Contributions To School-Related Risk and Protective Factors, Five Years After a Municipal Youth and Family Master Plan

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Abstract

This study assesses the impact of five years of community level activities in the Pomona Youth and Family Master Plan (PYFMP) on four school-related risk and protective factors including academic failure, low school commitment, school opportunities for prosocial involvement, and school rewards for prosocial involvement. The intervention and assessment were guided by an integrated conceptual framework which combined social cognitive theory and the risk and protective factors approach. The study conducted same and independent group comparisons of school-related risk and protective factors in 2005–06 (N = 3,967), and 2009–10 (N = 2,693). Two-proportion z-tests were performed at an alpha of 0.05 in four methods of comparative analysis including the following: same students, inter-grade change, same grade, and overall 2005–06 to 2009–10 comparisons. Trends for both school opportunities for prosocial involvement and academic failure were positive on all methods of analysis. Results for school rewards for prosocial involvement and low school commitment showed both negative and positive trends. There is a likelihood the interventions contributed to observed variations between baseline and follow-up because parents, teachers, and students were participants in community intervention activities; there were no other major community initiatives; and there is a convergence of data patterns across methods of comparative analysis and assessed factors. Specific recommendations are provided for community intervention program implementers in Pomona and other poorly resourced communities.

Key Words: Collective impact, youth and family master plan, school youth and protective factors, participatory governance, risk and protective approach, social cognitive theory, academic failure, school and community partnerships

Introduction

The Pomona Youth and Family Master Plan (PYFMP) was implemented in a collective impact and participatory governance effort including youths, families, the school district, the city, businesses, community organizations, universities, health care entities, and more from 2005–06 to 2009–10 in Pomona, California, USA. Community impact initiatives (Collective Impact Forum, 2022; Kania et al., 2022) and participatory governance activities (Bua & Bussu, 2021; Mahmood & Muntane, 2020; Warren, 2014) can shape the context of individualized youth risks, as well as contribute to school-related youth protective factors (Jarrett et al., 2005; Kahne & Bailey, 1999; Rubens et al., 2020; Solberg et al., 2011; Top et al., 2017; White & Gager, 2007). However, the impact of mezzo (social networks or community level) and macro (society at large) intervention activities on individual school-related youth risk and protective factors when there are no accompanying micro level interventions targeting family, teachers, or students in the school environment is not always consistent. The scholarship on school-related activities (Jarrett et al., 2005; Kahne & Bailey, 1999; White & Gager, 2007) in support of low-income urban youth at risk of negative academic outcomes (Grant et al., 2014) assumes the integration of individualized family, school, and community activities for optimal impact on youth risk and protective factors (Cook et al., 2020; National Institutes of Health, 2000; O'Connor & Daniello, 2019; Walker et al., 1996). The range of findings would suggest that ideal interventions to prevent youth risk factors should combine multiple factors at the macro, mezzo, and micro levels (Fairchild et al., 2019; Marsiglia et al., 2019; Singh & Azman, 2020; Wu et al., 2020).

This article contributes to the literature on school-related risk and protective factors by investigating the impact of community-level, multidimensional intervention activities implemented through the PYFMP on perceived school-related risk and protective factors when there are no accompanying micro level activities which are either family or school based. School risk factors assessed include academic failure and low commitment to school, while protective factors include school opportunities for prosocial involvement and school rewards for prosocial involvement. In addition, the results should guide future new designs or modifications of existing school-related risk and protective plans in Pomona and other poorly resourced environments.

The study assessed trends in school-related risk and protective factors through self-report by Grade 8, 10, and 12 students in the Pomona Unified School District in California during the 2005–06 and 2009–10 academic years. The impact of PYFMP on school-related risk and protective factors was assessed within an integrated conceptual framework which combines social cognitive theory (Bandura, 1986, 2004) and the risk and protective factors approach (Arthur et al., 1996; Arthur & Blitz, 2000; Hawkins, 1999; Hawkins et al., 1992). The purpose was to identify variations in school-related risk and protective factors between baseline and follow-up years within a Pomona Unified School District student sample that can be attributed to the PYFMP interventions.

The PYFMP was a response to the following three community-prioritized youth risk factors in the city of Pomona: (1) youth antisocial behavior, (2) academic failure/success, and (3) community disorganization (City of Pomona, 2006; Tataw & Rosa-Lugo, 2011). This study examined contributions to the academic failure/success domain of prioritized risk factors represented by school-related risk and protective factors.

The PYFMP data collection was completed in 2011, but analysis of the plan impact data was completed between 2016 and 2020 due to lack of resources to support evaluation. Though many PYFMP activities continue in the Pomona community as of this writing, this is the only evaluation of the PYFMP activities ever conducted. The use of PYFMP baseline and follow-up data for this analysis provides a unique opportunity for lessons to be learned that are as useful today as they were more than a decade ago. First, the data was collected in an empirical context which included all the elements necessary to assess risk and protective outcomes in the school environment when mezzo level intervention activities were implemented with no accompanying micro level intervention elements. The PYFMP relied exclusively on community-wide activities with high school teachers, administrators, and students as participants alongside other community members. The Pomona Unified School District has the only high school in the city of Pomona, and all youths and teachers who participated in the PYFMP activities were from the Pomona Unified School District. Second, the demographic and epidemiological profile of Pomona has not changed significantly since 2005. From 2005 to 2022, there were minimal fluctuations in the high levels of poverty, high prevalence and intensity of childhood disease burden, low academic performance, intractable gang violence, high teen pregnancy and teen substance abuse, low levels of health prevention resources, and barriers to care access (Los Angeles County Department of Public Health, 2010, 2018; Pomona Unified School District, 2005, 2009; U.S. Census Bureau, 2020, 2022). Third, many underlying socioeconomic factors remain unresolved in Pomona (U.S. Census Bureau, 2020, 2022), suggesting

a need to understand the impact of five years of PYFMP activities and to use the evidence in reframing or continuing current community organizing around school, youth, family, and community, both in Pomona and elsewhere.

Impact of Mezzo Level Intervention Strategies Youth Risk and Protective Factors

Community strategies have been key in efforts to reduce risky youth behaviors (U.S. Department of Health and Human Services, 2020), yet the nature of their impact on individual risk and protective factors is neither consistent or predictable. Some research suggests that perception of risk at the community level did not always appear to have a significant relationship with risk or positive behavior and that prevention efforts at the community level per se may not help unless the youth, their friends, and their families internalize the negative perceptions of risky behavior (Wu et al., 2020). On the other hand, some macro and mezzo level interventions have been impactful, particularly when they include multiple social levels and integration of youths in research and social action (Giannotta, 2014; Valdez et al., 2020) as have community-wide intervention activities (Kim et al., 2015).

Many mezzo level interventions are community-wide initiatives which adopt both school-related and non-school-related activities (Jarrett et al., 2005; Kahne & Bailey, 1999; White & Gager, 2007) in support of low-income urban youth at risk of negative academic outcomes (Grant et al., 2014). The National Institutes of Health (2000) recommends integrating three stages of prevention, including: (1) primary prevention strategies that aim to enhance protective factors on a schoolwide or community-wide basis; (2) secondary prevention with individualized one-on-one interventions; and (3) third-stage prevention which involves connecting youth and caregivers to appropriate community-based social service agencies. Schools are ideal settings to access in order to develop at-risk youth, particularly with the support of families and communities (Cook et al., 2020; O'Connor & Daniello, 2019; Walker et al., 1996).

The PYFMP was made up of multidimensional community strategies which focused on primary prevention and third-stage prevention strategies in the community. There were no individual-level interventions in the PYFMP as all interventions were community-wide, and students, teachers, parents, and school administrators participated in community-wide activities along with other community members.

