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UNIVERSITY OF CALIFORNIA,
IRVINE

High School Dance Education: Academic Achievement and Commitment among Hispanic
Adolescents in an Urban School District

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in Education

by

Taylor V Gara

Dissertation Committee:
Professor Liane Brouillette, Co-Chair
Distinguished Professor George Farkas, Co-Chair
Distinguished Professor Jacquelynn Eccles
Professor Adam Winsler

2021

DEDICATION

To my late grandmother.
who always had a love for knowledge,
curiosity, independence, and helping others
and a good laugh

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Thank you to Dr. Jennifer Fisher for her knowledge of dance studies and mentorship in the beginning phases of this dissertation.

I would like to thank the Santa Ana Unified School District for their research partnership. I am grateful to the directors of the SanArts Dance Conservatory and the affiliated dancers for allowing me to observe, interview, and involve myself in their daily routines. I wish the conservatory and affiliated students the best in their future endeavors.

In addition, a thank you to my friends, family members, and significant other for answering my morning and mid-day phone calls and supporting me during this arduous process.

I would also like to thank my research assistants Reeva Reyes, Bandie Ouch, Ju Yeon Moon, and Julianna Padilla for their help with preparing and conducting interviews, transcribing, inputting data, and coding. Thank you for helping me make sense of these data and lighten the workload.

Gratitude also goes toward my fellow colleagues of UCI's School of Education, PhD class of Cohort 10. You all will always be a wonderful part of my graduate school memories. Too bad the pandemic put a damper on our social events. I wish you all the very best.

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Gara, T. V., Farkas, G., & Brouillette, L. (2020). Did consequential accountability policies decrease the share of visual and performing arts education in U.S. public secondary schools during the No Child Left Behind era? *Arts Education Policy Review*. Open access, Advanced online publication.

Gara, T. V., & Winsler, A. (2019). Selection into, and academic benefits from, middle school dance elective courses among urban youth. *Psychology of Aesthetics, Creativity, and the Arts*. 14(4), 433-450.

Winsler, A., **Gara, T. V.**, Alegrado, A., Castro, S., & Tavassolie, T. (2019). Selection into, and academic benefits from, arts-related courses in middle school for low-income, ethnically diverse youth. *Psychology of Aesthetics, Creativity, and the Arts*. 14(4), 415-432.

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UC Adolescent Consortium Summer Institute. (2019). Selected Attendee. Hosted at the University of California, Los Angeles, CA

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Gara, T., Tavassolie, T., & Winsler, A. (2016, April) *Predictors of in-school dance engagement among low-income, ethnically diverse middle school students*. Poster presented at the American Educational Research Association Annual Conference. Washington, DC.

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RESEARCH EXPERIENCE

University of California, Irvine

Committee: Dr. Liane Brouillette, Dr. George Farkas, Dr. Jacquelynne Eccles, Dr. Adam Winsler

Dissertation: High School Dance Education Programs: Academic Achievement and Commitment among Hispanic Adolescents Living in Poverty 2021

- Managed a community-university partnership with the Santa Ana Unified School District
- Developed a longitudinal, mixed-methods study:
 - Employed OLS multiple linear regressions to evaluate the college and career readiness among high school students (over 25,000) engaged in dance elective courses using STATA
 - Retrieved, merged, and analyzed six years of student-archival data
 - Designed, conducted, and analyzed interview and survey data guided by psychological and educational theory
 - Wrote and distributed reports to school administrators

National Center for Education Statistics (NCES) 2016 - 2020

- Developed hypotheses and retrieved, merged, and analyzed data:
 - Two years of the Early Childhood Longitudinal Studies (ECLS-K and ECLS-K:2011)
 - Two years of the Schools and Staffing Survey (SASS; 1999-2000 and 2003-2004)
- Employed difference in differences design, multiple regression, and descriptive statistics using STATA
- Generated tables and figures using STATA
- Detailed changes to visual and performing arts programs in public elementary and secondary schools during the No Child Left Behind era
- Published reports in peer-reviewed journals

Waldorf Education and Development of Children's (K-5) Executive Function (EF) 2017

- Administration of the Trail Making Test, Numbers-Reversed Task, and Head Shoulders Knees & Toes Task to test EF

ESCAPE: Equitable Science Curriculum for Integrating Arts in Public Education 2016

- In partnership with Orange County Department of Education

- Edited arts-integrated lesson plans for classroom teacher instruction
- Advisor, Dr. Brad Hughes

George Mason University, Fairfax, VA

Advisor: Dr. Adam Winsler

Graduate Research Assistant: Secondary School Arts Electives Among Low-Income, Ethnically Diverse Students: Who Takes Them, for How Long, and What are the Academic Benefits? 2014 – Present

- Funded by the National Endowment for the Arts from the *Research: Artworks* Program
- Collaborated in research partnership with the Miami-Dade County School District
- Assisted and led data collection, statistical analyses, and reporting from the Miami School Readiness Project, an ongoing 13-year longitudinal study of over 30,000 students
- Published reports in peer-reviewed journals

Old Dominion University, Norfolk, VA

Advisor: Dr. James F. Paulson

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Research Assistant: The Early Family, Parenting, Parental Psychopathology, and Child Development Lab

Advisor: Dr. Abby L. Braitman

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Research Assistant: Alcohol Health Education Lab: Examining Drinking Behaviors Among Emerging Adults

- Funded by the National Institute on Alcohol Abuse and Alcoholism
- Data collection using computer based self-assessment surveys and educational interventions

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University of California, Irvine

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- EDUC 30: *21st Century Literacies*
- EDUC 50: *Issues in K-12 Education*
- EDUC 104D: *Arts Education and Human Development*
- EDUC 104E: *Multicultural Arts Education*
- EDUC 108: *Adolescent Development in Education*
- EDUC 125: *Child School Cinema*
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Undergraduate Mentor

Educ 198: *Directed Research in Education*

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- Taught and advised undergraduates in employing qualitative methods for dissertation research

INTERNSHIPS

National Dance Education Organization, Silver Spring, Maryland

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- Head of survey creation project in collaboration with the Dizzy Feet Foundation
 - *Dance Teachers in the United States, An Investigation of Job Criteria, Responsibilities, Education, Experience, Professional Development, and Compensation*

DATA ANALYSIS AND MANAGEMENT SKILLS

Quantitative software: STATA, R, SPSS

Qualitative software: ATLAS.ti, Dedoose, Noldus Observer XT, Otter.ai

Fieldwork/observation experience:

- Public high school settings
- Waldorf Classrooms (K-2)

Interviewing:

- Designing and conducting structured and semi-structured interviews
- Experience interviewing school administrators, elementary and secondary school teachers, students

Survey development: *Qualtrics* software

Microsoft Office, Zoom, Dropbox, Mendeley, Zotero, Google Suite

PROFESSIONAL ACTIVITIES

Reviewer for Peer-Reviewed Journals

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- *AERA Open*
- *Journal of Learning Through the Arts*
- *Cultural Trends*

University of California, Irvine

Discussant, Recruitment weekend roundtable *Work Life Balance*

2017-2019

DECADE Literature Review Workshop – co-creator and co-presenter

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George Mason University

Applied Developmental Psychology Colloquia Series Co-Coordinator

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Graduate Researchers Advancing Disabilities Studies, Secretary

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CERTIFICATIONS

Collaborative Institutional Training Initiative (CITI) | Social and Behavioral Research Working with Human Subjects, HIPPA **Present**

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Yoga Teacher, 250 hour RYT **2016**
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Yoga Instructor – Wellness Wednesdays **2019- 2020**
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Farmer’s Market Product Seller **2017-2018**
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Youth Counselor **2013**
Seton Youth Shelters, Virginia Beach, VA

Study Abroad, Old Dominion University **2014**
San José, Costa Rica

Inner-City, Elementary Classroom Support Assistant **2013**
CARE Now, Norfolk, VA

Dance Instructor **2010-2012**
Dawn’s School of Dance, King William, VA

Instructional Assistant to Children with Severe Disabilities (K-5) **2008-2011**
O.B Gates Elementary School, Chesterfield, VA

ABSTRACT OF THE DISSERTATION

High School Dance Education: Academic Achievement and Commitment among Hispanic Adolescents in an Urban School District

By

Taylor V. Gara

Doctor of Philosophy in Education

University of California, Irvine, 2021

Professor Liane Brouillette, Co-Chair

Distinguished Professor George Farkas, Co-Chair

For decades, adolescents living in the United States have had limited accessibility to dance education programs in public high schools. However, empirical evidence has emerged that suggests dance education programs in K-12 contexts can increase adolescents' school engagement and academic performance. In addition, the reasons why adolescents commit to school-based dance programs have received sparse attention in the sport psychology and dance education literature. The purpose of this dissertation is to expand our knowledge of school-based dance education programs within the two domains of academic achievement and commitment. I investigate this issue within a large, urban school district in southern California serving a majority population of Hispanic adolescents, many of whom live in poverty. This two-study dissertation examines the impact of public school-based dance education programs on adolescents' suspension, attendance, and academic achievement, and the reasons that motivate a select group to commit to a pre-professional, high-school dance conservatory program.

Employing a quasi-experimental design using a series of comparison groups and seven years of archival data provided by the school district ($N = 23,010$), I address the following research question in study one: What is the association between enrollment in a high school dance elective and adolescents' school suspension, attendance, and academic achievement (i.e., AP course enrollment, GPA, proficiency on statewide English language arts (ELA) and math assessments, and high school graduation) in high school? Adolescents were in grades 8 to 12 during the 2012-2013 to 2018-2019 academic years; 96% were Hispanic and 92% received free or reduced-priced school meals. Estimation procedures included descriptive statistics and multiple linear regressions controlling for adolescents' demographics, school suspension, school attendance, dance elective enrollment, and academic achievement in 8th grade. Cohort-level covariates, school-level fixed effects, and the Bonferroni correction for adjusted alpha levels were also accounted for in regression models. Six comparison groups were employed to investigate the benefits of dance elective enrollment across the district and at the school level. Findings indicated that enrollment in a high school dance elective was associated with (a) three to four more days of school attendance; (b) slightly higher GPA levels, particularly among low-scoring students; (c) lower marks on statewide English language arts and math assessments in 11th grade; (d) enrolling in fewer AP courses in high school. The largest effect sizes were observed for enrollment in the pre-professional dance conservatory which was significantly associated with taking more AP courses and scoring higher marks on statewide ELA assessments in 11th grade. Policymakers can use public high school dance programs to promote adolescents' school attendance. However, I found little evidence that enrollment in high school dance electives is advantageous to adolescents' academic performance, unless the program is of strong rigor. More research is needed to further test these positive associations.

The second study used a mixed-methods case study design to investigate the competence-related beliefs, psychological factors (i.e., enjoyment and interest values), and immediate contextual factors that influence adolescents' decision to commit a pre-professional, high-school dance conservatory program ($N = 15$; 100% female 100% Hispanic; 100% received free or reduced-price meal). Sources of data included (a) structured interviews using the Scanlan Collaborative Interview Method with the Eccles et al. Expectancy-Value Theory of Motivation as an interpretative framework, and (b) online surveys to obtain adolescents' demographic information, college and career plans, and quantitative ratings of their perceived competence in dance. I found that the majority of adolescents' commitment was driven by enjoyment and interest factors rather than perceived competence in dance. The highest self-ratings of competence in dance were most prevalent among dancers whose perceived ability strengthened their commitment to the conservatory. However, a low perception of ability also served as a positive motivator for some dancers.

Goal orientations (e.g., mastery vs. ego) played a large role in how adolescents perceived their competence levels in relation to their commitment – with mastery orientations having the most positive impact on commitment. In addition, adolescents valued contexts where they could showcase their work, improve their technique, receive constructive feedback, and have positive interactions with their teammates. Factors that weakened adolescents' commitment included negative interactions with teammates, beliefs of an inability to improve, lack of perceived challenge, and loss of valued academic alternatives. Several enjoyment, interest, and contextual factors emerged that were unique to dance. Most dancers reported college and career plans outside of the scope of the dance profession and reported that their interest in and the importance of dance would diminish overtime. Yet, these dancers reported learning skills that would help

them succeed in the future. For other adolescents who aspired to pursue a career in dance, the dance conservatory was critical to their talent development during high school. These findings help to advance dance educators' knowledge of student experiences in dance and best practices for designing school-based dance programs. In addition, these findings further our theoretical understanding of motivation and commitment to dance. Future research, policy recommendations, and implications are discussed.

CHAPTER 1

Introduction

Public schools are an ideal environment for adolescents from all economic backgrounds to receive access to dance education (Beveridge, 2010; Rabkin & Hedberg, 2011). However, for decades, adolescents in the United States (U.S.) have experienced limited accessibility to dance programming in public education. According to the National Center for Education Statistics (NCES), in 2008-2009—the most recent data available—approximately 12% of public secondary schools offered instruction in dance (Parsad & Spiegelman, 2012). This is compared with over 90% of public schools that offer music and visual art programming. Among public high schools, according to national NCES data from 2009-2010, 18% offered dance programming (Elpus, 2017).

These reported number of dance education programs in public secondary schools has been consistently low through the 90s and 2000's (Carey et al., 2002). Education stakeholders have constantly dealt with barriers to dance program development in K-12 institutions because of limited data on the implementation of dance programs and rates of student engagement, scarce empirical evidence on program benefits, and test-based accountability reform efforts focused on core-subjects such as language arts and mathematics (Bonbright, 2011; Keinanen et al., 2000). Issues of access to dance education among under-resourced youth and the inclusion of adolescents from minority backgrounds have also emerged as critical issues (Risner & Schupp, 2020).

Research in dance education and adolescent development is far less developed than other curricular and extracurricular (e.g., athletics, music, visual art) domains. This is true for a variety of topics such as school engagement, academic achievement, and talent development and

commitment. However, recent empirical research suggests that dance programs can help to improve the rates of school suspension, school attendance, and academic outcomes of adolescents, particularly among those in poverty (Cabrera et al., 2019; Catterall et al., 2018; Elpus, 2013; Gara & Winsler, 2020). These studies suggest that engagement in school-based (e.g., elective courses) or out-of-school dance programs (e.g., community centers or private studio lessons) can increase adolescents' rates of school attendance, decrease rates of school suspension, increase GPAs and proficiency on statewide tests in English language arts and math, increase the odds of plans to attend a two-or-four-year college, and improve adolescents' social and emotional well-being.

The use of quasi-experimental designs in these studies including statistical matching techniques to students in treatment and control groups, school-level fixed effects, adjustments to account for the nesting structure of data, and controlling for rigorous sets of covariates (e.g., demographics, school readiness skills at kindergarten entry, and prior academic achievement and school engagement) make these findings of important interest for the inclusion of school-based dance education programs in education policy decisions. However, more research is needed to test for the existence of consistent, positive relations between engagement in school-based dance education programs on the rates of school suspension, school attendance, and academic achievement among adolescents. This dissertation helps to fill this gap in the literature by examining this topic among a large, urban school district of Hispanic youth, many of whom are in poverty, and engage in high-school dance electives.

Talent development and commitment to dance is also a far less advanced field of study than sport research (Aujla et al., 2014; Coutinho et al., 2016; Scanlan, Carpenter, Simons, et al., 1993). Talent development in dance typically begins early in the lifespan among pre-professional

and professional dancers (Chua, 2014). These opportunities are afforded to children by significant socializers in their life with the cultural capital and monetary demands to provide such opportunities (Chua, 2015). Thus, much focus has been given to the talent development of pre-professional and professional dancers, particularly those living in the United Kingdom (e.g., Aujla et al., 2014; Nieminen et al., 2001; Nordin-Bates & Kuylser, 2020; Qusted & Duda, 2010).

Adolescents' commitment to school-based dance programs in the United States has received sparse attention in the sport psychology and dance education literature, particularly among youth who are living in poverty. In the general domains of athletics and the arts, enjoyment and social factors have overwhelmingly emerged as the most important reason to explain youths' commitment to such activities (McCarthy et al., 2008; Scanlan, Carpenter, Lobel, et al., 1993; Weiss et al., 2019). However, according to theories of motivation of activity choice and achievement, an array of psychological and contextual factors can shape individuals choice to engage in a particular activity (Ames & Archer, 1988; Bandura, 2010; Csikszentmihalyi et al., 1993; Deci & Ryan, 2000; Eccles, 2009). Perceived competence (also referred to as self-efficacy or self-concept of ability, SCA) has received much attention as a construct that facilitates an individual's decision to engage in or quit a domain-specific task (Bandura, 2007; Eccles & Wigfield, 2002).

Much of the existing work on adolescents' motivation to engage in dance education in the United States has been conducted by Sue Stinson in the early 1990's among adolescents enrolled in general dance elective courses in secondary school (Stinson 1993, 1997) and researchers who grouped adolescents' talent development in dance into an array of domain-specific activities that included sports and the arts (Fredricks et a., 2004; Patrick et al., 1999). These aforementioned

studies either documented the motivation of youth engaged in general dance electives (rather than a pre-professional conservatory program) or documented the experiences of middle-class, White youth who began dancing in early childhood. Thus, to date, no research has been conducted to examine the reasons that motivate Hispanic youth to commit to a pre-professional, high-school dance conservatory program—many of whom live in poverty and began dance training in high school.

Overview of the Remaining Chapters

Chapter Two

In this chapter, I describe the research setting where both studies take place. I discuss the settings of Santa Ana Unified School District, Santa Ana High, the SanArts Conservatory, and the SanArts Dance Conservatory. This includes the enrollment numbers, demographics, academic achievement levels, and curriculum details. In addition, I describe, using interviews with the dance program directors, how the SanArts Dance Conservatory was developed to serve adolescents with limited training in dance prior to high school entry.

Chapter Three

This chapter presents study one, where I investigate the impact of school-based dance programs among six public high schools in the Santa Ana Unified School District (SAUSD). I employ a quasi-experimental design using seven years of archival data collected by the SAUSD ($N = 23,010$). Adolescents were in grades 8 to 12 during the 2012-2013 to 2018-2019 academic years; 96% Hispanic and 92% received free or reduced priced-meal. Estimation procedures included descriptive statistics and multiple linear regressions controlling for adolescents' demographics, school suspension, school attendance, dance elective enrollment, and academic achievement in 8th grade. Cohort-level covariates, school-level fixed effects, and the Bonferroni

correction for adjusted alpha levels were also accounted for in regression models. Six comparison groups were used to investigate the benefits of dance elective enrollment across the district and at the school level. This included comparing enrollment in a high school dance elective to a) non-dance elective enrollment; b) enrollment in other physically active, female-dominant electives (e.g., pep squad, volleyball, softball, and color guard); c) enrollment in the SanArts Dance Conservatory. I address the following research question:

Research Question 1: What is the association between enrollment in high school dance elective courses and adolescents' school suspension, school attendance, and academic achievement (e.g., AP course enrollment, GPA, proficiency on statewide English language arts (ELA) and math assessments, and high school graduation) in high school?

Chapter Four

This chapter presents study two, where I investigate the competence-related beliefs, psychological factors, and immediate contextual elements that influence adolescents' commitment to the SanArts Dance Conservatory. I employ a mixed-methods case study design (Creswell & Clark, 2018). Data sources included structured interview data and online survey data collected during the 2018-2019 academic year. Interviews were conducted using the Scanlan Collaborative Interview Method—a collaborative method that builds a working partnership between the interviewer and interviewee to generate each adolescent's personal picture of commitment (Scanlan et al., 2003). The Eccles et al. Expectancy-Value Theory of Motivation was used as an interpretative, theoretical framework during interviews (Eccles, 1983). Online surveys were administered to obtain adolescents' demographic information, college and career plans, and quantitative ratings of their perceived ability to dance. These sources of data were used to describe the variation in:

1. adolescents' perceptions of their ability to dance.
 - a. As part of this goal, I compare their responses to two different questions asking adolescents to rate their ability on an absolute scale (i.e., How good are you at dance?) and a social comparative scale (i.e., How good are you at dance compared with other dancers in the conservatory?) and I discuss their personal descriptions of their perceptions of ability
2. the immediate contextual elements— including interactions with significant socializers (e.g., dance coaches and teammates)— under which these perceptions formed
3. the values (e.g., enjoyment, interest, and long-term college and career goals) adolescents associated with their involvement in the dance conservatory
4. the impact these factors had on their commitment to the conservatory

Twenty-three dancers (100% female; 100% Hispanic; 100% received free and reduced-priced meals) volunteered to participate in the study. Sixteen of these dancers completed the interview process and online survey and were included in the final analysis. Participants were selectively recruited from the SanArts Dance Conservatory, established in 2016 as a pre-professional dance conservatory offering free educational opportunities to adolescents with limited resources and exposure to the arts outside of school. Adolescents engaged in this program for approximately 12 hours and 30 minutes a week during and after school hours. Dancers received course credit that went toward high school graduation.

More than half of the adolescents admitted to the conservatory began their talent development in dance during high school after enrolling in general-elective dance courses. The remaining dancers began dance training in early or middle childhood. Most dancers had college and career plans outside of the dance profession. This sample provided me with a range of ability

levels, experiences, and college and career aspirations to understand the interplay of competence beliefs, psychological factors, and immediate contextual factors associated with their commitment to the SanArts Dance Conservatory.

Chapter Five

In chapter five, I summarize the key findings of the dissertation and discuss implications for policy and future research.

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- Coutinho, P., Mesquita, I., & Fonseca, A. M. (2016). Talent development in sport: A critical review of pathways to expert performance. *International Journal of Sports Science & Coaching*, 11(2), 279–293. <https://doi.org/10.1177/1747954116637499>
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CHAPTER 2

Research Setting

Santa Ana Unified School District

This research takes place in the city of Santa Ana, a majority Hispanic/Latino (77.3%) area with, as of 2017, an estimated population of 334,135 people (United States Census Bureau, 2019). In 2017, the median household income was \$65,655 and 15.4% of people lived below the national poverty line (United States Census Bureau, 2019). In 2020, the Santa Ana Unified School District (SAUSD) served 45,215 students enrolled in grades K-12 (California Department of Education [CDE], 2021a). The majority of students, 95.8% ($n = 43,334$) are Hispanic. The rest of the student population is Asian (2%; $n = 912$), White (0.9%; $n = 393$), and represent <1% of the following ethnic backgrounds: two or more races, American Indian or Alaskan Native, Filipino, African American, or Pacific Islander. The majority of students, 87.8% ($n = 39,706$) are socioeconomically disadvantaged (i.e., students who are eligible for free or reduced-priced meals; or have parents/guardians who did not receive a high school diploma), 37.6% ($n = 17,010$) are English Learners (i.e., students who are learning to communicate effectively in English, typically requiring instruction in both the English language and in their academic courses), 0.5% ($n = 205$) are foster youth, and 13% ($n = 5,879$) are students with disabilities (CDE, 2021a).

SAUSD operates 36 middle schools, nine intermediate schools, seven high schools, three alternative schools, and five charter schools (CDE, 2021a). As of 2020, 39.6% of high school graduates in the district were classified as college and career prepared, as indicated by the California Department of Education; 19.1% were approaching prepared, and 41.3% were not

prepared (CDE, 2021a). The total percentage graduation rate of the district was 90.7%, compared with the state average of 86.6%.

The six non-alternative public high schools (e.g., those examined in this dissertation and are described in detail in the “Method” section of Chapter 3: Study 1) offered several types of dance education programs. These programs offered dance electives that counted toward students’ high school transcripts and graduation; dance electives could be substituted for the physical education requirement and satisfy the statewide, high school graduation requirement for one course credit in the visual and performing arts. Depending on the high school, adolescents have the choice to enroll in dance choreography, dance production, dance movement and rhythmic fundamentals, advanced dance study, and International Baccalaureate dance. The genres offered included jazz, ballet, hip-hop, contemporary, and cultural dance (i.e., Folklorico). Dance teams, annual concerts, and collaboration with the local community college dance program and attending workshops at the University of California is also prevalent among high schools within this district. For example, offering dual credit for dance enrollment in partnership with the local community college; (e.g., receiving one course credit at high school and a course credit toward enrollment at community college).

Santa Ana High

The focal research site for the current study is Santa Ana High School. As of the 2019-2020 school year, Santa Ana High served 3,260 students in grades 9-12 (CDE, 2021b). Students’ ages ranged from 12 to 18 years of age. The majority of students, 98.7% ($n = 3,219$), were Hispanic, and <1% of students are from other White/non-White ethnic groups. The majority of students, 92.5% ($n = 3,014$), are socioeconomically disadvantaged. About more than a quarter, 27.5% ($n = 895$), were English Learners, 19.6% ($n = 640$) were homeless youth, and 13.2% ($n =$

430) are students with disabilities. As of 2020, 30.7% of high school graduates from Santa Ana High were classified as college and career prepared, 24.3% were approaching prepared, and 45% were not prepared (CDE, 2021b). The total percentage graduation rate of Santa High was the same as the district, at 90.7%, compared with the state average of 86.6%.

Established in 1889, Santa Ana High was the first high school in Orange County, California (SAUSD, 2018). The school's current main building, completed in 1936, was built by the Works Progress Administration under President Franklin D. Roosevelt in the ornate Spanish Colonial style with a 1,500-seat auditorium (Burnet & Jones, 1990). The painted scrollwork, high ceilings, and oak-trimmed walls and doorways give the building a theatrical flair. The school has served a number of alumni who have gone on to successful careers in the arts, such as Diane Keaton (actress), Bill Medley (half of the singing duo the *Righteous Brothers*), Tony Bellamy (member of the first Native American rock band *Redbone*; Borgatta, 2000). Thus, this high school was chosen by district administrators to house the district-level, high-school arts conservatory program.

SanArts Conservatory

In 2016, in response to local outreach efforts and community feedback, SAUSD launched the SanArts Conservatory that operates through fiduciary funds provided by the Santa Ana Public Schools Foundation (SanArts, 2019). This conservatory was developed to offer tuition-free educational opportunities in the arts to children with both limited resources and exposure to the arts outside of school. It is the second tuition-free arts conservatory in Orange County, California¹. Santa Ana High was chosen to house the SanArts Conservatory because of the good

¹ The Orange County School of the Arts (OCSA) was founded in 1987 and is recognized as a premier arts school in the nation (Orange County School of the Arts, 2019). It is accredited by

standing of the high school within the district, the school's strong existing set of arts programs, and the large auditorium and ornate building (McNair, 2017).

The SanArts Conservatory provides five certified and non-certified career and technical education pathways to prepare students for higher education and a profession in the arts. Auditions are required for enrollment and are open to all students in the greater Orange County area. The Conservatory consists of five "schools": vocal and instrumental music, dance, theatre, the Edward James Olmos School of Cinematic Arts, and visual art and design, that are aligned with University of California coursework (SAUSD, 2018). These career pathways were designated because they are perceived by education stakeholders as sustainable and relevant over the next years (McLean, 2013).

Each of these five pathways follow some or all alignments with the following 11 anchor standards that prepare youth for college and career success in the 21st century: academics, communications, career planning and management, technology, problem solving, health and safety, responsibility, ethics, leadership and teamwork, technical knowledge and skills, and demonstration of application (Mclean, 2013). Students enrolled in the arts conservatory engage in coursework during and after school hours, in addition to workshops and master classes taught by professional artists or guest-artist residencies. SanArts coursework counts toward students' graduation requirements, in the form of an elective or a-g requirement as English or physical

the Western Association of Schools and Colleges. OSHA is a tuition-free public charter school that serves grades 7-12, located in Santa Ana, CA. This school is donation dependent. Auditions are required for enrollment and no student is denied enrollment based on financial status. However, in 2019, OSCA went under scrutiny by the Santa Ana Unified School District for encouraging and enrolling applicants who were high-achieving and well-resourced. For example, the number of Hispanic, English learners, and low-income students enrolled at the charter were minimal (Javier, 2020)

education. Students also partake in field trips to professional venues in Orange County or the Greater Los Angeles area. Each school year the SanArts Conservatory showcases their artistic talents in a variety of concerts and shows held at Santa Ana High, open to high local and community.

The schools of music, visual art and design, and Edward James Olmos School of Cinematic Arts, in particular, are part of the school districts' certified career and technical education initiative (SAUSD, 2018). Youth involved in these schools engage in dual enrollment courses with community colleges, in addition to advanced placement courses during the school day. Youth involved in the Edward James Olmos School of Cinematic Arts are part of a small learning community where students take career and technical education courses and traditional academic courses together. The theatre and dance programs are not classified as career and technical education; however, adolescents receive course credit on their transcript for their enrollment that goes toward high school graduation. In addition, these programs still entail many of the certified elements and are designed to provide students pathways to pursuing careers in dance or theatre. Approximately 180 are enrolled in the conservatory each academic year.

SanArts Dance Conservatory

Program Development

The SanArts Dance Conservatory was established to offer talent development for adolescents without prior dance training. According to interviews with the dance program director, who had been working with the Santa Ana School District for more than 30 years, from her experience, among students enrolling in general dance electives such as “beginning dance”, “. . . 99.9% of students have never danced before [high school].” Thus, her focus was on the

program development of the dance conservatory, and also building a school-wide program to “feed into the conservatory”.

To do this, the program director and the primary dance instructor at Santa Ana High began to create a pathway system for students who started taking dance in high school and might later want to audition for the dance conservatory. This system encompassed the entire dance education program, from beginning to advanced levels, at Santa Ana High. Dance was an attractive elective course for many adolescents because dance can be substituted for two years of the physical education requirement. In addition, dance elective enrollment satisfies the visual and performing arts statewide requirement for high school graduation.

A system map of the program as of the 2018-2019 academic year is shown in Figure 1.1. The dance program is designed as a four-level, tiered system based on skill level. The number of courses offered is based on students’ demand for dance. Thus, four beginning dance electives, one intermediate elective, and one advanced elective course are offered. These courses are designed to build on adolescents’ dance training and knowledge (i.e., technique, vocabulary, flexibility, strength, anatomy, and stage production) and prepare them for admission to the SanArts Dance Conservatory.

The beginning dance elective is a pre-requisite for higher level dance coursework. According to the program director, there is a wait list to enroll in the beginning level dance elective, each academic year. However, students can skip levels of dance electives to enroll in higher level courses if they demonstrate adequate proficiency, determined by the directors of the dance program. Auditions are required for admission and placement into the intermediate, advanced, and conservatory level courses. Approximately 25 adolescents are admitted to the

dance conservatory each year, some of whom received dance training (e.g., at private studios, community centers, or school-based dance programs) prior to high school.

Curriculum

Conservatory dancers engage in dance five days per week, during and after school hours for approximately 12 hours and 30 minutes of dance training per week during the school year. Hours are subject to extend during weeks when there is an upcoming performance. Students are enrolled in dance production and/or dance composition and receive weekly training in Pilates and technique from a resident dance instructor from the greater Orange County area. Dancers receive course credit for enrollment in dance production (held during school hours) that counts for credits toward high school graduation. In addition, dancers are involved in several out-of-school experiences such as visiting museums in Los Angeles, California, engaging in workshops at Disneyland, performing in downtown Santa Ana, and attending a mountain retreat. Most conservatory dancers are also a part of the high school dance team that performs at pep rallies and sports events for the high school.

Dance courses are designed to teach students technique, vocabulary, choreographic structure, anatomy, flexibility, strength, and stage production. Students are exposed to a variety of dance genres such as ballet, modern, jazz, contemporary, hip-hop, and musical theater. During the school year, students perform in and attend dance concerts that are stage-produced and choreographed by the students and directors of the conservatory. Students are required to understand proper diet and demonstrate improvements in flexibility, cardiovascular fitness, body conditioning, and correct health practices. Written work is also required that includes formative critiques, self-assessments, reflective journaling about the self or dances, and essays and research papers. Students must participate in all activities and dress in dance attire.

