced the likelihood of endorsing depression by 33% (*OR* .67) compared to those with low levels.

RQ4b

Is there a relationship between school resilience assets and suicidality among students attending continuation high schools?

Relationships were also observed between all school resilience assets and suicidality. The strongest predictor of not reporting suicidal ideation was a high level of school connectedness. Students who reported high levels of school connectedness were 43% less likely to report suicidal ideation than their peers who reported low levels (*OR* .57). Both medium and high levels of student meaningful participation or school connectedness all decreased the odds of a student reporting suicidal ideation compared to those with low levels. For both meaningful participation

and school connectedness, high levels decreased the likelihood more than medium levels.

Students reporting high levels of student meaningful participation were 21% less likely to report suicidal ideation (*OR* .79). Although a high level of caring student-staff relationships was not predictive of suicidal ideation, those reporting medium levels of caring student-staff relationships were 25% less likely to report suicidal ideation than those who reported low levels (*OR* .75).

As with RQ4a, this sub question was further broken down by sex. Males with medium levels of caring staff-student relationships were less likely to report suicidal ideation compared to those with low levels. Medium levels of student meaningful participation were also associated with decreased odds of suicidal ideation compared to low levels. However, high levels of caring staff-student relationships and high levels of student meaningful participation did not significantly predict suicidal ideation for males. As with the overall model, the most significant predictor for males was school connectedness. While both medium and high levels were associated with decreased odds of suicidal ideation, males with high levels of school connectedness were 49% less likely to report suicidal ideation within the past year (*OR* .51). For female students, student meaningful participation was only predictive at high levels, with students who reported high levels being less likely to report suicidal ideation than those with low levels. The most significant predictors for females were medium levels of caring student-staff relationships and high levels of school connectedness, both of which resulted in a 34% reduction in the likelihood of reporting suicidal ideation (*OR* .66).

Summary

School-based resilience assets were predictors of both depression and suicidal ideation for the total continuation sample and for males and females separately. Overall, the models were more efficient at predicting those who did not report depression or suicidal ideation. For the total

sample, high levels of student meaningful participation or school connectedness were associated with decreased odds of depression. When broken down by sex, this remained true for males. For females, both medium and high levels of student meaningful participation reduced the odds of depression in addition to high levels of school connectedness. While a high level of caring student-staff relationships actually increased the odds of a student having reported depression in the total sample, a high level was not predictive for males or females separately. However, when looking at the total sample, the majority of the students reporting negative mental health outcomes are female, who also report higher caring student-staff relationships. Females struggling with depression or suicidal ideation may seek out and readily accept support from supportive adults at school. Thurman et al. (2018) found that female students with higher levels of teacher support were significantly more likely to report depression symptoms and suggested that these students were more likely to pursue support from teachers.

The strongest predictor of suicidal ideation for the total sample of continuation students was a high level of school connectedness, which reduced the odds of suicidal ideation by 43%. Hall et al. (2018) found that the probability of attempting suicide for Hispanic students was reduced by positive connections with adults at school. Given the demographics of the continuation sample, caring student-staff relationships were expected to play a compensatory role in suicidal ideation. Indeed, medium levels of caring staff-student relationships decreased the odds of suicidal ideation as did high levels. As with the total sample, the most significant predictor for males was a high level of school connectedness. Although high levels of school connectedness were predictive for females, medium levels of caring student-staff relationships also reduced the risk of suicidal ideation.

Research Question 5

Is there a relationship between supportive adult relationships at home and mental health outcomes among students attending continuation high schools?

RQ5a

Is there a relationship between supportive adult relationships at home and depression among students attending continuation high schools?

RQ5b

Is there a relationship between supportive adult relationships at home and suicidality among students attending continuation high schools?

Summary

As previously mentioned, less than two percent of the continuation sample completed the RYDM. For this small sample of continuation school students, supportive adult relationships at home were not predictive of whether students reported depression within the past year. This finding was unexpected given that family support has functioned as a compensatory factor for depression in other studies (Denny et al., 2004; Eisman et al., 2015). However, supportive relationships were predictive for those who did not report suicidal ideation. For every one-point increase in the average score for adult supportive relationships at home (range = 1.00-4.00), there was a 43% decrease in the risk of suicidal ideation.

Research Question 6

Is there a relationship between internal resilience assets and mental health outcomes among students attending continuation high schools?

RQ6a

Is there a relationship between internal resilience assets and depression among students attending continuation high schools?

RQ6b

Is there a relationship between internal resilience assets and suicidality among students attending continuation high schools?

Summary

As with RQ5, the sample for RQ6 was small. Average internal resilience assets significantly predicted depression. The model classified both students who reported depression and those who did not. For each one-point increase in average internal resilience (range = 1.00-4.00), the likelihood of reporting depression was reduced by 37%. Internal resilience was also predictive of who did not report suicidal ideation. For each one-point increase in average internal resilience, the odds of reporting suicidal ideation were reduced by 36%.

Strengths and Limitations

Given the limited number of studies on continuation students and the content of existing literature, a key strength of the current study is that it fills a gap in the knowledge base of resilience assets for this population. More information about resilience assets is critical as these students have higher rates of adverse outcomes than their peers in traditional schools and have been left out of much of the research on resilience assets and mental health outcomes. Armed with more information about sources of resilience for these students, school systems and educators are in a position to utilize this information to improve and develop programs to better support these youth. In addition to establishing the levels of resilience assets and relationships with mental health outcomes, this study shed light on the influence of school connectedness on

school-level cohort graduation rates. Additionally, this study utilized a valid and reliable survey that included a large sample of continuation students from across the state over a two-year period. Therefore, most of the findings may be considered an accurate snapshot that may be generalizable to all continuation students in California.

There were a number of limitations for the current study, with most related to generalizability. First, there were a number of omitted responses, which reduced the sample for each question as students were only included if they answered all of the questions pertaining to the research question. High mobility in continuation schools is also an issue as the CHKS is only administered once per year, and some schools had fewer than ten students complete the survey. Additionally, the samples for the questions involving supportive adult relationships at home and total internal resilience were very small. For these questions specifically, the sample represented less than two percent of the total continuation sample, which may have impacted the findings and the generalizability of the results. Another potential issue is the self-report nature of the data. Although validity checks were in place to identify dishonest or mischievous responders, it is impossible to verify the complete accuracy of the data. This is also true for the cohort graduation rates, which districts are responsible for self-reporting to the state. Another potential limitation, which is also a consideration for future studies, is that the nominal categories (low, medium, or high) of school resilience assets used for the logistic regression questions were not explicitly set for this subpopulation. Although there was no difference in caring staff-student relationships between continuation and traditional students, continuation students did have significantly lower levels of student meaningful participation and school connectedness when compared to students in traditional schools. Lastly, the continuation sample and randomly selected comparison sample of traditional students were disproportionate on several demographic variables, including sex,

grade, race, ethnicity, SES, and risk behaviors. While this was a realistic depiction of the student groups who are attending each type of school throughout California, analyses used in this study did not address all potential covariates.