Collective Impact, Participatory Governance, and Social Change

Mezzo level interventions in the PYFMP were driven by collective impact, participatory governance, and social change initiatives. Collective impact is

defined as "a network of community members, organizations, and institutions who advance equity by learning together, aligning, and integrating their actions to achieve population and system level change" (Community Impact Forum, 2022, para. 2; see also Kania et al., 2022). Most successful efforts usually have five conditions: common agenda, backbone support organization, mutually reinforcing activities, continuous communication, and shared measurement systems (Collective Impact Forum, 2022; Greater Cincinnati Foundation, 2014; Hanleybrown et al., 2012; Kania & Kramer, 2011; Kania et al., 2022).

Participatory governance is a collective impact strategy which both shapes the social context of risk factors and drives social change. Participatory governance is not only integral to community development, but it democratizes planning and promotes social justice by allowing all citizens, especially disadvantaged groups, to influence and legitimize policymaking (Bekemans, 2018; Elstub & Escobar, 2019). Participatory governance implies the involvement of organized and nonorganized mobilizing to improve the quality of democratic governance (Geissel, 2009) with the state and society jointly responsible for political decisions and services (Mahmood & Muntane, 2020).

The PYFMP was a participatory governance effort including youths, families, the school district, the city, businesses, community organizations, universities, health care entities, and more. The PYFMP was also a community organizing initiative geared towards having collective impact through the building of community social capital to reduce youth risk factors and enhance youth protective factors.

Pomona Youth and Family Master Plan

Plan Development and Implementation

The PYFMP was developed through a partnership between the city government and the Pomona Unified School District, working in collaboration with other community stakeholders including faith-based organizations, businesses, institutions of higher learning, community-based organizations, the chamber of commerce, parents, and the youth of the city. About 20% of the planning partners were youths or parents who were not experts. In the implementation phase, about 40% to 50% of Community Advisory Board membership was made up of parents and youths. A plan was developed to address three community prioritized risk factors including community disorganization, academic failure, and favorable attitudes towards antisocial behavior. Academic failure indicators are risk and protective factors around the youth academic environment. The plan development and implementation have been reported in great detail elsewhere (City of Pomona, 2006; Tataw & Rosa-Lugo, 2011; Tataw & Kim, 2022).

Community Intervention Components

Pomona Unified School District parents, students, teachers, and administrators served on the PYFMP Community Advisory Board and attended PYFMP community activities from 2005–06 to 2009–10. Detailed intervention components have been reported in detail elsewhere (City of Pomona, 2006; Tataw & Rosa-Lugo, 2011; Tataw & Kim, 2022; Tataw et al., 2023). Brief summaries of key interventions are provided below, except for youth development activities which have been described in detail.

Establishment and Fostering of Collaboration and Partnerships

Activities in this strategy included quarterly partnership summits such as the sharing of information on partnership strategies, local and regional partnership opportunities, and success stories in the city and the region. Pomona Unified School District teachers, parents, and administrators were part of the 360 participants in six partnership summits from January 2007 to December 2009.

Development, Enhancement, and Coordination of Existing Programs and Services That Address the Youth Risk and Protective Factors

The focus was on creating a culture of well-being for youth in and outside school settings and ensuring that services rose to the level of tested effective practices. Program activities were supported by a youth empowerment task force, populated by youths from the Pomona Unified School District, who vetted service plans and provided consumer perspectives. Attendees included 65 teachers and parents from the Pomona Unified School District, members of the Parent Teachers Association (PTA), and 30 nonacademic service providers.

Community Mobilization

This strategy ensured that the stakeholders including teachers, parents, and school administrators were actively engaged in the PYFMP decision making and implementation. It also ensured the community in general was aware of and involved in plan implementation.

Resource Brokerage

The PYFMP facilitated the availability of and access to youth and family resources impacting three prioritized areas: community disorganization, academic failure, and favorable attitudes towards anti-social behavior.

Youth Development

This strategy provided community opportunities for youths to overcome youth risk factors associated with academic failure/success and antisocial behaviors including the following initiatives:

1. Monthly youth and adolescent leadership workshops covering conflict resolution, overcoming peer pressure, harms of substance abuse, civic respon-

sibility, and leading peer mentorship programs in high schools. Around 1,200 Pomona Unified School District high school students attended leadership workshops from 2007 to 2009.

2. Gang prevention outreach case management using the Office of Juvenile Justice and Delinquency Prevention (OJJDP) Model. This reached 120 Pomona Unified School District high school students from 2007 to 2009.
3. Strengthening Families is a program which served teens and their families. It provided training sessions using family systems and cognitive behavioral approaches to increase resilience and reduce risk factors to improve family relationships, parenting skills, and students' social and life skills. This program served 130 families a year in 2008 and 2009.
4. Across Ages program which involved elders mentoring youth, youth performing community service, youth participating in a life skills and problem-solving curriculum, and monthly activities for family members. This program reached 80 families a year in 2008 and 2009.
5. A Mock Trial Academy exposed youths to all aspects of the Juvenile Justice System; 105 Pomona Unified School District high school students participated in the mock trials from 2008 to 2009. Around 300 more youths attended as members of the audience. The mock trial was intended to improve critical thinking, reading, and public speaking skills among participating youths.
6. Annual and monthly academic achievement programs. These included the following: (a). Annual summer academic advancement workshops covering arts, reading, writing, and math for high school students in the Pomona Unified School district in collaboration with local universities and libraries. Events included annual science expo, summer arts academy, summer math program, and literacy week. (b). All-year monthly programs included BIG READ which provided a fun environment for students to enhance reading skills, accelerated reader home, home connect, parent connect, and teleparent calling to support students and teachers. There was also Project Grad, a mentoring program which matched at-risk high school students with mentors. A total of 700 Pomona Unified School District high school students participated in annual or monthly academic achievement programs per year in 2007, 2008, and 2009.
7. Annual youth achievement awards recognized youths for academic achievement, community service, and leadership. This included a scholarship awarded for students progressing to college and recognition of success stories from the Pomona community residents including people who are in college or have completed college, started a business, or have advanced in other careers. Youth mentors in various community programs were also recognized.

Conceptual Framework

The assessment of the impact of the interventions above on risk and protective factors in the youth academic environment were framed within two intersecting conceptual frameworks. The framework included social cognitive theory and the risk and protective factors approach, which together clarify the assumptions and factors that drive PYFMP intervention elements and shape planning, implementation, and evaluation. This conceptual framework also ties together collective impact initiatives and participatory governance, as well as their relationships to school-related risk and protective factors.

Social Cognitive Theory

Social cognitive theory is rooted in personal factors, behavior, and environmental influences working together leading to goals and behavioral change (Bandura, 1986, 2004). Social cognitive theory constructs include: reciprocal determinism, behavioral capability, expectations, self-efficacy, observational learning, and reinforcements. The constructs of relevance to this study are reciprocal determinism, behavioral capability, self-efficacy, and reinforcements.

Reciprocal determinism describes interactions between behavior, personal factors, and environment, and each influences the others. The individual and environmental factors inherent in reciprocal determinism are enhanced by the multidimensional community-wide intervention activities of PYFMP.

Behavioral capability states that, to perform a behavior, a person must know what to do and how to do it. Reinforcements are responses to behavior that affect whether one will repeat it. Positive reinforcements (rewards) increase a person's likelihood of repeating the behavior. Negative reinforcements may make repeated behavior more likely by motivating the person to eliminate a negative stimulus (Bandura, 1986, 2004; National Cancer Institute, 2005). Behavioral capability, self-efficacy, and reinforcements are enhanced by school protective factors and can be undermined by risk factors. This multifaceted perspective of social cognitive theory inherent in reciprocal determinism is relevant to both the personal and cultural dimensions that are part of the lifestyle and environmental factors in both the city of Pomona and the Pomona School District, which were considered in PYFMP intervention components.