Students engage in reflective journaling and respond to several prompts throughout the year. During the 2018-2019 school year the journal theme was “Balance.” Examples of journal assignments are “Life pie” where students drew a circle and divided it into pieces determined by “what is your life now,” and a second circle that represented “what you want your life to be,” writing a fluid list of 100 questions, performing five acts of kindness and reflecting on their experiences, and taking pictures that represent balance, harmony, symmetry, and asymmetry (Noel, 2018, pp. 1-2).

Every six weeks, dancers are graded on a point system. Rubrics are not used to assess these students because everything they learn is used for performance. Instead, students are assessed on accountability. For example, students earn points for performances, but will lose points if they are late to rehearsal, forget their costume, or are not knowledgeable about a dance. If a dancer cannot demonstrate dance proficiency, they are taken out of the dance and lose points. In addition, students engage in self-assessment critiques from dance instructors and peers via videotape or during rehearsal. During videotape sessions, students and instructors watch the video together and the dancers are critiqued according to their knowledge (i.e., being on the right counts, knowing the choreography, and transitions), technique localized to specific parts of the body (e.g., arms, legs, torso, and focal placement), and performance quality (e.g., energy, enthusiasm, expressiveness). Dancers are also graded on their written work, particularly their reflection journals. Every six weeks a student can earn up to 100 points; each ten-point deduction is equivalent to dropping a letter grade.

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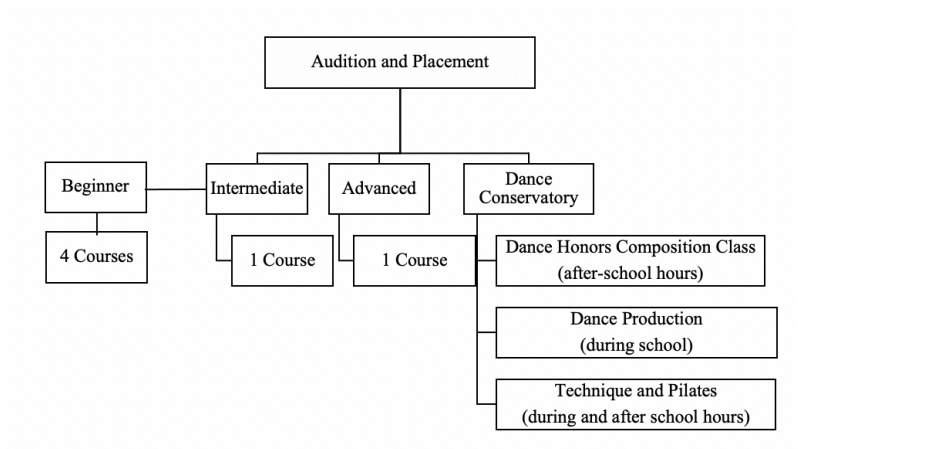


Figure 1.1 System map of the dance education program at Santa Ana High School

CHAPTER 3

Study 1. The Association Between High School Dance Elective Enrollment and Hispanic Adolescents' High School Suspension, Attendance, and Academic Achievement

Abstract

Empirical evidence has emerged that suggests dance education programs in K-12 contexts can increase adolescents' school engagement and academic performance, particularly among adolescents who live in poverty. However, more evidence is needed to test for consistent, significant associations between enrollment in school-based dance electives and these positive school suspension, school attendance, and academic outcomes. To further investigate this issue, I examine the impact of school-based dance programs among six public high schools in the Santa Ana Unified School District (SAUSD). I employ a quasi-experimental design using a series of comparison groups and seven years of archival data collected by the SAUSD ($N = 23,010$). Adolescents were in grades 8 to 12 during the 2012-2013 to 2018-2019 academic years; 96% Hispanic and 92% received free or reduced priced-meal. Estimation procedures included descriptive statistics and multiple linear regressions controlling for adolescents' demographics, school suspension, school attendance, dance elective enrollment, and academic achievement in 8th grade. Cohort-level covariates, school-level fixed effects, and the Bonferroni correction for adjusted alpha levels were also accounted for in regression models. In addition, the quasi-experimental design is employed using six comparison groups across the district and at the school level to compare high school dance elective enrollment to a) non-dance elective enrollment; b) enrollment in other physically active, female-dominant electives (e.g., pep squad, volleyball, softball, and color guard); c) enrollment in the SanArts Dance Conservatory. Findings indicate that enrollment in high school dance electives was associated with increased rates of

school attendance by approximately two to four days. I found some evidence that enrollment in a dance elective was associated with increased levels of GPA, particularly among adolescents who were scoring relatively low academic marks in the district, however these effect sizes were small. In addition, enrollment in a high school dance elective was associated with a) scoring lower on statewide English language arts and math assessments in 11th grade and b) enrolling in fewer AP courses in high school. The largest, and positive, effect sizes of dance elective enrollment on academic achievement were observed for the district-wide dance conservatory which was significantly associated with taking more AP courses and scoring higher marks on statewide ELA assessments in 11th grade. Overall, policymakers can use public high school dance programs to promote adolescents' school attendance. However, I did not find strong evidence that enrollment in high school dance electives is advantageous to adolescents' academic performance, unless the program is of strong rigor. More research is needed to investigate the impact of varying levels of rigor of school-based dance programs on academic outcomes.

Keywords: dance education, high school, adolescence, academic achievement, school engagement

Introduction

Research on nonverbal expression and cognition provides key insights into dance as a distinct performing art discipline and also an applied art that fosters creative problem solving and the activation of higher-order cognitive processes (Hanna, 2008). What do the arts (in general) contribute to learning? John Dewey (1934) believed that children learn by doing, with action being the test of comprehension. Eisner (2002) argued that concept formation begins with sensory experience and interactions among sensory modalities. He saw the purpose of an individual's representation of knowledge in an artistic form as 1) furthering one's own understanding and 2) communicating this understanding to others.

Theory is insufficient to explain the potential of K–12 arts education (Hanna, 2008). However, an artistic discipline, such as dance, requires the simultaneous activation of multiple sensory modalities such as auditory, visual, and tactile stimuli (Gilbert, 2006). Dance training is unique in that it requires motor control, synchronization, sequence tasks memory, and visual and motor imagery (Bläsing et al., 2012; Sevdalis & Keller, 2011). The coordination of regulating the senses needed to engage in dance is thought to activate higher-order cognitive processes that are the foundation of problem-solving skills (Diamond, 2015).

Randomized control trials (RCTs) of dance interventions have demonstrated improvements in cognitive functions of individuals, across the lifespan (Coubard et al., 2011; Hamacher et al., 2015; Kimura & Hozumi, 2012; McKee & Hackney, 2013; Meng et al., 2020; Merom et al., 2016; Oppici et al., 2020; Rudd et al., 2021; Shen et al., 2020). Learning dance choreography with high cognitive challenge (i.e., limiting visual demonstrations and encouraging children to memorize and recall movement) has been shown to improve the working memory capacity and motor competence of children 8 to 10 years of age (Oppici et al., 2020). In addition,

children aged 6 to 7 randomly assigned to create dance sequences showed greater improvements in working memory and inhibitory control, compared with children who learned choreographed dances (Rudd et al., 2021).

Randomized control trials have also indicated that dance interventions can improve adults ability to perform on motor-cognitive dual tasks (e.g., walking and performing math), compared with engagement in a health-related exercise program (Hamacher et al., 2015). In addition, RCTs on social dance (e.g., contemporary, ballroom, and tango) have linked dance engagement to increased spatial memory, task switching, and delayed recall of information among older adults (Coubard et al., 2011; McKee & Hackney, 2013; Merom et al., 2016). Importantly, dance interventions have been shown to be effective because of elements unique to dance, such as the choreographic, time-series nature of dance routine, rather than simply repeating movement (Kimura & Hozumi, 2012).

In the early 2000s, empirical evidence was scarce and not strong enough to link dance engagement to adolescents' cognitive development in school settings (Keinanen et al., 2000). These study designs, for example, were few, correlational, and used small sample sizes. However, recent and more rigorous empirical research suggests that school-based dance programs might help to improve the school engagement and academic outcomes of adolescents, particularly among those in poverty (Catterall et al., 2018; Gara & Winsler, 2020).

In 2019, Gara and Winsler (2020) examined the impact of enrollment in middle school dance electives on the school suspension, school attendance, and academic achievement among an ethnically diverse, low-income sample of adolescents in grades 6 to 8 between the 2009-2010 and 2013-2014 academic years (e.g., The Miami School Readiness Project [MSRP], $N > 30,000$). My colleagues and I used a quasi-experimental design that accounted for the nested structure of

the data and controlled for a rigorous set of covariates including school readiness skills at age four, demographics, and prior academic achievement. Enrollment in middle school dance electives was significantly associated with earning higher GPAs, approximately a 4-point increase in 7th grade standardized math scores, better school attendance, and a 42% decrease in the probability of being suspended in 7th grade, compared with non-dance adolescents; with stronger positive associations observed for students taking dance electives for multiple years.

Further, a non-profit, after-school dance program in Santa Ana, California—The Wooden Floor (TWF), located in the same school district as the research study described in this dissertation—has served over 85,000 majority-Hispanic youth with quality dance instruction, as well as academic and family services (TWF, 2019). Since 2005, 100% of youth who graduated from the 10-year after-school dance program completed high school on-time and enrolled in postsecondary education (TWF, 2019). Self-report surveys showed that adolescents enrolled at TWF also experienced gains in their sense of identity, integrity, and empathy (Catterall et al., 2019). However, more empirical evidence of the impact of school-based dance education programs on adolescents' school suspension, school attendance, and academic achievement is needed, particularly among adolescents who are currently under-represented in higher education.

According to data from the Census Bureau, the high school dropout rate among U.S. Hispanics has fallen to a new low, while Hispanic college enrollment is at a record high (Gramlich, 2017). Despite their growing college enrollment, young Hispanic students were still not as likely to enroll in college as other groups (National Center for Education Statistics [NCES], 2020). According to NCES, the overall college enrollment rate for Hispanics living in the United States aged 18 to 24 years was 36%, compared with 37% of Blacks, 42% of Whites, and 59% of Asians. In addition, after postsecondary enrollment, Hispanics continue to lag behind

other groups in the six-year graduation rate among first-time, full-time undergraduate students who enrolled in a 4-year degree-granting institution in the Fall of 2010 (NCES, 2019).

In California, Hispanic students make up more than 50% of the K-12 enrollment (Bates et al., 2018). Unfortunately, Hispanic students are more likely to attend high schools that do not adequately prepare them for college—for example, schools that offer fewer AP courses, qualified and experienced teachers, college counselors, and college entrance prep opportunities (according to Civil Right Data Collection 2015-2016; Bates et al., 2018). According to the California Department of Education (CDE), these schools are disproportionately high-minority or high-poverty and serve students who graduate with lower college and career readiness skills than students residing in higher income areas (Gao, 2016).

Such lack of opportunities has critically impacted the education success rates of Hispanics. In California, according to the U.S Census Bureau, as of 2016, 37% of Hispanic adults aged 25 to 64 have not earned a high school diploma (Bates et a., 2018). In addition, only 12% have earned a bachelor's degree or higher, compared with 54% of Asians, 43% of Whites, and 24% of Blacks who earned postsecondary diplomas (Bates et al., 2018). Might the nonverbal language and higher-cognitive processes required in dance help to provide motivation to attend school and a bridge to academic success for these students?

The goal of the current study is to advance our knowledge base on the impact of school-based dance education programs on the rates of school suspension, school attendance, and academic achievement among Hispanic adolescents in grades 9 to 12, many of whom live in poverty. I partnered with the Santa Ana Unified School District (SAUSD) to evaluate the impact of school-based dance programs in six public high schools. Dance education was offered during school hours via dance electives (e.g., beginner, intermediate, advanced) that counted toward

high school transcripts and credits for graduation. In addition, I estimated participation in the SanArts Dance Conservatory, established in 2016, designed as a district-wide, tuition-free, public school dance program offering pre-professional training in the arts during and after school hours (approximately 15 hours per week). Auditions are required prior to admittance.

I employed a quasi-experimental design using a series of comparison groups and seven years of archival data collected by the SAUSD ($N = 23,010$). Adolescents were in grades 8 to 12 during the 2012-2013 to 2018-2019 academic years; 96% Hispanic and 92% received free or reduced priced-meals. Estimation procedures included descriptive statistics and multiple linear regressions controlling for adolescents' demographics, school suspension, school attendance, dance elective enrollment, and academic achievement in 8th grade. Cohort-level covariates, school-level fixed effects, and the Bonferroni correction for adjusted alpha levels were also accounted for in regression models. The following research question was addressed:

Research Question 1: What is the association between enrollment in high school dance elective courses and adolescents' school suspension, school attendance, and academic achievement (e.g., AP course enrollment, GPA, proficiency on statewide English language arts (ELA) and math assessments, and high school graduation) in high school?

This question is investigated using six comparison groups across the district and at the school level. This includes comparing enrollment in a high school dance elective to a) non-dance elective enrollment; b) enrollment in other physically active, female-dominant electives (e.g., pep squad, volleyball, softball, and color guard); c) enrollment in the SanArts Dance Conservatory.

Literature Review: Dance Education and Cognitive Development

Dance as a Context for Enhanced Cognition

Receiving proper levels of physical activity is known to promote cognitive functioning throughout the lifespan (Erickson et al., 2019). According to a meta-analysis of primary and secondary schools from four countries associated with the Organization of Economic Cooperation and Development, increasing the total curriculum time for physical education activities can lead to effect sizes of 0.41 standard deviation units on students' cognitive, affect, and psychomotor learning outcomes (Dudley & Burden, 2020). However, according to a systematic review of more than 100 quasi-experimental and experimental articles published in English peer-reviewed journals, there is limited evidence that moderate to vigorous physical activity has a positive effect on cognition and academic achievement among adolescents aged 14 to 18 years (Donnelly et al., 2016). The inconsistent effect of physical activity on cognitive performance could be explained by comparing activities that involved little thought (i.e., treadmill running, riding stationary bicycle) to those that depend on the prefrontal cortex and engaged executive functioning skills, such as dance (or martial arts and yoga; Diamond, 2015). These skills include the activation of working memory (e.g., holding and retrieving information from memory), inhibitory control (e.g., suppression of stimuli), and cognitive flexibility (e.g., adjusting to changed demand) that are thought to be the foundation of problem-solving (Diamond, 2015).

Dance classrooms can be an ideal context to activate these higher order processes. A dance “enriched environment” incorporates multi-sensory curriculum through auditory (music and language) and physical (body movement) stimuli (Gilbert, 2006). Dance can be interpreted as an exceptional artistic discipline to aid development compared with other artistic forms because of the integration of music and movement – which requires the coordination of multiple sensory modalities in response to auditory, visual, and tactile stimuli (Brown et al., 2005;

Metcalfe, 2016; Walker, 2016). Dance entails motor control, timing, synchronization, sequence tasks, memory, and visual and motor imagery, which in turn can stimulate specific regions of the brain involved in learning and working memory (Bläsing et al., 2012). In addition, dancers are required to remember several dance sequences at once, and rapidly switch between them during choreographic routines. Such sensory and bodily experiences are believed to be essential to individuals' concept formation and repertoire of learned experiences (Eisner, 2002).

Randomized control trials (RCTs) of dance interventions have demonstrated improvements in cognitive functions for individuals, across the lifespan (Coubard et al., 2011; Hamacher et al., 2015; Kimura & Hozumi, 2012; McKee & Hackney, 2013; Meng et al., 2020; Merom et al., 2016; Oppici et al., 2020; Rudd et al., 2021; Shen et al., 2020). Learning dance choreography with high cognitive challenge (i.e., limiting visual demonstrations and encouraging children to memorize and recall movement) has been shown to improve the working memory capacity and motor competence of children 8 to 10 years of age (Oppici et al., 2020). Rudd and colleagues randomly assigned children aged 6 – 7 years old to one of two groups that either learned a choreographed dance or created their own dance sequence for eight weeks during physical education class (Rudd et al., 2021). Pre-and post-test results showed that children in both dance groups show improvements in working memory and inhibitory control, with slightly more gains observed among children in the group who created their own dance sequence.

Shen and colleagues examined the effects of dance training on children's executive functioning (Shen et al., 2020). Researchers randomly assigned pre-school children to an eight-week street-dance training group or a control group which carried out normal 'free activity' during kindergarten. Researchers found that children in the dance training group significantly outperformed children in the control group on measures of inhibitory control, executive

attention, cognitive flexibility, and working memory, controlling for individual differences at pre-test. Gains were the greatest for children with the lowest levels of executive functions at pre-test.

Further, the benefits of dance involvement on cognitive function are observed among older adults (for a meta-analytic see Meng et al., 2020). RCTs have indicated that dance interventions can improve adults ability to perform on motor-cognitive dual tasks (e.g., walking and performing math), compared with individuals who engaged in a health-related exercise program (Hamacher et al., 2015). In addition, RCTs have shown that engagement in social dance (e.g., contemporary, ballroom, and tango) increase the spatial memory, task switching, and delayed recall of information among older adults (Coubard et al., 2011; McKee & Hackney, 2013; Merom et al., 2016). Importantly, dance interventions have been shown to be effective because of the choreographic, time-series nature of dance routine, rather than simply repeating movement (Kimura & Hozumi, 2012).

Dance pedagogy requires students to be active learners. As Schupp (2012) stated, students shift from “. . . passive receivers to active investigators of dance, their situations, and the personal construction of knowledge” (pp. 3). Students practice their leadership roles by creating planned choreography and then teaching movement to the other dancers. They also engage in memorization of dance structures (i.e., choreographic forms of dance such as ‘ABA’ form, rondo, and theme and variation), choreography, and anatomical concepts that are used to conceptualize how the body works in movement. It is common for dancers to foster a curiosity for the unique movement and shapes one’s body creates. In addition, dancers activate their creativity as they construct their bodies to form representations of images or emotions.

Collaboration, critical thinking, communication, and creativity are also common parts of

dance pedagogy and activities (Schupp, 2015). These skills are recognized as key elements in preparing youth to work in a global society in the 21st century (National Education Association, n.d.). In a dance classroom, collaboration is taught through group tasks that involve improvisation, choreography, and creative partnerships (Schupp, 2015). According to Schupp, dance curricula can provide adolescents with opportunities to engage in inquiry-based learning; they establish a shared goal, engage in discussion, provide iterative feedback, and negotiate a final product. This end product consists of contributions from each member of the group and is often shared publicly. Often, dance teaching artists or professionals from external organizations collaborate with students to provide feedback about their showcases and assist with dance technique. Given the unique context and pedagogy the dance classroom offers, more research is needed to investigate the link between engagement in school-based dance electives, specifically in high school (grades 9 to 12), and adolescents' subsequent rates of school suspension, school attendance, and academic achievement.

Academic Benefits Associated with Visual and Performing Arts Engagement

Large scale, quasi-experimental evidence has linked visual and performing arts engagement to better academic outcomes, particularly among youth in poverty. A quasi-experimental study by Catterall and colleagues (2012) examined the benefits associated with children's and adolescent's arts engagement (during or after school hours) in secondary school. Researchers compiled data between 1988 to 2010 from four existing longitudinal studies by the National Center for Education Statistics ([NCES]; NELS, ECLS-K, ELS, NLYS) and categorized low-income students into groups of levels of high and low arts involvement during childhood. Those with high levels of arts involvement reported significantly less boredom during school and watched fewer hours of television outside of school hours, compared with low-arts

involved students. In addition, high arts involved students scored significantly higher GPAS and higher marks on science and writing assessments in secondary school. These students also participated more in extracurricular activities and were more likely to graduate high school and attend college. For several outcomes, low-income children with high levels of arts participation surpassed high income children without an arts background.

Despite Catterall categorizing students into groups by income status and levels of arts involvement, the study lacked quality controls for factors such as prior academic achievement that might have biased his results (Elpus, 2013a; Winsler et al., 2019). Indeed, my prior research has noted differences in the demographic characteristics, school readiness skills at age four, and elementary academic performance indicators among a large sample of low-income, ethnically diverse adolescents who did or did not select into arts electives in middle school between the 2009-2010 to 2013-2014 academic years (the MRSP; Alegrado & Winsler, 2020; Winsler et al., 2019). According to our results, Black students, males, students with disabilities, those previously retained a grade level, and those who had not reached full English proficiency had reduced odds of enrolling in an arts elective in middle school. Adolescents with stronger school readiness skills at age four and stronger academic performance in 5th grade had greater odds of enrolling in an arts elective. Researchers have also noted that the more comprehensive set of controls that are employed— such a parent education level, family structure, IQ, engagement in other arts activities – the weaker the effects of the arts tend to be (Foster & Jenkins, 2017). Thus, researchers must identify and account for pre-existing individual differences when reporting the academic outcomes associated with voluntary arts involvement.

Researchers have found, once accounting for individual-level differences in adolescents who do or do not select into arts elective courses, enrollment in such electives has been shown to

benefit students' academic achievement, particularly among ethnically diverse youth who live in under resourced areas (Winsler et al., 2019). My colleagues and I used data from the MRSP and employed a strong methodological approach that first identified the selection factors that differentiate students who did or did not select into arts electives (noted above), and then controlling for these factors, a mixed-effects multiple regression analysis accounting for nesting variation at the school level. Results showed that students' participation in arts electives during middle school was significantly associated with higher GPAs, standardized math and reading test scores, and decreased odds of school suspension, compared with students who did not enroll in arts electives during middle school.

Researchers have also used quasi-experimental regression analyses with controls to uncover a positive relation between high school students' plans to attend a two-or four-year university and their participation in music or dance lessons after school (Cabrera et al., 2019). Students were pooled from archival data collected by public school districts in Minnesota of over 30,000, majority White students in grades 9 and 11. Researchers employed propensity score matching and matched subjects on baseline selection differences according to race/ethnicity, grade, age, and free or reduced-price lunch status. According to survey response items about students' post-high school plans right after high school graduation, students who engaged in music or dance lessons after school had 1.27 greater odds (e.g., 27%) to plan to attend a two-or four-year university, than students who did not engage in either activity, controlling for race/ethnicity, lunch status, gender, and grade level.

Other large-scale empirical studies have linked arts involvement to academic, personal, and postsecondary education success. Elpus (2014) employed OLS logistic regressions to examine arts and non-arts students' college admissions and attainment. To do this, he used

nationally represented data administered by NCES: The Education Longitudinal Study of 2002, between the 2002 to 2012 years. Using complete high school transcripts and demographic academic and extracurricular covariates, Elpus found that arts students were 29% more likely to apply to a postsecondary institution and 21% more likely to have attended a postsecondary institution than non-arts students, controlling for preexisting selection differences between arts and non-arts students. In addition, arts students were accepted to selective colleges at similar rates than their non-arts peers who may have taken more STEM related coursework during high school.

Further, Elpus examined nationally representative data from the National Longitudinal Study of Adolescent Health, collected by NCES (Elpus, 2013b). Adolescents who were enrolled in grades 7th to 12th during the 1994-1995 were followed through adulthood in 2007-08. High school transcript and survey data were analyzed. Preexisting differences between arts and non-arts students were controlled for using propensity score matching. Elpus found that each additional year of arts study was associated with a 20% reduction in the probability of receiving an out-of-school suspension in high school; arts students were also more optimistic about their chances to attend college, compared with non-arts students. As adults, arts students were 55% more likely to have attended any postsecondary schooling and 29% more likely to have earned a 4-year college degree between the age of 24 to 32, than non-arts students. He also found that each additional year of arts coursework in high school was associated with a 12% increase in the odds of earning a four-year college degree.

Earning cumulative credits in the arts (e.g., dance, theatre, music, and visual art) during high school has also been linked to significantly reduced high school dropout. Thomas and colleagues tracked approximately 175,000 9th graders for 5 years using longitudinal

administrative data from the University of Texas, Dallas Education Research Center (Thomas et al., 2015). About half the sample was Hispanic or African American, and 42% were low-income. Controlling for adolescents' demographics and prior academic achievement, earning course credits in the arts was significantly associated with lower rates of high school dropout. In addition, adolescents with the lowest risk for dropping out were those who earned more than one credit in the arts. Other studies have also noted the positive benefits of arts engagement and school dropout prevention for youth (Brown, 2017; Charmaraman & Hall, 2011).

The most rigorous study to date, implemented by Kisida and Bowen (2019), conducted the first-ever, large-scale randomized controlled trial of restoring arts education programs among 42 elementary and middle schools in Houston, Texas serving about 10,000 third to eighth grade students. The majority of students were African American or Hispanic. A lottery was implemented that randomly assigned schools to receive additional funding to enhance partnerships with arts organizations, provide arts education professional development for school leaders and teachers, and engage students in about ten enriching arts education experiences over the course of two years. These experiences took place in before-and after-school programs, field trips, in-school performance, and teaching artist residences.

According to administrative records collected by the Houston Education Research Consortium, treatment school students (in grades 3 to 8) who received arts-based experiences underwent a 3.6 percentage point reduction in disciplinary infractions, a 13% of a standard deviation gain in standardized writing scores, and an 8% of a standard deviation gain in their compassion for others, compared with the control group (Kisida & Bowen, 2019). Overall, significant effects were not observed for school attendance, math, reading, or science achievement. Once restricting their sample to elementary school students (which comprised 86%

of their sample), arts learning experiences positively affected students school engagement, college aspirations, and empathizing skills.

Findings from multi-arts, quasi-experimental and experimental studies have indicated many academic benefits associated involvement in arts activities during secondary school. However, a multi-arts variable is not a reliable indicator of the significant benefits of dance involvement as a domain-specific activity. This is because, unlike the empirical research about engagement in dance education, the positive cognitive effects of engagement in music courses, for example, have been consistently documented in experimental research designs (Holochwost et al., 2017; Moreno et al., 2011; Schellenberg, 2004; Winner et al., 2013). Thus, the domain-specific art activities driving the significant impacts in these multi-arts studies are not clear. In addition, many multi-arts studies combine levels of involvement in arts activities that are offered by public school and those taken in private studios.

The current study fills methodological gaps in the arts education literature by employing ordinary least squares (OLS) multiple regressions and six comparison groups at the district-and school-level to investigate the association between enrollment in high school dance electives and adolescents' rates of school suspension, school attendance, and academic performance in high school. I employ a comprehensive set of controls to account for individual-level factors (i.e., demographic characteristics, prior dance engagement, and prior school suspension, school attendance, and academic performance indicators in 8th grade) that distinguish those who do or do not select into dance electives while in secondary school. I also control for cohort-level differences. Further, I examine adolescents' involvement in dance as a single subject elective course in high school. In addition, because I examine dance elective enrollment at a district-

level, I account for intergroup school-level variation (i.e., school-level fixed effects) that might influence the performance outcomes of adolescents.

Academic Benefits Associated with Dance Engagement

Involvement in dance activities during childhood has been linked to gains in reading skills, particularly among children who are English language learners (Greenfader et al., 2017; McMahon et al., 2003; Morgan & Stengal-Mohr, 2014). This is theorized to be because of the physical movement and expressions used in dance that affords children with a system of nonverbal communication to explore one's creativity and cognitive abilities (Connery et al., 2010; Hanna, 2008). When strategically coupled with a literacy curriculum, English learners in grades K–2 who participated in an in-school drama and dance intervention integrating movement, gesture, and expression scored significantly greater gains in language acquisition and science vocabulary, compared with a control group (Greenfader et al., 2017). Other researchers have conducted experimental studies and found that dance and literacy interventions improved the reading skills of low-income, African-American first graders in Chicago public schools, compared with a control group that received traditional reading instruction (McMahon et al., 2003).

During middle school, dance interventions targeting English language acquisition have also been shown to improve the cognitive functions related to language development (Morgan & Stengal-Mohr, 2014). According to interviews and observations with over 50 English as a second language teachers and stakeholders from a local arts education agency in New York City, dance interventions combined with spatial awareness, dance technique (e.g., discipline, dance vocabulary), and collaboration (e.g., listening, compromise) can assist students in developing movement phrases used in creating performance pieces. Despite these positive findings, little

research has been done that documents if dance elective courses in grade school—rather than dance curricula designed to enhance language functions—can also boost students reading skills, particularly among adolescents who are learning the English language.

Correlational evidence has linked dance engagement to academic achievement during high school. Jacobs-Peter examined whether the behaviors and abilities required in the training of pre-professional ballet dancers can transfer to academic subjects (Jacobs-Peter, 2012). Fifty-four female students aged 15 to 22 years voluntarily participated in the study. Half of the participants were ballet dancers engaging in a minimum of dance training 10 hours per week, and the other half did not participate in dance, except socially. According to analysis of variance, ballet dancers scored 202 points higher on the SAT college entrance exam, compared with non-dancers. However, no differences in GPA were noted between the two groups. According to survey data, ballet dancers rated themselves as significantly more motivated in their academic learning than non-dance students, which many have resulted in greater preparation for the SAT. However, the results should be interpreted with caution due to the lack of random assignment used to treatment and control groups, small sample size, and the insufficient use of statistical controls to account for pre-existing differences between dance and non-dance students.

The effects of formal dance training, provided by magnet schools in Florida, were examined by Carter (2004) in an unpublished dissertation. Carter analyzed dance and non-dance students enrolled across eight high school schools (grades 9 to 12; 73% female; 53% White, 18% African American, 19% Hispanic, 10% other racial/ethnic composition; $N = 90$) in eight ethnically diverse counties in Florida. Students voluntarily enrolled in the study, and completed an online survey about their perceived wellness, global self-concept (as measured by the Rosenberg Self-Esteem Scale), GPA, attendance, and conduct. According to results from

analysis of variance, dancers reported significantly higher mean GPAs than non-dancers, however no differences in attendance and conduct behavior were found. A post-hoc analysis of GPA revealed no significant differences by ethnicity or grade-level, however the gender difference favoring females was significant. In addition, GPA scores did not significantly differ by level of training or self-reported ability to dance among dancers. However, the highest level of GPA was reported in the advanced level. Non-dancers reported higher rates of wellness and perceived global self-concept than dancers, yet means were high for both groups. Selection bias was not accounted for in her study.

Other studies have attempted to elucidate the positive benefits of dance education on adolescent development. Minton (2000), for example, randomly assigned adolescents to enroll in a high school dance course across six secondary schools to estimate the effect of dance courses on adolescent creative thinking skills using the Torrance Test of Creative Thinking (TTCT). According to differences in pre-and-post test results, estimated with a repeated-measures multivariate analysis of covariance, no significant changes occurred in levels of overall creative thinking between the treatment and control groups (Minton, 2000). However, significant differences were found between dancers and non-dancers on subscales of the TTCT such as originality and abstractness. A limitation of this study was the researcher's inability to account for the amount of dance training that some students received prior to the study and the number of dance courses students might have taken outside of school at the time of the study.

Minton (2001) also examined high school dance students' rating of self-esteem using the Culture-Free Self-Esteem Inventory. She found no significant mean differences between dance and non-dance students after participating in beginning dance elective courses, however, dancers' levels of self-esteem increased from pre- to post-test. Several other studies have failed

to find positive results between dance engagement and adolescents' cognitive development (see meta-analysis conducted by Keinanen et al., 2000, Lanfredi, 2008). This is likely due to an inability to generalize across populations (Kim, 2007; Park, 2007), small sample sizes, different dance environments and curricula (Lopez et al., 2015), and failure to control for factors related to selection into dance.