Future Research

The current study is just the tip of the iceberg in terms of understanding the function of specific resilience assets in reducing adverse mental health outcomes for continuation students. Given the higher rates of risk exposure and risk behaviors for this population, there are several uncharted areas of research and many resilience paths to explore to determine which specific resilience assets mitigate the effects of negative mental health outcomes given risk behaviors or risk exposure. Victimization and violence were not addressed in the current study but have been revealed as common risk factors for this group of students. Therefore, this remains a relevant area to explore to determine whether any of the identified compensatory factors offset adverse mental health outcomes in the face of these specific risks. Considering the disproportionate demographics for continuation students compared to students attending traditional schools, future studies on this population should also address potential covariates (e.g., gender, race, SES). Another issue to consider for future studies is the impact of the COVID-19 pandemic on enrollment trends in continuation schools.

Given that continuation students overall reported equivalent levels of caring staff-student relationships compared to their peers in traditional schools, further research should explore aspects of individual schools, such as student-to-teacher ratios, to determine which specific factors are associated with caring staff-student relationships. The current study found that continuation students with high (versus low) levels of caring staff-student relationships were more likely to report feeling depressed within the previous year. Thurman et al. (2018) suggested

that students who were depressed were more likely to seek out support from teachers. In practice, students with higher needs often receive more support from staff in the school setting, giving them more opportunities to form caring relationships with staff. An additional consideration for future research is to focus more on the quantity and quality of these relationships. Most continuation students in the current study reported low levels of student meaningful participation. Considering that meaningful participation plays a role in reducing the likelihood of adverse mental health outcomes, more information is needed to determine why so many continuation students have such low levels and whether it may be due, at least in part, to lack of opportunities. In addition to establishing the predictive effect of school connectedness for mental health, the current study revealed a relationship between school connectedness and cohort graduation rates. An interesting addition to this concept would be to examine attendance and its relationship to school connectedness and graduation rates. Exploring the programs in place at continuation schools with high rates of school connectedness would offer more information as to what other schools can do to improve connectedness among their students.

Considering the small samples for the RYDM variables, the relationships of these assets to mental health outcomes should be revisited with a more representative sample. Additionally, although the current study examined total internal resilience assets, it did not tell us much about what specific types of internal resilience reduced the odds of depression and suicidal ideation. Future studies should consider exploring the predictive ability of each internal resilience asset individually (i.e., self-efficacy, empathy, problem solving, self-awareness). Other internal assets should also be explored for this population in relation to adverse outcomes.

Although the current study established a relationship between individual resilience assets (e.g., meaningful participation) and mental health outcomes, future studies should consider

examining the cumulative effect of resilience assets on negative mental health outcomes to determine whether the predictive effect is more significant. Lastly, any of these topics may be approached with either a quantitative or qualitative design, or both. A qualitative lens may be a critical piece to gain more insight into students' interactions with their peers and adults at school and to identify common themes in their personal stories.

Implications for Practice

State-Level

A.B. 570 was passed to ensure that districts established written policies for students under consideration for a transfer to a continuation school and to prevent any specific groups of students from being disproportionately enrolled in continuation schools (Continuation Schools: Policies and Procedures: Voluntary Placement, 2013). Despite this, students who are male, Hispanic or Latino, African American, and English learners continue to be overrepresented in continuation schools. Additionally, Ruiz de Velasco and Gonzales (2017) found that no research has been completed to determine how the CDE and school districts have implemented the requirements outlined in A.B. 570. It is time for the CDE to hold districts accountable for complying with A.B. 570. Furthermore, a verification process for required school-reported data, such as graduation rates, would give the state, and the public, a more realistic view of the performance of our continuation schools.

District-Level

School boards need to comply with A.B. 570. For too long, there has been a need for more accountability for districts in terms of the quality of their programs at traditional high schools and the consistency and transparency of their referral process to continuation schools. Districts should investigate the commonalities of the students they refer to continuation

programs, beyond attendance and school failure, and determine whether these students are underrepresented in the interventions and resources offered in the traditional school setting. School districts should consider administering the CHKS Core Module (at a minimum) to all continuation high school students on a yearly basis, as recommended by the CDE. Given that continuation students have higher depression and suicidal ideation rates, districts should consider implementing a social-emotional screening as part of their referral process. On a related note, districts should allocate more resources (i.e., social-emotional support staff) to their continuation schools. Although most continuation schools have fewer students than comprehensive school sites, they are often those with the highest needs. Lastly, districts need to report accurate cohort graduation rates for all of their schools to the CDE, as required.

School-Level

In addition to the CHKS Core Module, continuation schools should administer the RYDM or another social-emotional screener on a yearly basis due to their at-risk student body. A survey such as the RYDM can be utilized as a school-wide screener to identify individual students in need of support and assist with the development of targeted interventions based on school-level data. Additionally, the current study established the importance of school connectedness for graduation among continuation students. Low levels of school connectedness were associated with low cohort graduation rates, as were lower levels of caring staff-student relationships. Given that the point of continuation schools is to offer another opportunity for students to catch up and graduate, continuation schools should focus on adapting their current practices in an effort to foster school connectedness and nurture caring relationships. Continuation schools can also take an active approach to improve student meaningful participation, which should also improve school connectedness. Considering that meaningful

participation is important for mental health and the majority of continuation students report low levels, each school should determine what type of opportunities are lacking at their site and how to provide their students with ample opportunities to participate, contribute, and make decisions about topics that are important to them. In addition to providing opportunities to participate in extracurricular and vocational programs, one way to do this might be to develop a school-wide community project that student leaders facilitate. Another consideration for continuation schools is how to improve family engagement. In the current study, adult support at home decreased the odds of suicidal ideation, and continuation students had significantly lower levels of home support than their peers in traditional schools. Aside from this significant finding, increased family engagement may also be critical to improving student attendance and school connectedness.

School Staff

Teachers, and especially alternative education teachers, are encouraged to keep in mind that their relationships with students really do matter. The vast majority of continuation students in the current study reported at least medium levels of caring staff-student relationships, which indicates that many of them have at least one teacher or another adult on campus who they perceive to be supportive and caring while maintaining high expectations. Seemingly small things such as trying to acknowledge students when they demonstrate extra effort, making positive phone calls (or sending emails) home, and showing interest in their personal lives can go a long way. Teachers are also in a prime position to help foster meaningful participation among students. This can be done by creating opportunities for students to have a voice in class activities, giving choices whenever possible, and developing assignments that are relevant to them personally.

School psychologists, school counselors, and school social workers are in an ideal position to absorb the knowledge gained from this study and advocate for their students. School practitioners can take the lead in utilizing the RYDM or another screener in order to identify individual students and form counseling groups and other targeted interventions at their sites. This includes training for teachers on specific things they can do to foster resilience among their students. Many families may also benefit from outreach from school staff, who can encourage parents to maintain high but reasonable expectations of their students and suggest ways to create opportunities to listen and talk with their children about their problems. Additionally, school psychologists have the capacity to research established programs to utilize in their efforts to boost students' resilience assets and the skills to monitor the progress of implemented interventions. On a related note, school practitioners are encouraged to consult and collaborate with their colleagues at other schools or in districts who may be engaged in a highly successful program for continuation students. As part of the Model Continuation Education Recognition Program, school or district representatives can request a list of effective continuation schools to visit (CCEA Plus, 2020).