Risk and Protective Factors Approach

This epidemiologically based, risk reduction approach to prevention planning (Arthur et al., 1996; Arthur & Blitz, 2000) collects and prioritizes data on risk and protective factors at the community level so that preventive interventions can focus on the most prevalent risk factors (Hawkins, 1999; Hawkins et al., 1992). This two-pronged prevention framework of reducing risk and

promoting positive social development is actualized via the Communities That Care strategy for preventing adolescent problem behavior (Hawkins et al., 1992). The framework is well-aligned to social cognitive theory because it uses multilevel analysis, social development, and considers environmental factors in youth development.

The two conceptual frameworks are tied together within an ecological perspective which provides the setting for identifying the relationships of the specific theories and their factors, their points of application, and the best practices for intervention implementation at multiple levels (Dahlberg & Krug, 2002; Elder et al., 2007; Geidne et al., 2019; Golden & Earp, 2012). Social cognitive theory considers the environment in which social outcomes occur and aligns well with the risk and protective factors approach which anticipates mediation from micro, mezzo, and macro factors on individualized risk outcomes when a community adopts evidence-based intervention strategies. The constructs from both models also align with the following context-related concepts that drive the planning, implementation, and evaluation of PYFMP: collective impact initiatives (Collective Impact Forum, 2022; Kania et al., 2022); and participatory governance and social change (Bua & Bussu, 2021; Mahmood & Muntane, 2020; Warren, 2014).

Hypotheses

There were two overarching hypotheses related to youth school-related risk and protective factors five years after the development and implementation of the PYFMP:

- H1: Participating youths will report increases in school protective factors including school opportunities for prosocial involvement and school rewards for prosocial involvement.
- H2: Participating youths will report reductions in school risk factors including academic failure and low commitment to school.

Expected Outcomes

This study focuses on youth perceptions of school-related risk and protective factors that were expected five years after the development and implementation of the PYFMP:

- Perceived increase in school opportunities for prosocial involvement reported by Grade 8, 10, and 12 students between 2005 and 2009 in the Pomona Unified School District;
- Perceived increase in school rewards for prosocial involvement reported by Grade 8, 10, and 12 students between 2005 and 2009 in the Pomona Unified School District;

- Perceived improvements in academic failure reported by Grade 8, 10, and 12 students between 2005 and 2009 in the Pomona Unified School District; and
- Perceived improvement in low school commitment reported by Grade 8, 10, and 12 students between 2005 and 2009 in the Pomona Unified School District.

Methods

Research Design

A pre–post prospective quasi-experimental outcomes evaluation design was built into the Youth and Family Master Plan's school-related assessment strategy (Holden & Zimmerman, 2009; Kapp & Anderson, 2010). There was a same group and independent groups comparison using both 2005 and 2009 Pomona Unified School District data. Longitudinal and cross-sectional trends in perceived school-related risk and protective factors among youths living in the city of Pomona and attending the Pomona Unified School District were assessed.

Four methods of comparative analysis were adopted in this study, including the following: same students (Grade 8-2005 and Grade 12-2009), inter-grade change (Grade 8 to 10 and Grade 10 to 12), same grade (Grades 8, 10, and 12), and overall 2005 to 2009 comparisons. Same students analysis (Grade 8-2005 and Grade 12-2009) will provide a reasonable assurance that at both baseline and follow up some of the analysis will be focused on the same students. The comparison of both inter-grade change (Grade 8 to 10 and Grade 10 to 12), and same grade (Grades 8, 10, and 12) observed in 2005 and 2009, allows for an assessment of the impact of contextual factors (i.e., PYFMP interventions). Changes in the community or school context might account for differences in both inter-grade changes and differences between same grades observed in the 2005–06 and 2009–10 academic years. Overall 2005 and 2009 comparison allows for an analysis of all student perceptions in 2005 (Grades 8, 10, and 12) versus all student perceptions in 2009 (Grades 8, 10, and 12). Differences could be attributed to mezzo environmental activities (PYFMP) that occurred between 2005 to 2009.

Population and Sample

Pomona Unified School District Population

The study intervention sample was drawn from the population of youths in the Pomona Unified School District. In 2005, the Pomona Unified School District reported a student population of 31,817, with 49% or 15,630 in Grades 6–12. The student ethnic composition was as follows: 80.1% Hispanic, 6.9%

African American, 6.4% White, 6.4% Asian/Pacific Islander/Filipino, and 6.3% other ethnic groups combined. About 75% of Pomona Unified School District students qualified for the compensatory education program which is a remedial program for students who do not meet the minimum skills level for their school grade; 52% qualified for free or reduced lunch; 45% were English language learners; and the high school dropout rate was 29%, making it the fourth highest in California (Pomona Unified School District, 2005).

Demographic Characteristics of the City of Pomona

The PYFMP was developed and implemented in the city of Pomona, California. In the period leading to 2005–06 when PYFMP was developed, Pomona was afflicted by high levels of poverty, high prevalence and intensity of childhood disease burden, low academic performance, intractable gang violence, high teen pregnancy and teen substance abuse, low levels of health prevention resources, and barriers to care access (Pomona Unified School District, 2006; Los Angeles County Department of Public Health, 2005). Pomona had 900 juveniles on criminal probation as of January 2005, and the city ranked number one in gang homicides in the San Gabriel Valley Region of Los Angeles County as of 2003 (Los Angeles County Department of Public Health, 2005). Of the children in the city of Pomona, 10% did not have health insurance in 2005; 46% of Pomona youth in 2005 were teen mothers; and prevalent diseases included heart disease, cancer, diabetes, and childhood obesity (Los Angeles County Public Health, 2005). The magnitude of youth antisocial behavior, including youth violence, involvement with the criminal justice system, and substance use (Los Angeles County Department of Public Health, 2005), contributed to the development and the adoption of the PYFMP (City of Pomona, 2006; Tataw & Rosa-Lugo, 2011).

Table 1 shows the demographics of the city of Pomona for the years 2005 to 2022, revealing a city with stable trends in population distribution, education, poverty, and health. Pomona ethnic distribution and socioeconomic characteristics revealed a majority–minority population with high poverty and unemployment rates. From 2005 to 2022, poverty and unemployment rates in Pomona were higher than the U.S. population overall (U.S. Census Bureau, 2022). The city had a population of 161,257 in 2005 in a land area of about 23 square miles, compared to a population of 151,554 in 2022 (U.S. Census Bureau, 2020, 2022). In 2005, there were 56,972 children 19 years and under, or 34.5% of the population, compared to 24.7% in 2022. From 2005 to 2022 the city continued to be afflicted by high levels of poverty, high prevalence and intensity of childhood disease burden, low academic performance, intractable gang violence, high teen pregnancy and teen substance abuse, low levels of

health prevention resources, and barriers to healthcare access (U.S. Census Bureau, 2020, 2022; Pomona Unified School District, 2005, Los Angeles County Department of Public Health, 2005, 2010, 2018).