One of the most rigorous studies to date—and the most relevant to this dissertation—examined the association between involvement in dance elective courses and academic achievement (Gara & Winsler, 2020). We used large-scale, longitudinal data from the MSRP, between the 2002 to 2014 academic years. Initially, Black student and males had reduced odds of enrolling in a middle school dance elective. Those who had greater social skills at age four and scored higher academic marks in elementary school had greater odds of enrolling in a dance elective. After controlling for these significant pre-existing selection effects and the nesting structure of the data, we found that involvement in middle school dance electives was associated with higher grade point averages, approximately a 4-point increase in 7th grade standardized math scores, better school attendance, and a 42% decrease in the probability of being suspended in 7th grade (compared with statistically similar non-dance students), with stronger positive associations observed for students taking dance electives for multiple years (Gara & Winsler, 2020).

Gara and Winsler provide strong statistical evidence that dance electives can improve adolescent's school suspension, school attendance, academic achievement in middle school. However, the localized population of Hispanic youth (mostly Latin American), makes these findings difficult to generalize to other Hispanic populations. This dissertation will expand on my prior findings (Gara & Winsler, 2020) by employing a more comprehensive quasi-

experimental design that includes descriptive statistics, multiple linear regressions controlling for covariates associated with selection-bias, school-level fixed effects, and a series of comparison groups at the district-and school-level. In addition, in the current study, I examine the impact of *high school* dance electives on the rates of school suspension, school attendance, and academic achievement of Hispanic youth in an urban school district in Southern California, many of whom live in poverty. I also report outcomes for AP course enrollment and high school graduation.

Method

This research study was approved by the Santa Ana Unified School District, Research and Evaluation Department, and by the University of California, Irvine Office of Institutional Review Board, Approval Code, HS# 2018-4368.

Data

Seven years of student-archival data (2012-2013 - 2018-2019) collected annually by the Santa Ana Unified School District were used in the current study. Each academic year, data were de-identified and merged to create a longitudinal, cohort-sequential dataset encompassing six cohorts of public secondary school students who have completed or are still progressing 8th to 12th grade ($N = 26,089$, see Figure 2.1 for a breakdown of the cohort sequential design of the data). Data include parent and school administrative report of student demographic characteristics upon entry into the school district (i.e., gender, race, residing in an English-speaking household). Information on students' free/reduced-price meal status (FRM), English language proficiency status, special education status, course and extracurricular activity enrollment, school suspension, days of school attendance, and academic achievement (i.e., GPA, scores on statewide proficiency assessments in English language arts (ELA) and mathematics,

AP course enrollment, and high school graduation) were collected annually via school administration records.

Sample

Due to the cohort-sequential nature of these data, sample sizes decrease for students in higher grade levels as students are still progressing through high school. I have 8th and 9th grade data for all six cohorts ($n = 22,867$ and $n = 22,185$, respectively), 10th grade data for five cohorts ($n = 17,819$), 11th grade data for four cohorts ($n = 13,989$), and 12th grade data for three cohorts ($n = 9,599$). Students who failed a grade, skipped a grade, or entered or left the school district at after the 2012-2013 school year are included in the sample. Students enrolled in an alternative school such as a college preparatory school or those serving at-risk students for failure (e.g., non-public schools of Santa Ana, advanced learning academies, REACH academy, independent study, Cesar Chavez High, Lorin Grist Academy, and Middle College High) were excluded from the analysis ($n = 3,079$). This yielded a total sample of $N = 23,010$ adolescents, attending six non-alternative public high schools, to be included in estimation procedures.

Summary statistics describing the demographics, school suspension, school attendance, and academic performance in 8th grade of the sample are shown in Table 2.1. This sample is 50% male, 95% Hispanic, and 12% of students were raised in English-speaking households. About half (55%) of children's parents did not graduate high school, 39% of parents graduated high school and/or received some college education, and 6% received postsecondary schooling. In 8th grade, the majority of students (92%) received FRM, 25% of students were English learners, 59% of students were reclassified as English speaking, and 10% of students received special education services with an individualized education program (IEP). Regarding school attendance in 8th grade, average attendance rates were high, at 174 days out of a 180-day school year and the

average number of total in-or out-of-school suspensions was low at 0.22 days. In 8th grade, students scored an average GPA of 2.57 (about a C+ average) and averaged scores below proficient on statewide assessment on ELA and mathematics.

Measures

Demographics. Demographic information is reported by each child’s parent or guardian once their child enters the school district. Additional information reported by the school district is used indicate FRM status, English language proficiency status, and special education status. This information is stored in the California Longitudinal Pupil Achievement Data System (CALPADS).

Gender. Gender is reported by the students’ parents, and is coded as “male” = 1, “female” = 0.

Race. Race is a binary indicator coded as “Hispanic” = 1, “non-Hispanic” = 0. Race/Ethnicity was indicated by the CALPADS use of Federal Race/Ethnicities categories based on the combination of the student Hispanic ethnicity indicator and Student Race Codes (CALPADS, 2020). If the Student Hispanic Ethnicity indicator is “Yes”, a student is coded as Hispanic, regardless of race. Non-Hispanic race categories include American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White.

English-speaking household. Students were coded according to whether or not they resided in a primarily English-speaking household upon entry into the district; “English speaking household” = 1, “non-English speaking household” = 0.

Parent education level. Parent education level was report by parents upon their child’s entry into the school district. I created a categorical indicator with the following levels: “did not

graduate high school” = 1; “high school graduate/some college” = 2; “college graduate/graduate school/post-graduate training” = 3”. Postsecondary enrollment is used as the reference group.

Free/reduced meal. Free or reduced-price meal status is determined by the Federal Poverty Guidelines and each child’s family income status (e.g., weekly, bi-weekly, twice per month, monthly, or annually) and household size (CDE, 2019a). I use students’ receipt of FRM in 8th grade, coded as “1” = received FRM, vs “0”.

English language proficiency. English language proficiency is a categorical indicator based on each student’s level of English fluency in 8th grade. Students are classified as English learners if there is a report of a language other than English spoken at home and who, using the California English Language Development Test (ELPAC) and additional information when appropriate, are determined to lack the clearly defined English language skills of listening, speaking, reading, and/or writing necessary to succeed in the school’s regular instructional programs (CDE, 2020). According to CDE, students’ language fluency level is indicated by four levels: “English Only” = 1; “Initially Fluent” = 2; “English Learner” = 3; and “Reclassified” = 4. Reclassification to Fluent English Proficiency is based on an assessment of language proficiency using an objective assessment instrument, teacher evaluation, parental opinion and consultation, and comparison of performance based upon the performance of English proficient students of the same age (CDE, 2020). A dichotomous indicator was generated to denote fluency status where “English Learner” and “Reclassified” are coded as “1”, and “English Only” and “Initially Fluent” were combined into one category and used as the reference group.

Special education status. Students who are assessed as having a disability with or without a written IEP in 8th grade are coded as “1” vs “0”.

School Suspension, School Attendance, and Academic Achievement.

School suspension. School suspension is indicated using three variables. First, a continuous variable indicating the total number of in-or out-of-school suspensions a student received in 8th grade. Next two dichotomous variables were generated to indicate if a student ever received in-or out-of-school suspension in 8th grade, or between 9th to 12th grade (“0” = student did not receive a suspension),

School attendance. Students’ absenteeism information is collected from school records each academic year. Teachers submit attendance reports daily, and administrative records list the total number of days students’ attended school. Using this information, I created two continuous school attendance variables. The first variable represents the total number of days students’ attended school in 8th grade. The second variable indicates the average number of days a student attended school between 9th and 12th grade. Instances where students did not have data for a specific grade (because students were still progressing through high school, left the district, or were missing at random) are computed in the average as missing, versus zero. Total days of instruction for SAUSD is 180 days.

AP course enrollment. High school records indicate the total number of AP courses students enrolled in each academic year. In the current study, AP course enrollment is a continuous variable indicating the total number of AP courses a student took between 9th and 12th grade. This number is then averaged across 9th to 12th grade for use in regression equations. Instances where students do not have available data for a specific grade (because students were still progressing through high school, left the district, or were missing at random) are computed in the average as missing, versus zero.

GPA. GPA is a continuous indicator ranging from zero to four. Each academic year, students received a letter grade for their performance in each course they enrolled in, where “A”

= 4, “B” = 3, “C” = 2, “D” = 1, “F” = 0. High school GPA is an average of GPAs each student received between 9th and 12th grade. Instances where students do not have available data for a specific grade (because students were still progressing through high school, left the district, or were missing at random) are computed in the average as missing, versus zero.

Standardized assessments. Student’s proficiency on California’s state-wide ELA and mathematics assessment taken in 8th and 11th grades are used in the current study. These end-of-year assessments are administered to students on computers in grades 3-8 and some grades between 9th to 11th. Tests are aligned with Common Core State Standards and are used to determine students’ knowledge and skills in the tested subject area. Students with an active individualized education program can be subject to exemption from the assessments.

Between July 1st, 1990 and May 1st, 2013, The Standardized Testing and Reporting (STAR) and California Standards Testing (CST) were administered statewide. The scale scores for each subject area ranged between 150 to 600. This number is stratified by the CST test designers to indicate four levels of achievement: Level 1 “Far below/ below basic”, Level 2 “Basic”, Level 3 “Proficient”, and Level 4 “Advanced” (CDE, 2013). Because of statewide testing transitions, students’ performance levels from the CST administered in the Spring of 2013 are used in the current study to indicate 8th grade achievement levels during the 2014-2015 and 2015-2016 school years. This decision was made in partnership with SAUSD.

In the Fall of 2013, the STAR program replaced The California Assessment of Student Performance and Progress, Smarter Balanced Assessment Consortium (SBAC). Scores for the SBAC fall on a continuous scale from approximately 2000 to 3000 that increases across grade levels (SBAC, 2020). This number is stratified by the SBAC test designers to create four levels of achievement: Level 1 “Standard Not Met”, Level 2 “Standard Nearly Met”, Level 3 “Standard

Met”, and Level 4 “Standard Exceeded” (SBAC, 2014). Students’ proficiency scores are used to determine their college and career readiness. A score of Level 3 “Standard Met” or higher on both ELA and mathematics suggest evidence of readiness for “entry-level, transferable, credit-bearing college courses” (SBAC, 2014). In 8th grade, variables were generated to indicate students’ achievement levels on each of the CST and SBAC assessments (for whichever assessment was available for that year of data collection) in ELA and mathematics subjects (range 1 to 4). These two CST and SBAC test indicators – with the same range of proficiencies—were then aggregated for each subject area to use to control for 8th grade achievement on standardized tests. In 11th grade, a continuous variable was generated to indicate students’ proficiency scores on the SBAC ELA and math assessments, ranging from 1 to 4. Adolescents in cohort A were not administered the SBAC in 11th grade because of statewide testing transitions.

Graduation status. Effective in 2016, Senate Bill 172 was signed into law and suspended the administration of the California High School Exit Exam (CDE, 2019b). Since 2016, students are eligible for graduation upon completion of the following school district mandated “A-G” requirements: three years of approved English courses, two years of mathematics, three years of social science, two years of science (i.e., biology/life science and physical science), one year of either visual and performing arts, foreign language, or career technical education, and two years of physical education (CDE, 2019c). Students who met these requirements and graduated 12th grade were coded as “1”, versus “0”.

4.4 Treatment

Students were assigned to one of six comparison groups according to their school state code and course enrollment flags per semester between 9th and 12th grade. These items were

collected by the school district each academic year. Examples of dance elective course names include “Dance Beginning” “Dance Intermediate”, “Dance Advanced”, “Dance Production”, “Dance Composition”, “IB Dance”, “Folklorico”, and “Ballet”. A dichotomous variable was generated to flag students who enrolled in any one of these dance courses at least once during their high school trajectory. In addition, a second dichotomous variable was generated to flag students who enrolled in a pep squad, volleyball, softball, or color guard (e.g., flags) elective course at least once during their high school trajectory and did not enroll in a dance elective (coded as “1” vs. “0”). Adolescents in any of the “treatment” or contrast groups may have enrolled in other types of arts or non-arts-based electives and extracurricular activities, unless otherwise noted.

The analytic strategy used to place students to one of six comparison groups follows a “broad-to-narrow” or “district-to-school level” comparison logic, as shown in Figure 2.2. First, I isolate associations at the district level, and pool high school students who attended a non-alternative public high school (grades 9th to 12th) between the 2013-2014 to 2018-2019 academic years. Adolescents include those who transferred public high schools within the district during the time of data collection. However, adolescents who enrolled at Santa Ana High for at least one academic year were excluded from all district-level comparison groups and were included in a distinct category. This decision was made because Santa Ana High houses the SanArts Conservatory, and subsequently underwent unique changes in staffing, instruction, and school structure to improve the learning experiences of students (Murnane & Willet, 2011).

Following this logic, I first investigate four district-level comparison groups as they impact adolescents’ school suspension, school attendance, and academic achievement in high school. Adolescents assignments to each of these groups is shown in Table 2.2. First, *comparison*

group one examines the association between enrollment in a high school dance elective ($n = 2,017$) compared with adolescents who did not enroll in a dance elective ($n = 5,986$). Males were excluded from this comparison group because of the tremendous gender imbalance between the dance and non-dance groups (see summary statistics in Appendix A, Table A1).

Next, in *comparison group two*, I examine the association between enrollment in a high school dance elective ($n = 1,879$) compared with enrollment in a different type of female-dominant elective during high school ($n = 755$). Electives were flagged as “female dominant” if enrollment composition was 93% or more female— this decision was based on the gender composition of adolescents who enrolled in dance electives within the district, at 96% female. Thus, adolescents who enrolled in pep squad, volleyball, softball, and color guard, and did not enroll in a dance elective, served as the comparison group. Adolescents in the dance elective contrast were those who did not enroll in a pep squad, volleyball, softball, or color guard elective during high school.

Comparison group three is used to examine the school suspension, school attendance, and academic achievement of adolescents who exclusively attended Santa Ana High while enrolled in the Santa Ana Unified School District ($n = 3,711$) compared with those who attended one of the five other non-alterative public high schools within the district ($n = 13,726$; see Table 2.2). This comparison excluded adolescents who enrolled in a high school dance elective to investigate how Santa Ana High students are fairing compared with students enrolled in other non-alterative high schools across the district (see Table 2.2). This comparison group will help to interpret the impact of dance elective enrollment in subsequent comparison groups. Next, using *comparison group four*, I examine the differences in school suspension, school attendance, and academic achievement associated with enrollment in a dance elective at Santa Ana High ($n =$

637) compared with enrollment in a dance elective within one of the five other non-alternative public high schools within the district ($n = 1,559$).

The last two comparison groups (i.e., groups five and six) explore the potential gains of enrollment in high school dance electives among adolescents who solely attended Santa Ana High during their high school trajectory (see Table 2.2). *Comparison group five* is used to examine enrollment in dance elective ($n = 657$) compared with adolescents who did not enroll in a dance elective ($n = 3,711$). Similar to comparison group one, males are excluded from this analysis because of the tremendous gender imbalance between the “treatment” and contrast group (see Appendix A, Table A5). *Comparison group six* examines enrollment in the SanArts Dance conservatory ($n = 45$), compared with adolescents enrolled in general dance electives at Santa Ana High ($n = 612$).

Analytic Plan

Summary statistics for each of the six comparison groups, including demographics, school suspension, school attendance, and academic achievement in 8th grade and high school (i.e., grades 9-12), can be found in Appendix A, Tables A1 to A6. These descriptive statistics are used to determine the balance of each of the six comparison groups and observe how the direction and magnitude of outcomes change once controlling for covariates. Next, a series of ordinary least squares (OLS) multiple linear regression models were employed to estimate the association of high school dance elective enrollment on adolescents’ school suspension, school attendance, and academic achievement during 9th to 12th grade, among the six comparison groups.

Due to the cohort sequential nature of the sample, three of the six cohorts (e.g., A, B, and C) had completed 12th grade ($n = 13,339$; see cohort chart displayed in Figure 2.1). The

remaining three cohorts were still progressing through high school at the time of data collection—with the sixth cohort of on-time students having completed 9th grade. Thus, each grade-specific outcome (e.g., proficiency on statewide ELA and math assessments in 11th grade) was estimated using the available data depending on adolescents’ high school trajectory. All other continuous outcomes represent averages of the 9th to 12th grade data that were available for each student.

The following seven outcomes are estimated: (1) received a school suspension (Yes/No); (2) total days of school attendance; (3) total AP course enrollment; (4) GPA; (5) statewide ELA assessment proficiency in 11th grade; (6) statewide math assessment proficiency in 11th grade; (7) high school graduate (Yes/No). Models with dependent variables coded as 0-1 are estimated using a linear probability model (Battey et al., 2019). These equations are interpreted as estimating the probability, for example, of ever receiving a school suspension in high school for each of the students. Continuous outcomes were standardized using z-scores. All continuous outcomes are interpreted as an x standard deviation change in the associated units of the dependent variable.

The following equation is estimated for each of the seven outcomes:

$$Y_{is} = \beta_0 + \beta_1 Treat_i + \beta_2 X_i + \beta_3 Cohort_i + \beta_4 Dance * Male_i + \beta_5 Dance * PriLang_i + \beta_6 Dance * GPA\&Avg_i + \mu_i + \varepsilon_i \quad (1)$$

Where Y_{is} is the probability (for binary outcomes) or standard deviation change (for continuous outcomes) of an outcome for student i at school s . $TREAT$ is a binary indicator representing assignment to treatment for one of the six comparison groups. X is a vector of time-invariant, individual-level covariates that control for adolescents’ demographics (e.g., gender, race, parent

education level, received FRM in 8th grade, primary language spoken at home, English language learner status in 8th grade, special education status in 8th grade); and in 8th grade, adolescents school suspension, school attendance, academic achievement (GPA, statewide ELA assessment proficiency, statewide math assessment proficiency) and dance elective enrollment (Y/N).

Primary language spoken at home and English language learner status in 8th grade were highly correlated ($r = 0.85$), thus only English language learner status was used as a covariate.

Continuous predictors were standardized using z-scores.

Cohort is a series of binary indicators that account for the cohort sequential nature of the sample and cohort specific differences—when, for example adolescents had more opportunity to take AP courses or receive suspensions for having completed more years of high school. In addition, variations of these binary indicators were used according to the grade-level at which outcomes were observed. For example, estimates of high school graduation status utilized a series of three binary indicators representing cohorts A, B, and C of adolescents who completed 12th grade (rather than all six cohorts). A similar approach was taken when estimating proficiency on statewide assessments in 11th grade. Interactions tests are included in separate models, for each outcome in each comparison group, with product terms for high school dance enrollment and being male, English language proficiency in 8th grade, and a dummy indicator for students who scored GPAs below average in 8th grade; all interactions were entered as one step into the equation for each outcome.

The coefficient μ_s represents school-level fixed effects. Fixed effects are used as a robustness check for comparison groups one and two where adolescents are nested within high schools (see Table 2.2). In these models, additional indicator variables for each high school are included to account for intergroup variation that is attributed to observable or non-observable

characteristics between high schools (i.e., school climate and teacher behaviors; Murnane & Willet, 2011). These indicators allow each school to have its own intercept. Thus, results are representative of the impact of dance education after removing the effect of any school-level variables.

ε_{ts} is an independently distributed error term. Robust standard errors are computed. These error terms assume that observations are independent and account for minor problems about the normal distribution or heteroscedasticity of errors. For the fixed-effects models, standard errors are clustered at the school level. The independence of observations is relaxed, and the clusters identified by equal values of each high school indicator are assumed to be independent.

Each OLS multiple regression – other than the fixed effect models—were computed as path analyses using STATA SE/14. This method allowed me to handle missing data using full information maximum likelihood (FIML). The FIML estimator has been shown to be a superior technique to handling multiple regression models with missing data compared with other types of ad hoc methods such as listwise deletion, pairwise deletion and mean imputation (Enders, 2001). FIML maximizes the likelihood function so that each case containing missing values contributes information on the observed variables; data are not imputed or created. FIML assumes values are missing at random or missing at complete random. Fixed effects models were computed using the ‘areg’ command and missing data were handled using listwise deletion.

As a robustness check, tests of six a priori hypotheses using the Bonferroni correction were conducted to check for the bias of repeated testing effects and inflated type-one errors. According to this correction, the probability of making a type-one error with six hypotheses was 26% (i.e., $1-(1-.05)^2$). The Bonferroni adjusted p-value was set at .008 by dividing the original alpha value by the number of hypotheses tested (i.e., $.05/6$). Results that withstand the

Bonferroni correction are reported in text. Main effect and interaction models shown with the full list of covariates and unstandardized coefficients can be found in the Appendix B, Tables B1 – B14.

Results

Table 2.3 displays results from OLS multiple linear regression models (e.g., unstandardized coefficients, standard errors, and sample sizes) for each of the six comparison groups. Each comparison group is given a row and the seven outcomes are displayed in columns. Similar tables displaying regression models controlling for covariates for the interaction terms of gender, English language learner status in 8th grade, and scoring below average GPA in 8th grade can be found in Appendix C, Tables C1 – C3.

Dance Elective Enrollment vs. No Dance Elective Enrollment, Outside of Santa Ana High (Comparison Group One)

Balance

Summary statistics of the demographics, school suspension, school attendance, and academic achievement in 8th grade for comparison group one can be found in Appendix A, Table A1. Males were over-represented in the contrast group among adolescents who did not enroll in a high school dance elective, at 56%. This percentage is compared with the 4% of males who enrolled in a dance elective. Thus, males were excluded from this comparison group and gender was not used as a covariate. In addition, after the exclusion of males, adolescents in this comparison group graduated high school at similar proportions, at 98%. Due to this lack of variance, high school graduation status was not estimated as a dependent variable. Excluding males resulted in final sample sizes of 2,017 females who enrolled in a high school dance elective, compared with 5,986 females who did not.

OLS Multiple Linear Regression

During high school, enrollment in a dance elective was significantly associated with a .13 standard deviation (SD; $M = 171.20$; $SD = 19.46$) increase in the total number of days adolescents attended high school, compared with those who did not enroll in a dance elective ($p < .001$; see Table 2.3), holding all covariates constant. This translates to about 2.5 more days of school attendance ($.13 * 19.46 = 2.53$ days). Dance elective enrollment was significantly associated with a .08 SD ($M = 0.94$; $SD = 1.24$) decrease in AP course enrollment (e.g., enrolling in one less AP course, $p < .001$). These results are similar to descriptive statistics of performance outcomes between groups, prior to controlling for covariates.

Prior to controlling for covariates, adolescents who enrolled in a dance elective scored lower GPAs in high school ($M = 2.69$; $SD = 0.12$; about a B-), compared with adolescents who did not enroll in a dance elective ($M = 2.79$; $SD = 0.01$). However, once holding all covariates constant, dance elective enrollment was significantly associated with a 0.05 SD ($M = 2.74$; $SD = 0.83$) increase in high school GPA ($p = .003$), controlling for covariates. This equates to a small, .04-point increase in GPA that maintains about a B- average.

Fixed Effects

No significant association emerged once accounting for school-level characteristics. Thus, the significant associations noted above seem to be due to unique characteristics of the school, or that most students who are taking dance electives and are scoring higher GPAs, for example, are nested within a specific school.

Interaction Models

Significant interaction effects were not observed for English language learner status in 8th grade or scoring a below average GPA in 8th grade (see Tables C2 and C3).

Dance Elective Enrollment vs. Female Dominant Elective (i.e., pep squad, volleyball, softball, color guard) Enrollment, Outside of Santa Ana High (Comparison Two)

Balance

Summary statistics of the demographics, school suspension, school attendance, and academic achievement in 8th grade for comparison group two can be found in Appendix A, Table A2. About 95% of the sample was female and more than 95% of adolescents were Hispanic. A higher proportion of adolescents who enrolled in dance electives resided in non-English speaking households, were English Language learners in 8th grade, received free or reduced-price meals, and received special education services than adolescents enrolled in a female dominant elective. In 8th grade, both groups averaged a GPA of about a B- and scored less than proficient marks on statewide ELA and math assessments.

OLS Multiple Linear Regression

During high school, enrollment in a dance elective was significantly associated with a .11 SD ($M = 0.89$; $SD = 1.18$) decrease in AP course enrollment, compared with adolescents who enrolled in a pep squad, volleyball, softball, or color guard elective ($p = .008$.01; see Table 2.3), holding all covariates constant. This translates to taking one less AP course and is consistent with the summary statistics displayed in Table A2. For example, adolescents who enrolled in a female dominant elective in high school enrolled in an average total of 3.62 AP courses between 9th to 12th grade, compared with 2.75 courses taken by adolescents who enrolled in a dance elective.

Adolescents who enrolled in a dance elective rather than a pep squad, volleyball, softball, or color guard elective also scored higher marks on the statewide math assessment in 11th grade. This is in contrast to the summary statistics shown in Table A2, where adolescents who enrolled in a dance elective scored .04 points lower on the statewide assessment. After

controlling for covariates, enrollment in a dance elective was significantly associated with a .16 SD ($M = 1.69$; $SD = 0.87$) increase in marks (e.g., a .14-point increase) on the statewide math assessment, compared with adolescents enrolled in other female-dominate electives, ($p < .001$; see Table 2.3).

Fixed Effects

Significant associations did not emerge once accounting for the nesting structure of the data and intergroup variation of schools (see Table 2.3). Thus, adolescents who were enrolled in a dance elective and were either enrolling in fewer AP courses or were scoring high marks on statewide math assessments in 11th grade were largely nested within a single high school.

Interaction Models

Significant interaction effects were not observed for terms of gender (see Table C1), English language learner status in 8th grade (see Table C2) or scoring a below average GPA in 8th grade (see Table C3).

Enrollment at Santa Ana High vs. Enrollment Outside of Santa Ana High, Among Adolescents who Did Not Enroll in Dance Electives (Comparison Three)

Balance

Summary statistics of the demographics, school suspension, school attendance, and academic achievement in 8th grade for comparison group three are shown in Appendix A, Table A3. About 60% of the sample was male and more than 93% of adolescents were Hispanic. At Santa Ana High, a higher proportion of adolescents were English language learners in 8th grade and resided in non-English speaking households, than students enrolled in another type of non-alternative high school within the district. Rates of students who received free and reduced-price meal and special education services were higher among Santa Ana High, than other high schools

within the district. In 8th grade, adolescents who went to enroll at Santa Ana High received slightly more suspensions. They also scored lower marks on GPAs and statewide ELA and math assessments. However, both groups scored GPAs of about a C- average and scored less than proficient marks on statewide assessments, on average.

OLS Multiple Linear Regression

Descriptive statistics of adolescents' high school suspension, school attendance, and academic achievement are shown in Table A3. Five percent of adolescents enrolled at Santa Ana High received a school suspension during high school, compared with 8% of adolescents enrolled at other non-alternative high schools within the district. Linear regression models revealed that enrollment at Santa Ana High was significantly associated with a 5% decreased probability of receiving a suspension in high school, compared with enrollment at other non-alternative high schools within the district, holding all variables constant ($p < .001$; see Table 2.3).

Academically, attending Santa Ana High was significantly associated with scoring lower academic marks compared with enrollment in other high schools. Enrollment at Santa Ana High was significantly associated with a .20 SD decrease in GPA ($M = 2.45$; $SD = .93$), a .09 SD decrease in statewide ELA assessment marks ($M = 2.25$; $SD = 1.00$), and a .13 SD decrease in statewide math assessment marks ($M = 1.75$; $SD = .93$). All alpha levels were significant at $p < .001$. Once controlling for covariates, these findings are consistent with the summary statistics displayed in Table A3. Thus, adolescents who attended Santa Ana High had GPAs equivalent to about a C+ and scored marks below proficiency on statewide assessments in 11th grade.

Interaction Models

Gender emerged as a significant moderator of receiving a suspension in high school and graduating high school (see Appendix C, Table C1). Enrollment at Santa Ana High and being male was significantly associated with a 4% decreased probability of receiving a suspension from high school, compared with females and controlling for covariates ($p < .001$).

Dance Elective Enrollment, Santa Ana High vs. Dance Elective Enrollment, Outside of Santa Ana High (Comparison Four)

Balance

Summary statistics of the demographics, school suspension, school attendance, and academic achievement in 8th grade for comparison group four are shown in Appendix A, Table A4. Less than 5% of the sample was male, and more than 96% of adolescents were Hispanic. At Santa Ana High, a higher proportion of adolescents who enrolled in a dance elective were English language learners in 8th grade, resided in non-English speaking households, and received free or reduced-price meals than dance elective students enrolled in another type of non-alternative high school within the district. Within each group, about 8% adolescents who enrolled in a dance elective received disability services. Both groups also scored GPAs of about a B- average and scored less than proficient marks on statewide assessments, with Santa Ana High students getting slightly worse marks. In high school, graduation rates were similar at 98%. Thus, graduation status was not computed as an outcome.

OLS Multiple Linear Regression

Descriptive statistics of adolescents' high school suspension, school attendance, and academic achievement are shown in Table A4. Here, we see a similar pattern of comparison group three, with enrollment at Santa Ana High hurting adolescents' academic marks compared to those enrolled at other high schools within the district. These reductions in performance were

still observed after controlling for covariates. Results from regression analyses reveal that Santa Ana High dance elective enrollment was significantly associated with a .18 SD ($M = 2.63$; $SD = .80$) decrease in GPA (a .14 point decrease that equates to a B-; $p < .001$), a .21 SD ($M = 2.16$; $SD = .97$) decrease in statewide ELA assessment marks (a .20 point decrease in scores; $p < .001$), and a .28 SD ($M = 1.61$; $SD = .84$) decrease in statewide math assessment marks (a .24 decrease in scores; $p < .001$), holding all covariates constant, as shown in Table 2.3. These percentage-point deductions on statewide ELA and math assessments in 11th grade equate to moving from standards nearly met to standard not met.

Interaction Models

No significant interactions of gender were observed (see Table C1). Enrollment in a Santa Ana High dance elective and being an English language learner in 8th grade was significantly associated with a .47 SD ($M = 1.61$; $SD = .84$) increase (i.e., .39 percentage points) in statewide math assessment marks in 11th grade, controlling for covariates ($p = .000$, see Table C2). In addition, enrollment in a Santa Ana High dance elective and having scored a below average GPA in 8th grade was significantly associated with a .30 SD ($M = 1.61$; $SD = .84$) increase—a .25 percentage point increase—in statewide math assessment scores in 11th grade, controlling for covariates ($p < .001$, see Table C3).

Dance Elective Enrollment vs. No Dance Elective Enrollment, Santa Ana High (Comparison Five)

Balance

Summary statistics of demographics, school suspension, school attendance, and academic achievement in 8th grade for comparison group five are shown in Appendix A, Table A5. Males were over-represented among adolescents who did not enroll in a dance elective at Santa Ana

High, at 58%, compared with 3% of males who enrolled in a dance elective. Thus, gender was excluded as a covariate. In addition, after the exclusion of males, adolescents in this comparison group graduated high school at similar proportions, at 99%. Due to this lack of variance, high school graduation status was not estimated as a dependent variable. Excluding males (20 adolescents) resulted in final sample sizes of 637 females who enrolled in a high school dance elective, compared with 1,559 females who did not, all within Santa Ana High.