Final Thoughts

Continuation schools have the potential to fulfill their purpose to help students who are behind in getting caught up in addition to providing much-needed social-emotional support to students who are typically exposed to many risk factors. The current study found that specific groups of students continue to be overrepresented in California's continuation high schools. Additionally, these students reported depression and suicidal ideation at higher rates than their peers in traditional schools and had lower levels of most resilience assets. This finding highlights the importance of accountability for districts serving these students. Everyone who works in

education has a role to play to ensure that some of our most at-promise students do not fall through the cracks. Understanding that resilience assets are critical for mental health, individuals working in school settings are challenged to take a closer look at their school sites to determine what improvements can be made to serve their students better. Although some changes may take a village, we all have the power to make small adjustments to our attitudes and the way we interact with students.

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Appendix A

C A L I F O R N I A *healthy kids* S U R V E Y

Core Module

High School Questionnaire

2017-2018

This survey asks about your behavior, experiences, and attitudes related to your school, health, and well-being. It includes questions about use of alcohol, tobacco, and other drugs, and about bullying and violence.

You do not have to answer these questions, but your answers will be very helpful in improving school and health programs. **You will be able to answer** whether or not you have done or experienced any of these things.

Please do not write your name on this form or the answer sheet. Do not identify yourself in any other way.

Please mark all of your answers on the answer sheet. Fill in the bubbles neatly with a **#2 pencil**. Do not write on the questionnaire. Mark only one answer unless told to ***“Mark All That Apply.”***

This survey asks about things you may have done during different periods of time, such as during your **lifetime** (you ever did something), or the past **12 months**, or **30 days**. Each provides different information. Please pay careful attention to these time periods.

Thank you for taking this survey!

Core Module

Begin by writing your school's name at the top of the answer sheet.

1. Fill in the bubble for the letter "H."
2. Fill in the bubble for the letter "K."

Next, we would like some background information about you.

3. What is your sex?
 - A) Male
 - B) Female
4. What grade are you in?

<ol style="list-style-type: none">A) 6th gradeB) 7th gradeC) 8th gradeD) 9th gradeE) 10th grade	<ol style="list-style-type: none">F) 11th gradeG) 12th gradeH) Other gradeI) Ungraded
---	--
5. Are you of Hispanic or Latino origin?
 - A) No
 - B) Yes
6. What is your race?

<ol style="list-style-type: none">A) American Indian or Alaska NativeB) AsianC) Black or African American	<ol style="list-style-type: none">D) Native Hawaiian or Pacific IslanderE) WhiteF) Mixed (two or more) races
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Core Module

7. If you are Asian or Pacific Islander, which groups best describe you? (*Mark All That Apply.*)
If you are not of Asian/Pacific Islander background, mark "A) Does not apply."
A) Does not apply; I am not Asian or Pacific Islander	H) Korean
B) Asian Indian	I) Laotian
C) Cambodian	J) Vietnamese
D) Chinese	K) Native Hawaiian, Guamanian, Samoan, Tahitian, or other Pacific Islander
E) Filipino	L) Other Asian
F) Hmong	
G) Japanese	
8. What best describes where you live? A home includes a house, apartment, trailer, or mobile home.
A) A home with one or more parent or guardian	F) Hotel or motel
B) Other relative's home	G) Shelter, car, campground, or other transitional or temporary housing
C) A home with more than one family	H) Other living arrangement
D) Friend's home	
E) Foster home, group care, or waiting placement	
9. What is the highest level of education your parents or guardians completed? (*Mark the educational level of the parent or guardian who went the furthest in school.*)
- A) Did not finish high school
 - B) Graduated from high school
 - C) Attended college but did not complete four-year degree
 - D) Graduated from college
 - E) Don't know
10. Do you receive free or reduced-price lunches at school? (*Receiving free or reduced-price lunches means that lunch at school is provided to you for free or you pay less for it.*)
- A) No
 - B) Yes
 - C) Don't know
11. In the past three years, were you part of the Migrant Education Program or did your family move to find seasonal or temporary work in agriculture or fishing?
- A) No
 - B) Yes
 - C) Don't know

Core Module

12. What language is spoken most of the time in your home?

A) English	F) Tagalog
B) Spanish	G) Vietnamese
C) Mandarin	H) Korean
D) Cantonese	I) Other
E) Taiwanese	

How well do you understand, speak, read, and write English?

	Very Well	Well	Not Well	Not At All
13. Understand English	A	B	C	D
14. Speak English	A	B	C	D
15. Read English	A	B	C	D
16. Write English	A	B	C	D

17. How many days a week do you usually go to your school's after school program?

A) 0 days	E) 4 days
B) 1 day	F) 5 days
C) 2 days	
D) 3 days	

18. During the past 12 months, how would you describe the grades you mostly received in school?

A) Mostly A's	E) Mostly C's
B) A's and B's	F) C's and D's
C) Mostly B's	G) Mostly D's
D) B's and C's	H) Mostly F's

19. In the past 30 days, how often did you miss an entire day of school for any reason?

A) I did not miss any days of school in the past 30 days	C) 2 days
B) 1 day	D) 3 or more days

Core Module

20. In the past 30 days, did you miss a day of school for any of the following reasons? (*Mark All That Apply.*)
A) Does not apply; I didn't miss any school	G) Had to take care of or help a family member or friend
B) Illness (feeling physically sick), including problems with breathing or your teeth	H) Wanted to spend time with friends
C) Were being bullied or mistreated at school	I) Use alcohol or drugs
D) Felt very sad, hopeless, anxious, stressed, or angry	J) Were behind in schoolwork or weren't prepared for a test or class assignment
E) Didn't get enough sleep	K) Were bored or uninterested in school
F) Didn't feel safe at school or going to and from school	L) Had no transportation to school
	M) Other reason
21. During the past 12 months, about how many times did you **skip school or cut classes**?
A) 0 times	E) Twice a month
B) 1–2 times	F) Once a week
C) A few times	G) More than once a week
D) Once a month	

How strongly do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
22. I feel close to people at this school.	A	B	C	D	E
23. I am happy to be at this school.	A	B	C	D	E
24. I feel like I am part of this school.	A	B	C	D	E
25. The teachers at this school treat students fairly.	A	B	C	D	E
26. I feel safe in my school.	A	B	C	D	E
27. My school is usually clean and tidy.	A	B	C	D	E
28. Teachers at this school communicate with parents about what students are expected to learn in class.	A	B	C	D	E
29. Parents feel welcome to participate at this school.	A	B	C	D	E
30. School staff takes parent concerns seriously.	A	B	C	D	E
31. I try hard to make sure that I am good at my schoolwork.	A	B	C	D	E
32. I try hard at school because I am interested in my work.	A	B	C	D	E
33. I work hard to try to understand new things at school.	A	B	C	D	E
34. I am always trying to do better in my schoolwork.	A	B	C	D	E

Core Module

Please mark on your answer sheet how TRUE you feel each of the following statements is about your SCHOOL and things you might do there.

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

	Not At All True	A Little True	Pretty Much True	Very Much True
35. who really cares about me.	A	B	C	D
36. who tells me when I do a good job.	A	B	C	D
37. who notices when I'm not there.	A	B	C	D
38. who always wants me to do my best.	A	B	C	D
39. who listens to me when I have something to say.	A	B	C	D
40. who believes that I will be a success.	A	B	C	D

At school, ...