Table 1. Pomona 2005 to 2022 Population Characteristics

Year	2005	2009	2022
Population (*N*)	161,257	152,359	151,554
Sample Size (*n*)	3,967	2,693	N/A
Ethnic Distribution			
Total	161,257	152,359	151,554
Latino%	69	70.50	71.4
White%	11	12.5	10.34
Black%	10	7.3	5.9
Asian%	9	8.3	10.8
Some Other%	1	1.2	2.4
Gender (n)	161,257	152,359	151,554
Male	50.6	47.8	49.1
Female	49.4	52.2	50.9
Median Household Income ($)	41,146	48,973	67,549
Below 100% Poverty Rate (%)	16.1	17.7	16.4
Unemployment Rate (%)	8.7	11.7	5.8
High School Graduates	9.6	25	24.4
Lack of Access to Healthcare	25	23	12.5

In addition, the Los Angeles County Department of Public Health 2018 city and community profiles for Pomona showed stable demographic characteristics from 2010–16, with a population of around 1.5 million and 85% of the children eligible for subsidized school meals. Characteristics compiled from 2010–16 data are as follows: 20% of Pomona residents were below poverty level compared to 17% for the county; the life expectancy at birth was 79.8 years compared to 82.3 for the county; there was a 50% preschool enrolment compared to 54% for the county; 27% of third graders did not meet California standards for language arts and literacy compared to 43% for the county. In addition, in the six years referenced in the community profile data, Pomona experienced lower levels of education, higher disease burden, higher levels of teen substance use, lower levels of health insurance, lower levels of employment, higher crimes and homicides, higher food insecurity, and easy access to

alcohol and other substances compared to the rest of Los Angeles County (Los Angeles County Department of Public Health, 2018).

Study Sample

The sample size for the Pomona School District Pride Survey in 2005 was 3,967, while in 2009 it was 2,693. The 2005 Pomona Unified School District sample demographics were as follows: White (4.1%), African American (5.9%), Hispanic/Latino (73.1%), Asian Pacific Islander (7%), Native American (0.6%), Mixed Origins (5.9%), and other (3.4%); male (48.2%), female (51.8%). The 2009 Pomona sample demographics were as follows: White (4.3%), African American (5.3%), Hispanic/Latino (71.3%), Asian Pacific Islander (7.9%), Native American (0.6%), Mixed Origins (5.0%), and other (2.3%); male (46%), female (54%).

Data collection

Data on risk and protective factors for Pomona were collected through the Pride survey risk and protective factor questionnaire (see https://www.pridesurveys.com/index.php/the-risk-and-protective-factor-student-survey/). The survey was developed and administered in collaboration with industry consultants, the PYFMP evaluation team, and a university-based researcher. Baseline data were collected in November 2005, and a follow-up survey was conducted in December 2009.

In November 2005, the Pride survey was mailed to 6,000 Pomona Unified School District students in Grades 8, 10, and 12; 3,967 surveys were completed and returned. Additionally, 123 returned surveys were not completed. In December 2009, a follow-up Pride survey was given to 6,000 Pomona Unified School District students in Grades 8, 10, and 12; 2,693 surveys were completed and returned. Additionally, 111 returned surveys were not completed. The total of 6,000 surveys mailed to students was about the total number of students in Grades 8, 10, and 12 in both 2005 and 2009.

The Pride Risk and Protective Factor Survey was given under the auspices of a passive permission approach whereby parent permission was not needed at the Grade 8, 10, or 12 levels. In addition, the students were given verbal and written consent instructions with the understanding that participation in the survey was voluntary. A general notice also went to the parents from the school district office regarding the survey before it was mailed to students. The confidentiality of the students responding to questionnaires was protected because the students were not allowed to write their names or any unique identifier on the questionnaires. Students were instructed not to include identifying marks. Any questionnaires with identifying marks were shredded and not included in the data. All instructors who explained the survey to or answered questions on

the survey from students or parents were trained in human subjects protection protocols. This study was approved by the Institutional Review Boards of the Jackson State University in Jackson, Mississippi in 2014 as an exempt study and Charles R. Drew University in Los Angeles, California in 2007 as an expedited study.

Measurements

School-related risk and protective factors including school opportunities for prosocial involvement, school rewards for prosocial involvement, academic failure, and low school commitment among a Pomona Unified School District student sample were measured using the Pride Risk and Protective Factor Survey instrument which is adapted from the Communities That Care youth survey (International Survey Associates, n.d., 2006, 2009; Pomona Unified School District 2006a, 2010). The Pride Survey questions related to youth risk and protective factors have been found to be valid (Metze, 2000; Reiland Consultants, 2018), to be reliable (test–retest coefficients from .814–.851; Metze, 2000), and to have a high interrater agreement (80%) regarding survey question content between survey responders (Craig & Emshoff, 1987). A comparison of the Pride Survey estimates with the Monitoring the Future survey found similar estimates between the surveys (Adams, 1994; Metze, 2000).

School opportunities for prosocial involvement were measured by six questions. School rewards for prosocial involvement were measured by three questions. Academic failure was measured by five questions. Low commitment to school was measured by ten questions. All four of these groups of questions can be seen in Table 2 and are described in the Results section.

Data Analyses

The Pride survey data was entered into the Statistical Package for the Social Sciences (SPSS) and excel databases. Data analysis was performed by external consultants, the PYFMP evaluation committee, and a university researcher. External consultants and the PYFMP evaluation committee produced both raw data and descriptive statistics. Comparative statistical reports were produced as reported below by the researcher. The prevalence of school opportunities for prosocial involvement, school rewards for prosocial involvement, academic failure, and low school commitment were recorded from the Pomona Pride survey. The percentages were identified and described. Same group and independent group comparative analysis were performed.

Z Score Calculation

Z-tests rather than t-tests were performed because proportions rather than raw data were used. Though follow-up raw data was available, the baseline raw

data was not available and could not be located by the external consultants who collected the data and calculated prevalence percentages.

Two-proportion z-tests were performed at an alpha of 0.05 in four methods of comparative analysis including the following: same students (Grade 8-2005 and Grade 12-2009), inter-grade change (Grade 8 to 10 and Grade 10 to 12), same grade (Grades 8, 10, and 12), and overall 2005 to 2009 comparisons. The test statistic z is:

$$z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}_{pooled}\left(1 - \hat{p}_{pooled}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

where $\hat{p}_1$ is the proportion of successes for the second column of data and $\hat{p}_2$ is the proportion of successes for the first column of data; $\hat{p}_{pooled} = \frac{n_1\hat{p}_1 + n_2\hat{p}_2}{n_1 + n_2}$ is the overall proportion of successes for both columns of data combined. The excel formula to calculate the *p*-value is: = norm.s.dist(-abs(Z),true)*2.

Z Score Interpretation

For all z-tests, the *p*-value is the two-tailed probability of the test statistic z using the Standard Normal distribution. Where the *p*-values are less than 0.05, the data provide statistically significant evidence that the proportions of successes are different between the two underlying populations. For tests having a statistically significant *p*-value (< 0.05), a positive z-score would indicate that $p1$ is higher than $p2$, while a negative z-score indicates that $p1$ is less than $p2$. ($\hat{p}_2$ is subtracted from $\hat{p}_1$ in the equation for the z-score shown above.)

Results

Summary

The study results are presented in Tables 2–5. Table 2 presents descriptive statistics representing percentages of different school-related risk and protective factors in 2005–06 and 2009–10. Table 3 summarizes overall trends and highlights key findings in the study results including all four risk and protective factors and all four methods of comparative analysis. Tables 4 and 5 present detailed reports of statistically significant results from different methods of comparative analysis involving same and independent group comparisons covering all four risk and protective factors.

Descriptive Statistics of School-Related Risk and Protective Factors

Table 2 presents the prevalence rates for school opportunities for prosocial involvement, school rewards for prosocial involvement, academic failure, and low school commitment among Grade 8, 10, and 12 students in Pomona for the years 2005 and 2009. Table 2 also provides the descriptions of the different

measures of the four risk and protective factors being analyzed in this study and referenced in the methods section above. The proportions reported in Table 2 were used to perform z tests whose results are reported in Tables 3, 4, and 5.