OLS Multiple Linear Regression

Dance elective enrollment at Santa Ana High was significantly associated with a .18 SD ($M = 169.82$; $SD = 21.34$) increase in the total number of days adolescents attended high school, compared with adolescents who did not enroll in a dance elective, holding all covariates constant ($p < .001$; see Table 2.3). This equates to about 3.8 more days of attending high school, on average. Within Santa Ana High, dance elective enrollment was associated with a .09 SD ($M = 2.44$; $SD = .89$) increase in GPA compared with non-dance elective students, controlling for covariates (this equates to a .08-point increase in GPA that translates to a C+; $p = .006$). However, dance elective enrollment was significantly associated with a .17 SD ($M = 2.15$; $SD = .93$) decrease in statewide ELA assessment marks (a .16-point decrease; $p = .001$), and a .18 SD ($M = 1.50$; $SD = .74$) decrease in statewide math assessment marks (a .13-point decrease; $p = .000$), compared with non-dance students, holding all covariates constant. These percentage point decreases in statewide ELA and math assessments translate to moving from standard nearly met to standard nearly met.

Interaction Models

No significant interactions emerged (see Appendix C Tables C1-C3).

SanArts Dance Conservatory Enrollment vs. Dance Elective Enrollment, Santa Ana High (Comparison Six)

Balance

Summary statistics of the demographics, school suspension, school attendance, and academic achievement in 8th grade for comparison group six can be found in Appendix A, Table A6. About 4% of this sample was male, and 100% of adolescents were Hispanic. Thus, the Hispanic indicator was not used a covariate in regression models. A higher proportion of adolescents in the SanArts Dance Conservatory resided in an English-speaking household, and both groups reached similar levels of English fluency by 8th grade. Due to the lack of variance in English fluency, this covariate was removed from the regression equation.

Rates of adolescents who received free and reduced-price meals were similar between groups at more than 94%. Eight percent of adolescents who enrolled in a general dance elective received disability services, compared with 0% of adolescents in the dance conservatory group. In 8th grade, adolescents enrolled in the dance conservatory scored GPAs of about a B average compared with a C+ average observed among the general dance elective group. In addition, adolescents in the dance conservatory scored higher proficiency marks on statewide ELA and math assessments in 8th grade, compared with those who enrolled in general dance electives; differences in scores ranged from .34 to 1.08 points, see Table A6.

OLS Multiple Linear Regression

Descriptive statistics of the high school performance and academic achievement for comparison six are shown in Table A6. Here, we see that adolescents enrolled in the conservatory scored higher academic marks on all measures of achievement compared with adolescents enrolled in general dance electives. Regression results further reveal that enrollment

in the dance conservatory was associated with a .41 SD ($M = .70$; $SD = 1.02$) increase in AP course enrollment, compared with enrollment in general dance electives, controlling for covariates ($p = .007$; see Table 2.3). In addition, enrollment in the dance conservatory was associated with a .40 SD ($M = 2.01$; $SD = .89$) increase in proficiency of statewide ELA assessments in 11th grade compared with general dance elective enrollment, controlling for covariates ($p = .003$).

Interaction Models

Significant interactions did not emerge (see Appendix C, Tables C1-C3).

Summary of Results

At the district-level, prior to controlling for school-level characteristics, enrollment in high school dance electives was significantly associated with increasing students' days of high school attendance (e.g., by approximately 2.5 days, on average), scoring higher marks on statewide math assessments in 11th grade, and enrolling in fewer AP courses, on average. However, once accounting for school-wide fixed effects, these findings were no longer significant. These results suggest that the observed impacts of school-based dance programs were actually due to the unique characteristics of each school. In addition, these results suggest that many students who are enrolling in dance electives and are experiencing these outcomes are nested within the same school. Last, the similar levels of school attendance between students who either enrolled in dance electives and those enrolled in other female-dominant electives (e.g., pep squad, volleyball, softball, or color guard) suggests that enrollment in various types of physically engaging electives seems to promote adolescents' school attendance, particularly among females.

Next, I examined students' rates of school suspension, school attendance, and academic achievement at the arts-based Santa Ana High school, compared to students enrolled in other non-alternative public high schools within the district. Overall, I observed that enrollment at Santa Ana High school was significantly associated with decreasing adolescents' probability of receiving a school suspension by 5%, compared with enrollment in other non-alternative high schools within the district — this finding was largely driven by a decrease in male students' rates of suspension. However, enrollment at Santa Ana High was associated with significantly lower academic achievement, compared with enrollment at other non-alternative public high schools — regardless of whether or not adolescents were enrolled in a high school dance elective. In particular, enrollment at Santa Ana High was associated with reductions in GPAs marks (e.g., moving from a B- to a C+), marks on statewide ELA assessments in 11th grade between .09 to .20 percentage points, and marks on statewide math assessments in 11th grade between .12 to .24 percentage points. It is important to note, however, that Santa Ana High also, on average, enrolled a higher proportion of adolescents who were in poverty and were English language learners, than the combined average of other non-alternative public high schools within the district. Yet, these characteristics were controlled for.

Overall, adolescents enrolled at Santa Ana High were achieving proficiency levels on statewide assessments that did not meet standards or nearly met standards, on average; average proficiency levels were lower for math assessments. These results could be driven by school administrative decisions to improve the visual and performing arts programming at Santa Ana High, particularly after the establishment of the arts conservatory in 2016. Thus, Santa Ana High may have become detached from traditional academic programs. However, enrollment in a dance elective at Santa Ana High was significantly associated with boosting adolescents' marks on

statewide math assessments in 11th grade, particularly among those who, prior to high school entry, had been English language learners or scored below average GPAs, compared with dance elective enrollment at other non-alternative high schools within the district.

At the school-level, within Santa Ana High, dance elective enrollment was significantly associated with an increased total days of school attendance by approximately four days per academic year, compared with non-dance elective students. In addition, taking dance electives was significantly associated with increasing adolescents' GPA by .08 percentage points, on average (e.g., moving from an average GPA of a C+ to a B-). However, enrollment in dance electives was significantly associated with reduced statewide ELA and math assessment scores in 11th grade by .13 to .16 percentage points, respectively, compared with non-dance elective students; resulting in average proficiency rates less than or approximate to "standard nearly met", on average.

Within Santa Ana High, I also compared enrollment in general dance electives to enrollment in the SanArts Dance Conservatory, I found that enrollment in the dance conservatory was significantly associated with increased probability of adolescents' enrollment in an AP course by .42 of a course, on average, compared with enrollment in a general dance elective at Santa Ana High. In addition, dance conservatory enrollment was significantly associated with a .36 percentage point increase in statewide ELA assessments in 11th grade, compared with enrollment in general dance electives; moving from standards nearly met to standards met, on average. Overall, the effect sizes observed for these two outcomes were the largest across comparison groups and suggest that the advantages of dance elective enrollment seem to increase as the rigor of the dance curriculum increases.

Discussion

In this chapter, I pooled seven academic years (2012-2013 to 2018-2019) of student archival data collected by SAUSD to longitudinally follow a diverse, majority-Hispanic sample of adolescents as they progress between 8th to 12th grade. Adolescents resided in an urban school district, many of whom live in poverty. Using these data, I employed descriptive statistics, OLS multiple linear regression, and a series of six comparison groups to investigate the association between enrollment in high school dance electives on adolescents' levels of school suspension, school attendance, and academic achievement during 9th to 12th grades. Comparison groups were employed at the district-level, school-level, and within the SanArts Dance Conservatory. These estimates were conducted using a rigorous set of covariates that accounted for adolescents' demographic characteristics, prior levels of school suspension, school attendance, academic achievement, dance elective enrollment prior to entry into high school, and cohort-level indicators. In addition, I employed school-level fixed effects and reported significance results that withheld the Bonferroni correction to correct for type-one errors.

At the school-level, within Santa Ana High, I found that enrollment in high school dance electives was significantly associated with increased rates of attendance during high school—by approximately four days. These findings are similar to my prior research that examined the impact of dance elective enrollment in middle school, among an ethnically diverse, low-income sample of more than 30,000 adolescents living in Miami, Florida (Gara & Winsler, 2020). Once controlling for pre-existing selection effects and the nesting structure of the data, enrollment in a middle school dance elective (grades 6 to 8) was significantly associated with reducing the number of days adolescents missed school (Gara & Winsler, 2020). According to interviews with high school adolescents from low-to middle-income backgrounds, participation in dance electives provides them with a space during school hours to socially interact with peers, stretch

and engage in physical movement, and de-stress from other academic courses (Fredricks et al., 2002; Stinson, 1993). These reasons might help explain the positive relation between dance engagement and school attendance.

Results from the current study also suggest that engagement in a variety of physically engaging activities (i.e., dance, pep squad, volleyball, softball, color guard) in high school might help boost female adolescents' rates of school attendance. This was noted by the null difference, at the district-level, in rates of school attendance after comparing enrollment in dance elective to enrollment in other types of physically engaging, female dominant electives. Adolescents' participation in a variety of school-based extracurricular activities has been linked to providing a healthy environment for academic success, motivation, and school engagement, particularly for students living in poverty (Eccles et al., 2003; Kisida & Bowen, 2019; Thomas et al., 2015; Vandell et al., 2020). Thus, it may not be *dance*, in particular, that keeps adolescents engaged in school, but positive activities that allow adolescents to be social and active during school hours.

Enrollment in high school dance electives was also significantly associated with boosting adolescents' levels of GPA, compared with students who were not involved in dance. Across the district, this finding was likely due to the intergroup variation between high schools, and not the participation in dance electives. However, at school-level, this finding held true for adolescents enrolled at Santa Ana High (i.e., students who are underperforming academically compared with levels of district-performance), compared with students who were not enrolled in dance electives. Yet, these effect sizes were small and translate to maintaining one's level of GPA (e.g., a B-), on average. These findings parallel those noted by my prior research with the MRSP, where significant associations were observed between enrollment in middle school dance electives and a slight increase in adolescents' GPAs in grade 6 to 8, among a majority low-income sample of

Hispanic youth (Gara & Winsler, 2020). To date, these are the two most rigorous studies documenting the unique association of dance elective enrollment and adolescents' GPA in middle and high school. Multi-arts studies that compiled dance in a multi-arts composite indicator also noted significant, positive impacts on arts involvement and GPA during secondary school (Catterall et al., 2012). However, more research to continue to test this impact is needed.

I found that the relation between dance elective enrollment and proficiency on statewide math assessments in 11th grade was not straightforward. Theoretically, researchers have noted that learning the kinesthetics of dance (i.e., symmetrical movement, spatial memory, movement recall, and rhythmic comprehension) can complement the learning of math concepts and working memory (Belcastro & Schaffer, 2011). In addition, my prior research (Gara & Winsler, 2020) found that enrollment in middle school dance electives was associated with a 4-point gain on standardized math tests in seventh grade, compared with non-dance elective students, holding a battery of covariates constant. At first glance, at the district-level, the current study indicated that enrollment in a high school dance elective was significantly associated with scoring higher marks on statewide math assessments in 11th grade, compared with enrollment in other types of physically engaging, female-dominant electives. However, my results suggested that this was due to the intergroup variation between high schools, and that the majority of adolescents who enrolled in dance electives and scored higher marks on statewide math assessments in 11th grade were enrolled at the same high school.

In contrast, my later analyses, at the school-level within Santa Ana High, indicated that high school dance elective enrollment was associated with scoring *lower* marks on statewide math assessments in 11th grade, compared non-dance elective students. However, my interaction terms suggested that enrollment in dance electives seemed to help boost the proficiency scores

on statewide math assessments among adolescents who were English language learners and those who scored below average GPAs in middle school. Other researchers have noted that art-based experiences are particularly beneficial to the academic gains of low-income adolescents who often are English language learners or score low academic marks (Catterall et al., 2012). More research is needed to support a positive, consistent relation between high school dance elective enrollment and proficiency on test-based math content and the mechanisms surrounding this potential association, and for whom.

I also observed that, at the school-level within Santa Ana High, enrollment in dance electives was associated with decreased scores on statewide ELA assessments in 11th grade. Researchers have noted that, when strategically coupled with reading and English curriculum, dance education programs can increase the language acquisition and vocabulary among children in the early stages of learning (Greenfader & Brouillette, 2017). However, dance elective curriculum in high school is often not designed to foster these skills, and instead is focused on physical, musical, and choreographic elements. Indeed, my prior work with Winsler and the MRSP data did not find a significant association between middle school dance elective enrollment and adolescents' reading achievement in middle school. However, in the current study, I did find evidence that enrollment in the dance conservatory was associated with increasing adolescents' scores on statewide ELA assessments in 11th grade, compared with enrollment in general dance electives. These findings suggest that the advantages of dance elective enrollment might increase as the rigor of the dance curriculum increases. Unfortunately, I did not have in-depth data on the dance curriculum nor interviews with dance instructors or students to help understand why participation in the dance conservatory would be associated with increasing adolescents' proficiency on statewide ELA tests.

In addition, at school-level within Santa Ana High, I found that enrollment in general dance elective was associated with reductions in adolescents AP course enrollment, compared with non-dance elective students. Adolescents who enroll in general dance electives might do so because of the physical, social, emotional, and non-verbal expression elements of dance, rather than searching for more academic engagement. Thus, expecting to observe increases in AP course enrollment (i.e., history, math) is not strongly warranted, nor theoretically supported. Yet, involvement in the dance conservatory was associated with more AP course enrollment than involvement in general dance electives at Santa Ana High. Although I controlled for adolescents' demographics, prior school suspension, school attendance and academic achievement, dance elective enrollment in 8th grade, and cohort-level indicators, these findings could be driven by an additional "motivation" factor that I was unable to control for in my models. In addition, it is important to remember that the contrast group to enrollment in the dance conservatory was adolescents enrolled in general dance electives, who were already enrolling in fewer AP courses than the general student population at Santa Ana High.

Significant associations did not emerge between high school dance elective enrollment and receiving a high school suspension or graduating high school. In regard to suspension rates, prior research as noted that enrollment in a middle school dance elective was associated with 42% decreased odds of receiving a school suspension in 7th grade, among Hispanic adolescents, many of whom live in poverty (Gara & Winsler, 2020). In addition (Elpus, 2013b), noted, using descriptive statistics of a nationally representative sample of adolescents from the National Study of Adolescent Health, that 6.8% of dance students received an out-of-school suspension during high school, compared with 8% of non-dance students. Results from multi arts studies have also noted lower disciplinary actions among adolescents who engage in arts-rich experiences between

3rd to 8th grade (Kisida & Bowen, 2019). Regrading high school graduation rates, the lack of variance in rates of high school graduation within each of my six comparison groups likely influenced the non-significant findings of this outcome. To my knowledge, my study was the first to estimate rates of adolescents' high school graduation in relation to their high school dance elective enrollment. Future research should pool a larger, more heterogenous sample of adolescents to further investigate this relation.

Limitations and Future Research

This study, though strong in many ways, was limited. For example, I did not have data on the of out-of-school dance experiences adolescents received while enrolled in high school or at an earlier age. (However, it was known that many adolescents in the dance conservatory had received out-of-school dance classes.) This particular concern—exposure to dance outside of school—may or may not have affected my reported outcomes associated with in-school dance engagement. Such gaps are of interest for future research. Further, apart from my knowledge of the dance conservatory curriculum, I did not have in-depth data on the type of dance curriculum offered at the other non-alterative public high schools within the district. These curricular differences and variation in school climates seem to have affected student's motivation to perform and their subsequent learning outcomes. This was apparent from null findings in the current study after controlling for school-level fixed effects. However, unique impacts of school-based dance programs may have been occurring across high schools within the district and were not reported in the current study.

Further, although I controlled for a rigorous set of covariates related to adolescents' selection into high school dance electives and their prior performance, it is nearly impossible to capture all of the unobservable bias associated with adolescent's self-selection into electives in

high school. Future research may consider using a Propensity Score Matching model, or if plausible, a randomized control design to generate a causal model (Murnane & Willet, 2011). Last, although a strength of my study is the large and diverse sample of adolescents residing in Santa Ana, Southern California, it also limits the external validity for generalizing our findings to students of medium- to high-income families, and those in other cultural background and communities (Jager et al., 2017). I hope future research will expand on these findings to continue to establish a more empirical dialogue detailing the potential benefits of dance education programs in K-12 public schools across the United States.

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Table 2.1. *Summary statistics of the sample*

	Frequency	Percent	
Gender			
Male	12,892	49.42	
Female	13,197	50.58	
Ethnicity			
Not Hispanic	1,169	4.48	
Hispanic	24,920	95.52	
Primary Language Spoken at Home			
Non-English-Speaking Household	22,368	88.02	
English-Speaking Household	3,043	11.98	
Parent Education Level			
Not High School Graduate (Grad)	13,839	54.85	
High School Grad, Some College	9,838	38.99	
College Grad, Grad School, Post Grad	1,555	6.16	
Received F/R Price Meal 8th			
Denied	1,872	8.4	
Free/Reduced	20,417	91.6	
Language Fluency Status 8th			
English Only	2,703	11.82	
Initially Fluent	884	3.87	
English Learner	5,811	25.41	
Redesignated	13,469	58.9	
Special Education Status 8th			
Did Not Receive Special Education			
Services	20,496	89.63	
Received Special Education Services	2,371	10.37	
	Mean	SD	Count
Total Attendance Days 8th	174.2	15.52	20,219
Total In and Out House Suspensions 8th	0.22	1.08	20,219
GPA 8th	2.57	0.76	20,219
CST ELA Score 8th	2.45	0.93	11,104

CST Math Score 8th	2.54	1.00	11,228
SBAC ELA Score 8th	1.92	0.90	7,003
SBAC Math Score 8th	1.71	0.97	7,032
Observations	23,010		

Note: Total attendance days range from 0 to 180 days. GPA in 8th grade ranges from 1 to 4 points. CST and SBAC scores range from 1 to 4 points. Adolescents who enrolled in an alternative school are excluded from the sample ($n = 3,079$).

Table 2.2. *Treatment and control group assignments (six comparisons)*

<i>Comparison groups</i>	Treatment	Control
1. Dance elective vs. no dance elective enrollment—outside of SAH (<i>N</i> = 8,003; males excluded)	Dance elective = Yes Santa Ana High = No Dance Conservatory = No (<i>n</i> = 2,017)	Dance elective = No Santa Ana High = No Dance Conservatory = No (<i>n</i> = 5,986)
2. Dance elective vs. another female dominant elective— outside of SAH (<i>N</i> = 2,634)	Dance elective = Yes Santa Ana High = No Dance Conservatory = No (<i>n</i> = 1,879)	Pep squad, volleyball, softball, color guard = Yes Santa Ana High = No Dance Conservatory = No (<i>n</i> = 755)
3. SAH vs. non-SAH, non-dance elective takers (<i>N</i> = 17,437)	Dance elective = No Santa Ana High = Yes Dance Conservatory = No (<i>n</i> = 3,711)	Dance elective = No Santa Ana High = No Dance Conservatory = No (<i>n</i> = 13,726)
4. Dance elective— SAH vs. dance elective— outside of SAH (<i>N</i> = 2,715)	Dance elective = Yes Santa Ana High = Yes Dance Conservatory = No (<i>n</i> = 612)	Dance elective = Yes Santa Ana High = No Dance Conservatory = No (<i>n</i> = 2,103)
5. Dance elective, vs. no dance elective—SAH (<i>N</i> = 2,196; males excluded)	Dance elective = Yes Santa Ana High = Yes Dance Conservatory = Yes (<i>n</i> = 637)	Dance elective = No Santa Ana High = Yes Dance Conservatory = No (<i>n</i> = 1,559)
6. SanArts Dance Conservatory vs. dance elective— SAH (<i>N</i> = 657)	Dance Conservatory = Yes Santa Ana High = Yes Dance Conservatory = Yes (<i>n</i> = 45)	Dance elective = Yes Santa Ana High = Yes Dance Conservatory = No (<i>n</i> = 612)

Note: SAH is an acronym for Santa Ana High School. Adolescents who enrolled in an alternative school are excluded from the sample (*n* = 3,079). Treatment group for comparison two excludes students who enrolled in a dance elective and a second type of female dominant activity in high school.

Table 2.3. Ordinary least squares (OLS) multiple linear regression predicting the association between high school dance elective enrollment and adolescents' high school suspension, attendance, and academic achievement

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ever Suspended (Y/N)	School Attendance (AVG)	AP Course Enrollment (AVG)	GPA (AVG)	ELA Assessment 11th	Math Assessment 11th	High School Graduate
<i>Comparison</i>							
One: Dance Elective vs. No Dance Elective, Outside of Santa Ana High	-0.00 (0.01) <i>n</i> = 8003	0.13*** (0.02) <i>n</i> = 8003	-0.08*** (0.02) <i>n</i> = 8003	0.05** (0.02) <i>n</i> = 8003	-0.05 (0.03) <i>n</i> = 4020	0.01 (0.03) <i>n</i> = 4020	--
School-Level Fixed Effects	-0.01 (0.00) <i>n</i> = 6031	0.00 (0.02) <i>n</i> = 6031	-0.10* (0.03) <i>n</i> = 6031	0.04 (0.03) <i>n</i> = 6031	-0.05 (0.05) <i>n</i> = 2677	0.01 (0.05) <i>n</i> = 2672	--
Two: Dance Elective vs. Other Female Dominant Activity, Outside of Santa Ana High	0.01 (0.01) <i>n</i> = 2634	-0.02 (0.02) <i>n</i> = 2634	-0.11** (0.04) <i>n</i> = 2634	0.06* (0.03) <i>n</i> = 2634	0.06 (0.04) <i>n</i> = 1367	0.16*** (0.05) <i>n</i> = 1367	0.01 (0.01) <i>n</i> = 1383
School-Level Fixed Effects	0.01 (0.01) <i>n</i> = 2049	-0.03 (0.01) <i>n</i> = 2049	-0.10 (0.06) <i>n</i> = 2049	0.04 (0.03) <i>n</i> = 2049	0.08 (0.05) <i>n</i> = 947	0.17 (0.08) <i>n</i> = 945	0.01 (0.01) <i>n</i> = 975
Three: Santa Ana High vs. Non-Santa Ana High, Non-Dance Elective Students	-0.05*** (0.00) <i>n</i> = 17437	-0.01 (0.02) <i>n</i> = 17437	-0.01 (0.01) <i>n</i> = 17437	-0.20*** (0.01) <i>n</i> = 17437	-0.09*** (0.02) <i>n</i> = 8501	-0.13*** (0.02) <i>n</i> = 8501	0.00 (0.01) <i>n</i> = 8380
Four: Dance Elective, Santa Ana High vs. Dance Elective, Outside of Santa Ana High	-0.01 (0.01) <i>n</i> = 2715	0.04 (0.02) <i>n</i> = 2715	-0.01 (0.03) <i>n</i> = 2715	-0.18*** (0.03) <i>n</i> = 2715	-0.21*** (0.05) <i>n</i> = 1368	-0.28*** (0.05) <i>n</i> = 1368	--
Five: Dance Elective vs. No Dance Elective, Santa Ana High	0.00 (0.01) <i>n</i> = 2196	0.18*** (0.03) <i>n</i> = 2196	-0.08* (0.04) <i>n</i> = 2196	0.09** (0.03) <i>n</i> = 2196	-0.17** (0.05) <i>n</i> = 1039	-0.18*** (0.05) <i>n</i> = 1039	--
Six: SanArts Dance Conservatory vs. Dance Elective, Santa Ana High	-0.01 (0.02) <i>n</i> = 657	-0.023 (0.05) <i>n</i> = 657	0.41** (0.15) <i>n</i> = 657	0.17 (0.09) <i>n</i> = 657	0.40** (0.13) <i>n</i> = 299	0.19 (0.15) <i>n</i> = 299	0.02 (0.02) <i>n</i> = 275

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood or listwise deletion for fixed effect models. Covariates include gender, race, parent education level, received free-or reduced-price meal in 8th grade, English language learner status in 8th grade, special education status in 8th grade, dance elective enrollment in 8th grade, ever received school suspension in 8th grade, total days of school attendance in 8th grade, GPA in 8th grade, ELA and math assessment proficiency in 8th grade, and cohort-level indicators. All continuous predictor and outcome variables are standardized using z-scores. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Due to the cohort sequential design, two cohorts of on-time students had not completed the 11th grade statewide assessments. Dashes represent instances where comparison groups had graduation rates very close to 100%. Tables displaying models with the full set of covariates can be found in Appendix B.

ACADEMIC YEAR

					Arts Conservatory (Est. 2016)		
COHORT	<i>2012-2013</i>	<i>2013-2014</i>	<i>2014-2015</i>	<i>2015-2016</i>	<i>2016-2017</i>	<i>2017-2018</i>	<i>2018-2019</i>
A (<i>N = 4,371</i>)	8th	9th	10th	11th	12th	--	--
B (<i>N = 4,454</i>)		8th	9th	10th	11th	12th	--
C (<i>N = 4,534</i>)			8th	9th	10th	11th	12th
D (<i>N = 4,391</i>)				8th	9th	10th	11th
E (<i>N = 4,158</i>)					8th	9th	10th
F (<i>N = 4,181</i>)						8th	9th

Figure 2.1. *Cohort chart*

Note. Cohort chart displays the trajectory of on-time students who did not repeat or skip a grade level. Sample includes students who later enrolled into the school district after the 2012-2013 school year.

1. District Level	1. Dance Elective vs. No Dance Elective, Outside of Santa Ana High
	2. Dance Elective vs. Other Female Dominant Activity, Outside of Santa Ana High
2. District Compared With Santa Ana High	3. Santa Ana High vs. Non Santa Ana High, Non-Dance Elective Students
	4. Dance Elective, Santa Ana High, vs. Dance Elective, Non Santa Ana High
3. Santa Ana High	5. Dance Elective vs. No Dance Elective, Santa Ana High
	6. SanArts Dance Conservatory vs. Dance Elective, Santa Ana High

Figure 2.2. *Hierarchical-level of analysis: Grouping of the six comparisons*

Note: District-level students are those who did not enroll in Santa Ana High between 9th to 12th grade but may have transferred to another high school within the district. Santa Ana High students include those who enrolled only at Santa Ana High between 9th to 12th grade while they were enrolled in the district. Students enrolled in alternative schools are excluded from the sample.

CHAPTER 4

Study 2. Adolescents' Commitment to a High School Dance Conservatory: Self-Concept of Ability (SCA), Psychological Factors, and Immediate Contextual Factors

Abstract

Adolescents' commitment to school-based dance programs has received sparse attention in the sport psychology and dance education literature. Little is known about the factors that influence Hispanic adolescents' interest in and commitment to a pre-professional, high-school dance conservatory program, particularly among students who live in poverty. The aim of this study was to broaden the empirical literature on school-based dance programs by describing the competence-related beliefs, psychological factors, and immediate contextual factors that influenced adolescents' commitment to such a program. A mixed-methods, case study design was used to implement structured interviews and surveys conducted with 15 committed dancers (100% Hispanic; 100% female; 100% received free or reduced-price meal). Interviews were conducted using the Scanlan Collaborative Interview Method with the Eccles et al. Expectancy-Value Theory as an interpretative framework. Interview transcripts were analyzed using inductive and deductive reasoning and were paired with survey data. I found that the majority of adolescents' commitment was driven by enjoyment and interest factors, rather than perceived competence in dance. The highest self-ratings of competence in dance were most prevalent among dancers who perceived their ability levels to strengthen their commitment to the conservatory. However, a low perception of ability also served as a positive motivator for some dancers. Goal orientations (e.g., mastery vs. ego) played a large role in how adolescents perceived their competence levels in relation to their commitment – with mastery orientations reported as having the most positive impact on commitment. In addition, adolescents valued

contexts where they could showcase their work, improve their technique, receive constructive feedback, and have positive interactions with their teammates. Factors that weakened adolescents' commitment included negative interactions with teammates, beliefs of an inability to improve, lack of perceived challenge, and loss of valued academic alternatives. Several enjoyment, interest, and contextual factors emerged that were unique to dance. Most dancers reported college and career plans outside of the scope of the dance profession and reported that their interest in and the importance of dance would diminish overtime. However, these dancers reported learning skills that would help them succeed in the future. Other adolescents, who aspired to pursue a career in dance, felt the dance conservatory was critical to their talent development during high school. These findings help to advance dance educators' knowledge of student experiences in dance and best practices for designing school-based dance programs. Implications for future research and policy recommendations are discussed.

Keywords: dance education; commitment; Hispanic; high school; self-concept of ability; adolescence

Introduction

Individuals' talent development and commitment to various domain-specific activities is a well-researched topic among sport psychologists (Coutinho et al., 2016; Scanlan et al., 1993). However, research in the area of commitment to dance has received far less attention. Of the work that has been done, much focus has been given to the talent development of pre-professional and professional dancers, particularly those living in the United Kingdom (Aujlia et al., 2014; Chua, 2014; Nordin-Bate & Kuylser, 2020; Quested & Duda, 2011). For the majority of these pre-professional and professional dancers, talent development in dance typically begins early in the lifespan and is afforded to children by significant socializers who provide the monetary resources (e.g., private studio lessons, transportation, dance attire, costumes) and cultural capital (i.e., the attitudes and behaviors) for their children to receive formal dance training and sustained engagement (Chua, 2015).

Adolescents' commitment to school-based dance programs (i.e., elective courses, magnet programs, or pre-professional conservatories) in the United States has received sparse attention in the sport psychology and dance education literature. Thus, little is known about the factors that influence adolescents' commitment to such programs. This is particularly true for pre-professional, school-based dance programs that target adolescents with limited resources and exposure to the arts outside of school. Much of the work that does exist about school-based dance programs has been conducted by Sue Stinson in the early 1990's among adolescents enrolled in general dance elective courses in secondary school (Stinson 1993, 1997) and researchers who grouped adolescents' talent development in dance into an array of domain-specific activities that included sports and the arts (Fredricks et al., 2004; Patrick et al., 1999). While these studies provide useful information, they do not provide an in-depth exploration of

the factors that motivate adolescents to make a commitment to a pre-professional high-school dance conservatory program, particularly among those who live in poverty.

Enjoyment and social relationships have consistently emerged as the strongest predictors to explain why adolescents engage in various domain-specific activities in the athletics and the arts (Aujla et al., 2014; McCarthy et al., 2008; Scanlan et al., 1993; Weiss et al., 2019; Weiss & Ferrer-Caja, 2002). Some researchers have even posited that, for adolescents, enjoyment acts as a mediator through which all other sources of motivation operate (Weiss et al., 2001). However, according to theories of motivation of activity choice and achievement, an array of psychological and contextual factors shape individuals choice to engage in a particular activity (Ames & Archer, 1988; Bandura, 2010; Csikszentmihalyi et al., 1993; Deci & Ryan, 2000; Eccles, 2009). These factors include, for example, perceived competence, goal orientation, interactions and relationships with important adults and peers, the contextual learning environments that shape their experiences, and the values that one associates with a domain-specific task.

Perceived competence (also referred to as self-efficacy or self-concept of ability, SCA) has received much attention as a construct that facilitates an individual's decision to engage or quit a domain-specific task (Bandura, 1997; Eccles & Wigfield, 2002). This is closely related to Bandura's definition of efficacy expectations— an individual's belief about their ability to accomplish a particular task (Bandura, 1997). Theorists believe that individuals will attach stronger perceptions of ability to activities for which they have high expectations for success and a high sense of personal efficacy (Bandura, 1997; Eccles, 2009; Wigfield et al., 1998). Indeed, children and adolescents have reported perception of competence as an important factor for participation in the sports domain (Bailey et al., 2013; McCarthy et al., 2008). However, more research is needed to understand adolescents' perceived competence in activities that are

recreational or serve limited importance for one’s future, yet require high levels of commitment. In these situations, the values one attributes to a domain-specific task might relate more strongly to activity choice, compared to perceived competence (Dennisen et al., 2007).