	Not At All True	A Little True	Pretty Much True	Very Much True
41. I do interesting activities.	A	B	C	D
42. I help decide things like class activities or rules.	A	B	C	D
43. I do things that make a difference.	A	B	C	D
44. I have a say in how things work.	A	B	C	D
45. I help decide school activities or rules.	A	B	C	D

The next questions ask about the use of alcohol, tobacco, marijuana, and other drugs, including pills or medications, to get “high” or for reasons other than medical, as ordered or prescribed by a doctor.

Keep the following definitions in mind:

- **One drink of ALCOHOL**, or alcoholic drink (beverage), means one regular size can/bottle of beer or wine cooler, one glass of wine, one mixed drink, or one shot glass of liquor.
- Questions about alcohol do **not** include drinking a few sips of wine for religious purposes.
- **DRUG** means any substance other than alcohol or tobacco, including pills and medications, used to get “high” (“loaded”, “stoned”, or “wasted”) or for purposes other than prescribed by a doctor.

Core Module

During your life, how many times have you used the following?

		Number of Times					
		0 Times	1 Time	2 Times	3 Times	4–6 Times	7 or More Times
46.	A whole cigarette	A	B	C	D	E	F
47.	Smokeless tobacco (dip, chew, or snuff)	A	B	C	D	E	F
48.	Electronic cigarettes, e-cigarettes, or other vaping device such as e-hookah, hookah pens, or vape pens	A	B	C	D	E	F
49.	One full drink of alcohol (such as a can of beer, glass of wine, wine cooler, or shot of liquor)	A	B	C	D	E	F
50.	Marijuana (smoke, vape, eat, or drink)	A	B	C	D	E	F
51.	Inhalants (things you sniff, huff, or breathe to get “high” such as glue, paint, aerosol sprays, gasoline, poppers, gases)	A	B	C	D	E	F
52.	Cocaine, Methamphetamine, or any amphetamines (meth, speed, crystal, crank, ice)	A	B	C	D	E	F
53.	Derbisol	A	B	C	D	E	F
54.	Heroin	A	B	C	D	E	F
55.	Ecstasy, LSD, or other psychedelics (acid, mescaline, peyote, mushrooms)	A	B	C	D	E	F
56.	Prescription pain medication or opioids (Vicodin™, OxyContin™, Percodan™, Lortab™), tranquilizers, or sedatives (Xanax™, Ativan™)	A	B	C	D	E	F
57.	Diet Pills (Didrex, Dexedrine, Zinadrine, Skittles, M&M’s)	A	B	C	D	E	F
58.	Ritalin™ or Adderall™ or other prescription stimulant	A	B	C	D	E	F
59.	Cold/Cough Medicines or other over-the-counter medicines to get “high”	A	B	C	D	E	F
60.	Any other drug, pill, or medicine to get “high” or for reasons other than medical	A	B	C	D	E	F

Core Module

During your life, how many times have you been ...

		Number of Times					
		0 Times	1 Time	2 Times	3 Times	4–6 Times	7 or More Times
61.	very drunk or sick after drinking alcohol ?	A	B	C	D	E	F
62.	“high” (loaded, stoned, or wasted) from using drugs ?	A	B	C	D	E	F
63.	drunk on alcohol or “high” on drugs <u>on school property</u> ?	A	B	C	D	E	F

During your life, how many times have you used marijuana in any of the following ways:

		Number of Times					
		0 Times	1 Time	2 Times	3 Times	4–6 Times	7 or More Times
64.	Smoke it?	A	B	C	D	E	F
65.	In an electronic or e-cigarette or other vaping device?	A	B	C	D	E	F
66.	Eat or drink it in products made with marijuana ?	A	B	C	D	E	F

Core Module

During the past **30 days**, on how many **days** did you use ...

		0 Days	1 Day	2 Days	3 – 9 Days	10 – 19 Days	20 – 30 Days
67.	cigarettes?	A	B	C	D	E	F
68.	smokeless tobacco (dip, chew, or snuff)?	A	B	C	D	E	F
69.	electronic cigarettes, e-cigarettes, or other vaping device such as e-hookah, hookah pens, or vape pens?	A	B	C	D	E	F
70.	one or more drinks of alcohol?	A	B	C	D	E	F
71.	five or more drinks of alcohol in a row, that is, within a couple of hours?	A	B	C	D	E	F
72.	marijuana (smoke, vape, eat, or drink)?	A	B	C	D	E	F
73.	inhalants (things you sniff, huff, or breathe to get “high”)?	A	B	C	D	E	F
74.	prescription drugs to get “high” or for reasons other than prescribed?	A	B	C	D	E	F
75.	any other drug, pill, or medicine to get “high” or for reasons other than medical?	A	B	C	D	E	F
76.	two or more substances at the same time (for example, alcohol with marijuana, ecstasy with mushrooms)?	A	B	C	D	E	F

Core Module

*During the past **30 days**, on how many days **on school property** did you use ...*

	0 Days	1 Day	2 Days	3 – 9 Days	10 – 19 Days	20 – 30 Days
77. cigarettes?	A	B	C	D	E	F
78. smokeless tobacco (dip, chew, or snuff)?	A	B	C	D	E	F
79. electronic cigarettes, e-cigarettes, or other vaping device such as e-hookah, hookah pens, or vape pens?	A	B	C	D	E	F
80. at least one drink of alcohol?	A	B	C	D	E	F
81. marijuana (smoke, vape, eat, or drink)?	A	B	C	D	E	F
82. any other drug, pill, or medicine to get “high” or for reasons other than medical?	A	B	C	D	E	F

How much do people risk harming themselves physically and in other ways when they do the following?

	How Much Risk or Harm			
	Great	Moderate	Slight	None
83. Smoke cigarettes occasionally	A	B	C	D
84. Smoke 1 or more packs of cigarettes each day	A	B	C	D
85. Use e-cigarettes (electronic) or vaping device occasionally compared to smoking cigarettes	A	B	C	D
86. Use e-cigarettes or vaping devices several times a day compared to smoking cigarettes	A	B	C	D
87. Drink alcohol (beer, wine, liquor) occasionally	A	B	C	D
88. Have five or more drinks of alcohol once or twice a week	A	B	C	D
89. Use marijuana occasionally (smoke, eat, or drink)	A	B	C	D
90. Use marijuana daily	A	B	C	D

How difficult is it for students in your grade to get any of the following if they really want them?

	Very Difficult	Fairly Difficult	Fairly Easy	Very Easy	Don't Know
91. Cigarettes	A	B	C	D	E
92. E-cigarettes (electronic) or vaping device	A	B	C	D	E
93. Alcohol	A	B	C	D	E
94. Marijuana	A	B	C	D	E

How many times have you tried to quit or stop using ...

	Does Not Apply, Don't Use	0 Times	1 Time	2-3 Times	4 or More Times
95. cigarettes?	A	B	C	D	E
96. alcohol?	A	B	C	D	E
97. marijuana?	A	B	C	D	E

Core Module

98. During your life, how many times have you ever driven a car when you had been using alcohol or drugs, or been in a car driven by a friend when he or she had been using?
- A) Never
 - B) 1 time
 - C) 2 times
 - D) 3 to 6 times
 - E) 7 or more times

**Next are questions about violence, safety, harassment, & bullying
on school property.**

99. How safe do you feel when you are at school?
- A) Very safe
 - B) Safe
 - C) Neither safe nor unsafe
 - D) Unsafe
 - E) Very unsafe

During the past 12 months, how many times **on school property** have you ...