Table 2. Percentages of Youth School Domain Protective and Risk Factors 2005 vs 2009 Pomona

Pomona Unified School District (PUSD) Pride Survey								
	2005				2009			
Sample Sizes: **Measures:**	1,368	1,489	1,110	3,967	1,300	773	620	2,693
Protective/School Opportunities for Prosocial Involvement	8th	10th	12th	overall	8th	10th	12th	Overall
1. In my school, students have lots of chances to help decide things like class activities and rules. Yes	45.3	43.1	43.2	44	40.1	44.6	48.5	43.3
2. Teachers ask me to work on special classroom projects. Yes	36.9	41.2	43.7	36.9	42.8	41.5	45.3	42.9
3. There are lots of chances for students in my school to get involved in sports, clubs, and other school activities outside of class. Yes.	86	83.2	86.1	84.9	85.3	91	90.3	88.1
4. There are lots of chances for students in my school to talk with a teacher one-on-one. Yes.	77.8	74	7.4	6.2	75	74.6	78.1	75.6
5. There are lots of chances to be part of class discussions or activities. Yes	70.6	72.3	70.6	71.4	67.1	76.2	75.5	71.7
6. How many times in the past year have you participated in clubs, organizations, or activities at school? 1 or more	64.7	65.1	69.5	66.5	62	67.5	69.7	65.2
Protective/School Rewards for Prosocial Involvement	8th	10th	12th	overall	8th	10th	12th	Overall
1. My teacher(s) notices when I am doing a good job and lets me know about it.	73	63.4	62	66.3	69.9	67.7	64.4	68.5
2. The school lets my parents know when I have done something well.	44.4	25.9	21.2	30.2	42.9	36.1	25.3	36.9
3. My teachers praise me when I work hard in school.	50.9	39.6	39.5	43.8	48.8	43.7	40.5	43.5

Table 2, continued

	PUSD 2005				PUSD 2009			
Risk/Academic Failure	8th	10th	12th	over-all	8th	10th	12th	Over-all
1. Putting them all together, what were your grades like last year? C and below	43.9	45	44.4	44.5	43.5	38.8	34.6	40.1
2. Are your school grades better than the grades of most students in your class? No	46.2	51.4	44.9	47.8	46.8	42.4	38.3	43.6
3. How many times in the past year have you been suspended from school? 1 or more times	28.1	27.6	16.9	15.6	32.9	14.4	8.2	17
4. Do you make good grades? Never, seldom, sometimes	44.1	51.9	43.9	48	43.7	41.8	30.2	41.6
5. Do you get in trouble at school? Yes, sometimes, often, a lot	38.9	28.3	14.1	27.9	39.7	22.8	13.2	28.5
Risk/Low Commitment to School	8th	10th	12th	over-all	8th	10th	12th	Over-all
1. During the last four weeks how many whole days have you missed school because of illness? 1 or more	36.8	44.9	48.1	43.3	37.1	37.5	48.3	39.8
2. During the last four weeks how many whole days have you missed because you skipped or cut? 1 or more	9.1	23.4	22.3	21.2	9.3	10.6	26.2	14.7
3. During the last four weeks, how many days have you missed for other reasons? 1 or more	27.3	38	44.8	36.2	26.5	27.1	35.6	38.8
4. How interesting are most of your courses to you? boring	32.6	36	27	32.3	36.3	32.9	24.4	33.1
5. Now thinking back over the past year in school, how often did you enjoy being in school? Never, seldom	14	15	17.6	15.9	15.8	17.2	15.4	15.9
6. Now, thinking back over the past year in your school, how often did you hate being in school? Often, always	25.2	31.9	25.2	28.9	28.3	25.8	29.4	27.8
7. Now, thinking back over the past year in school, how often did you try to do your best work in school? Never, seldom	5.1	7.2	6.3	6.3	5.6	5.9	7.4	6.1

Table 2, continued

	PUSD 2005				PUSD 2009			
8. How often do you feel that the schoolwork you are assigned is meaningful and important?	17	25.5	26.1	22.8	22.2	25.8	24	24.2
9. How wrong do you think it is for someone your age to stay away from school all day when their parents think they are at school? Not wrong	15.9	26	30.2	23.9	19.8	22.1	30.6	22.9
10. How many times in the past year have you done extra work on your own for school? Never	33.2	35.2	30.9	33.3	33.7	30.3	31.1	32.1

Trends in Risk and Protective Factors From Baseline and Follow Up

This section presents statistically significant results from the four methods of comparative analysis of baseline and follow up data on risk and protective factors including the following: school opportunities for prosocial involvement, school rewards for prosocial involvement, academic failure, and low school commitment measures. A summary of all results are presented in Table 3. Tables 4 and 5 contain details of z test results of all four comparative analysis methods.

Table 3. Tabular Representation of Overall Highlights of Key Trends in the Study Results

Measures	Methods of Analysis			
	Same Student Comparison	Inter-Grade Rate of Change	Overall, 2005 v. 2009 Comparison	Grade by Grade Comparison
Protective factors/School opportunities for prosocial involvement	Increased	Increased	Increased	Increased
Protective factors/School rewards for prosocial involvement	Decreased	Decreased	Increased	Increased
Risk factors/Academic Failure	Improvement	Improvement	Improvement	Improvement
Risk factors/Low school commitment	Lower	Improvement	Mixed	Mixed

Table 4. Comparison of Same Students and Inter-grade Rate Change 2005 vs 2009 (Same Group and Independent Group Comparisons)

2009–2005	Pomona		Pomona Grades 8 to 10		Pomona Grades 10 to 12	
	8th 2005 v. 12th 2009		2005 v. 2009		2005 v. 2009	
	Z-score	*p*-value	Z-score	*p*-value	Z-score	*p*-value
Protective Factors/School Opportunities for Prosocial Involvement						
1. In my school, students have lots of chances to help decide things like class activities and rules. Yes	**1.33**	**0.000**	-1.66	0.096	-7.41	1.22
2. Teachers ask me to work on special classroom projects. Yes	**3.55**	**0.008**	**2.24**	**0.03**	-8.23	1.8
3. There are lots of chances for students in my school to get involved in sports, clubs, and other school activities outside of class. Yes.	2.67	0.881	**2.86**	**0.00**	-16.62	4.48
4. There are lots of chances for students in my school to talk with a teacher one-on-one. Yes	**0.15**	**0.024**	-0.78	0.44	**3.39**	**0.01**
5. There are lots of chances to be part of class discussions or activities. Yes	**2.26**	**0.029**	-0.75	0.44	-12.94	2.58
6. How many times in the past year have you participated in clubs, organizations, or activities at school? 1 or more	2.18	1.000	-0.62	0.53	-12.87	6.76
Protective Factors/School Rewards for Prosocial Involvement						
1. My teacher(s) notices when I am doing a good job and lets me know about it.	**-3.89**	**0.000**	0.81	0.42	-11.11	1.10
2. The school lets my parents know when I have done something well.	**-8.11**	**0.000**	4.02	5.77	**-2.05**	**0.04**
3. My teachers praise me when I work hard in school.	-4.30	1.000	1.31	0.18	-7.00	2.40
Risks Factors/Academic Failure						
1. Putting them all together, what were your grades like last year? C and below	**-3.91**	**0.001**	**-1.91**	**0.057**	-12.38	3.48
2. Are your school grades better than the grades of most students in your class? No	**-3.29**	**0.000**	**-2.60**	**0.0092**	-13.07	4.91