To fill these gaps, I investigate the competence-related beliefs, psychological factors (i.e., enjoyment and interest values), and immediate contextual factors that influence adolescents’ commitment to a preprofessional, high-school dance conservatory program in the United States. I describe the experiences of Hispanic adolescents in an urban school district who are underrepresented in dance education research—many of whom live in poverty and began dance training in high school (Risner & Stinson, 2010). The domain of dance education in relation to competence-beliefs is of particular interest because of the high levels of perfectionism in performance and burnout that are often reported among pre-professional and professional dancers (Jowett et al., 2020; Nordin-Bates & Kuytser, 2020). Thus, the major aims of this study were to describe the variation in

1. adolescents’ perceptions of their ability to dance.
 - a. As part of this goal, I compare their responses to two different questions asking adolescents to rate their ability on an absolute scale (i.e., How good are you at dance?) and a social comparative scale (i.e., How good are you at dance compared with other dancers in the conservatory?) and I discuss their personal descriptions of their perceptions of ability
2. the immediate contextual elements— including interactions with significant socializers (e.g., dance coaches and teammates)— under which these perceptions formed
3. the values (e.g., enjoyment, interest, and long-term college and career goals) adolescents associated with their involvement in the dance conservatory

4. the impact these factors had on their commitment to the conservatory

To address these aims, I employed a mixed-methods case study design (Creswell & Clark, 2018). Structured interview data and online survey data were collected by the research team during the 2018-2019 academic year. Interviews were conducted using the Scanlan Collaborative Interview Method—a collaborative method that builds a working partnership between the interviewer and interviewee to generate each adolescent’s personal picture of commitment (Scanlan et al., 2003). This method has been used to apply existing theory related to talent development, commitment, and motivation among a variety of domain-specific tasks among adolescents of different genders, cultures, and experience levels (Scanlan et al., 2003, 2009, 2013). The Eccles et al. (1983) EVT of motivated achievement related choices was used as an interpretative, theoretical framework during interviews to provide a richer understanding of the contextual and social factors that influenced adolescents’ perceived ability to dance and their commitment to the dance conservatory (Eccles, 1983). Online surveys were administered to obtain adolescents’ demographic information, college and career plans, and quantitative ratings of their perceived ability to dance.

Twenty-three dancers (100% female; 100% Hispanic; 100% received free and reduced priced meal) volunteered to participate in the study. Fifteen of these dancers completed the interview process and online survey and were included in the final analysis. Participants were recruited from the SanArts Dance Conservatory, established in 2016 as a pre-professional dance conservatory offering free educational opportunities to adolescents with limited resources and exposure to the arts outside of school. Adolescents engaged in dance five days per week, during and after school hours for approximately 12 hours and 30 minutes a week. Dancers received course credit towards high school graduation for their enrollment.

More than half of the adolescents admitted to the conservatory began their talent development in dance in high school via enrollment in the general elective courses. The remaining dancers had begun dance training in early or middle childhood. Most dancers had college and career plans outside of the dance profession ($n = 11$). This sample provided a range of ability levels, experiences, and college and career aspirations to understand the interplay of competence beliefs, psychological factors, and immediate contextual factors associated with commitment to a high school dance conservatory program.

Literature Review

Eccles et al. Expectancy Value Theory of Activity Choice

The Eccles et al. Expectancy Value Theory (EVT) of activity-choice has been widely used in the psychological and education literature to describe the factors and life events that influence adolescents' performance, persistence, and choice to engage in one activity over another. The EVT model, proposed in 1983 was originally designed to study why women were underrepresented in mathematics achievement (Parsons, 1983, now Eccles) Since, this model has been used to examine the achievement-related decisions that individuals make for a variety of educational, recreational, occupational, and social choices. among people from different cultures and genders (see Eccles, 2009). This model has two components and is shown in Figure 3.1. First, a psychological component that describes the cognitive constructs of motivation and choice (e.g., causal attributions, subjective experiences, self-concepts of abilities, perceptions of task difficulty, and subjective task value; Parsons, 1983). Second, a larger developmental component that connects these cognitive constructs with personal beliefs, socializers, cultural norms, and historical events regarding one's activity related choices.

Within these two components, the EVT model links activity-related choices to two sets of beliefs. First, the individual's expectancies for success. Second, the importance or value the individual attaches to the various activities perceived by the individual as available (referred to as subjective task value or STV) (Parsons, 1983). The EVT model describes the factors that *lead up to* and *influence* the decision to engage in an activity, not the factors that influence the implementation of these decisions and choices. In this model, one's expectancies and STVs directly influence activity-related choices and are assumed to influence performance and persistence in an activity (Wigfield & Eccles, 2000). The idea is that it is not reality itself that individuals base their activity-related decisions upon, but their interpretations and memories of past and concurrent experiences.

Expectancies of success are defined as "domain-specific beliefs about one's personal efficacy to master the task" (Eccles et al., 2015). This construct is closely related to Bandura's definition of self-efficacy— "individual's confidence in their ability to organize and execute a given course of action to solve a problem or accomplish a task" (Eccles & Wigfield, 2002; Bandura, 1997). The EVT model assumes that self-and task-related beliefs are influenced by the following expectancies of choice: a) self-concept of ability (SCA); b) estimates of task difficulty; c) interpretations of previous experiences and performances; d) identification with masculine and feminine gender roles; and e) the beliefs and behaviors of significant socializers such as parents, peers, and other adults (Eccles, 2009; Parsons et al., 1983). Theoretically, the harder one judges a task to be, the less likely they will be to select into a particular course.

Subjective task value (SVT), on the other hand, is the importance the individual attaches to an activity that is perceived as available. Components of STV are grouped into four components: a) interest-enjoyment values; b) utility value; c) attainment value; and d) relative

costs (Parsons et al., 1983). For example, does this task fulfill one's needs for enjoyment? Does this task help in reaching one's goals? Is this task supported by peers, parents, or school counselors? Does this task reinforce one's personal values? Does commitment to this activity inhibit one's success in more valued activities or options? Does this activity induce psychological harm?

Expectancies and STVs have different operating roles in predicting activity choice and achievement. According to a review of research, one's expectancy of their ability to execute a task (competence-related beliefs) relate more strongly to performance than to activity choice (academic and non-academic); in contrast SVTs have been noted to relate more strongly to activity choice than expectancies to succeed (Wigfield et al., 2006). It is also expected that individuals will attach stronger perceptions of ability to activities they are committed to (Bandura, 1997; Denissen et al., 2007). However, the relation between these variables and adolescent's commitment to a domain-specific activity (rather than achievement and performance) is not straightforward.

The intersection of competence-related beliefs and SVTs is central in understanding adolescents' decision-making processes for extracurricular activities—particularly those that require high levels of commitment but serve limited utility for their long-term college and career goals. In these cases, it is possible that SVTs (i.e., enjoyment, interest) are more salient motivators in determining adolescent's selection into extracurricular activities than their perception of ability. While there is much research on the motivational orientations and factors that influence involvement among pre-professional and professional dancers (Aujla et al., 2014; Chua, 2014; Hancox et al., 2017; Jowett et al., 2020; Nordin-Bates & Kuytser, 2020; Quedstedt & Duda, 2010; Walker et al., 2012), particularly those living in the United Kingdom, more research

is needed to describe the motivational factors that influence adolescents' commitment to a pre-professional, high school dance conservatory program in the United States. In addition, little is known about this topic among adolescents of Hispanic descent who are living in poverty.

Theories of Sport Commitment and Motivation

Commitment to sports activities is a well-researched topic among sport psychologists (Helsen et al., 1998; Martin et al., 2018; Santi et al., 2014; Scanlan et al., 1993; Weiss et al., 2019). Given the similarities of the physicality and arduous nature of both athletics and dance, it is relevant to discuss theories of sport commitment in relation to dance. The reasons driving individual's commitment to athletics or dance will share similarities and differences that are unique to the context of the domain-specific activity.

Much work on talent development and commitment among adolescents and professional athletes has been conducted by Tara Scanlan and her colleagues (Scanlan et al., 1989; Scanlan et al., 1993; Scanlan et al., 2003; Scanlan, et al., 2009). In 1993, Scanlan and her colleagues introduced the Sport Commitment Model (SCM). This model was developed over multiple phases of mixed-method research ranging from quantitative survey-based questionnaires about one's sources of commitment completed by youth athletes of different gender, ages, and cultures (Scanlan, Carpenter, et al., 1993; Scanlan, Simons, et al., 1993; Scanlan et al., 2016) to qualitative interview methods with elite male and female athletes (Scanlan et al., 2003).

SCM introduced the following five, theoretically grounded and tested sources of commitment: sport enjoyment, involvement opportunities, involvement alternatives, personal investments, social constraints, and social support (Carpenter, 1993; Scanlan, Carpenter, et al., 1993). Two unique types of commitment, enthusiastic and constrained, and the desire to excel, were later proposed as additions to the model (Scanlan et al., 2013; Scanlan et al., 2016).

Enthusiastic commitment refers to one's intrinsic desire to persist in a sport overtime. On the other hand, constrained commitment refers to a desire to engage in a sport that is driven by feelings of obligation from external sources. Desire to excel refers to wanting to improve and/or master a sport, or surpass one's opponents' ability levels (Scanlan et al., 2016).

There is considerable overlap between SCM and other theories of motivation.

Enthusiastic and constrained commitment, for example, share similar components what Deci and Ryan (1991) refer to intrinsic and extrinsic motivators. Individuals who are intrinsically motivated are driven to engage in an activity that they find enjoyable and interesting. In contrast, individuals who are extrinsically motivated are driven by outcomes that are separable from the individual, for example an external reward or recognition. Intrinsic orientations commonly result in long-term interest, performance, creativity, and satisfaction in learning (Deci & Ryan, 1991).

Deci and Ryan also maintain a self-determination theory (SDT) of human motivation to consciously engage in domain-specific tasks (Deci & Ryan, 2000). This theory situates human motivation within three innate psychological needs of competence (i.e., effectiveness in dealing with specific domain-specific tasks), autonomy (i.e., the ability to self-organize experiences and integrate one's sense of self), and relatedness (i.e., desire to feel connected to others). These three needs are believed to interact and serve as the underpinnings of the social-environment and well-being of individuals. Social contexts and individual differences supportive of these needs facilitate a healthy relation of intrinsic and extrinsic motivations and well-being. In contrast, those that forestall autonomy, competence, and relatedness are associated with less optimal motivation, performance, and well-being (Deci & Ryan, 2000; Ryan & Deci, 2002).

Sport enjoyment and intrinsic orientations are also closely linked to the theory of reaching 'flow'— full immersion in the present moment (Csikszentmihalyi, 1975/2000)— which

has been highly recognized as the leading factor in accruing intrinsic orientations to achieve among athletes and artists. Both athletes and artists (including dancers) have reported flow states (Csikszentmihalyi, 1975/2000). According to Csikszentmihalyi's conversations with athletes and artists, one must perceive reasonable challenge, have clear goals, and receive immediate feedback about their progress (Csikszentmihalyi, 1975/2000). Too much challenge heightens anxiety, and boredom occurs when skills are greater than opportunities to perform; thus a balance between challenge and ability must be met to enter a flow state. The result is an intense and focused concentration, merging of action and awareness, loss of reflective self-consciousness, the sense of control over one's actions, loss of time, and intrinsic rewards (Nakamura, & Csikszentmihalyi, 2009). It is in this state of flow that optimal levels of achievement, play, creativity, and heightened sense of consciousness are achieved, and individuals seek more commitment opportunities.

In addition, reward systems and flow states share similar components to achievement goals; mastery and performance (Ames & Archer, 1988). According to Ames and Archer, individuals who adopt mastery goals attribute outcomes to effort. They focus on long-term achievements driven by intrinsic motivators, and judge their ability based on self-comparative references (rather than social comparisons). In contrast, performance goals are attributed to one's ability and sense of self-worth (Ames & Archer, 1988). Individuals who adopt these goals are motivated by doing better than others, receiving public recognition, and completing tasks that require little effort. Completion of specific tasks is driven by external rewards. If trying hard does not lead to success, these individuals are more likely to place less commitment to a domain-specific task (Covington & Omelich, 1979).

There is also considerable overlap between SCM and EVT, for example, sport enjoyment and interest and enjoyment values, involvement opportunities and utility values, and personal investment and costs. However, SCM does not adopt a developmental perspective nor a comprehensive model of competence-related beliefs and SVTs that influence one's motivation to commitment to a domain-specific activity, such as EVT. I believe these more specific factors are critical to understanding the psychological and contextual factors that influence adolescents' commitment to dance. Thus, in this dissertation I use the EVT of activity choice as an interpretative framework for commitment to advanced dance training in high school. As we shall see, many of these contextual and psychological constructs (e.g., goal orientations) are observed using the EVT model as adolescents describe the reasons that influence their commitment to dance training.

Talent Development in Dance

For the majority of pre-professional, aspiring and professional dancers, talent development typically begins early in the lifespan. Opportunities to become involved in dance at an early age are afforded to children by significant socializers in their lives such as primary guardians or close family relatives (Alter, 1984; Chua, 2014; Nieminen, 1997).

In addition, these socializers provide the monetary resources (e.g., private studio lessons, transportation, dance attire, costumes) and cultural capital (i.e., the attitudes and behaviors) for their children to receive formal dance training and sustained engagement (Chua, 2014; Fredericks et al., 2004; Lareau, 2002). Typically, continued investments are made in children with supportive social relations among peers, families, and teachers, particularly among those who demonstrate high levels of potential to become a professional dancer (Chua, 2015).

A review of research, published between January 2000 to September 2012, indicated specific abilities and processes that determined an individual's successful talent development in dance at a professional level (Chua, 2014). These factors included physical fitness abilities (i.e., mobility, body composition, flexibility, and muscular strength); muscle memory (i.e., encoding and recalling dance movements); musical ability; personality traits (i.e., openness, confidence, and passion); creativity; motivation (i.e., self-concept, intrinsic motivation; deliberate practice, goal orientations (i.e., mastery or performance goals); and support from a variety of significant socializers such as peers, teachers, dance coaches, and mentors. Several of these traits— such as superior levels of physical fitness, muscle memory, and musicality ability—apply more directly to the talent development of professional dancers. However, personality traits, motivation orientations, and the contextual elements that comprise a dance classroom may play an integral part in the talent development of recreational, pre-professional, and professional dancers.

My review of the dance literature has revealed several psychological and contextual factors that influence the talent development and motivation of pre-professional and professional dancers. Most of this work has been situated in Europe. In the next section, I review perfectionism, burnout, goal orientations, contextual environments, social relationships, and the psychological factors that are associated with pre-professional and professional dancers' motives to dance. Then, I discuss the motivational factors that influence children and adolescents' involvement in dance programs during and after school, mostly within the United States.

Dance Studies of Pre-Professional and Professional Dancers

Striving for perfectionism is a common experience among artists and athletes (Hill et al., 2015; Jowett et al., 2020; Nordin-Bates & Kuytser, 2020; Nordin-Bates et al., 2017; Nordin-Bates et al., 2011). Individuals who strive for perfection associate their competence with high

levels of performance according to set standards. However, such performance concerns (i.e., concerns over mistakes, doubts about actions, need for approval) have been associated with increased anxiety, negative competence-beliefs, and burnout among ballet and contemporary dancers (Nordin-Bates et al., 2011; Nordin-Bates et al., 2017).

To understand the role of perfectionism and burnout among dancers, Nordin-Bates and colleague interviewed eight adolescents (three male), aged 12 to 19 years who attended an elite, nationally recruiting Swedish Ballet School (Nordin-Bates & Kuylser, 2020). According to interviews, adolescents' experiences fit into the 2 X 2 model of perfectionism, comprised of four subtypes (Gaudreau & Thompson, 2010). First, pure personal standards perfectionism and non-perfectionism were characterized by adolescents with high self-regulation, task-orientations and positive views of mistakes. Task orientation is similar to mastery goals in which individuals are driven by inherent drives to succeed (Ames & Archer, 1988). Second, mixed perfectionism and pure evaluative concerns emerged as unique subtypes (Nordin-Bates & Kuylser, 2020). Mixed-perfectionism dancers included those with high self-regulation, task-orientations, avoidance goals, and doubts and uncertainty. These adolescents also high held importance to others' opinions, and held mixed views of mistakes. Dancers with pure evaluative concerns were those with low self-regulation, low or varied striving to succeed, doubts and uncertainty, and they held high values of others' opinions and negative views of mistakes. Overall, subtypes of perfectionism differed according to motivational orientations that aligned with one's values. These orientations, in turn, can influence adolescents' engagement in dance.

Jowett and colleagues further analyzed the relationship between perfectionism and burnout among adolescent dancers in relation to subsequent engagement (Jowett et al., 2020). Surveys were distributed to 244 dancers (mean age 15 years; 46 males) enrolled in 53 dance

organizations in the UK. Adolescents reported dance to be a very important activity in their lives compared with other activities, and perceived dance as very enjoyable. According to factor analysis, perceptions of perfectionism fit into the 2 X 2 model of perfectionism: pure personal standards perfectionism (PSP; i.e., personal pursuits and self-oriented perfectionism), pure evaluative concerns perfectionism (ECP; i.e., concerns of mistakes and socially oriented perfectionism), mixed perfectionism, and non-perfectionism. In addition, regression analyses indicated that pure ECP was the orientation most strongly related to burnout and controlled engagement (i.e., feeling burnout but persisting), compared to the other perfection orientations. In contrast, pure PSP was most negatively associated with burnout and positively associated with intrinsic motivators to engage in dance, followed by non-perfectionism then mixed perfectionism. Autonomy support from dance coaches was a significant mediator in buffering negative effects of burnout on engagement.

Social environments facilitated by dance schools and dance coaches have been noted to predict basic psychological needs of elite dancers and their affective emotional states (Hancox et al., 2017; Quested et al., 2013; Quested & Duda, 2010; 2011). Using a framework grounded in Deci and Ryan's (2000) Self-Determination Theory, researchers surveyed more than 200 adolescents and young adults (approximately 15 to 20 years of age; 60% white-British) attending a vocational dance school in the UK about their dance environment, psychological needs (i.e., autonomy, competence, and relatedness), and well-being (Quested & Duda, 2010, 2011). Students trained for approximately nine hours per day, five or six days per week.

According to structural equation modeling, training environments perceived as fostering mastery of material and individual growth (i.e., task-involved) positively predicted satisfaction for each of the three psychological need (Quested & Duda, 2011). In turn, meeting these

psychological needs predicted positive affects among dancers. In contrast, ego-involving climates (i.e., external rewards, teacher favorites, and social comparative judgements of ability) were negatively related to the fulfillment of competence and relatedness. Perceptions of autonomy support (i.e., providing choices with choice and options) significantly predicted autonomy and relatedness satisfaction. In a similar study by Quested and Duda (2010) autonomy supportive training environments were critical in avoiding burnout among elite dancers. These findings underpin the importance of psycho-social mechanisms and the context of training environments in determining adolescent's motivational behavior and affect associated with dance.

Goals orientations of professional Finnish dance students have also been examined (Nieminen, 1998; Nieminen et al., 2001). Nieminen sampled 72 female dance students attending six major dance programs in Finland (Nieminen et al., 2001). According to factor analysis and correlations, professional dancers emphasized task-oriented goals more than ego-oriented goals. Task orientations were associated with feelings of well-being, teaching people to be physically active, being mentally tough, and setting high standards. Dancers who reported ego-orientations emphasized social status, competitiveness, and determination to succeed. Factors that received the highest ratings considering the importance of dance were being physically active, mastering material, being a good citizen, and reaching for high standards. Competitiveness was the lowest rated perceived purpose of dance.

Critien and Ollis identified factors that influenced professional dancers' motivation to fully engage in their work (Critien & Ollis, 2006). Researchers interviewed 15 professional dancers from five European nationalities (mean age of 26 years; about 50% female). These dancers attended professional training institutes, had at least ten years of experience, and

performed professionally. Dancers reported three central categories that were required for artistic expertise. First was preparation. This involved practice, curious inquiry, reflections, warm-ups, nutrition, interactions with choreographers, peer dynamics, communal beliefs, and organization efficiency. Next was performance, characterized by elements such as personal engagement, dynamics among dancers, improvisational ability, and interactions with the audience. Finally there was reflection, such as making self-judgments, corrections, sharing information, identifying sections of choreography, and understanding the audience. Despite these studies examining an elite group of professional dancers of European descent, these methods for artistic engagement may or may not apply to American adolescents who engage in pre-professional or highly committed recreational dance activities.

Flow states have been noted among dancers across a range of ages and experience levels (Csikszentmihalyi, 2000; Hefferon & Ollis, 2006; Lazaroff, 2001; Thomson et al., 2011; Thomson & Jaque, 2012). Self-reports of professional concert dancers and international rhythmic gymnasts revealed that professional dancers have been reported to experience more dissociation (measured using the Dissociative Experience Scale - II) from their bodies than gymnasts (Thomson et al., 2011). Elite male and female professional dancers in ballet, contemporary, jazz, Irish and Canadian dance report flow states comprised of some elements unique to the dancing experience (Hefferon & Ollis, 2006). According to interviews with nine elite dancers, these elements were environments fostering confidence, connections with music and choreography, relationships with others, and a dancers' pre-performance ritual or routine. Dancers mentioned a different state of reality afforded to them through costumes, make-up, and stage setting. These elements lead the dancers to lose their external sense of self, eliminate anxiety or fear, and fully immerse themselves into the present moment (Hefferon & Ollis, 2006).

Performing in front of an audience has been noted as an essential factor in dance that enhances the probability of entering a state of flow. To understand the role of performance and affect, researchers examined a sample of Japanese students enrolled in a university modern dance program (mean age of 20 years) who completed a self-report questionnaire prior to and after dance rehearsals and performances (Kerr et al., 2000). Participants reported that they reversed feelings of anxiety to excitement in a matter of minutes during performance. This reversal of an anxious state to an enjoyable state of mind is a critical component for flow states to occur and might also occur among adolescent dancers during performance.

Positive self-concepts have been noted among adolescents, aged 9 to 15, who attended two elite ballet schools in England (Pickard & Bailey, 2009). Researchers collected interviews with 63 male and female ballet dancers who were in the process of developing a career in dance. According to interviews, most dancers' positive self-concepts were attributed to 'crystallizing experiences', defined as memorable experiences between an individual and significant places, events, or people that set a path for success in a domain-specific field (Walters & Gardner, 1984). These experiences were triggered for dancers, for example, while they were having discussions with their parents, performing on stage, forming an identity while in costumes, or speaking with dance instructors (Pickard & Bailey, 2009). It is important to note that the way each dancer interprets and perceives situations will vary—thus not all positive experiences will be 'crystallized' and unfavorable situations (i.e., rejection, mis-execution of movements) can also be met with resilience to succeed.

Aujlia, Redding, Quedsted, Nordin-Bates, and Walker have longitudinally investigated the factors related to commitment and talent development among young contemporary dancers in the UK (Aujlia et al., 2014; Nordin-Bates et al., 2012, 2014; Nordin-Bates et al., 2011; Walker et al.,

2011, 2012). To understand the reasons why adolescents commit to dance training, nineteen talented adolescent dancers, whose ages ranged from 11 to 17 years, were recruited from the Centres for Advanced Training (Aujla et al., 2014). These adolescents underwent one or two auditions prior to admittance and once recruited, engaged in dance for an average of 15 hours per week. Semi-structured interviews revealed that enjoyment was the most important factor related to commitment—this included self-expression, movement sensations, and feeling associated with performing (Aujla et al., 2014). In addition, positive social relationships with dance peers and coaches, support from family and friends, professional role models, course content, and being seen as talented facilitated commitment. While adolescents reported worries about injuries, concerns about successfully pursuing a career in dance, and juggling dance with other personal and academic commitments, these factors did not decrease their commitment to the dance center.

Walker and colleagues have also investigated reasons why young dancers dropout of the UK Centres for Advanced Training (Walker et al., 2012). To do this, researchers conducted in-depth interviews with ten dropout students and triangulated these findings with descriptive records of 147 young dancers who had left the talent program over a four-year period. For several dancers who dropped out, the Centre for Advanced Training was the first intense training in dance that they had experienced. According to results, the reasons why adolescents quit the dance center included personal reasons such as conflicting demands (i.e., academic, work, other hobbies), low perceived competence, change in aspirations and a loss of enjoyment and passion in dance (Walker et al., 2012). In addition, contextual reasons also influenced adolescents to drop out of training. These factors included perceiving content as either too challenging or too easy, receiving low levels of feedback from dance coaches, experiencing difficulty making friends, and having financial and familial issues.

To date, the research on youths' commitment to the UK Centres for Advanced Training Dance program provides the most comprehensive understanding of the reasons why adolescents dropout or commit to dance training. According to this research, adolescents' commitment to dance is driven by numerous competence-related beliefs and SVTs that are identified in the EVT model of activity choice. However, their research was situated in the UK among a majority (>75%) white-British sample of adolescents—similar to most of the dance research that has been conducted and discussed in this section. The research I present in the dissertation will expand this research by reporting on female population of Hispanic adolescents in an urban school district who commit to a pre-professional, high-school dance conservatory program in the United States, many of whom live in poverty and began dance training in high school. This unique sample will aide in understanding how competence beliefs, psychological factors, and contextual factors play similar or different roles in adolescents' commitment to dance training.

Dance Education Studies

In this section, I discuss the motivational factors that influenced children, adolescent, and young adult participation in recreational dance activities. The studies I describe examined dance involvement in a variety of contexts including during school hours (i.e., dance electives), extracurricular activities after school hours, community settings, and private studios.

Bond and Stinson (2007) documented the factors that influence children and adolescents' effort to engage in dance. The authors used a thematic analysis of interviews with an international sample of children and adolescents who engaged in dance ($N = 700$). Participants were males and females from Australia, Canada, USA, South Africa, Marianas Islands, and Taiwan from a range of socioeconomic backgrounds. Students participated in dance during school as part of an afterschool program (private and public schools) or received private studio

lessons. Researchers found that dancers who displayed high levels of motivation valued serious attitudes, patience, embracing failure, and self-discipline. Dance was meaningful and satisfying when students saw their accomplishments and how their autonomy grew by choreographing individual or group performances, or improvisation activities. Dancers also reported a level of emotional connection had to be present to keep them motivated to dance. This emotional connection was described as confidence, being good at dance, the feeling of mastering different skills, and meeting personal goals.

A critical element that children reported for their continued participation in dance was receiving an optimal amount of challenge in the dance classroom (Bond & Stinson, 2007). However, children and adolescents also reported that too challenging opportunities could also stifle one's motivation to work hard in dance (Bond & Stinson, 2007). Many dancers, particularly older individuals, also placed high expectations for themselves—expectations so high that would induce anxiety. Interestingly, some students reported that they enjoyed dancing even if they never mastered certain skills or weren't considered "good." Overall, researchers Bond and Stinson note the complexity of reporting an individual's experiences in dance and the elements that influence motivation to participate in dance; skills are not simply mastered or not met, dance is not simply hard or easy. As was observed among descriptions of professional dancers, these elements are dependent on the context and the experiences of the dancer.

The Childhood and Beyond Study (CAB) has been integral to understanding the commitment and talent development among adolescents pursuing extracurricular curricular activities in the sport and arts, including dance (Eccles et al., 1993). CAB data collection began in 1987 to study students' achievement, learning experiences, and extracurricular activity involvement from K-12 grade. Participants were majority White from middle class families

residing in Southeastern Michigan. Over the course of 30 years, about 85% of children and 65% of parents have been interviewed and/or surveyed regarding students' motivation beliefs, activity choices, and long-term education and career choices.

Using CAB data, Patrick et al. (1999) examined the role of social relations in adolescents; talent development in sports and the arts. Researchers interviewed parents and adolescents who exhibited early talent and high levels of involvement in sports and the arts, including dance ($n = 41$; $n = 6$ dancers). Participants included parents and their children who maintained high levels of involvement (e.g., more than five hours per week) of involvement since middle school. Adolescents with high levels of involvement but who quit during high school were also interviewed.

According to interviews, parents and adolescents reported that perceptions of social benefits, negative attention from peers, and satisfaction in peer relationships were factors in youths' decision to remain engaged in athletics and the arts (Patrick et al., 1999). Organized activities were opportunities to make friends, sometimes strong friendships, and this was particularly important for adolescents in the early grades of high school. Adolescents who danced said the activity enhanced their social skills and confidence (e.g., reduced shyness and inability to approach other people). Although dance activities increased time spent with other dancers, this engagement also decreased being with friends outside of dance and time spent on other things. Some dancers reported that social costs were too high for weekend dance practices, and their motivation to dance decreased when their friends left the studio or stopped dancing. Social issues were so strong for dancers that five of the six dancers quit or considered quitting dance because of these issues.

Fredricks et al. (2002) also analyzed interview data from the same sample of adolescents who participated in CAB. These authors focused on the holistic factors that influenced adolescents' commitment to athletics and the arts, overtime. A thematic analysis revealed commitment to an activity depends on the opportunities made available during an individual's childhood. During adolescence, one's motivation to continue or quit a particular activity is dependent upon the interplay and balance of individual factors, context, and identity development (Fredricks et al., 2002). If a mismatch emerges between these three factors adolescents are likely to disengage in a particular activity, typically to pursue something else that is more in line with their state of identity, goals, and values.

The psychological factors, as reported by adolescents, that influenced their motivation to persist in an activity were focus on enjoyment, ability and competence (e.g., domain-specific skills and responsibility and life skills that could be applied outside of the activity), and social reasons (Fredricks et al., 2002). Some adolescents also reported that activity participation provided an emotional release and something to do with their free time. Proper elements of the activity context also had to be present to allow adolescents to show skill and be challenging enough, but not too challenging to the point of frustration. Further, the activity had to support an individual's sense of self for one to sustain engagement. Dancers, in particular, reported that dance increased their social presence and ability to engage with other peers. Dancers also reported quitting because of loss of interest in the activity and thinking that they could never pursue a successful career in dance.

The longitudinal design and interview methods used in the CAB studies provide important insight about the motivation of adolescents to participate in dance training. However, dancers are grouped into a larger pool of athletes and artists, thus the motives associated with

dancers were not examined in detail. In addition, CAB examined participation in dance in-and-outside of a school setting. Thus, little is still known about adolescents' participation in school-based dance programs. Further, a sample of mostly White middle-class youth were used in their studies. While one might expect adolescents' motives to engagement in sport and arts to be similar, some aspects of these factors and motivational orientations are likely differ according to the domain-specific activity and among adolescent from different economic and cultural background.

The motivation of adolescents to participate in school-based dance elective programs has received little attention in the dance education literature. However, in the 1990s, Sue Stinson interviewed middle and high school adolescents about the reasons they engage in dance electives offered by their schools (Stinson 1993, 1997). Participants included those from economically disadvantaged and affluent backgrounds in a southeastern city in the United States (Stinson, 1993, 1997). In middle school, students reported that the 'fun' of dance electives motivated them to participate in dance over time (Stinson, 1997). Fun was defined by students as executing movements, socializing with friends, and creating choreography. The majority of students who enjoyed dance held positive perceptions of their dance instructor and enjoyed learning. In addition, students who enjoyed dance electives also reported using the class for self-expression, stress release, focus and concentration, and a transcending experience where time and space were forgotten. However, for some youth, dance became less fun when it was problematic to work with others, when they did not enjoy the music, or if they were experiencing social issues with friends. In addition, students who did not enjoy dance thought that the classes were boring and uninteresting.