		Happened on School Property			
		0 Times	1 Time	2 to 3 Times	4 or More Times
100.	been pushed, shoved, slapped, hit, or kicked by someone who wasn't just kidding around?	A	B	C	D
101.	been afraid of being beaten up?	A	B	C	D
102.	been in a physical fight?	A	B	C	D
103.	had mean rumors or lies spread about you?	A	B	C	D
104.	had sexual jokes, comments, or gestures made to you?	A	B	C	D
105.	been made fun of because of your looks or the way you talk?	A	B	C	D
106.	had your property stolen or deliberately damaged, such as your car, clothing, or books?	A	B	C	D
107.	been offered, sold, or given an illegal drug?	A	B	C	D
108.	damaged school property on purpose?	A	B	C	D
109.	carried a gun?	A	B	C	D
110.	carried any other weapon (such as a knife or club)?	A	B	C	D
111.	been threatened or injured with a weapon (gun, knife, club, etc.)?	A	B	C	D
112.	seen someone carrying a gun, knife, or other weapon?	A	B	C	D
113.	been threatened with harm or injury?	A	B	C	D
114.	been made fun of, insulted, or called names?	A	B	C	D

Core Module

During the past **12 months**, how many times **on school property** were you harassed or bullied for any of the following reasons? [You were **bullied** if you were shoved, hit, threatened, called mean names, teased, or had other unpleasant physical or verbal things done to you repeatedly or in a severe way. It is **not bullying** when two students of about the same strength or power quarrel or fight.]

		0 Times	1 Time	2 to 3 Times	4 or More Times
115.	Your race, ethnicity, or national origin	A	B	C	D
116.	Your religion	A	B	C	D
117.	Your gender	A	B	C	D
118.	Because you are gay or lesbian or someone thought you were	A	B	C	D
119.	A physical or mental disability	A	B	C	D
120.	You are an immigrant or someone thought you were	A	B	C	D
121.	Any other reason	A	B	C	D
122.	During the past 12 months , how many times did other students spread mean rumors or lies, or hurtful pictures, about you online, on social media, or on a cell phone?				
	A) 0 times (never)				
	B) 1 time				
	C) 2–3 times				
	D) 4 or more times				
123.	Do you consider yourself a member of a gang?				
	A) No				
	B) Yes				
124.	During the past 12 months , did you ever feel so sad or hopeless almost everyday for two weeks or more that you stopped doing some usual activities?				
	A) No				
	B) Yes				
125.	During the past 12 months , did you ever seriously consider attempting suicide?				
	A) No				
	B) Yes				
126.	Did you eat breakfast today?				
	A) No				
	B) Yes				

Core Module

127. How many questions in this survey did you answer honestly?
- A) All of them
 - B) Most of them
 - C) Only some of them
 - D) Hardly any
128. Is your father, mother, or guardian currently in the military (Army, Navy, Marines, Air Force, National Guard, or Reserves)?
- A) No
 - B) Yes
 - C) Don't know
129. Which of the following best describes you?
- A) Straight (not gay)
 - B) Gay or Lesbian
 - C) Bisexual
 - D) I am not sure yet
 - E) Something else
 - F) Decline to respond
130. Some people describe themselves as transgender when their sex at birth does not match the way they think or feel about their gender. Are you transgender?
- A) No, I am not transgender
 - B) Yes, I am transgender
 - C) I am not sure if I am transgender
 - D) Decline to respond

Appendix B

CALIFORNIA *healthy kids* SURVEY

Resilience & Youth Development Module

SUPPLEMENT 1

Please mark on your answer sheet how you feel about each of the following statements.

How true do you feel these statements are about you personally?

		Not At All True	A Little True	Pretty Much True	Very Much True
X1.	I have high goals and expectations for myself.	A	B	C	D
X2.	I plan to graduate from high school.	A	B	C	D
X3.	I plan to go to college or some other school after high school.	A	B	C	D
X4.	I am looking forward to a successful career.	A	B	C	D
X5.	I know where to go for help with a problem.	A	B	C	D
X6.	I try to work out problems by talking or writing about them.	A	B	C	D
X7.	I can work out my problems.	A	B	C	D
X8.	I don't expect very much of myself in the future.	A	B	C	D
X9.	I can do most things if I try.	A	B	C	D
X10.	I can work with someone who has different opinions than mine.	A	B	C	D
X11.	There are many things that I do well.	A	B	C	D
X12.	I listen to other students' ideas.	A	B	C	D
X13.	I feel bad when someone gets their feelings hurt.	A	B	C	D
X14.	I try to understand what other people go through.	A	B	C	D
X15.	When I need help, I find someone to talk with.	A	B	C	D
X16.	I enjoy working together with other students on class activities.	A	B	C	D
X17.	When I work in school groups, I do my fair share.	A	B	C	D
X18.	I stand up for myself without putting others down.	A	B	C	D
X19.	I try to understand how other people feel and think.	A	B	C	D
X20.	I trust my ability to solve difficult problems.	A	B	C	D
X21.	There is a purpose to my life.	A	B	C	D
X22.	I understand my moods and feelings.	A	B	C	D
X23.	I understand why I do what I do.	A	B	C	D

Resilience & Youth Development Module

SUPPLEMENT 1

How true are these statements about your FRIENDS?*I have a friend about my own age ...*

	Not At All True	A Little True	Pretty Much True	Very Much True
X24. who really cares about me.	A	B	C	D
X25. who talks with me about my problems.	A	B	C	D
X26. who helps me when I'm having a hard time.	A	B	C	D

My friends ...

	Not At All True	A Little True	Pretty Much True	Very Much True
X27. get into a lot of trouble.	A	B	C	D
X28. try to do what is right.	A	B	C	D
X29. do well in school.	A	B	C	D

How true are these statements about your HOME or the ADULTS WITH WHOM YOU LIVE?*In my home, there is a parent or some other adult ...*

	Not At All True	A Little True	Pretty Much True	Very Much True
X30. who expects me to follow the rules.	A	B	C	D
X31. who is interested in my schoolwork.	A	B	C	D
X32. who believes that I will be a success.	A	B	C	D
X33. who talks with me about my problems.	A	B	C	D
X34. who always wants me to do my best.	A	B	C	D
X35. who listens to me when I have something to say.	A	B	C	D

Resilience & Youth Development Module

SUPPLEMENT 1

At home, ...

		Not At All True	A Little True	Pretty Much True	Very Much True
X36.	I do fun things or go fun places with my parents or other adults.	A	B	C	D
X37.	I do things that make a difference.	A	B	C	D
X38.	I help make decisions with my family.	A	B	C	D

The next statements are about what might occur outside your school or home, such as in your NEIGHBORHOOD, COMMUNITY, or with an ADULT other than your parents or guardian.

Outside of my home and school, there is an adult ...

		Not At All True	A Little True	Pretty Much True	Very Much True
X39.	who really cares about me.	A	B	C	D
X40.	who tells me when I do a good job.	A	B	C	D
X41.	who notices when I am upset about something.	A	B	C	D
X42.	who believes that I will be a success.	A	B	C	D
X43.	who always wants me to do my best.	A	B	C	D
X44.	whom I trust.	A	B	C	D

Outside of my home and school, ...