Table 4, continued

3. How many times in the past year have you been suspended from school? 1 or more	**-9.94**	**0.000**	-1.43	0.15	-11.99	3.84
4. Do you make good grades? Never, seldom, or sometimes	**-5.87**	**0.000**	**-3.60**	**0.00**	-14.66	1.17
5. Do you get in trouble at school? Yes, sometimes, often, a lot	-11.49	1.000	0.017	0.99	-7.54	4.73
Risk Factors/Low School Commitment						
1. During the last four weeks how many whole days have you missed school because of illness? 1 or more	**4.84**	**0.000**	**-2.68**	**0.01**	-10.96	5.74
2. During the last four weeks how many whole days have you missed because you skipped or cut? 1 or more	**10.05**	**0.000**	-6.82	9.05	-8.54	1.28
3. During the last four weeks, how many days have you missed for other reasons? 1 or more	**3.75**	**0.000**	-4.64	3.46	-12.82	1.22
4. How interesting are most of your courses to you? boring	-3.69	0.411	0.48	0.63	-8.46	2.52
5. Now thinking back over the past year in school, how often did you enjoy being in school? Never or seldom	**0.82**	**0.049**	1.73	0.08	-4.37	1.21
6. Now, thinking back over the past year in your school, how often did you hate being in school? Often and always	**1.97**	**0.042**	-1.02	0.307	-7.35	1.87
7. Now, thinking back over the past year in school, how often did you try to do your best work in school? Never, seldom	**2.03**	**0.000**	-0.70	0.48	**-3.05**	**0.00**
8. How often do you feel that the schoolwork you are assigned is meaningful and important?	**3.67**	**0.000**	1.75	0.07	-6.44	1.14
9. How wrong do you think it is for someone your age to stay away from school all day when their parents think they are at school? Not wrong	7.52	0.355	-0.43	0.67	-7.32	2.54
10. How many times in the past year have you done extra work on your own for school? Never	-0.93	1.000	-1.33	0.183	-8.47	2.28

Table 5. Pomona Comparison by Year and Grade (Independent Group)

Measures	Pomona		Pomona 8th Grade		Pomona 10th Grade		Pomona 12th Grade	
	2005 v. 2009		2005 v. 2009		2005 v. 2009		2005 v. 2009	
	Z-score	*p*-value	Z-score	*p*-value	Z-score	*p*-value	Z-score	*p*-value
Protective Factors/School Opportunities for Prosocial Involvement								
1. In my school, students have lots of chances to help decide things like class activities and rules. Yes	-0.57	0.570	**-2.71**	**0.01**	0.68	0.49	**2.12**	**0.034**
2. Teachers ask me to work on special classroom projects. Yes	**4.92**	**0.000**	**3.11**	**0.002**	0.14	0.89	0.64	0.521
3. There are lots of chances for students in my school to get involved in sports, clubs, and other school activities outside of class. Yes	**3.72**	**0.000**	-0.52	0.61	**5.05**	**0.000**	**2.54**	**0.011**
4. There are lots of chances for students in my school to talk with a teacher one-on-one. Yes	**58.57**	**0.000**	-1.70	0.09	0.31	0.757	**30.05**	**0.000**
5. There are lots of chances to be part of class discussions or activities. Yes	0.27	0.790	**-1.95**	**0.051**	**2.00**	**0.046**	**2.19**	**0.029**
6. How many times in the past year have you participated in clubs, organizations, or activities at school? 1 or more	-1.10	0.272	-1.45	0.148	1.14	0.253	0.09	0.931
Protective Factors/School Rewards for Prosocial Involvement								
1. My teacher(s) notices when I am doing a good job and lets me know about it.	1.88	0.061	-1.77	0.076	**2.03**	**0.042**	0.99	0.322
2. The school lets my parents know when I have done something well.	**5.71**	**0.000**	-0.78	0.435	**5.05**	**0.000**	**1.95**	**0.051**
3. My teachers praise me when I work hard in school.	-0.24	0.809	-1.08	0.278	1.88	0.060	0.41	0.684

Table 5, continued

Risk Factors/Academic Failure								
1. Putting them all together, what were your grades like last year? C and below	**-3.56**	**0.000**	-0.21	0.835	**-2.83**	**0.005**	**-3.98**	**0.000**
2. Are your school grades better than the grades of most students in your class? No	**-3.37**	**0.001**	0.31	0.756	**-4.06**	**0.000**	**-2.66**	**0.01**
3. How many times in the past year have you been suspended from school? 1 or more	1.52	0.128	**2.69**	**0.01**	**-7.07**	**0.000**	**-5.03**	**0.000**
4. Do you make good grades? Never, seldom, sometimes	**-5.15**	**0.000**	-0.21	0.835	**-4.56**	**0.000**	**-5.60**	**0.000**
5. Do you get in trouble at school? Yes, sometimes, often, a lot	0.53	0.593	0.42	0.672	**-2.81**	**0.005**	-0.52	0.602
Risk Factors/Low Commitment to School								
1. During the last four weeks how many whole days have you missed school because of illness? 1 or more	**-2.84**	**0.004**	0.16	0.873	**-3.38**	**0.001**	0.08	0.936
2. During the last four weeks how many whole days have you missed because you skipped or cut? 1 or more	**-6.69**	**0.000**	0.18	0.858	**-7.36**	**0.000**	1.83	0.067
3. During the last four weeks, how many days have you missed for other reasons? 1 or more	**2.15**	**0.031**	-0.47	0.641	**-5.18**	**0.000**	**-3.72**	**0.000**
4. How interesting are most of your courses to you? boring	0.68	0.494	**2.01**	**0.044**	-1.47	0.142	-1.18	0.238
5. Now thinking back over the past year in school, how often did you enjoy being in school? Never, seldom	0.00	1.000	1.31	0.192	1.36	0.173	-1.17	0.241

Table 5, continued

6. Now, thinking back over the past year in your school, how often did you hate being in school? Often, always	-0.98	0.329	1.81	0.070	**-3.01**	**0.003**	**1.89**	**0.058**
7. Now, thinking back over the past year in school, how often did you try to do your best work in school? Never, seldom	-0.33	0.740	0.57	0.566	-1.17	0.243	0.88	0.380
8. How often do you feel that the schoolwork you are assigned is meaningful and important?	1.33	0.185	**3.39**	**0.001**	0.16	0.877	-0.96	0.336
9. How wrong do you think it is for someone your age to stay away from school all day when their parents think they are at school? Not wrong	-0.94	0.345	2.63	0.008	**-2.04**	**0.041**	0.17	0.862
10. How many times in the past year have you done extra work on your own for school? Never	-1.02	0.306	0.27	0.784	**-2.34**	**0.019**	0.09	0.931

Highlights of Key Findings

Table 3 presents a summary of overall trends in the results of the four methods of comparative analysis on the four risk and protective factors in the study. Statistically significant z-test results within a *p*-value of .05 or less reveal overall progress being made in all four school-related risk and protective factors assessed despite limited negative trends in two risk and protective factors. Overall, after five years of the PYFMP, the results show reductions in every risk factor and enhancements in every protective factor. There was an increase in school opportunities for prosocial involvement across all methods of comparative analysis. However, results on school rewards for prosocial involvement were mixed, showing positive trends in the results of overall 2005 vs. 2009 comparisons as well as grade by grade comparisons but negative trends in same group and inter-grade rate change comparisons. In addition, there were positive trends in academic failure which saw reductions in perceived academic failure reported in the results of all four methods of comparisons. Further, results on low school commitment were mixed with improvements in inter-grade

rate change comparisons and some measures in overall 2005 vs. 2009 comparisons and grade by grade comparisons. Negative trends in school commitment were also observed in same group comparisons and some measures in both overall 2005 vs. 2009 comparisons and grade by grade comparisons.