During high school, adolescents from low to high socioeconomic backgrounds reported to not place high value on dance electives, compared with other subjects offered in high school (Stinson, 1993). However, according to Stinson’s findings, adolescents liked taking dance because it was an escape from school and it felt like a positive ‘home’ away from home. The dance room was appreciated because it didn’t feel academic, like a geometry class. Yet, students still expressed their ideas and had space to be creative. Peer and teacher relationships were also described as more conducive, positive, and personal in the dance room, compared with other classes. Dance electives were a space for students to relax and relieve stressors from other aspects of their life, and helped several students stay awake during school. These students also affirmed that they learned skills that would help them in succeeding outside of the dance classroom such as perseverance, patience, self-confidence, responsibility, the ability to observe more closely, and how to pay attention to the body.

The aforementioned studies provide important information for understanding the motivation and commitment among children, adolescents, young adults, and adults who commit to dance education for social, recreational, pre-professional or professional training from a range of cultural backgrounds. However, more research is needed to understand the reasons that influence Hispanic adolescents’ commitment to a pre-professional, high-school dance conservatory program in an urban school district in the United States—many of whom live in poverty and began dance training in high school. In particular, what is the role of competence-beliefs, psychological factors (e.g., enjoyment and interest), and immediate contextual factors in these adolescents’ decision to commit?

Method

This research study was approved by the Santa Ana Unified School District, Research and Evaluation Department, and by the University of California, Irvine Office of Institutional Review Board, Approval Code, HS# 2018-4368.

Sampling / Participants

Participants were sampled based on Patton's (1990) recommendation of purposive sampling—to select cases at the extreme distribution of the phenomena of interest. Such individuals are expected to offer rich information that cannot be obtained from other contexts (Fredricks et al., 2002; Teddie & Yu, 2007). The cases selected to be analyzed were the twenty-three adolescents who were members of the 2018-2019' cohort of the SanArts Dance Conservatory ($N = 23$; 100% female; 100% Hispanic; 100% received free or reduced-price meal in high school). Twelve were in 12th grade (52.2%); seven were in 11th grade (30.4%); three were in 10th grade (13%); and one was in 9th grade (4.3%).

These dancers were chosen based on initial conversations with the directors of the dance conservatory. The directors explained the high levels of commitment, values, and ability levels needed to engage in the conservatory. In addition, they explained that about half of the adolescents who were members of the dance conservatory had no prior training in dance upon high school entry. This fact made this sample of conservatory dancers an even more unique group to examine—particularly in relation to the factors that influenced how these 'late' dancers formed their perceptions of ability to dance in relation to their commitment to the conservatory. To confirm the ideas mentioned to me by the dance directors, I observed several courses of the dance conservatory during the 2017-2018 school year—one year leading up to data collection. I also attended annual concerts held by the SanArts Conservatory which showcased adolescents' work. I held their observations to be true: these adolescents attended dance classes after school

hours for fifteen or more hours per week, they followed dress-code at practices and rehearsals, they exhibited a moderate-to-advanced level of skill and technique, and they demonstrated effort and focus during class time.

During the fall semester of 2018, at the start of class time, the directors of the SanArts Dance Program allowed me to distribute study information flyers to students and make an announcement to recruit participants. Students willing to participate in the study were given an assent form and a parental consent form in either English or Spanish (depending on the primary language spoken at home) for their primary guardians to sign and the adolescent then to return to the researcher. These consent forms included permissions to interview adolescents after-school hours about their personal, social, and recreational life, audio-record interviews, and participate in an online survey about the factors that influenced their commitment to the conservatory. All members of the 2018-2019' dance conservatory, and their parents, consented to voluntarily participate in the study.

Adolescents' History of Dance Engagement

Table 3.1 displays, for each adolescent, the age at which they began dancing, how long they were involved in dance lessons prior to their enrollment in the conservatory, and how long they had been enrolled in the dance conservatory as of the 2018-2019' academic year. Prior to their enrollment in the conservatory, adolescents' involvement in dance lessons ranged from two years to ten and a half years. The majority of adolescents' ($n = 15$) began taking dance courses in the form of high school dance electives (i.e., beginning, intermediate, advanced elective courses). These students received one to three years of dance training before their admission to the conservatory. The other adolescents ($n = 8$) began taking dance lessons at earlier stages in their development. These lessons took place in a variety of contexts such as local community centers,

private studios, middle school electives, and a local, non-profit dance center. Adolescents also reported using YouTube videos to teach themselves dance at home. In these settings, five adolescents reported taking dance lessons for four or five years, two students received dance lessons for nine years, and one student received lessons for ten and a half years before joining the conservatory. Dancers engaged in a variety of genres including jazz, ballet, contemporary, hip-hop, salsa, and Baile Folklorico.

Data and Procedures

Scanlan Collaborative Interview Method

Overview. I used the Scanlan Collaborative Interview Method (SCIM, Scanlan et al., 2003)—a structured, open-ended interview technique. This method is unique in that it builds a partnership between the researcher and interviewee, such that, the researcher and interviewee form a mutual understanding of the term ‘commitment’ and work together to build each participant’s picture of commitment to the dance conservatory. This method has been used to validate or expand existing theory related to talent development, commitment, and motivation among a variety of domain-specific tasks. (Scanlan et al., 2003, 2009, 2013). It can be adapted to adolescents of different genders, cultures, ages, and experience levels. In this case, I applied the Eccles et al. EVT of motivation to the Scanlan Method to delineate and describe the psychological and contextual factors that may have influenced female, Hispanic adolescents’ commitment to the dance conservatory. I paid particular attention to the construct of SCA, and the factors that influenced adolescents’ perceptions and formation of this construct. This combination of theory and method allowed me to leverage the EVT model as a framework to understand the “underlying [psychological and contextual] mechanisms at work” that explain adolescents’ perception of ability and commitment to the conservatory. Yet, this collaboration

also allowed me to use inductive reasoning to allow participants' unique experiences, perceptions, and motivators to organically originate during the interviews (Scanlan et al., 2003, pp. 362). To train to use this method, I attended a four-hour long seminar at the University of California, Los Angeles with Tara Scanlan and her research team to learn how to implement the SCIM protocol. For the remainder of this section, I will refer to the application of the Eccles et al. EVT of motivation to the Scanlan Method as "SCIM-EVT".

Procedures. The SCIM-EVT protocol was conducted in two parts during the 2018-2019 school year. Part one was conducted during the winter of the academic year and part two was conducted in the spring. Interviews were audio-recorded.

The SCIM-EVT interview protocol outline is categorized into six sections (as shown in Appendix D; Scanlan et al., 2003). Sections one through three comprised part one of the interview process. This portion was used to build a relationship with each dancer, get to know the adolescent's background in dance, introduce them to the concept of "commitment," and allow them to discuss their personal sources of commitment to the dance conservatory. The first part of the interview process took approximately 15 to 30 minutes to complete for each dancer. Sections four through six comprise part two of the interview. This latter portion was used to apply the Eccles et al. EVT of motivation as an interpretative framework for understanding the psychological and contextual factors that influenced each dancers' perception of their ability to dance and their commitment to the dance conservatory. Part two of the interview lasted approximately 30 to 45 minutes to complete per dancer. Scripts of the protocols used in parts one and two of the interview process can be found in Appendix E.

Part One: Introduction and Personal Motivators. In section one of the interview, the dancer was briefed about the interview procedure and the "side-by-side" interviewer/interviewee

collaboration that will be used to build the dancer's picture of commitment. The interview began with background questions such as: How old were you when you began dancing? What got you into dancing to begin with? What do you find most enjoyable about dance? These questions helped to build rapport between each adolescent and myself. In addition, they served as a way to check for consistency of dancer' responses with part two of the interview after constructs from the EVT model were introduced.

Section II of the interview continued the process of building the dancer's personal picture of commitment to the dance conservatory. The dancer and I agreed on the precise definition of "commitment" used in this study, which was, "Your desire and determination to keep dancing for the dance conservatory" (adapted from Scanlan et al., 1993; Scanlan et al., 2003). Here, it was imperative that the adolescent understand that they were responding to their commitment to the dance conservatory, rather than their commitment to other dance activities or long-term plans in the dance profession. During this time, a discussion was elicited to ask if the dancer 1) understood the definition, 2) had any questions about the definition, and 3) would like to add anything to the definition. Four dancers added to this definition. These additions were "*My passion to keep dancing*" (D8 and D18), "*The effort I use to keep dancing*" (D6), and "*Your dedication and willingness to take risks. To do what you like to do. You won't give up*" (D13).

Section III was used to ask dancers to discuss the personal motivators that influenced their commitment to the dance conservatory (Scanlan et al., 2003). The dancer was asked to draw on her total experience as a dancer and describe her sources of commitment to the dance conservatory— sources included those that strengthen, lessened, or had a bidirectional effect (i.e., strengthen – lessen) on her commitment to the conservatory. After the dancer identified her

sources of commitment, probes were used (e.g., “Do you have any other sources that strengthen or lessen your commitment?”) to elicit any other possible responses.

Due to time constraints with the school, I concluded the interview after the completion of section three and thanked the dancer for her participation. I explained that I will return in approximately one month to continue the interview and finish building the dancer’s personal picture of commitment. During this time, I encouraged dancers to continue to think about their motivation to participate in the dance conservatory, and that upon my return, they can either add, update, or revise their picture of commitment to obtain the most accurate picture as possible. This break in the interview process also allowed me to begin to read over each dancers’ personal motivators that influenced their commitment to the conservatory. In addition, I was able to prepare for the next phase of the interview process when the Eccles et al. EVT of motivation would be introduced as an interpretative framework.

Part Two: Application of the Eccles et al. EVT of Motivation. Over the course of the Spring 2018 to Spring 2020 academic years, four undergraduate research assistants enrolled at the University of California, Irvine were recruited to assist with part two of the SCIM-EVT procedure. These assistants were either majoring or minoring in education or psychology and had taken university courses in research methods. During each period of data collection, we met for over a period of 10-weeks. In this time, I taught research assistants how to use SCIM with the EVT model through reading peer-reviewed journal articles on the topics and hands-on, verbal practice.

Research assistants assisted me in reviewing each dancers’ personal sources of motivation from part one of the interview process and writing these sources on index cards to be read back to each dancer during part two of the interview. In addition, assistants worked with me

on-site at the dance conservatory. During each interview session, assistants were responsible for organizing dancers' motivation source cards, writing new motivational sources that were mentioned, and keeping a log of the relation between each theoretical construct and dancer's picture of commitment. In addition, they noted oddities, consistencies, interviewee involvement, problems with the procedure, or other useful insights (Scanlan et al., 2003). This also helped me to remain focused and mentally present with each dancer during the interview as I introduced each construct.

Part two of the SCIM-EVT interview (sections four through six, see Appendix E) began with a brief introduction of the procedure and a reminder of the collaborative nature of the interview process (Scanlan et al., 2003). Dancers was also reminded that all responses would be kept confidential and anonymous. The driving component of this part of the interview was the "collaborative interactive board" introduced at the start of each interview and placed in front of the dancer. This board served as an ". . .organizational, interactive, and conceptual aid throughout the interview" to assist dancers and myself in processing the various personal and theoretical motivators associated with dancers' commitment to the conservatory (Scanlan et al., 2003, p. 366).

After introducing the collaborative interactive board to each dancer, their personal motivators were introduced back to them – pre-written on index cards. These cards also included the direction of effect that dancers reported each motivator as influencing their commitment to the conservatory (i.e., strengthen, lessen, strengthen – lessen). Dancers were asked to either add or remove these sources to their picture of commitment laid out on the board in front of them. If a dancer added a source to the board the direction of effect was then verified. New personal motivators were also allowed to be added to the board at this time.

Section IV introduced the Eccles et al. EVT of motivation as an interpretive framework to provide a richer context of the factors influencing adolescents' commitment to the dance conservatory (Eccles, 1983; Scanlan et al., 2003). I partnered with Dr. Jacquelynne Eccles to adapt the EVT framework to be used with SCIM. The theory consists of several constructs that are used to explain how individuals form their expectancies to perform at a particular domain-specific activity, and the values they associate with a specific activity. The constructs selected to be included in the SCIM-EVT procedure were SCA, estimates of task difficulty, interpretations of previous experiences and performances, beliefs and behaviors of significant socializers (i.e., teammates and dance coaches), interest values, importance values, enjoyment values, and utility values, efforts that could be spent on other activities, and negative emotional costs (Eccles, 1983). For each construct I extracted theoretical definitions and worked with Dr. Eccles to develop lead-up questions used during each interview. Appendix F, shows the definition and lead-up question for each construct.

The application of each EVT construct to SCIM was as follows, adapted from Tara's Scanlan original method (Scanlan et al., 2003). First, the dancer was presented with an index card with the name and definition of a theoretical construct. A lead-up question was then asked to engage the dancer to think about the construct and how it might influence her commitment to dance. Two model-testing questions were asked to decide if the dancer wanted to retain or discard the construct as part of her picture of commitment. These questions are a version of Q-sort methodology (Kerlinger, 1964, Scanlan et al., 2003). First, the dancer was asked if the construct was related to her commitment. If the dancer said no, the construct was removed from the board. If the source remained on the board, the dancer was asked to decide if the construct was an important enough source to be added to her personal picture of commitment. If the dancer

agreed, the source was added to the board and the dancer was prompted to describe the direction of effect the construct influenced her commitment to the conservatory (i.e., strengthen, lessen, more than one effect, or no effect). If the construct had no effect, it was dropped from the board but noted by the research assistant. If the theoretical construct was already identified as a personal-derived source that theoretical construct was “confirmed” or “matched,” and moved side-by-side to the personal-derived source (Scanlan et al., 2003). This process was repeated until each of the theoretical constructs had been discussed.

To assist with documenting the application of each EVT construct to dancers’ personal picture of commitment, our research team development a “SCIM-EVT Relational Worksheet” (found in Appendix G). This worksheet consisted of four columns that listed a) each theoretical construct, b) if the construct was added to the board, c) the effect this construct had on the dancer’s commitment, and d) if the construct was matched to a personal-derived source, and if so, which one. The bottom of the worksheet was also used for assistants to take notes during the interview. These worksheets were useful during data analysis for checking participants responses and the relation between various theoretical and personal constructs. In addition, they were used as a “back-up” if dancers’ audio-recording of the interview was somehow lost or deleted—this occurred in one instance.

Section V began the end of the interview (Scanlan et al., 2003). The interviewer and dancer used the board to review her picture of commitment and provide a space for questions. This time was also used for member checking, where the dancer was asked to confirm or revise any parts of her picture of commitment (Miles & Huberman, 1994; Saladana, 2013). Once confirmed, I took a picture of the completed board, where index cards were laid out that listed

each dancer's personal and theoretical motivators. A picture of an example of a completed board is shown in Appendix H.

The final section (i.e., section VI) of the interview was used for evaluation and summary. After each interview session was conducted at the conservatory, the researcher and assistants wrote independent reflections of their interpretations of the interview (Scanlan et al., 2003). These notes were reviewed at lab meetings and used to improve the procedures of the study.

Surveys

During the 2018-2019 school year, after completing the SCIM-EVT interview procedures, adolescents were sent an online survey administered via Qualtrics. This survey used open-ended questions and two item-measures to collect information about adolescent's demographic information, SCA in dance, and college and career plans. Dancers were asked to rate their SCA using two survey items measures on a five-point Likert scale. The first item asked dancers to judge their individual ability to dance, "*How good are you at dance?*" The second item asked dancers to judge their ability to dance compared with their teammates in the dance conservatory, "*How good are you at dance, compared with other dancers in the conservatory?*" Dancers were also asked to report their college and career plans after high school graduation. Adolescents were compensated with a \$25 Amazon Gift Card for completion of the interview and survey. Fifteen of the twenty-three dancers in the conservatory responded to the survey—a 65% response rate. Thus, my final sample consisted of 15 adolescents who were members of the 2018-2019 dance conservatory in grades ninth ($n = 1$), tenth ($n = 3$), eleventh ($n = 5$), and twelfth ($n = 6$). Reasons why adolescents did not complete the survey were because they forgot, or experienced issues accessing and completing the survey on their cell phones or computers.

Data Analysis

Interviews

I generated a case-study database using Dedoose—a computer-based qualitative data software. Audio-recordings of interview were transcribed using Otter.ai software. Transcripts, SCIM-EVT Relational Worksheets, audio recordings, and pictures of dancers' board of commitment were uploaded to this database. Participants and all data sources were de-identified and given a unique ID number to retain confidentiality.

Transcripts were first coded using a deductive reasoning technique. First, excerpts were extracted and categorized by EVT construct. Codes were also assigned to indicate whether the construct was confirmed with a personal-source of motivation and in which direction the construct impacted the adolescent's commitment to the dance conservatory. Then, transcripts were read over multiple times to extract other excerpts that were related to an EVT construct. For example, we coded responses discussed during part one of the interview and observed instances when overlap between constructs emerged. For example, several adolescents discussed how the beliefs and behaviors of significant others influenced their perception of their ability to dance. In addition, discussions about estimates of task difficulty also shed light on how adolescents perceived their ability to dance. For this deductive process, our research team compared codes for interrater reliability using Cohen's Kappa. Twenty-two percent of the data were coded and compared. The final pooled Cohen's Kappa was 0.75 for good agreement (Cohen, 1960).

At the end of our deductive analysis, four directions of effect emerged: strengthen, strengthen – neutral, strengthen – lessen, and neutral. Ultimately, adolescents perceived their self-concept of ability as a multi-dimensional construct influenced by a variety of psychological, social, and contextual factors that worked in more than one direction. The reiterative coding process led our research team to make changes to four adolescents' (i.e., D6, D10, D11, and

D23) initial direction of effect that they reported their ability to dance to have on their commitment to the conservatory. Dancers D6 and D10 effects were changed from strengthen to strengthen – lessen, D11’s effect was changed from lessen to neutral, and D23’s effect was changed from neutral to a strengthen – neutral effect. Ten dancers discussed a personal motivator that was “confirmed” with the EVT construct of SCA and five dancers added SCA to the board when the construct was introduced to them.

Next, I used inductive reasoning to code each EVT construct for emerging themes between dancers. I focused on three domains: a) psychological perceptions of ability, b) the contexts under which these perceptions were developed, and c) the values associated with commitment to the conservatory. The psychological themes included: a) having ego or task orientations, b) making absolute or social comparative judgements of ability, c) having personal confidence and determination, d) viewing the team as a collective unit, and e) no effect of ability. Contextual themes under which these psychological perceptions of ability were developed included, a) receiving constructive or critical feedback from teammates, b) building a sense of community with teammates, c) performing and the associated elements (i.e., applause and reaction from the audience; talks before going on stage; feeling accomplished after performing), d) receiving constructive feedback from coaches, and e) engaging in supplemental dance workshops to improve ability levels. Enjoyment, interest, and importance values included a) having fun and feeling happy while dancing, b) choreographing, c) performing, d) emotional expression, e) socializing and building bonds with teammates, f) emotional wellness (i.e., de-stress, a safe environment from adverse home environments), g) staying fit and active, h) sense of school belonging, i) building confidence and identity, j) learning about new dance genres, k) increased self-confidence, l) having role models, m) listening to music, and n) learning skills that

can be applied in the future. Values that were reported as decreasing adolescents' commitment to the dance conservatory were a) not feeling challenged by the dance curriculum, b) having negative relationships with peers, and c) losing one's initial interest in and the importance of dance, overtime, because of other academic and career goals. A list of adolescents' college and career plans was also created. These themes are discussed in relation to the effect at which adolescents reported their ability to dance to have on their commitment to the dance conservatory.

Surveys

Survey data were exported from the Qualtrics database and stored in Excel. Survey ratings were also imported into the statistical software STATA SE version 14. I used descriptive statistics to report adolescent's ratings of their ability to dance for each of the two item measures. Two group means are also reported.

Results

The first step of analysis was to examine the relation between dancers' self-reported ratings of SCA to the direction at which this perception of ability influenced their motivation to participate in the dance conservatory. SCA was examined using two survey items measured on a five-point Likert scale. The first question asked dancers to judge their individual ability using an absolute scale (i.e., "How good are you at dance?") and the second, to compare their abilities to other individuals (i.e., "How good are you at dance, compared with other dancers in the conservatory?"). For the remainder of this paper, I refer to these two items as absolute SCA and compared SCA. This information was then paired with interview data where each dancer discussed perceptions of their ability and the direction of effect this had on their motivation to participate in the dance conservatory. The direction of effects, for which survey data were

present ($N = 15$), included “Strengthen” ($n = 5$), “Strengthen - Neutral” ($n = 1$), “Strengthen - Lessen” ($n = 5$), and “Neutral” ($n = 4$). None of the dancers who responded to the survey perceived their ability in dance to have a solely negative effect on their commitment to the dance conservatory.

The next sections are organized according to each of these effect groups. Within each group, I present the most frequently mentioned themes regarding dancers’ psychological perceptions of their ability to dance. In addition, I describe the values (i.e., enjoyment and interest), immediate social systems (i.e., teammates and dance coaches), and immediate contexts that dancers reported as attributing to their perceptions of their ability to dance and their commitment to the dance conservatory. These values and contextual factors are particularly useful to understand the motivation of dancers who either rated themselves with low levels of ability and/or those who reported a type of non-strengthening effect of SCA on their commitment to the dance conservatory. At the end of each section, I also report dancers’ long-term college and career goals.

Within each effect group, I also discuss the levels at which dancers rated their individual and compared SCA to dance. I include illustrative quotes to provide richer detail of how dancers formed their psychological perceptions of ability. Ratings of SCA, per measure, are illustrated in Figure 3.2, grouped according to the effect of SCA for each dancer. These results use a numerical scale to help describe variation in perceived ability to dance in relation to one’s commitment to the dance conservatory. The terms motivation and commitment will be used interchangeably throughout the results section.

Overview of Findings

On average, among the entire sample, the average rating of absolute SCA was 3.57 points (on a 1-to-5-point scale), and the compared SCA average was similar at 3.55 points. Overall, I observed highest ratings of SCA among dancers who reported a strengthen effect or strengthen – neutral effect of SCA on their commitment to the conservatory, see Figure 3.2. These dancers reported the most instances of rating at least one of their SCA indicators at a level of four points or higher. In contrast, dancers who reported a strengthen – lessen effect or neutral effect of ability reported levels of SCA around the three-point mark. However, in each of these effect groups, there were outliers—for example, dancers with self-ratings of ability below the group average, yet who still reported a strong commitment to the dance conservatory. I discuss these instances, the contextual factors that shaped these dancers’ perceptions of ability, and other psychological factors that motivated dancers’ commitment in the following sections.

I also observed variability in how dancers rated their ability according to making an absolute versus social comparative assessment. Seven of the fifteen dancers rated themselves similarly between the two measures, within approximately .50 points. However, the remaining eight dancers’ self-reported levels of ability varied between approximately .50 points to 1.05 points according to the type of self-assessment. For example, four of these dancers (D11, D19, D22, and D23) rated their SCA higher when asked to compare their ability to other dancers within the conservatory. (Interestingly, these were also some of the dancers with the most years of dance experience, ranging from four to ten years.) The other four dancers (D4, D5, D16, and D20) rated their absolute SCA higher than their social-compared SCA. For this group, three dancers had three years of dance experience and one dancer held seven years of experience. As we shall see, a clear explanation for this variation in ratings is not clear.

Finally, general themes of psychological perceptions of ability varied between the four effect groups. Task or mastery orientations were observed more among dancers who perceived their SCA to have a positive impact on their commitment to the dance conservatory. These dancers also reported making more individual judgements of their ability. In contrast, ego or performance orientations were observed more among dancers who perceived their SCA to have a negative or neutral impact on their commitment to the conservatory. These dancers also discussed more instances of making social comparative judgements of their ability. For the majority of adolescents, enjoyment and interest factors were stronger motivators of their commitment to the dance conservatory than perceived SCA. These values were shared among groups, and several emerged as unique to dance.

In addition, each group discussed external contextual factors that influenced their perceived ability and subsequent commitment to the conservatory. These factors included interactions with significant socializers such as dance coaches and teammates, critical and constructive feedback, affordances to improve their technique, and opportunities to showcase their ability levels. I also find that having college and career aspirations related to the dance profession (i.e., joining a dance company, majoring in dance at a university, and becoming a dance instructor) were reported more among dancers with higher levels of commitment to the conservatory. Dancers with college and career plans outside of the scope of the dance profession reported that their interest and importance in dance will diminish overtime, particularly after high school graduation. Yet, these dancers reported learning skills through the conservatory that would help them succeed in the future. Last, I observed one unique instance of a dancer who quit the conservatory an academic year after data collection. Her story and the factors motivating her decision are discussed in detail.

Dancers' Psychological Perceptions, Self-Ratings of Ability, and Contextual Factors

Strengthen

Psychological perceptions of SCA. Dancers' who reported a strengthen effect of SCA on their commitment to the dance conservatory ($n = 5$) each perceived their ability in dance as a process of growth. For these dancers, their perceptions of ability were motivated by a positive mentality that they could physically improve in dance, coupled with the active effort that it takes to improve. These dancers did not necessary think they were the "best" at dance but were determined to keep dancing because they perceived themselves to have the potential to advance their skills. Other factors that were reported as influencing their ability included receiving supportive feedback from teammates, representing the team as a collective unit, high levels of confidence, and the feeling of adrenaline and talking with teammates before performing in front of an audience.

Absolute SCA to Dance. Dancers' ratings of their ability grouped by perceived effect of SCA on commitment to the dance conservatory are shown in Figure 3.2. Ratings of absolute SCA to dance are displayed on the left-hand bar for each participant. For this group, levels of ratings ranged from 3.23 points to 4.50 points. Dancers D3 and D16 rated their absolute SCA the lowest at 3.61 points and 3.23 points, respectively. D3, a senior with four years of dance experience was diagnosed with arthritis as a child and become involved in dance as a freshman in high school. Her physician encouraged her to keep dancing after he saw the physical improvement she made through dance. When asked about her perception of her ability and commitment to the conservatory, she was less worried about comparative judgements and more focused on her growth and ability to improve,

“ . . . when I was in elementary or middle school like I wouldn’t imagined myself dancing in high school because I have arthritis so it was really hard for me to move back then and . . . like I couldn't move I wasn't active at all so when I came to high school I guess that's why I also tried taking dance because I was like it might not be as hard as PE [physical education class] or something but it was like way harder PE but I still stayed because I saw how I was like growing stronger. . . [I’m] not the best but [I] like doing it, so just trying I can improve”. (D3; strengthen effect).

Dancers D21 and D4, on the other hand, rated their SCA to dance the highest among their peers in the strengthen-effect category—both scoring themselves 4 points. Interestingly, D21, a sophomore with ten years of dance experience, described how she does “lack” in dancing, but that motivated her to exert more effort to improve,

Just trying harder because I feel like I do lack on dancing and I always tell myself "you just have to keep going' . . . so I just always tell myself to try harder because if I don't you're just going to go down.

She goes on to explain how her ability level reflects the team as a collective unit. Her perception of her ability was somewhat shaped by former interactions with her teammates, particularly when prepping for concerts and having been “pulled to the back” of the group,

. . . just to not let the team down because I know that sometimes they [the senior dancers] tell us, ‘oh you guys have to like pull up,’ which is like you actually have to dance when you're like on stage because if not then you're going to be pulled to the back. And I know that in some dances I have been pulled to the back and I have proved to them that I'm not like good good but I'm good. I'm better than how I started.

Dancers D16 and D4, in particular, rated their absolute SCA 0.68 points and 0.49 points higher, respectively, than their SCA in comparison to their fellow dance peers. However, D16 still had the lowest self-rated score within this effect group, at 3.23 points (the psychological perception of her ability is discussed in the next section). D4, a senior with seven years of dance experience discussed how her high levels of self-confidence influenced her determination to improve in dance. She stated,

I'm very confident and I'm not afraid to suck at something. Like I'm okay with doing it. And it's just a process. I know that takes time. And for this one [task difficulty] I feel like that slowly merges into this one [self-concept of ability] . . . for example, technique day we know that we have to do that 15-minute abs, the 15-minute push-ups, all those things. . . I know it's difficult, but I know I can still do it. . . if I know I'm not getting something down I know I want to be here more often because it's going to get harder for me later on because I'm not continuously working on it.

Unfortunately, neither dancer directly discussed why their perceptions of ability to dance were higher when assessing their absolute ability than when comparing it with their peers. The inability to discern the motivation driving these differences in ratings is a theme throughout the results. Perhaps dancers held their teammates to a high status, as was indicated by D16, a junior with three years of dance experience,

Well, I guess my teammates we all support each other. . . we say do what makes you happy. We all love being in the team and we all support each other no matter what . . . there's like my best friends there. So, I love being with them, it's a great environment.

or the phrase ‘How good are you at dance?’ without a qualifier, prompted students to compare themselves with dancers in the less-advanced courses at their high school, rather than dancers in the larger pre-professional and professional community.

SCA to Dance, Compared. Figure 3.2 displays dancers’ ratings of compared SCA, on the right-hand bar for each participant. Among dancers who reported a strengthened effect of SCA, ratings of their ability compared with their fellow dance peers ranged from 2.55 points to 5 points. Dancer D16 reported the lowest rating of SCA, compared. Her rating was substantially lower than the next lowest rating, at 3.46 points (dancer D3). When asked about her SCA and commitment to the conservatory, she reported with a growth mindset, and discussed how the elements of performing motivated her to “go bigger and better,”

I can improve and that makes me want to be here more. . . performing, the adrenaline, being in front of an audience. I like the feeling before I go on and I feel empowered from the applause and reactions. The talks before the performance make me want to go bigger and better

In contrast, D22 rated herself the highest level one can rate their ability to dance compared with one’s fellow dancers in the conservatory—at five points. This rating was one point higher than her perception of her individual SCA. D22, a sophomore with six years of dance experience, explained her mindset,

Yes [my SCA influences my commitment to the conservatory], because [I] guess it pushes me to work even harder [learning new tasks], like, I’m always gonna keep on improving. I’m never going to be perfect because like you’re always growing and growing and learning.

Overall, after reviewing each dancers' perceived ratings of ability in more detail, not all dancers in the strengthen-effect category follow the hypothesis that a high rating of SCA must be present for SCA to have a strengthening effect on their motivation to participate in the dance conservatory. In other words, SCA to dance can be rated quite low—below the group average of approximately 3.60 points— and still be a positive motivator to engage in dance. Adopting a growth mindset played a large role in this association, in addition to placing more focus on individual versus comparative judgements, having positive relations with one's teammates, perceiving the team as a collective unit, having self-confidence, and the positive experiences associated with performing.

Interestingly, three of these five dancers (D4, D16, and D22) discussed college and career plans of being in the dance profession—the highest number across the effect groups. These areas were pursuing dance as a major in at community college or university, becoming a dance instructor as a side job (reported by D16; whose primary aspirations are to enroll in a four-year college and major in political science with a dance minor), and pursuing a job in the entertainment business as an actress or dancer. Dancers D3 and D21 college and career plans included enrolling in a two or four-year college to become an aesthetic nurse or work in insurance or business.

Strengthen-Neutral

Psychological perceptions of SCA. D23, a freshman with ten years of dance experience, reported a strengthen – neutral effect of her SCA on her commitment to the dance conservatory. She was the only member with survey data available for this effect group. D23's motivation to the conservatory was driven by her perception that she can continuously improve in dance, with little focus on 'how it looks.' However, she also discussed how her values of dance— that

evolved within her ten years of dance training at private studios, school electives, and a high-quality community dance center— played a larger role in her motivation to participate in the dance conservatory, than her self-concept of ability. She discussed her SCA,

I feel like you always have room to improve. Once you learn something, there's always something more you can learn. I feel good when I'm dancing.

and,

I think it's like, how well I can get or how I can, like improve. But not necessarily, like, I go, because I care of how it should look. Because I'm not like I dance for how it looks.