		Not at All True	A Little True	Pretty Much True	Very Much True
X45.	I am part of clubs, sports teams, church/temple, or other group activities.	A	B	C	D
X46.	I am involved in music, art, literature, sports, or a hobby.	A	B	C	D
X47.	I help other people.	A	B	C	D

Appendix C

C A L I F O R N I A *healthy kids* S U R V E Y

Core Module

High School Questionnaire

2018-2019

This survey asks about your behavior, experiences, and attitudes related to your school, health, and well-being. It includes questions about use of alcohol, tobacco, and other drugs, and about bullying and violence.

You do not have to answer these questions, but your answers will be very helpful in improving school and health programs. You will be able to answer whether or not you have done or experienced any of these things.

Please do not write your name on this form or the answer sheet. Do not identify yourself in any other way.

Please mark all of your answers on the answer sheet. Fill in the bubbles neatly with a #2 pencil. Do not write on the questionnaire. Mark only one answer unless told to *“Mark All That Apply.”*

This survey asks about things you may have done during different periods of time, such as during your **lifetime** (you ever did something), or the past **12 months**, or **30 days**. Each provides different information. Please pay careful attention to these time periods.

Thank you for taking this survey!

Core Module

Begin by writing your school's name at the top of the answer sheet.

1. Fill in the bubble for the letter "H."
2. Fill in the bubble for the letter "L."

Next, we would like some background information about you.

3. What is your sex?
 - A) Male
 - B) Female
4. What grade are you in?

A) 6th grade	F) 11th grade
B) 7th grade	G) 12th grade
C) 8th grade	H) Other grade
D) 9th grade	I) Ungraded
E) 10th grade	
5. Are you of Hispanic or Latino origin?
 - A) No
 - B) Yes
6. What is your race?

A) American Indian or Alaska Native	D) Native Hawaiian or Pacific Islander
B) Asian	E) White
C) Black or African American	F) Mixed (two or more) races

Core Module

7. If you are Asian or Pacific Islander, which groups best describe you? *(Mark All That Apply.)*
If you are not of Asian/Pacific Islander background, mark "A) Does not apply."
A) Does not apply; I am not Asian or Pacific Islander	H) Korean
B) Asian Indian	I) Laotian
C) Cambodian	J) Vietnamese
D) Chinese	K) Native Hawaiian, Guamanian, Samoan, Tahitian, or other Pacific Islander
E) Filipino	L) Other Asian
F) Hmong	
G) Japanese	
8. What best describes where you live? A home includes a house, apartment, trailer, or mobile home.
A) A home with one or more parent or guardian	E) Foster home, group care, or waiting placement
B) Other relative's home	F) Hotel or motel
C) A home with more than one family	G) Shelter, car, campground, or other transitional or temporary housing
D) Friend's home	H) Other living arrangement
9. What is the highest level of education your parents or guardians completed? *(Mark the educational level of the parent or guardian who went the furthest in school.)*
- A) Did not finish high school
B) Graduated from high school
C) Attended college but did not complete four-year degree
D) Graduated from college
E) Don't know
10. Do you receive free or reduced-price lunches at school? *(Receiving free or reduced-price lunches means that lunch at school is provided to you for free or you pay less for it.)*
- A) No
B) Yes
C) Don't know
11. In the past three years, were you part of the Migrant Education Program or did your family move to find seasonal or temporary work in agriculture or fishing?
- A) No
B) Yes
C) Don't know

Core Module

12. What language is spoken most of the time in your home?

A) English	F) Tagalog
B) Spanish	G) Vietnamese
C) Mandarin	H) Korean
D) Cantonese	I) Other
E) Taiwanese	

How well do you understand, speak, read, and write English?

	Very Well	Well	Not Well	Not At All
13. Understand English	A	B	C	D
14. Speak English	A	B	C	D
15. Read English	A	B	C	D
16. Write English	A	B	C	D

17. How many days a week do you usually go to your school's afterschool program?

A) 0 days	E) 4 days
B) 1 day	F) 5 days
C) 2 days	
D) 3 days	

18. During the past 12 months, how would you describe the grades you mostly received in school?

A) Mostly A's	E) Mostly C's
B) A's and B's	F) C's and D's
C) Mostly B's	G) Mostly D's
D) B's and C's	H) Mostly F's

19. In the past 30 days, how often did you miss an entire day of school for any reason?

A) I did not miss any days of school
in the past 30 days	C) 2 days
B) 1 day	D) 3 or more days

Core Module

20. In the past 30 days, did you miss a day of school for any of the following reasons? (*Mark All That Apply.*)
A) Does not apply; I didn't miss any school	G) Had to take care of or help a family member or friend
B) Illness (feeling physically sick), including problems with breathing or your teeth	H) Wanted to spend time with friends
C) Were being bullied or mistreated at school	I) Used alcohol or drugs
D) Felt very sad, hopeless, anxious, stressed, or angry	J) Were behind in schoolwork or weren't prepared for a test or class assignment
E) Didn't get enough sleep	K) Were bored or uninterested in school
F) Didn't feel safe at school or going to and from school	L) Had no transportation to school
	M) Other reason
21. During the past 12 months, about how many times did you skip school or cut classes?
A) 0 times	E) Twice a month
B) 1–2 times	F) Once a week
C) A few times	G) More than once a week
D) Once a month	

How strongly do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
22. I feel close to people at this school.	A	B	C	D	E
23. I am happy to be at this school.	A	B	C	D	E
24. I feel like I am part of this school.	A	B	C	D	E
25. The teachers at this school treat students fairly.	A	B	C	D	E
26. I feel safe in my school.	A	B	C	D	E
27. My school is usually clean and tidy.	A	B	C	D	E
28. Teachers at this school communicate with parents about what students are expected to learn in class.	A	B	C	D	E
29. Parents feel welcome to participate at this school.	A	B	C	D	E
30. School staff take parent concerns seriously.	A	B	C	D	E
31. I try hard to make sure that I am good at my schoolwork.	A	B	C	D	E
32. I try hard at school because I am interested in my work.	A	B	C	D	E
33. I work hard to try to understand new things at school.	A	B	C	D	E
34. I am always trying to do better in my schoolwork.	A	B	C	D	E

Core Module

Please mark on your answer sheet how TRUE you feel each of the following statements is about your SCHOOL and things you might do there.

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

	Not At All True	A Little True	Pretty Much True	Very Much True
35. who really cares about me.	A	B	C	D
36. who tells me when I do a good job.	A	B	C	D
37. who notices when I'm not there.	A	B	C	D
38. who always wants me to do my best.	A	B	C	D
39. who listens to me when I have something to say.	A	B	C	D
40. who believes that I will be a success.	A	B	C	D

At school, ...

	Not At All True	A Little True	Pretty Much True	Very Much True
41. I do interesting activities.	A	B	C	D
42. I help decide things like class activities or rules.	A	B	C	D
43. I do things that make a difference.	A	B	C	D
44. I have a say in how things work.	A	B	C	D
45. I help decide school activities or rules.	A	B	C	D

The next questions ask about the use of alcohol, tobacco, marijuana, and other drugs, including pills or medications, to get “high” or for reasons other than medical, as ordered or prescribed by a doctor.