School Opportunities for Prosocial Involvement

This section describes trends in school opportunities for prosocial involvement from baseline to follow up data in the PYFMP as presented in Tables 4 and 5. Results presented in Table 4 show increased school opportunities in same student comparisons (Grade 8-2005 and Grade 12-2009) and in the rate of change from Grade 8 to 10 and Grade 10 to 12 in 2009 in comparison to 2005. In Table 5, results show increases in school opportunities for prosocial involvement in same grade comparison for Grades 8, 10, and 12 for 2005 and 2009 and in comparisons of overall rates for 2005 with overall rates for 2009.

In Table 4, z-test results show a trend of a statistically significant reported increase in school opportunities for prosocial involvement within a *p*-value of .05 or less for same student comparisons and inter-grade rate of change comparisons for 2005 versus 2009. Among same students, there was an uptick in reported school opportunities for prosocial involvement such as enhanced chances to help decide class activities and rules, work on special projects, talk with a teacher one-on-one, and be part of class discussion and activities. The inter-grade rate of change comparisons revealed enhanced school opportunities for prosocial involvement in 2009 compared to 2005 for students moving from Grade 8 to Grade 10, including working on special classroom projects and getting involved in sports, clubs, and other activities outside of class. The same is true for students moving from Grades 10 to 12 as seen in increased opportunities to talk to teachers one-on-one.

In Table 5, z-test results show statistically significant improvements in school opportunities for prosocial involvement within a *p*-value of .05 or less in 2009 compared to 2005 such as students reporting increasing opportunities to work on special class projects; getting involved in sports, clubs, and other school activities outside class; and talking to teachers one-on-one. For Grade 8 comparisons between 2005 and 2009, there was an increase in opportunities for prosocial involvement including working on special projects, helping decide classroom activities and rules, and being part of class discussions and activities. Grade 10 comparisons also showed statistically significant increases in school opportunities for prosocial involvement including getting involved in sports, clubs, and other activities outside class, and taking part in class discussions or activities. Grade 12 comparisons between 2005 and 2009 showed increased opportunities for prosocial involvement including helping to decide

class activities and rules; getting involved in sports, clubs, and other activities outside of class; and being part of class discussions and activities.

School Rewards for Prosocial Involvement

This section presents trends in school rewards for prosocial involvement which are documented in Tables 4 and 5. Results presented in Table 4 show decreased school rewards for prosocial involvement in same student comparisons (Grade 8-2005 and Grade 12-2009) and in the rate of change from Grade 8 to 10 and Grade 10 to 12 in 2009 in comparison to 2005. In Table 5, results show increases in school rewards for prosocial involvement in same grade comparison for Grades 8, 10, and 12 for 2005 and 2009, and overall rates for 2005 with overall rates for 2009.

In Table 4 results, z-test results show a trend of statistically significant decrease in school rewards for prosocial involvement within a *p*-value of .05 or less in same students and inter-grade rate of change comparisons for 2005 versus 2009. Among same students, there was a decrease in reported school rewards for prosocial involvement such as in teachers not letting students know when they are doing a good job and the school not letting parents know when their children are doing something well. The inter-grade rate of change comparisons revealed reported decreased school rewards for prosocial involvement in 2009 when compared to 2005 for students moving from Grade 10 to 12 such as in the school not letting parents know when their children do well.

Table 5 shows statistically significant results of youth self-report, with a solid trend of increase in school rewards for prosocial involvement in both year and grade comparisons. There was an increase in school rewards for prosocial involvement in 2009 when compared to 2005, in the school informing parents when their children do well. Statistically significant comparisons of Grade 10 students in 2005 versus 2009 show perceptions of increased school rewards such as in teachers noticing when students are doing something good and the school informing parents when their children have done something well. There was also a perceived increase in school rewards for prosocial involvement in Grade 12 comparisons such as the school informing parents when their children do something well.

Academic Failure

This section reports on trends in academic failure from baseline to follow up. Results presented in Table 4 show improvements (reductions) in academic failure in same student comparisons (Grade 8-2005 and Grade 12-2009) and in the rate of change from Grade 8 to 10 and Grade 10 to 12 in 2009 in comparison to 2005. In Table 5, results also show improvements (reductions) in

academic failure in same grade comparison for Grades 8, 10, and 12 for 2005 and 2009 as well as overall rates for 2005 with overall rates for 2009.

Table 4 results reveal a solid perception of improving trends in academic failure among participants. Among same students, z-test results show statistically significant improved perceptions of academic failure including students having higher grades compared to the prior year, having better grades compared to other students, decreasing reported suspensions from school, and overall good grades being achieved. In addition, z-test results within a *p*-value of .05 or less in inter-grade rate change comparisons for Grade 8 to 10 students in 2009 versus 2005, showed improvement in academic failure in the following categories: achieving higher grades than last year, having better grades than most students, and achieving overall good grades.

Results reported in Table 5 show statistically significant z-test results within a *p*-value of .05 or less on youth self-report which revealed overall improvement in academic failure in both year by year and grade by grade comparisons. There were improvements in academic failure in 2009 versus 2005 such as in students reporting higher grades than the prior year, better grades than most students, and overall making good grades in school. There was also a worsening of trends including an increase in reported suspensions in the past year in Grade 8 comparisons. Grade 10 comparisons results showed improvements in academic failure as students reported higher grades than in the prior year, better grades than most students, fewer suspensions in the past year, good grades overall in school, and getting less in trouble while at school. Grade 12 comparisons results also revealed solid reduction in academic failure as students reported higher grades than prior year, better grades than most students, fewer suspensions in past year, and good grades overall.

Low School Commitment

This section describes trends in low school commitment from baseline to follow up. Results presented in Table 4 show decreasing school commitment in same student comparisons (Grade 8-2005 and Grade 12-2009). However, there were improvements in school commitment reported in the rate of change from Grade 8 to 10 and Grade 10 to 12 in 2009 in comparison to 2005. In Table 5, the results are mixed with some progress in same grade comparison for Grades 8, 10, and 12 for 2005 and 2009 and in overall rates for 2005 with overall rates for 2009.

In Table 4, statistically significant z-test results within a *p*-value of .05 or less on youth self-report among same students revealed evidence of lower commitment to school such as in students missing more days due to illness, skipped, or cutting, and for other reasons in the past four weeks. Also, students enjoyed

school less, hated schoolwork more, tried less to do their best work, and did not think schoolwork was meaningful. Inter-grade rate of change comparisons for Grades 8 to 10 showed higher school commitment rates reported as students missed less days due to illness in the last four months. There was also higher commitment to school in inter-grade change comparison for Grades 10 to 12 between 2005 versus 2009 as students tried to do their best work compared to the past year.

Table 5 documents statistically significant evidence of mixed results related to trends in low commitment to school in both year-by-year and grade-by-grade comparisons. Statistically significant z-test results within a *p*-value of .05 or less showed improvements in low commitment to school in 2009 versus 2005 comparison such as youths missing less days due to illness and for skipping or cutting in the past four months. Worsening low school commitment trends were seen in youths missing more days in the past four weeks due to other reasons. Eighth grade comparisons revealed a worsening in the reported rates of school commitment with youths reporting that their classes are boring and that schoolwork is not meaningful. However, Grade 10 comparisons showed improvement in reported school commitment with students missing less days due to illness, due to skipping or cutting classes, and for other reasons in the past four days. In addition, compared to 2005, students in Grade 10 in 2009 liked school more, thought it was wrong to be away from school without your parents knowing, and did extra work at school.