Other factors that motivated her commitment to the conservatory included emotional and social wellness. For example, providing a safe space when her home life is “not the greatest” (referring to her parents’ divorce and her mental health) and hanging out with her best friends,

When I was little my parents got divorced so I got like really sick from it . . . and dance has always been the place where I could like do whatever I want because like school you have to do everything they tell you and then you come to dance and then I could just be me. . . She [my mom] always says that when I dance, it's a different me. I'm an outgoing person only if I know you. But if it was somebody else, I wouldn't talk to anyone about dance. When I dance it's like I'm a different person. I feel happy when I'm dancing.

She also described dance as a way to “keep busy” and stay physically active—being the only activity she was involved in, in-or out-of-school hours. She also enjoyed the performance aspect and being able to express her emotions through movement, without words. Overall, dancing was noted as part of her identity and was perceived to have helped her increase her self-confidence and commitment that she can carry to “all aspects of life.” Long-term after high school graduation, she considered a primary job as a dance professional either teaching, touring,

or joining a dance company, or enrolling in a two-or four-year university to become a therapist or social worker.

Absolute and Compared SCA to Dance. D23 rated her individual SCA at 3.25 points – 0.52 points lower than the group average. However, her self-reported rating of ability compared with her peers was 1.05 points higher than her individual SCA, at 4.30 points.

Strengthen-Lessen

Psychological perceptions of SCA. Overall, dancers who reported a strengthen – lessen effect of SCA on their involvement in the dance conservatory ($n = 5$) reported the most instances of perceiving their ability to dance as fixed, compared with dancers in any other effect group— with beliefs that they might never be able to successfully execute a difficult dance movement or technique. These dancers also discussed more comparative judgements of their ability to dance compared with dancers in other groups. Their self-doubt to achieve in dance was sometimes used as an intrinsic motivator to improve (i.e., when confronted with a difficult task). In other instances, their perception of ability was also impacted by external factors such as positive and negative performance feedback, a sense of community with teammates, and opportunities to work on their technique in supplemental dance courses and workshops.

Absolute and Compared SCA to Dance. Dancers' ratings of perceived ability to dance, by effect of SCA on their commitment to the dance conservatory are shown in Figure 3.2. For each participant, ratings of absolute SCA to dance are shown on the left-hand bars, and ratings of compared SCA are shown on the right-hand bars. In this section, I discuss ratings of ability for the two item measures together because four of the five dancers in this category judged their SCA similarly, within 0.28 points between the items, see Figure 3.2.

For dancers who reported a strengthen-lessen effect, self-reported ratings of SCA (across each of the two item measures) ranged from 3.10 points to 4.67 points. Dancers D6 and D13 rated their individual SCA the lowest at 3.10 points and 3.17 points, respectively; and also rated their SCA compared the lowest at 3.10 and 3.02 points, respectively. Both dancers discussed how their engagement in the supplemental dance workshops held by professional dancers after school hours helped to improve their perception of their ability in dance. These classes—often referred to as “master classes”—focused on anatomy, stretches, technique, choreography, and also workshopped different types of dance genres and advanced movements. In these settings, dancers reported being exposed to constructive feedback given to them by their instructors and building a sense of community with their teammates. D6, a senior with four years of dance experience, discussed how master classes helped her overcome learning difficult choreography,

. . . when I see like something like a difficult choreography or piece then it can weaken like myself like my motivation or my self-esteem because like, I tell myself like, oh, like this is too hard, like, I probably can't dance this. So, so yeah, like it probably weakens like my passion for dance. . . so for example I'm more of a modern and jazz [person] and that's it, I'm not like more of a hip-hop or ballet but. . . with those master class I was able to work with it and improve eventually.

and her relationships with her teammates helped her feel more comfortable exploring new dance moves,

. . . the team I feel like the whole like community or stuff that we build . . . we build more like family so we feel comfortable with each other exploring new dance techniques and moves.

Dancers D10 and D5 rated their SCA the highest among dancers who reported a strengthen – lessen effect. D10, a senior with four years of dance experience, rated her individual SCA at 3.64 points and her compared SCA at a close 3.69 points. She discussed how her lack of confidence in dancing hip-hop, coupled with her shyness, motivated her to contemplate quitting the dance conservatory. However, positive feedback from her close teammates and dance coaches buffered these thoughts of self-doubt. She explained the feedback she received from her coaches during her first and second year as a member of the dance conservatory,

Yeah, cuz' like most of the time before I used to think like I sucked really bad like at hip-hop, and like that would like bring my, my hyperness down, like I would feel sad if you're like I wasn't good enough. But now that more people have like, see how much I've grown even my like the teachers told me like, 'Oh, wow.' Going into technical performances.

and comments from her dance instructors also motivated her efforts,

Mrs. Diane* and Mrs. Lisa* [also] told me that the newbies [new members on the dance team] keep trying to copy me and 'they see you as their leader so you should keep that going'. That comment really pushed me to get out of my comfort zone.

and she continued to discuss how her relationships with her dance teammates both positively and negatively impacted her perception of her abilities during her first year in the dance conservatory,

The seniors would put a lot of pressure on getting it right and for me it was really hard because I was really shy and to be honest I wanted to quit the dance team because it was really intense and it felt like I wasn't good enough, but my friends were like, 'no you're doing really great when you do pep rallies' and that's why I love my friends a lot. There was still a little part of me that wanted to quit but I was really passionate about dance that I

couldn't leave it, but some girls were just mean to me. . . [when] the seniors who were giving me a hard time left, I could finally breathe.

D5, a senior with three years of dance experience rated her individual SCA quite high at 4.67 points— 0.60 points higher than her perception of her ability to dance compared with her peers, at 4.07 points. She discussed how her ability to dance is dependent on the skill taught. Difficulty executing a movement resulted in a fixed mindset where she believed she can't perform the task, but also as motivator to "keep going." She explained in her own words,

So, I think it [my ability] depends. Like some of them [skills] I believe I can't do this.

And then there's other ones where I'm better at this than this [comparing dance skills]. . .

I kept pulling myself down and think I can't do this. *Does it make you want to dance less if it's really difficult?* Yeah, [but] it can go in both ways and I feel like I can use it as motivation to keep going.

Overall, dancers who reported a strengthen – lessen effect of SCA on their commitment to the conservatory reported levels of SCA close to the full group average (approximately 3.60 points) or below the average (with the exception of D5). Interestingly, D5 rated herself the highest level of individual SCA across each of the effect groups, see Figure 3.2. Post high-school graduation, she had plans to enroll as a dance major at the local community college and join more dance studios to improve her ability in dance. D12 also expressed a career interest in dance. However, she stated her ability level was not at a level to successfully pursue this type of career. Instead, she planned to enroll in a four-year college and pursue a business pathway. Dancers D6, D10, and D13 also expressed plans to enroll in a four-year university and pursue degrees in child development or human services, marine biology, and medicine.

Neutral

Psychological perceptions of SCA. Four dancers reported a neutral-effect of SCA on their commitment to the conservatory. Upon their initial admission to the conservatory, these dancers demonstrated to their dance coaches an adequate level of ability to perform with their fellow dance team members. However, once admitted to the conservatory, their motivation for commitment was driven by enjoyment, social, and emotional values, rather than their ability levels. These values are discussed in the “Other Motivators to Commitment” section, below. Overall, dancers discussed how they mostly utilized dance as a recreational activity and were “just happy” to be in the dance classroom. They were aware of their ability levels in relation to their fellow dancers, yet these comparisons were not critical factors influencing their commitment to the conservatory.

Absolute SCA to Dance. Among dancers who reported a neutral effect of ability, ratings of individual SCA ranged from 2.48 points to 4 points. Dancers D11 and D19 rated their individual SCA the lowest within this effect group and between all other effect groups, at 2.48 points and 2.89 points, respectively. D19, a sophomore with five years of dance experience discussed the changing landscape of her commitment to the dance conservatory. She was involved in numerous groups in high school including the speech and debate team, musical theatre, ROTC, and the Associated Student Body. Ultimately, she quit the dance conservatory during the 2019-2020 school year (one academic year after data collection). During our initial interviews, she discussed how her perception of her ability did not influence her level of commitment,

. . . when I started dancing, obviously, I was terrible. I had no technique. And even then I continued until I got to a level where I was like, decent. And then I got onto the team and

kept on building but it didn't affect it in any way. Because even though I was bad at it, I kept going.

When asked about the initial factors that motivated her commitment to the conservatory she responded with the enjoyment of dance,

The feeling I get when I keep dancing. I have so much fun when I keep doing it. It's just an amazing feeling. Biggest reason why I keep dancing. . . [and] the feeling. Having an idea and choreographing it and seeing it come to life.

However, after dancing for the conservatory for one academic year, she began to feel like the conservatory did not challenge her ability level and described having negative social relationships with teammates. These experiences, in addition to her intense focus on academics and other student groups more related to her career aspirations (political science and musical theatre), lead her to discontinue her participation with the conservatory during the middle of her junior year. She explained her new perception of the conservatory during our interviews,

I feel like since we do here, I feel like it's the exact same thing every day. Well, I mean, at this point, it's the four hours, four hours a day. Yeah, yeah, it's four hours a day, three days a week with the same teacher. And it's like the same thing every time. And then we switch it up on Mondays and Fridays, currently, but I feel like that weakens it [my commitment] cuz', because I feel like I'm not having fun. I'm just doing the same thing over and over again.

and regarding her teammates,

They [my teammates] may lessen it [my commitment] a little bit. Some peers that I have, our relationship is not as strong as I would like it to be. I feel like for this specific, specific team, I feel as though sometimes the relationships that I built in this team are not

positive relationships and for that reason, it kind of I because of those relationships, I don't want to be in dance class and I feel like that weakens my commitment.

Overall, D19's decision to quit the conservatory was driven by the perceived challenge of the conservatory, the utility of her engagement in comparison to her involvement in other school-based activities, and negative relationships with her teammates.

In contrast, dancers D14 and D20 rated themselves the highest levels of individual SCA, within the neutral-effect group. These dancers rated their individual SCA at 3 points and 4 points, respectively. D20, a junior with three years of dance experience rated her individual SCA one point higher than her compared SCA. She discussed her perception of ability in relation to her enjoyment in dance,

I feel like I'm just happy doing dance in general. Like even if I'm, not good or if I am good, like I'm just happy to be in the dance room. . .

In addition, she also discussed the positive influence her teammates had on her decision to audition for team captain,

. . . they [my teammates] have pushed me so much. When I first joined, I was really shy [and I] didn't talk much. Meeting them and the captains, they were so nice. And they made me want to try out to be captain. . . Lisa* I look up to her so much. She is so responsible. And also, Stacey* they are so nice and know how to work well with each other.

D20's experiences were more closely related to other dancers in the neutral effect category, than D19. These dancers' commitment was more driven by their values in dance and social relationships, rather than their perception of how good they were at dance.

SCA to Dance, Compared. Among dancers who reported a neutral effect of SCA, self-reported ratings of SCA compared with their fellow dance peers ranged from 3 points to 3.5

points, see Figure 3.2. Within this group, dancers D11, D14, and D20 reported similar ratings of themselves at approximately 3 points (about .60 points below the sample average of 3.60 points). D19 rated herself the highest level within this group at 3.50 points. Interestingly, despite her quitting the conservatory, she perceived her ability compared with her peers .61 points higher than her self-reported level of individual ability.

In the next section, I discuss the enjoyment, social, and emotional values that dancers reported as motivating their commitment to the conservatory. In addition, I discuss how their perceptions of interest in and importance of dance are reported to evolve overtime in relation to their college and career plans.

Other Motivators to Commitment. Dancers who reported a neutral effect of SCA also reported that their commitment was driven by numerous enjoyment values. Enjoyment factors within this effect group included the positive, “amazing”, and “out of body” feeling they experienced while on-stage, particularly when showcasing their choreography. They enjoyed choreographing and the aspect of non-verbal self-expression and identifying their emotions through dance. These experiences were supplemented by performing and the applause and reaction of the audience. Having role models and supportive social relationships with teammates and captains were also noted. Dancers also enjoyed engaging in the conservatory as a way to stay fit and active, destress during and after school hours, explore dance genres, learn responsibility and commitment, and listen to music. The conservatory also served as a sense of belonging at school—for some dancers, it the only activity they engaged in during and after school hours. It is important to note that these enjoyment values were also noted among dancers in other effect groups.

Dancers who reported a neutral effect of ability on their commitment to the conservatory discussed how the dance program did not directly support their long-term college and career goals. Dancers reported plans to enroll in a two-or four-year college and pursue degrees in social work or counseling, political science, education, and psychology. Two dancers, D11 and D19 expressed interested in enrolling in a dance minor during college. D11, a senior who began dance as a freshman in high school discussed how dancing “might be a waste of time,”

Since I didn't start dancing since I was smaller, I feel like I'm not the best dancer. Or there's many other dancers who have the skills that I don't yet have. I feel like pursuing dance might be a waste of my time but I can do it for my own enjoyment.

She goes on to discuss how her perception of the importance of dance diminishes overtime,

Well, currently it's really important to my life because it's like, the main thing that I'm doing. Hmm. When I when I think about it in the future, I feel like the importance like loses value over time, just because I don't want to pursue it as a career or anything. . . I want to keep it as a hobby and I don't want to make it a career. I feel like I'm not advanced enough to make a living out of it. But I do really enjoy it as a hobby.

D14, a junior who began dance in high school also discussed how her interest and commitment will diminish overtime,

I feel like right now in high school I have a lot of interest, but I feel like once going into college I might not like continue it like as doing something like an everyday thing maybe like as a hobby here and there but not, super committed.

D20 discussed how she's more of a 'sciency' person. However, dance has helped build her communication skills which could be applied to her job choice,

Yeah, I feel like I'm more like a sciency person. So I feel like dance I just do it to have fun. and yeah. It does help me like communicate with people more and like be more social cuz' you have to get along with people more and see how people react and stuff like that. I feel like in a way it does help [my future].

Overall, dancers who reported a neutral-effect of SCA valued dance more for the affective experiences during high school than their perceived ability to dance. Overtime, the importance and interest values of dance were perceived to diminish. However, dancers still expressed interest in dance as a hobby post high school graduation. This theme was also observed among dancers in other effect groups who reported college and career plans in a non-dance related profession.

Discussion

In this study, I described the competence-related beliefs, psychological factors (e.g., enjoyment and interest values), and the immediate contextual factors that influenced adolescents' decision to commit to a pre-professional, high-school dance conservatory program. To do this, I conducted interviews using the Scanlan Collaborative Interview Method and the Eccles et al. Expectancy-Value Theory as an interpretative theoretical framework (Eccles, 2009; Scanlan et al., 2003). Adolescents also completed an online survey to rate their SCA on an absolute and social comparative scale. This study made a unique contribution to the sport commitment and dance education literature with the inclusion of a) Hispanic adolescents, b) who were living in poverty, c) many who began their dance education in high school. In addition, I described the experiences of adolescents who engaged in a high-school dance program—a type of arts program that is offered by few public high schools across the nation (18%, compared with more than 90%

of public high schools that offer music and visual arts programming) according to Elpus (2017). Dance has also received little attention in the sport commitment and dance education research.

I found that the highest self-ratings of SCA were most prevalent among dancers who perceived their level of ability to strengthen their commitment to the dance conservatory. This is consistent with theories of motivation that individuals will attach stronger perceptions of ability to activities that they are committed to (Bandura, 1997; Denissen et al., 2007). Many of these dancers also reported college and career aspirations related to the dance profession (i.e., joining a dance company, majoring in dance at a university, and becoming a dance instructor), and reported that their participation in the dance conservatory was critical to their talent development and success after high school.

Task or mastery orientations were discussed more among dancers who perceived their SCA to have a positive impact on their commitment to the dance conservatory. This held true even for adolescents who self-rated their SCA below the group average. This finding suggests that a low SCA was used as a positive motivator of commitment. These dancers reported making individual judgements of their ability based on effort and were driven by internal motivators such as representing the team as a collective unit, self-confidence, and enjoyment and interest values.

These findings are consistent with prior research in the dance domain, among professional dance students. Researchers have found that having task-orientated goals among professional dancers are associated with feelings of well-being, mentoring others, and a strong determination to succeed (Nieminen et al., 2001). In addition, these findings are similar to achievement orientations, performance, and commitment among adolescents examined in sport studies (Csikszentmihalyi et al., 1993; Scanlan et al., 2003; Weiss et al., 2019). Female high school athletes, in particular, who engaged in a variety of sports reported that perceptions of

involvement in a mastery motivational climate was associated with greater self-determined motivation in the form of perceived competence, autonomy, and relatedness (Kipp & Amorose, 2008).

I also found that ego or performance orientations were mentioned more among dancers who perceived their SCA to have a negative impact on their commitment to the conservatory. The majority of these dancers also tended to self-rate their SCA lower than adolescents with more positive perceptions of their self-competence in dance. Dancers discussed numerous instances of judging their ability based on social comparative judgements, needing appraisal from peers and coaches, and experiencing self-doubt when confronted with a difficult task.

In the dance domain and in some sports, ego orientations and striving for perfectionism are commonly reported mentalities among pre-professional and professional artists and athletes. (Gaudreau & Thompson, 2010; Hill et al., 2015; Nordin-Bates et al., 2014). My findings of ego orientations among adolescent dancers are similar to the experiences of professional dance students in Finland (mean age of 21 years), with ego orientations who also emphasized social status, competitiveness, but also a determination to succeed (Nieminen et al., 2001). While ego orientations can result in determination among dancers, perfectionism has often been reported to lead to burnout because of increased anxiety, negative competence-beliefs, concerns of mistakes and socially orientated accomplishment (Jowett et al., 2020; Sanna Nordin-Bates et al., 2017; SM Nordin-Bates et al., 2011). Thus, dance educators should strive to design learning environments that foster mastery orientations that focus on individual growth, intrinsic values, and provide adolescents with choice and autonomy.

The contextual environment played a large role in how adolescents formed perceptions of their competence in dance. Adolescents valued contexts where they could showcase their work,

improve their technique, receive constructive feedback, and have positive interactions with their teammates. These factors are similar to the motivational processes of youth involved in sport and physical activity (Harter, 2012; Weiss et al., 2019). With the expectation of performance elements and fieldtrips, I found the contextual elements of the learning climate in a high-school dance conservatory classroom to be somewhat similar to traditional sport activities. Adolescents in the current study reflected on the importance of showcasing their talent (often personal choreography) in annual recitals; watching playback of their performances; receiving critical or constructive feedback from dance coaches and team members; and receiving supplemental training at dance workshops taught at local colleges or in-school by local-teaching artists.

In the current study, dancers also reported positive and negative interactions with their teammates that influenced their perception of ability. For example, several dancers reported having positive interactions with their peers and coaches and receiving formative critique that was helpful to their improvement. Yet, others perceived their peers to lash out at them, pull them to the back of dances, and make them feel inadequate at dance. Perceiving these negative social experiences as salient to identity formation is valid among adolescents as they navigate high school (Harter, 2012; Wigfield et al., 1998). Thus, to buffer these negative interactions, dance educators might wish to try to facilitate more positive psycho-social mechanisms in their dance classroom (e.g., providing task-orientated climates, relationship building activities) to promote needs satisfaction and healthful engagement among their dancers (Quested & Duda, 2010; Weiss et al., 2019).

I also found that, overall, enjoyment and interest factors were reported by dancers as the most important reason for their commitment to the dance conservatory, compared with perceived self-competence in dance. In fact, the majority of adolescents who participated in the dance

conservatory had long-term college and career plans outside of the dance profession. Dancers reported plans to pursue careers in the fields of education, social work, biological sciences, psychology, cosmetology, and law. Thus, many dancers discussed how their interest in, and the importance of dance would diminish overtime, but was a critical component to their well-being and sense of belonging right now during adolescence. In addition, adolescents reported learning skills that would help them succeed in the future such as how to interact and work with others, learning responsibility, and how to have confidence.

Other research on commitment to the athletics and the arts has overwhelmingly noted enjoyment and interest factors as the most important factors associated with commitment to various domain-specific activities among adolescents (e.g., Csikszentmihalyi, 2000; Fredricks et al., 2002; McCarthy et al., 2008; Scanlan et al., 1993; Weiss & Amorose, 2008). However, these factors will differ according to the domain-specific activity. In the current study, several enjoyment and interest factors emerged— some more commonly found in dance than in other sports or art domains. These factors included choreographing; non-verbal expression; performance elements (e.g., feeling an “amazing” and “out of body experience” and hearing audience reactions); selecting and wearing costumes and makeup; listening to music; and learning about nutrition, anatomy, and dance genres. These factors are similar to those noted by social, pre-professional, and elite dancers among a range of ages and cultural backgrounds (Aujla et al., 2014; Bond & Stinson, 2016; Fredricks et al., 2002; Hefferon & Ollis, 2006; Nieminen, 1998; Pickard & Bailey, 2009; Stinson, 1997). Factors that adolescents reported that were transmissible to other activity domains were a space to de-stress from traditional academic courses or adverse home-environments; gaining confidence; being physically active; having role models; building a sense of identity; supporting a sense of belonging; and engaging with close

peers (Fredricks et al., 2002; Fredricks & Eccles, 2006; Patrick et al., 1999). Thus, this program was critical to their developmental trajectory during high school.

A year after initial data collection (during the 2019-2020 academic year), one adolescent quit the dance conservatory. She reported that this decision was because the conservatory did not challenge her ability level and described negative social relationships with her dance peers. In addition, this dancer was also engaged in numerous school activities and clubs (e.g., JROTC, debate team, musical theatre, pre-law club) and was intensely focused on her academics. Her reasons for quitting align with motivation and commitment theory among athletes and artists during adolescence. For example, it is theorized that a lack of perceived challenge will result in boredom in an activity (Csikszentmihalyi, 2000) and negative peer relationships has been observed as the most important motivator in why adolescents quit dance as a recreational activity (Fredricks et al., 2002; Patrick et al., 1999). In addition, after speaking with the dance director, this dancer was engaged in so many extracurricular activities that she was consistently missing practice, and a decision had to be made to choose dance over other activities. Thus, the cost of participating in dance instead of other valued alternatives became too high, and dance was dropped. This supports the balance of efforts and costs among valued alternatives in determining an individual's motivation to participate in a domain-specific activity (Eccles, 2009).

Limitations and Future Research

When interpreting these results, it is important to be mindful that these results represent adolescents' perceptions of their experiences and competence-levels, and not necessarily an accurate picture of the larger phenomena at work. For example, the adolescent who quit the dance conservatory stated that the dance curriculum was not challenging enough for her ability level. However, I discussed this instance with the dance program director. She informed me that

this adolescent had not even demonstrated advanced proficiency with her skill level. Thus, it was not the actual challenge, but the perceived lack of challenge and boredom that influenced some of her decision to quit.

The small sample size, while contributing to the dance education literature in a significant way for this unique demographic group, also make these findings difficult to generalize to other adolescent dance populations who engage in high school dance programs in higher-income, more resourced areas. However, my findings and extensive literature review suggest that the enjoyment and interest factors that motivate adolescents to engage in and commit to a selective, high-school dance conservatory program are similar across social, recreational, pre-professional, and professional dance populations. Yet, perceptions of competence and contextual environments are likely to vary according to one's degree of training, expertise in dance, and the program one is involved. To expand our knowledge of talent development and commitment on school-based dance programs, more research is needed among individuals of different ages, cultures, levels of dance training, and socio-economic backgrounds.

A main goal of this study was to investigate adolescents' perceptions of their competence in dance, and how that level of ability influenced their commitment to the conservatory. Unfortunately, my survey completion rate was 65% among the twenty-three dancers who enrolled in the dance conservatory during the 2018-2019 school year. Thus, my sample size was too low to run statistical tests to validate an hypothesis of self-ratings of SCA and the effect these perceptions can have on dancers' commitment to a dance program (e.g., if higher levels of SCA are more likely to be observed among dancers who reported their SCA to strengthen their commitment to the dance conservatory). However, my findings about SCA and commitment aligned with theories of motivation and commitment. More research with a larger sample of

adolescents is needed to understand, on a grander scale, the role of perceived competence on one's commitment to school-based dance programs. In addition, a longitudinal study that followed adolescents' motivational orientations and psychological and contextual reasons for commitment overtime would make a substantial contribution to the literature.

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Table 3.1. *History of adolescents' dance involvement and the effect of self-concept of ability on their commitment to the dance conservatory*

ID	Grade Level	Age of Onset of Dance Involvement	Years of Dance Experience - Prior to Dance Conservatory	Years Enrolled in Dance Conservatory	Effect of Self-Concept of Ability
D1	12	5 years old or younger	10.5	3	Lessen – Neutral - Strengthen
D2	12	High School - 15	2	2	Strengthen - Lessen
D3*	12	High School - 14	2	2	Strengthen
D4*	12	Middle School/ Brief Childhood	5	2	Strengthen
D5*	12	High School - 15	2	1	Strengthen - Lessen
D6*	12	High School - 14	1	3	Strengthen – Lessen
D7	12	High School - 13	3	3	Strengthen
D8	12	High School - 14	3	1	Strengthen - Lessen
D9	12	High School - 14	1	3	Strengthen
D10*	12	High School - 14	2	2	Strengthen - Lessen
D11*	12	High School - 14	2	2	Neutral
D12*	11	High School/ Brief Childhood	2	2	Strengthen - Lessen
D13*	11	High School - 14	2	1	Strengthen - Lessen
D14*	11	High School - 14	2	1	Neutral
D15	11	High School - 13	2	1	Strengthen - Neutral
D16*	11	High School - 14	2	1	Strengthen
D17	11	7 years old	5	3	Strengthen
D18	12	Middle School	5	2	Strengthen - Neutral
D19*	10	5 years old or younger	4	1	Neutral
D20*	11	High School - 14	2	1	Neutral
D21*	10	5 years old or younger	9	1	Strengthen
D22*	10	9 years old	5	1	Strengthen
D23*	9	5 years old or younger	9	1	Strengthen - Neutral

Note: “Effect of Self-Concept of Ability” column refers to the perceived effect of self-concept of ability on each adolescents’ motivation to participate in the dance conservatory. Asterisks represent dancers who completed the interview and online survey portion of the study and were included in the final analyses.

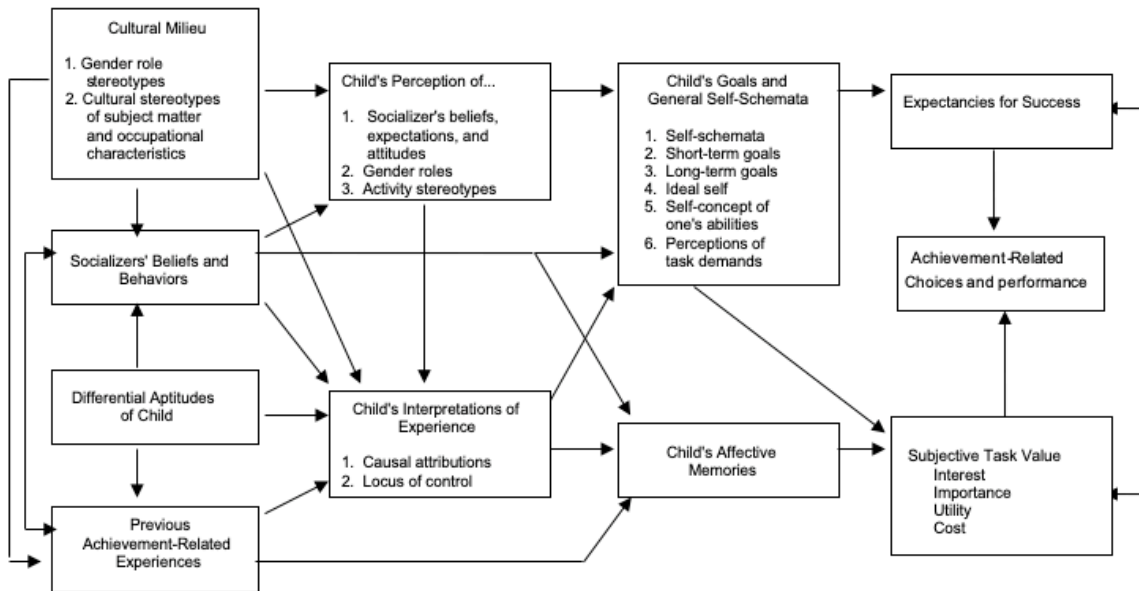


Figure 3.1. *The Eccles et al. (1986) Expectancy-Value Theory of Activity Choice*

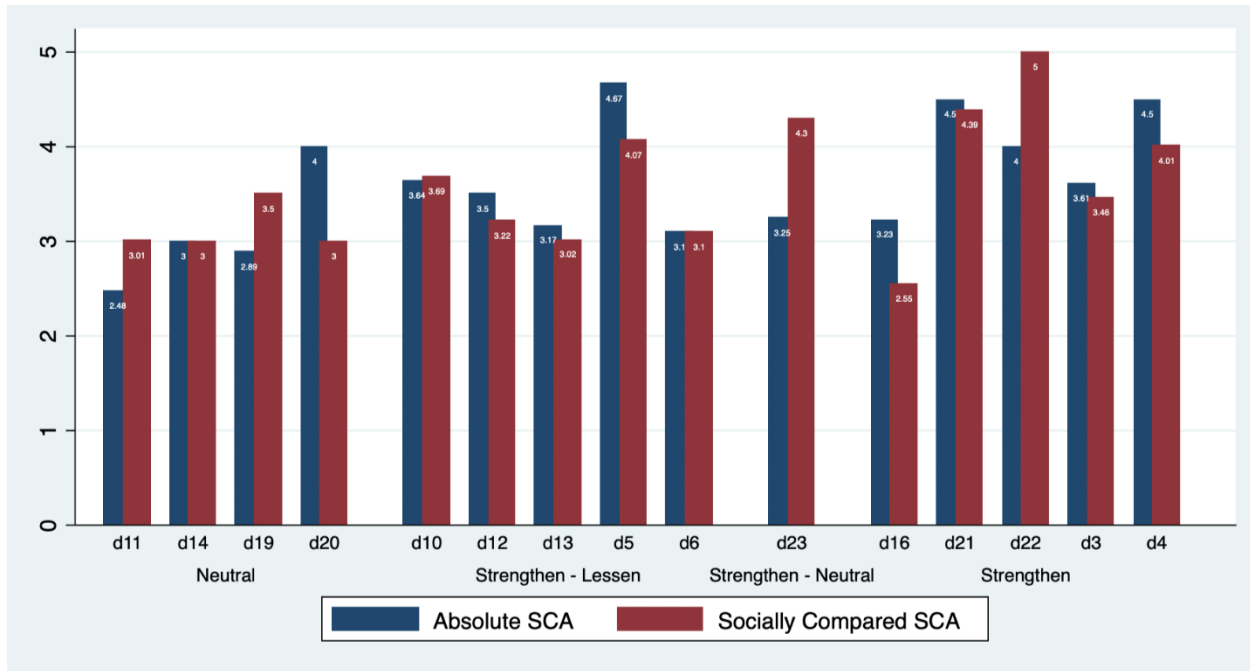


Figure 3.2. Dancers' ratings of self-concept of ability (SCA) to dance, by effect of SCA on their commitment to the dance conservatory.

Note: Dancers were asked to rate their SCA on a Likert scale from 1 “Much Worse” to 5 “Much Better”. The absolute scale asked dancers to judge their individual ability (e.g., “How good are you at dance?”). The social comparative scale asked dancers to judge their ability compared with other dancers in the conservatory. Each bar represents an individual dancer and their de-identified ID number.