Keep the following definitions in mind:

- One drink of ALCOHOL, or alcoholic drink (beverage), means one regular size can/bottle of beer or wine cooler, one glass of wine, one mixed drink, or one shot glass of liquor.
- Questions about alcohol do not include drinking a few sips of wine for religious purposes.
- DRUG means any substance other than alcohol or tobacco, including pills and medications, used to get “high” (“loaded,” “stoned,” or “wasted”) or for purposes other than prescribed by a doctor.

Core Module

During your life, how many times have you used the following?

		Number of Times					
		0 Times	1 Time	2 Times	3 Times	4-6 Times	7 or More Times
46.	A whole cigarette	A	B	C	D	E	F
47.	Smokeless tobacco (dip, chew, or snuff)	A	B	C	D	E	F
48.	Electronic cigarettes, e-cigarettes, or other vaping device such as juul, e-hookah, hookah pens, or vape pens	A	B	C	D	E	F
49.	One full drink of alcohol (such as a can of beer, glass of wine, wine cooler, or shot of liquor)	A	B	C	D	E	F
50.	Marijuana (smoke, vape, eat, or drink)	A	B	C	D	E	F
51.	Inhalants (things you sniff, huff, or breathe to get "high" such as glue, paint, aerosol sprays, gasoline, poppers, gases)	A	B	C	D	E	F
52.	Cocaine, methamphetamine, or any amphetamines (meth, speed, crystal, crank, ice)	A	B	C	D	E	F
53.	Derbisol	A	B	C	D	E	F
54.	Heroin						
55.	Ecstasy, LSD, or other psychedelics (acid, mescaline, peyote, mushrooms)	A	B	C	D	E	F
56.	Prescription pain medication or opioids (Vicodin™, OxyContin™, Percodan™, Lortab™), tranquilizers, or sedatives (Xanax™, Ativan™)	A	B	C	D	E	F
57.	Diet pills (Didrex®, Dexedrine®, Xenadrine®, Skittles, M&M's)	A	B	C	D	E	F
58.	Ritalin™ or Adderall™ or other prescription stimulant	A	B	C	D	E	F
59.	Cold/cough medicines or other over-the-counter medicines to get "high"	A	B	C	D	E	F
60.	Any other drug, pill, or medicine to get "high" or for reasons other than medical	A	B	C	D	E	F

Core Module

During your life, how many times have you been...

		<u>Number of Times</u>					
		<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4-6</u>	<u>7 or</u>
		<u>Times</u>	<u>Time</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>	<u>More</u>
		<u>Times</u>	<u>Time</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>
61.	very drunk or sick after drinking alcohol?	A	B	C	D	E	F
62.	"high" (loaded, stoned, or wasted) from using drugs?	A	B	C	D	E	F
63.	drunk on alcohol or "high" on drugs <u>on school property</u> ?	A	B	C	D	E	F

During your life, how many times have you used marijuana in any of the following ways:

		<u>Number of Times</u>					
		<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4-6</u>	<u>7 or</u>
		<u>Times</u>	<u>Time</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>	<u>More</u>
		<u>Times</u>	<u>Time</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>
64.	Smoke it?	A	B	C	D	E	F
65.	In an electronic or e-cigarette or other vaping device?	A	B	C	D	E	F
66.	Eat or drink it in products made with marijuana?	A	B	C	D	E	F

Core Module

During the past 30 days, on how many days did you use ...

	0 Days	1 Day	2 Days	3-9 Days	10-19 Days	20-30 Days
67. cigarettes?	A	B	C	D	E	F
68. smokeless tobacco (dip, chew, or snuff)?	A	B	C	D	E	F
69. electronic cigarettes, e-cigarettes, or other vaping device such as juul, e-hookah, hookah pens, or vape pens?	A	B	C	D	E	F
70. one or more drinks of alcohol?	A	B	C	D	E	F
71. five or more drinks of alcohol in a row, that is, within a couple of hours?	A	B	C	D	E	F
72. marijuana (smoke, vape, eat, or drink)?	A	B	C	D	E	F
73. inhalants (things you sniff, huff, or breathe to get "high")?	A	B	C	D	E	F
74. prescription drugs to get "high" or for reasons other than prescribed?	A	B	C	D	E	F
75. any other drug, pill, or medicine to get "high" or for reasons other than medical?	A	B	C	D	E	F
76. two or more substances at the same time (for example, alcohol with marijuana, ecstasy with mushrooms)?	A	B	C	D	E	F

Core Module

During the past 30 days, on how many days on school property did you use...

	0 Days	1 Day	2 Days	3-9 Days	10-19 Days	20-30 Days
77. cigarettes?	A	B	C	D	E	F
78. smokeless tobacco (dip, chew, or snuff)?	A	B	C	D	E	F
79. electronic cigarettes, e-cigarettes, or other vaping device such as juul, e-hookah, hookah pens, or vape pens?	A	B	C	D	E	F
80. at least one drink of alcohol?	A	B	C	D	E	F
81. marijuana (smoke, vape, eat, or drink)?	A	B	C	D	E	F
82. any other drug, pill, or medicine to get "high" or for reasons other than medical?	A	B	C	D	E	F

How much do people risk harming themselves physically and in other ways when they do the following?

		How Much Risk or Harm			
		Great	Moderate	Slight	None
83. Smoke cigarettes occasionally		A	B	C	D
84. Smoke 1 or more packs of cigarettes each day		A	B	C	D
85. Use e-cigarettes (electronic) or vaping device occasionally		A	B	C	D
86. Use e-cigarettes or vaping devices several times a day (100 puffs or more)		A	B	C	D
87. Drink alcohol (beer, wine, liquor) occasionally		A	B	C	D
88. Have five or more drinks of alcohol once or twice a week		A	B	C	D
89. Use marijuana occasionally (smoke, vape, eat, or drink)		A	B	C	D
90. Use marijuana daily		A	B	C	D

How difficult is it for students in your grade to get any of the following if they really want them?

	Very Difficult	Fairly Difficult	Fairly Easy	Very Easy	Don't Know
91. Cigarettes	A	B	C	D	E
92. E-cigarettes (electronic) or vaping device	A	B	C	D	E
93. Alcohol	A	B	C	D	E
94. Marijuana	A	B	C	D	E

How many times have you tried to quit or stop using...

	Does Not Apply, Don't Use	0 Times	1 Time	2-3 Times	4 or More Times
95. cigarettes?	A	B	C	D	E
96. alcohol?	A	B	C	D	E
97. marijuana?	A	B	C	D	E

Core Module

98. During your life, how many times have you ever driven a car when you had been using alcohol or drugs, or been in a car driven by a friend when he or she had been using?
- A) Never
 - B) 1 time
 - C) 2 times
 - D) 3 to 6 times
 - E) 7 or more times

**Next are questions about violence, safety, harassment, & bullying
on school property.**

99. How safe do you feel when you are at school?
- A) Very safe
 - B) Safe
 - C) Neither safe nor unsafe
 - D) Unsafe
 - E) Very unsafe

During the past 12 months, how many times on school property have you...