Discussion

This study assesses changes in school-related risk and protective factors including school opportunities for prosocial involvement, school rewards for prosocial involvement, academic failure, and low school commitment after five years of a Youth and Family Master Plan. The author performed same and independent group comparisons of school-related risk and protective factors in 2005 and 2009 among a Pomona School District student sample. Z-tests were performed for the following: same students (Grade 8-2005 and Grade 12-2009), inter-grade change (Grade 8 to 10 and Grade 10 to 12), same grade (Grades 8, 10, and 12), and overall 2005 to 2009 comparisons. The reported improvements in school-related youth risk and protective factors could likely be attributed to community multicomponent interventions of the Youth and Family Master Plan (PYFMP). This is due to the convergence of patterns across methods of comparative analysis and assessed risk and protective factors. Also, parents, teachers, students, and school administrators participated in community-level activities that could enhance school-related protective factors and

reduce risk factors. Further, there were no other major initiatives or community events going on in Pomona between the 2005–06 to 2009–10 academic years.

After five years of implementation, and as predicted by study hypothesis and expected outcomes, the students reported enhanced youth protective factors including school opportunities for prosocial involvement across all methods of comparative analysis and school rewards for prosocial involvement in 2009 when compared to 2005 and in grade-by-grade comparisons. There were also reported reductions in risk factors including improvements in academic failure across all methods of comparative analysis and higher school commitment in inter-grade rate of change comparisons and overall comparisons of 2005 to 2009. Perceived trends in youth risk and protective factors in the academic environment are consistent with existing research and scholarship which predicts and shows that community interventions through community impact initiatives (Collective Impact Forum, 2022; Kania et al., 2022) and participatory governance (Bua & Bussu, 2021; Mahmood & Muntane, 2020; Warren, 2014) can result in improvements in individual outcomes such as school-related youth risk and protective factors (Jarrett et al., 2005; Kahne & Bailey, 1999; Rubens et al., 2020; Solberg et al., 2011; Top et al., 2017; White & Gager, 2007). By suggesting an association between community-wide events and school-related youth risk and protective factors without accompanying micro level intervention activities, this study adds to contemporary scholarship which does not consistently anticipate community-wide interventions impacting individual youth outcomes without micro level intervention activities. Current scholarship assumes the integration of macro, mezzo, and micro activities in order to successfully address individual youth risk and protective factors (Cook et al., 2020; National Institutes of Health, 2000; O'Connor & Daniello, 2019; Walker et al., 1996).

In addition, the findings show significant convergence of patterns across all methods of comparative analysis for most measures of school-related youth risk and protective factors. Across same and independent groups comparisons in the study, statistically significant z-test results within a p-value of .05 or less showed general improvements reported in school opportunities for prosocial involvement and academic failure. Likewise, z-tests results on both school rewards for prosocial involvement and low commitment to school show similar trends of mixed results in which student perceptions reveal improvements among some measures in same and independent group comparisons. The consistency in these patterns suggest reliability in the measures, methods, and results, as well as a likelihood that the interventions contributed to observed variations between baseline and follow-up.

The complex patterns revealed in the coexistence of youth school-related protective and risk factors in this study are both a contribution to and a departure from current research which suggests that school-related protective factors always covary with school-related risk factors (Jarrett et al., 2005; Kahne & Bailey, 1999; Rubens et al., 2020; Solberg et al., 2011; Top et al., 2017; White & Gager, 2007). Findings in this study show enhancements in school opportunities for prosocial involvement and reductions in academic failure, coexisting with persistently decreasing trends in same group comparisons and persistently increasing trends in independent group comparisons related to rewards for prosocial involvement. The patterns above also coexist with mixed patterns exhibited in measures of low school commitment in both same group and independent group comparisons. The findings suggest that communities do not have to choose between enhancing school-related protective factors and reducing risk factors.

The data patterns in this study align with assumptions and explanations offered in the two models that make up the integrated conceptual framework. Consistent with the risk and protective factor approach, the findings in this study suggest an association between school-related youth risk and protective factors to mezzo environmental dimensions such as community factors implemented in PYFMP (Hawkins, 1999; Hawkins et al., 1992; Oesterle et al., 2018). Both the risk and protective factors approach and social cognitive theory recognize interactions between the personal factors such as youth risk and protective factors and environmental factors such as community intervention activities. In addition, social cognitive theory anticipates the role of negative or positive reinforcements from community contexts in the process of building behavioral capability and self-efficacy (Bandura, 1986, 2004). Improvements in school prosocial involvement and school rewards for prosocial involvement represent positive reinforcements from either the school or community context. Reductions in academic failure and improvements in academic performance represent both behavioral capability and self-efficacy. The alignment of findings with the conceptual framework further supports the emerging evidence that community-wide interventions can impact individual youth risk and protective factors without micro level intervention activities.

The staying power of negative contextual factors appear to limit reported progress in school-related risk and protective factors as anticipated in both the social cognitive theory and the risk and protective factors approach. The persistent negative trends in school rewards for prosocial involvement (negative reinforcements) and low commitment to school (diminishing self-efficacy) seen in some same group and independent comparisons, despite improvement in protective factors and other risk factors, might be related to unchanging

and deeply enshrined contextual factors such as varying levels of relational and community risk and protective factors (Egeland et al., 1993; Masten et al., 1990, Solberg et al., 2011). Also, community risk and protective factors such as exposure to violence (Solberg et al., 2011) and deficits in community social capital related to youth development (Osborne et al., 2017; Scales et al., 2020) could be hindering progress in individual protective factors such as individual motivation and academic self-efficacy (Egeland et al., 1993; Masten et al., 1990; Solberg et al., 2011). Before and during the PYFMP, Pomona was afflicted by high levels of poverty, high prevalence and intensity of childhood disease burden, low academic performance, intractable gang violence, high teen pregnancy and teen substance abuse, low levels of health prevention resources, and barriers to care access (Pomona Unified School District, 2006; Los Angeles County Department of Public Health, 2005, 2018).

Study Limitations

The findings in this study should be interpreted within the limits of the intervention design and the implementation environment. Given the dynamic intervention environment and the absence of control or comparison groups in the study design, the author cannot significantly rule out other factors, independent of underlying environmental factors, which may have hindered improvements in persistent school-related risk factors and/or may be responsible for enhancements in protective factors and reductions in risk factors (Nickel et al., 2018; Shortell et al., 2002). Also, there were very limited staff level participation data which could have strengthened the evidence that ties community-level activities to school-based outcomes.

Conclusion and Recommendations for Practice

After five years of implementation, PYFMP made great contributions to school youth risk and protective factors in the Pomona community. The findings in this study suggest that community level intervention activities can shift school-related risk and protective factors even when there are no micro intervention activities at the school, family, or student level. Based on the findings and contributions of this study, the following recommendations are provided for school intervention program implementers in Pomona and other under-resourced communities. The primary recommendation is that Pomona and other poorly resourced communities which are limited in their ability to provide micro level interventions targeting family or school environments should continue to deliver community-wide, multidimensional interventions because they appear to be impactful.

Also, it would appear that the involvement of stakeholders in the design and implementation of the PYFMP, particularly schoolteachers, students, families, staff, and administrators might have helped in overcoming the barriers presented by the absence of micro level interventions. However, assessment of this impact was limited in this study because data on the participation of school administrators and staff was limited. Future work on school-related risk and protective factors in the context of community-wide interventions should include the collection of staff level participation data as part of the evaluation efforts.

As noted above, the absence of control or comparison groups made it difficult to rule out other factors affecting school-related risk and protective factors in the PYFMP. Future design and implementation modification of the PYFMP should integrate control or comparison communities in the design.

Further, persistent challenges in the social and economic environment in Pomona seems to have handicapped progress in some risk and protective factors, particularly school rewards for social involvement and low commitment to school. These persistent negative patterns in some reported protective and risk factors call for long term social and economic investments that would better prepare the community, family, and school environments for youth risk factors. Investments in school rewards for prosocial involvement and the reduction of low school commitment should be prioritized.

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