Happened on School Property

	<u>0 Times</u>	<u>1 Time</u>	<u>2 to 3 Times</u>	<u>4 or More Times</u>
100. been pushed, shoved, slapped, hit, or kicked by someone who wasn't just kidding around?	A	B	C	D
101. been afraid of being beaten up?	A	B	C	D
102. been in a physical fight?	A	B	C	D
103. had mean rumors or lies spread about you?	A	B	C	D
104. had sexual jokes, comments, or gestures made to you?	A	B	C	D
105. been made fun of because of your looks or the way you talk?	A	B	C	D
106. had your property stolen or deliberately damaged, such as your car, clothing, or books?	A	B	C	D
107. been offered, sold, or given an illegal drug?	A	B	C	D
108. damaged school property on purpose?	A	B	C	D
109. carried a gun?	A	B	C	D
110. carried any other weapon (such as a knife or club)?	A	B	C	D
111. been threatened or injured with a weapon (gun, knife, club, etc.)?	A	B	C	D
112. seen someone carrying a gun, knife, or other weapon?	A	B	C	D
113. been threatened with harm or injury?	A	B	C	D
114. been made fun of, insulted, or called names?	A	B	C	D

Core Module

During the past 12 months, how many times on school property were you harassed or bullied for any of the following reasons? [You were **bullied** if you were shoved, hit, threatened, called mean names, teased, or had other unpleasant physical or verbal things done to you repeatedly or in a severe way. It is **not bullying** when two students of about the same strength or power quarrel or fight.]

	Happened on School Property			
	0 Times	1 Time	2 to 3 Times	4 or More Times
115. Your race, ethnicity, or national origin	A	B	C	D
116. Your religion	A	B	C	D
117. Your gender	A	B	C	D
118. Because you are gay or lesbian or someone thought you were	A	B	C	D
119. A physical or mental disability	A	B	C	D
120. You are an immigrant or someone thought you were	A	B	C	D
121. Any other reason	A	B	C	D
122. During the past <u>12 months</u> , how many times did other students spread mean rumors or lies, or hurtful pictures, about you online, on social media, or on a cell phone?				
A) 0 times (never)				
B) 1 time				
C) 2–3 times				
D) 4 or more times				
123. Do you consider yourself a member of a gang?				
A) No				
B) Yes				
124. During the past <u>12 months</u> , did you ever feel so sad or hopeless almost every day for two weeks or more that you stopped doing some usual activities?				
A) No				
B) Yes				
125. During the past <u>12 months</u> , did you ever seriously consider attempting suicide?				
A) No				
B) Yes				
126. Did you eat breakfast today?				
A) No				
B) Yes				

Core Module

127. On an average school night, how many hours of sleep do you get?
- A) 4 or less hours
 - B) 5 hours
 - C) 6 hours
 - D) 7 hours
 - E) 8 hours
 - F) 9 hours
 - G) 10 or more hours
128. How many questions in this survey did you answer honestly?
- A) All of them
 - B) Most of them
 - C) Only some of them
 - D) Hardly any
129. Is your father, mother, or guardian currently in the military (Army, Navy, Marines, Air Force, National Guard, or Reserves)?
- A) No
 - B) Yes
 - C) Don't know
130. Which of the following best describes you?
- A) Straight (not gay)
 - B) Gay or Lesbian
 - C) Bisexual
 - D) I am not sure yet
 - E) Something else
 - F) Decline to respond
131. Some people describe themselves as transgender when their sex at birth does not match the way they think or feel about their gender. Are you transgender?
- A) No, I am not transgender
 - B) Yes, I am transgender
 - C) I am not sure if I am transgender
 - D) Decline to respond

Appendix D

C A L I F O R N I A *healthy kids* S U R V E Y

Resilience & Youth Development Module

SUPPLEMENT 1

Please mark on your answer sheet how you feel about each of the following statements.

How true do you feel these statements are about you personally?

		Not At All True	A Little True	Pretty Much True	Very Much True
X1.	I have high goals and expectations for myself.	A	B	C	D
X2.	I plan to graduate from high school.	A	B	C	D
X3.	I plan to go to college or some other school after high school.	A	B	C	D
X4.	I am looking forward to a successful career.	A	B	C	D
X5.	I know where to go for help with a problem.	A	B	C	D
X6.	I try to work out problems by talking or writing about them.	A	B	C	D
X7.	I can work out my problems.	A	B	C	D
X8.	I don't expect very much of myself in the future.	A	B	C	D
X9.	I can do most things if I try.	A	B	C	D
X10.	I can work with someone who has different opinions than mine.	A	B	C	D
X11.	There are many things that I do well.	A	B	C	D
X12.	I listen to other students' ideas.	A	B	C	D
X13.	I feel bad when someone gets their feelings hurt.	A	B	C	D
X14.	I try to understand what other people go through.	A	B	C	D
X15.	When I need help, I find someone to talk with.	A	B	C	D
X16.	I enjoy working together with other students on class activities.	A	B	C	D
X17.	When I work in school groups, I do my fair share.	A	B	C	D
X18.	I stand up for myself without putting others down.	A	B	C	D
X19.	I try to understand how other people feel and think.	A	B	C	D
X20.	I trust my ability to solve difficult problems.	A	B	C	D
X21.	There is a purpose to my life.	A	B	C	D
X22.	I understand my moods and feelings.	A	B	C	D
X23.	I understand why I do what I do.	A	B	C	D

Resilience & Youth Development Module

SUPPLEMENT 1

How true are these statements about your FRIENDS?

I have a friend about my own age ...

	Not At All True	A Little True	Pretty Much True	Very Much True
X24. who really cares about me.	A	B	C	D
X25. who talks with me about my problems.	A	B	C	D
X26. who helps me when I'm having a hard time.	A	B	C	D

My friends ...

	Not At All True	A Little True	Pretty Much True	Very Much True
X27. get into a lot of trouble.	A	B	C	D
X28. try to do what is right.	A	B	C	D
X29. do well in school.	A	B	C	D

How true are these statements about your HOME or the ADULTS WITH
WHOM YOU LIVE?*In my home, there is a parent or some other adult ...*

	Not At All True	A Little True	Pretty Much True	Very Much True
X30. who expects me to follow the rules.	A	B	C	D
X31. who is interested in my schoolwork.	A	B	C	D
X32. who believes that I will be a success.	A	B	C	D
X33. who talks with me about my problems.	A	B	C	D
X34. who always wants me to do my best.	A	B	C	D
X35. who listens to me when I have something to say.	A	B	C	D

Resilience & Youth Development Module

SUPPLEMENT 1

At home, ...

		Not At All True	A Little True	Pretty Much True	Very Much True
X36.	I do fun things or go fun places with my parents or other adults.	A	B	C	D
X37.	I do things that make a difference.	A	B	C	D
X38.	I help make decisions with my family.	A	B	C	D

The next statements are about what might occur outside your school or home, such as in your NEIGHBORHOOD, COMMUNITY, or with an ADULT other than your parents or guardian.

Outside of my home and school, there is an adult ...

		Not At All True	A Little True	Pretty Much True	Very Much True
X39.	who really cares about me.	A	B	C	D
X40.	who tells me when I do a good job.	A	B	C	D
X41.	who notices when I am upset about something.	A	B	C	D
X42.	who believes that I will be a success.	A	B	C	D
X43.	who always wants me to do my best.	A	B	C	D
X44.	whom I trust.	A	B	C	D

Outside of my home and school, ...

		Not at All True	A Little True	Pretty Much True	Very Much True
X45.	I am part of clubs, sports teams, church/temple, or other group activities.	A	B	C	D
X46.	I am involved in music, art, literature, sports, or a hobby.	A	B	C	D
X47.	I help other people.	A	B	C	D