CHAPTER 5

Key Findings and Implications

School-based dance education programs continue to be the least available form of arts-education programming in K-12 public institutions across the United States (Elpus, 2017; Parsad & Spiegelman, 2012). The limited data and empirical evidence on these programs have made it challenging for education policymakers to discern the value of dance education in public secondary schools, and for whom. The two studies in this dissertation made a substantial contribution to the advancement of this topic. First, I conducted a quasi-experimental study and employed six comparison groups among a large sample of Hispanic adolescents in an urban school district. This allowed me to investigate the relation between enrollment in school-based, high-school dance elective courses and adolescents' rates of school suspension, school attendance, and levels of academic achievement. Next, I employed a mixed-methods design to understand the competence-related beliefs, psychological factors, and immediate contextual factors that motivated a select group of Hispanic youth—many of whom began dance training in high school—to commit to a pre-professional, high-school dance conservatory program. This study moved beyond the examination of white youth and those from middle-to-upper class families whose experiences are often documented in dance education research. Instead, it described the experiences of Hispanic adolescents, many of whom live in poverty, who resided in a large urban school district in southern California. Many had limited resources and exposure to the arts outside of school.

Summary of Findings

Study One

In the first study, which took place between the 2012-2013 to 2018-2019 academic years, I examined the association between enrollment in high school dance elective courses and adolescents' rates of school suspension, school attendance, and levels of academic achievement in grades 9 to 12. Estimation procedures included descriptive statistics, multiple linear regressions controlling for covariates, and a series of comparison groups at the district and school level. In addition, I employed school-level fixed effects and used the Bonferroni correction to adjust for type one error.

I found that, at the school-level within Santa Ana High, enrollment in high school dance electives was associated with improvements in adolescents' attendance during high school – by a difference of approximately four days. I also found some evidence that enrollment in high school dance electives was associated with a boost in adolescents' GPA level, compared with students who were not enrolled in dance electives. Across the district, this finding was likely due to the intergroup variation between high schools, and not the participation in dance electives. However, at the school-level, this finding held true for adolescents enrolled at Santa Ana High (i.e., students who underperform academically compared with district-level performance), compared with students who were not enrolled in dance electives. However, these effect sizes were small.

My findings also suggest that, at the school-level within Santa Ana High, enrollment in high school dance electives was associated with reductions in proficiency scores on statewide English language arts and math assessments in 11th grade, compared with the scores of adolescents who did not enroll in dance electives. Further, within Santa Ana High, enrollment in dance electives was associated with enrolling in fewer AP courses in high school, compared with non-dance elective students. Significant associations did not emerge between high school dance

elective enrollment and receiving a high school suspension or graduating high school at the district-or school-level.

The most positive associations of enrollment in school-based dance programs were observed among adolescents who were enrolled in the pre-professional, high-school dance conservatory program. This select group of adolescents enrolled in significantly more AP courses and scored higher marks on statewide ELA assessments in 11th grade, compared with adolescents enrolled in general dance elective courses at Santa Ana High (where the dance conservatory is housed). These findings suggest that the observed advantages of involvement in school-based dance programs seem to increase as the rigor of the program increases. However, these findings could also be explained by adolescents' motivation to achieve—a construct I was unable to control for in study one.

Study Two

In this second study, I investigated the competence-related beliefs, psychological factors (e.g., enjoyment and interest), and immediate contextual factors that caused a select group of low-income Hispanic youth to commit to a pre-professional, high-school dance conservatory program during the 2018-2019 academic year. I employed a mixed-methods case study design using structured interviews guided by the Scanlan Collaborative Interview Method, the Eccles et al. Expectancy-Value Theory of Motivation, and survey data. Overall, the majority of adolescents who made a commitment to the dance conservatory did so for recreational, enjoyment, and interest purposes. Several enjoyment and interest factors emerged as unique to the dance domain, including choreography; non-verbal expression; performance elements (e.g., feeling an “amazing” and “out of body experience” and hearing audience reactions); selecting and wearing costumes and makeup; listening to music; and learning about nutrition, anatomy,

and dance genres. Factors adolescents reported that were transmissible to other activity domains were a space to de-stress from traditional academic courses or adverse home-environments; gaining confidence; being physically active; having role models; building a sense of identity; supporting a sense of belonging; and engaging with close peers.

The highest self-ratings of competence-beliefs in dance were most common among dancers who reported that their dance skills strengthened their commitment to the conservatory. However, in some instances, low self-ratings of competence were reported to also strengthen one's commitment. Achievement orientations and the contextual learning environment played a large role in how adolescents formed perceptions of their ability levels and the subsequent impact on commitment—with mastery orientations having the most positive impact on commitment to the dance conservatory. Contextual factors that shaped adolescent's competence-related beliefs included interactions with significant socializers such as dance coaches and peers; critical and constructive feedback; affordances to improve their technique; and opportunities to showcase their ability levels. Having college and career aspirations related to the dance profession (i.e., joining a dance company, majoring in dance at a university, and becoming a dance instructor) were reported more among dancers with higher levels of commitment to the conservatory. Eleven dancers reported college and career plans outside of the scope of the dance profession and discussed how their interest in and the importance of dance would diminish overtime. However, these adolescents reported learning skills that would help them in the future such as social skills, responsibility, and confidence.

Implications and Future Research

The results of the current study have important implications for education practitioners, education stakeholders, and researchers. My results, coupled with prior research, provide

consistent evidence that enrollment in dance elective courses during middle or high school helps to boost adolescents' rates of school attendance, particularly among youth who are living in poverty (Gara & Winsler, 2020). Thus, education stakeholders may wish to continue or increase opportunities for students to engage in school-based dance electives that are physically active and socially engaging. In regard to academic achievement, despite recent randomized control trials showing improved cognitive functioning among children who are exposed to dance training, the possibility of these skills being transferred to academic settings is still inconclusive (Oppici et al., 2020; Rudd et al., 2021). This was made apparent through the negative association between dance elective courses and adolescents' proficiency on statewide standardized English language arts and math assessments in 11th grade, as well as AP course enrollment. However, I did find evidence that enrollment in dance electives was significantly associated with earning higher GPAs among adolescents who were academically underperforming in the district, compared with non-dance elective students. In addition, enrollment in the pre-professional dance conservatory program was observed to have the strongest, and most positive association with adolescents' academic achievement.

These findings provide two important policy implications. First, that school-based dance education has the potential to be used to boost some aspects of adolescents' academic achievement, particularly among youth who are academically underperforming. Second, that the rigor of the dance program may explain much of the variance in the level of benefit that adolescents receive from their engagement in dance. Thus, school administrators may wish to fund dance programs with a higher-level curriculum that activates memorization and recall, which are essential tools in problem-solving skills. Future quasi-experimental or experimental research is needed to continue to investigate the academic benefits of school-based dance

education programs, and for which populations of students these programs benefit the most. In addition, investigating the impact of varying levels of rigor of school-based dance programs on academic outcomes would make a substantial contribution to this topic. It is important to note that controlling for adolescents' motivation to succeed and their prior academic achievement is imperative when undertaking this research.

The information from this dissertation will also be useful in helping dance educators and education stakeholders understand the social and emotional benefits that school-based dance education programs afford adolescents, many of whom are living in poverty. First, the majority of adolescents valued the dance conservatory program because of enjoyment-and-interest-related reasons. The dance conservatory program provided students with a sense of belonging at school because they were able to engage in an activity that was interesting to them, be physically active, engage with their close peers, and de-stress from the school day or adverse situations outside of school. In addition, while most adolescents reported plans to pursue a college major or career in—for example—biology, law, education, or psychology, adolescents reported learning skills through their engagement in dance that would help them in the future. These skills included learning how to interact and work with others, learning responsibility, and becoming more confident. Thus, this program was critical to their developmental trajectory during high school.

In addition, dance educators and policymakers should be aware that adolescents do not have to perceive their competence as high to commit to a pre-professional, school-based dance program. (Yet, adolescents who reported plans to pursue a professional dance career did, in fact, report strong commitment to the conservatory and high levels of ability.) Goal orientations played a large role in how adolescents perceived their competence levels in relation to their commitment to such a program. This indicates that dance educators should strive to design

learning environments, which foster mastery orientations that focus on individual growth, intrinsic values, and provide adolescents with choice and autonomy. In addition, the dancers valued contexts where they could showcase their work, improve their technique, receive constructive feedback, and have positive interactions with their teammates. Factors that weakened adolescents' commitment included negative interactions with teammates, perceived inability to improve, perceived lack of challenge, and loss of valued academic alternatives.

Adolescents who are engaged in other high-commitment activities in high school are likely undergoing similar experiences. These experiences, while reported as to diminish in importance overtime for many adolescents (particularly after high school graduation among those with career aspirations outside of the scope of their chosen activity), are critical to their development at the time of engagement. For some adolescents who aspire to pursue a career in the athletics or the arts, these school-based programs are critical to talent development and success after high school. More research is needed to document the unique factors and experiences that influence adolescents' commitment to athletic and sport domains, particularly among activities and adolescent groups that are underrepresented in such research.

Conclusion

In this dissertation, I investigated public high school dance programs—and adolescent development among the Hispanic youth enrolled in those programs—in an urban school district. Overall, my findings suggest that public high school dance programs are valuable to adolescent school engagement, social and emotional well-being, perceived success after high school graduation, and some aspects of academic achievement. In addition, I shed light on the competence beliefs, psychological factors, and immediate contextual factors that influenced a select group of adolescents to commit to a pre-professional, dance conservatory program. These

findings will help to advance dance educators' knowledge of student experiences in dance and best practices for designing school-based dance programs. The findings also further theoretical understanding of motivation and commitment. Future research can expand on these findings and continue to establish a more holistic and empirical dialogue that details the state of dance education programs and dance students' experiences in K-12 public schools across the United States.

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Appendix A
Summary statistics of comparison groups

Table A1.

Summary statistics of comparison group one: Adolescents who enrolled in a dance elective compared with those who did not enroll in a dance elective, among students enrolled in a high school other than Santa Ana High.

	Dance Electives			No Dance Electives		
	Mean	SD	Count	Mean	SD	Count
Demographics						
Male	0.04	0.20	2103	0.56	0.50	13726
Hispanic	0.97	0.17	2103	0.94	0.23	13726
English-Speaking Household	0.08	0.27	2069	0.13	0.33	13362
Parent Education Level	1.48	0.60	2043	1.55	0.62	13287
Received F/R Price Meal 8th	0.93	0.26	1830	0.91	0.29	11501
English Language Learner Status 8th	3.45	0.90	1874	3.32	1.02	11780
Special Education Status 8th	0.08	0.27	1874	0.11	0.31	11780
Eighth Grade Achievement						
Total Attendance Days 8th	174.78	13.00	1874	175.36	12.57	11780
Total in and Out House Suspensions 8th	0.13	0.72	1874	0.18	0.93	11780
GPA 8th	2.60	0.70	1874	2.59	0.75	11780
CST ELA Score 8th	2.43	0.90	1176	2.49	0.92	6447
CST Math Score 8th	2.45	0.96	1183	2.61	0.98	6528
SBAC ELA Score 8th	2.00	0.91	530	1.93	0.90	4179
SBAC Math Score 8th	1.72	0.97	530	1.77	0.99	4194
High School Achievement						
Ever Received in or Out of House						
Suspensions 9-12	0.05	0.22	2103	0.08	0.28	13726
Days Attended 9-12	172.87	13.45	2103	171.27	20.49	13726
AP Course Enrollment 9-12	2.84	4.28	2103	2.57	4.30	13726
GPA 9-12	2.69	0.78	2103	2.53	0.90	13726
SBAC ELA Standardized Score 11th	2.23	0.99	1001	2.31	1.01	5675
SBAC Math Standardized Score 11th	1.67	0.88	997	1.81	0.95	5671
Graduated 12th Grade	0.98	0.13	1024	0.98	0.16	5486
Observations	2,103			13,726		

Note. Analysis excludes students enrolled in the SanArts Dance Conservatory. GPA is scored on a continuous scale from 1 to 4 points. SBAC assessments are scored on a continuous scale from 1 to 4 points.

Table A2.

Summary statistics of comparison group two: Adolescents who enrolled in a dance elective compared with those who enrolled in a pep squad, softball, or color guard elective, among students enrolled in a high school other than Santa Ana High.

	Dance Elective			Pep squad, Volleyball, Softball, Color Guard Elective		
	Mean	SD	Count	Mean	SD	Count
Demographics						
Male	0.04	0.20	1879	0.05	0.21	755
Hispanic	0.97	0.17	1879	0.96	0.20	755
English-Speaking Household	0.08	0.27	1850	0.22	0.41	746
Parent Education Level	1.47	0.59	1823	1.62	0.60	733
Received F/R Price Meal 8th	0.93	0.26	1623	0.87	0.34	679
English Language Learner Status 8th	3.46	0.89	1666	3.14	1.22	692
Special Education Status 8th	0.08	0.28	1666	0.05	0.21	692
Eighth Grade Achievement						
Total Attendance Days 8th	174.69	13.43	1666	176.12	7.74	692
Total in and Out House Suspensions 8th	0.14	0.74	1666	0.09	0.63	692
GPA 8th	2.60	0.70	1666	2.81	0.64	692
CST ELA Score 8th	2.41	0.89	1013	2.59	0.84	425
CST Math Score 8th	2.44	0.95	1019	2.59	0.91	430
SBAC ELA Score 8th	1.99	0.90	496	2.15	0.93	228
SBAC Math Score 8th	1.72	0.97	496	1.86	0.97	228
High School Achievement						
Ever Received in or Out of House						
Suspensions 9-12	0.05	0.23	1879	0.03	0.18	755
Days Attended 9-12	172.77	13.62	1879	174.92	8.78	755
AP Course Enrollment 9-12	2.75	4.22	1879	3.62	4.64	755
GPA 9-12	2.68	0.80	1879	2.78	0.75	755
SBAC ELA Standardized Score 11th	2.22	0.99	867	2.39	0.94	383
SBAC Math Standardized Score 11th	1.68	0.88	862	1.72	0.86	382
Graduated 12th Grade	0.98	0.13	880	0.99	0.12	359
Observations	1879			755		

Note. Analysis excludes students enrolled at the SanArts Conservatory. GPA is scored on a continuous scale from 1 to 4 points. SBAC assessments are scored on a continuous scale from 1 to 4 points.

Table A3.

Summary statistics of comparison group three: Adolescents enrolled in Santa Ana High compared with those enrolled in another high school within the district, among students who did not enroll in a dance elective

	Santa Ana High			Not Santa Ana High		
	Mean	SD	Count	Mean	SD	Count
Demographics						
Male	0.58	0.49	3711	0.56	0.50	13726
Hispanic	0.98	0.13	3711	0.94	0.23	13726
English-Speaking Household	0.08	0.27	3576	0.13	0.33	13362
Parent Education Level	1.39	0.56	3549	1.55	0.62	13287
Received F/R Price Meal 8th	0.96	0.20	3104	0.91	0.29	11501
English Language Learner Status 8th	3.41	0.87	3174	3.32	1.02	11780
Special Education Status 8th	0.14	0.35	3174	0.11	0.31	11780
Eighth Grade Achievement						
Total Attendance Days 8th	173.64	16.36	3174	175.36	12.57	11780
Total in and Out House Suspensions 8th	0.28	1.27	3174	0.18	0.93	11780
GPA 8th	2.46	0.75	3174	2.59	0.75	11780
CST ELA Score 8th	2.23	0.90	1580	2.49	0.92	6447
CST Math Score 8th	2.34	0.98	1604	2.61	0.98	6528
SBAC ELA Score 8th	1.80	0.85	1215	1.93	0.90	4179
SBAC Math Score 8th	1.49	0.83	1219	1.77	0.99	4194
High School Achievement						
Ever Received in or Out of House						
Suspensions 9-12	0.05	0.22	3711	0.08	0.28	13726
Days Attended 9-12	168.80	24.36	3711	171.27	20.49	13726
AP Course Enrollment 9-12	1.82	3.56	3711	2.57	4.30	13726
GPA 9-12	2.19	0.95	3711	2.53	0.90	13726
SBAC ELA Standardized Score 11th	2.02	0.94	1429	2.31	1.01	5675
SBAC Math Standardized Score 11th	1.53	0.78	1424	1.81	0.95	5671
Graduated 12th Grade	0.97	0.17	1288	0.98	0.16	5486
Observations	3711			13,726		

Note. GPA is scored on a continuous scale from 1 to 4 points. SBAC assessments are scored on a continuous scale from 1 to 4 points.

Table A4.

Summary statistics of comparison group four: Adolescents who enrolled in a dance elective at Santa Ana High compared with those who enrolled in a dance elective at a different high school within the district

	Dance Electives - Santa Ana High			Dance Electives – District-Level		
	Mean	SD	Count	Mean	SD	Count
Demographics						
Male	0.03	0.17	612	0.04	0.20	2103
Hispanic	1.00	0.04	612	0.97	0.17	2103
English-Speaking Household	0.05	0.21	601	0.08	0.27	2069
Parent Education Level	1.35	0.52	589	1.48	0.60	2043
Received F/R Price Meal 8th	0.97	0.18	566	0.93	0.26	1830
English Language Learner Status 8th	3.51	0.76	578	3.45	0.90	1874
Special Education Status 8th	0.08	0.27	578	0.08	0.27	1874
Eighth Grade Achievement						
Total Attendance Days 8th	174.89	13.28	578	174.78	13.00	1874
Total in and Out House Suspensions 8th	0.12	0.62	578	0.13	0.72	1874
GPA 8th	2.57	0.68	578	2.60	0.70	1874
CST ELA Score 8th	2.23	0.87	307	2.43	0.90	1176
CST Math Score 8th	2.24	0.97	306	2.45	0.96	1183
SBAC ELA Score 8th	1.92	0.87	239	2.00	0.91	530
SBAC Math Score 8th	1.59	0.89	239	1.72	0.97	530
High School Achievement						
Ever Received in or Out of House						
Suspensions 9-12	0.04	0.20	612	0.05	0.22	2103
Days Attended 9-12	173.88	10.87	612	172.87	13.45	2103
AP Course Enrollment 9-12	2.00	3.31	612	2.84	4.28	2103
GPA 9-12	2.43	0.82	612	2.69	0.78	2103
SBAC ELA Standardized Score 11th	1.91	0.85	242	2.23	0.99	1001
SBAC Math Standardized Score 11th	1.33	0.64	242	1.67	0.88	997
Graduated 12th Grade	0.98	0.14	214	0.98	0.13	1024
Observations	612			2,103		

Note. Analysis excludes students enrolled in the SanArts Dance Conservatory. GPA is scored on a continuous scale from 1 to 4 points. SBAC assessments are scored on a continuous scale from 1 to 4 points.

Table A5.

Summary statistics of comparison group five: Adolescents who did or did not enroll in a dance elective, among students enrolled at Santa Ana High

	Dance Electives			No Dance Electives		
	Mean	SD	Count	Mean	SD	Count
Demographics						
Male	0.03	0.17	657	0.58	0.49	3711
Hispanic	1.00	0.04	657	0.98	0.13	3711
English-Speaking Household	0.05	0.22	645	0.08	0.27	3576
Parent Education Level	1.37	0.54	633	1.39	0.56	3549
Received F/R Price Meal 8th	0.97	0.18	604	0.96	0.20	3104
English Language Learner Status 8th	3.51	0.78	617	3.41	0.87	3174
Special Education Status 8th	0.08	0.27	617	0.14	0.35	3174
Eighth Grade Achievement						
Total Attendance Days 8th	174.99	12.91	617	173.64	16.36	3174
Total in and Out House Suspensions 8th	0.11	0.60	617	0.28	1.27	3174
GPA 8th	2.59	0.68	617	2.46	0.75	3174
CST ELA Score 8th	2.29	0.88	343	2.23	0.90	1580
CST Math Score 8th	2.28	0.96	342	2.34	0.98	1604
SBAC ELA Score 8th	1.93	0.88	242	1.80	0.85	1215
SBAC Math Score 8th	1.60	0.91	242	1.49	0.83	1219
High School Achievement						
Ever Received in or Out of House						
Suspensions 9-12	0.04	0.20	657	0.05	0.22	3711
Days Attended 9-12	174.07	10.64	657	168.80	24.36	3711
AP Course Enrollment 9-12	2.30	3.68	657	1.82	3.56	3711
GPA 9-12	2.47	0.82	657	2.19	0.95	3711
SBAC ELA Standardized Score 11th	2.02	0.89	276	2.02	0.94	1429
SBAC Math Standardized Score 11th	1.39	0.69	276	1.53	0.78	1424
Graduated 12th Grade	0.98	0.13	246	0.97	0.17	1288
Observations	657			3711		

Note. Analysis includes students enrolled in the SanArts Dance Conservatory. GPA is scored on a continuous scale from 1 to 4 points. SBAC assessments are scored on a continuous scale from 1 to 4 points.

Table A6.

Summary statistics of comparison group six: Adolescents who enrolled in the SanArts Dance Conservatory compared with those enrolled in general dance electives, among students enrolled at Santa Ana High

	SanArts Dance Conservatory			Dance Electives		
	Mean	SD	Count	Mean	SD	Count
Demographics						
Male	0.04	0.21	45	0.03	0.17	612
Hispanic	1.00	0.00	45	1.00	0.04	612
English-Speaking Household	0.11	0.32	44	0.05	0.21	601
Parent Education Level	1.61	0.69	44	1.35	0.52	589
Received F/R Price Meal 8th	0.95	0.23	38	0.97	0.18	566
English Language Learner Status 8th	3.51	0.97	39	3.51	0.76	578
Special Education Status 8th	0.00	0.00	39	0.08	0.27	578
Eighth Grade Achievement						
Total Attendance Days 8th	176.54	4.26	39	174.89	13.28	578
Total in and Out House Suspensions 8th	0.03	0.16	39	0.12	0.62	578
GPA 8th	2.94	0.56	39	2.57	0.68	578
CST ELA Score 8th	2.72	0.81	36	2.23	0.87	307
CST Math Score 8th	2.58	0.87	36	2.24	0.97	306
SBAC ELA Score 8th	2.67	1.53	3	1.92	0.87	239
SBAC Math Score 8th	2.67	1.53	3	1.59	0.89	239
High School Achievement						
Ever Received in or Out of House						
Suspensions 9-12	0.02	0.15	45	0.04	0.20	612
Days Attended 9-12	176.71	6.38	45	173.88	10.87	612
AP Course Enrollment 9-12	6.42	5.53	45	2.00	3.31	612
GPA 9-12	2.98	0.60	45	2.43	0.82	612
SBAC ELA Standardized Score 11th	2.79	0.77	34	1.91	0.85	242
SBAC Math Standardized Score 11th	1.82	0.90	34	1.33	0.64	242
Graduated 12th Grade	1.00	0.00	32	0.98	0.14	214
Observations	45			612		

Note. GPA is scored on a continuous scale from 1 to 4 points. SBAC assessments are scored on a continuous scale from 1 to 4 points.

Appendix B

Linear regressions predicting the association between dance elective enrollment and adolescents' high school suspension, attendance and academic achievement: Models displaying full set of controls

Table B1. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: Dance elective enrollment, vs. no dance elective enrollment, outside of Santa Ana High (comparison group one)*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.00 (0.01)	0.13*** (0.02)	-0.08*** (0.02)	0.05** (0.02)	-0.05 (0.03)	0.01 (0.03)
Hispanic (Y/N)	-0.00 (0.01)	0.10* (0.05)	-0.23*** (0.06)	-0.14*** (0.03)	-0.00 (0.06)	-0.20** (0.08)
Parent Did Not Complete High School	0.00 (0.01)	0.05 (0.04)	-0.16** (0.05)	0.01 (0.03)	-0.11* (0.05)	-0.21*** (0.06)
Parent Completed High School / Some College	0.01 (0.01)	0.06 (0.04)	-0.15** (0.05)	-0.00 (0.03)	-0.08 (0.05)	-0.17** (0.06)
Received F/R Price Meal 8th Grade (Y/N)	0.00 (0.01)	-0.11* (0.04)	-0.07 (0.04)	-0.08** (0.03)	0.03 (0.05)	0.01 (0.05)
English Learner 8th Grade (Y/N)	-0.02* (0.01)	0.21*** (0.04)	0.11*** (0.03)	0.09*** (0.02)	-0.05 (0.04)	0.02 (0.04)
Special Education Status 8th Grade (Y/N)	0.00 (0.01)	-0.14* (0.07)	-0.22*** (0.03)	0.18*** (0.04)	-0.43*** (0.07)	-0.03 (0.06)
Standardized School Attendance 8th Grade	-0.01 (0.00)	0.38*** (0.05)	0.05*** (0.01)	0.07*** (0.01)	0.10*** (0.03)	0.10*** (0.03)
Received Suspension in 8th Grade (Y/N)	0.15*** (0.02)	-0.56*** (0.12)	-0.03 (0.04)	-0.27*** (0.05)	-0.15* (0.07)	0.00 (0.07)
Standardized GPA 8th Grade	-0.04*** (0.00)	0.27*** (0.03)	0.36*** (0.02)	0.56*** (0.01)	0.34*** (0.02)	0.36*** (0.02)
Standardized ELA Assessment Score 8th Grade	0.00 (0.00)	-0.01 (0.02)	0.25*** (0.02)	0.02 (0.01)	0.34*** (0.02)	0.14*** (0.02)
Standardized Math Assessment Score 8th Grade	-0.00 (0.00)	-0.02 (0.02)	0.16*** (0.02)	0.11*** (0.01)	0.12*** (0.02)	0.39*** (0.02)
Dance Elective Enrollment 8th Grade(Y/N)	0.00 (0.01)	-0.07 (0.06)	0.09* (0.04)	-0.03 (0.03)	-0.06 (0.04)	-0.16*** (0.04)
Cohort B (vs. A)	0.01 (0.01)	-0.00 (0.03)	0.07 (0.04)	0.03 (0.02)		

Cohort C (vs. A)	0.01 (0.01)	-0.06* (0.03)	0.09* (0.04)	-0.00 (0.02)		
Cohort D (vs. A)	-0.00 (0.01)	-0.06* (0.03)	-0.31*** (0.04)	-0.25*** (0.02)		
Cohort E (vs. A)	0.01 (0.01)	-0.18*** (0.04)	-0.50*** (0.04)	-0.33*** (0.03)		
Cohort F (vs. A)	-0.01 (0.01)	-0.12*** (0.04)	-0.60*** (0.04)	-0.21*** (0.03)		
Cohort C (vs. B)					-0.08** (0.03)	-0.06* (0.03)
Cohort D (vs. B)					-0.29*** (0.03)	-0.27*** (0.03)
Constant	0.06*** (0.01)	-0.12 (0.06)	0.71*** (0.07)	0.46*** (0.04)	0.31*** (0.07)	0.34*** (0.09)
Observations	8003	8003	8003	8003	4020	4020

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Males excluded from analysis. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B2. *The association between dance elective enrollment and students' high school suspension, attendance and academic achievement: Dance elective enrollment, vs. no dance elective enrollment, outside of Santa Ana High (comparison group one), school-level fixed effects*

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever Suspended (Y/N 9th to 12th)	School Attendance (AVG 9th to 12th)	AP Course Enrollment (AVG 9 th to 12th)	GPA (AVG 9th to 12th)	ELA Assessment 11th	Math Assessment 11th
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.01 (0.01)	0.00 (0.02)	-0.10* (0.03)	0.04 (0.03)	-0.03 (0.03)	0.01 (0.05)
Hispanic (Y/N)	-0.00 (0.01)	-0.02 (0.01)	-0.27 (0.11)	-0.16*** (0.02)	-0.05 (0.05)	-0.28** (0.06)
Parent Did Not Complete High School	0.01 (0.01)	0.02 (0.01)	-0.15* (0.04)	-0.04 (0.02)	-0.04 (0.05)	-0.21* (0.07)
Parent Completed High School / Some College	0.01 (0.01)	0.03 (0.02)	-0.16* (0.05)	-0.02 (0.03)	-0.05 (0.04)	-0.19* (0.06)
Received F/R Price Meal 8th Grade (Y/N)	0.00 (0.00)	-0.02 (0.02)	-0.06 (0.03)	-0.08* (0.02)	0.05 (0.05)	0.04 (0.04)
English Learner 8th Grade (Y/N)	-0.01 (0.01)	0.05** (0.01)	0.12* (0.04)	0.06 (0.03)	-0.04 (0.04)	-0.01 (0.03)
Special Education Status 8th Grade (Y/N)	-0.01 (0.02)	0.01 (0.03)	0.07 (0.09)	0.14 (0.09)	-0.25 (0.21)	-0.03 (0.15)
Standardized School Attendance 8th Grade	-0.02 (0.01)	0.32*** (0.03)	0.08* (0.02)	0.14** (0.02)	0.07 (0.05)	0.18** (0.04)
Received Suspension in 8th Grade (Y/N)	0.15* (0.03)	-0.13 (0.08)	-0.05 (0.03)	-0.24* (0.06)	-0.19 (0.16)	0.01 (0.15)
Standardized GPA 8th Grade	-0.03** (0.01)	0.09** (0.02)	0.41** (0.05)	0.57*** (0.03)	0.36*** (0.04)	0.39*** (0.04)
Standardized ELA Assessment Score 8th Grade	0.00 (0.01)	-0.00 (0.01)	0.26** (0.03)	0.02 (0.02)	0.33*** (0.02)	0.13** (0.02)
Standardized Math Assessment Score 8th Grade	-0.00 (0.00)	-0.01 (0.01)	0.16*** (0.02)	0.11** (0.02)	0.12** (0.02)	0.41*** (0.03)
Dance Elective Enrollment 8th Grade(Y/N)	0.01 (0.01)	0.00 (0.02)	-0.02 (0.07)	-0.09 (0.04)	-0.08 (0.06)	-0.13 (0.06)
Cohort B (vs. A)	0.02 (0.02)	0.02 (0.01)	0.13** (0.02)	0.02 (0.03)		
Cohort C (vs. A)	0.02 (0.01)	0.02 (0.02)	0.15* (0.04)	-0.02 (0.07)		
Cohort D (vs. A)	-0.01 (0.01)	0.02 (0.02)	-0.31* (0.10)	-0.24* (0.07)		
Cohort E (vs. A)	0.02 (0.01)	-0.06 (0.02)	-0.54* (0.17)	-0.34 (0.13)		
Cohort F (vs. A)	-0.01 (0.01)	-0.05 (0.03)	-0.66* (0.22)	-0.22 (0.16)		

Cohort C (vs. B)					-0.07	-0.06
					(0.10)	(0.06)
Cohort D (vs. B)					-0.28*	-0.26
					(0.10)	(0.10)
Constant	0.05**	0.16**	0.76***	0.54***	0.31*	0.43**
	(0.01)	(0.03)	(0.08)	(0.05)	(0.07)	(0.08)
Observations	6031	6031	6031	6031	2677	2672
R-squared	0.061	0.190	0.457	0.526	0.480	0.518

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses and clustered at the school level. Missing data were handled using listwise deletion. Males excluded from analysis. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade. Fixed effects account for school code in 9th grade.

Table B3. *The association between dance elective enrollment and students' high school suspension, attendance and academic achievement: Dance elective enrollment, vs. no dance elective enrollment, outside of Santa Ana High (comparison group one), interaction model of English language learner status in 8th grade and below average GPA in 8th grade*

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever Suspended (Y/N 9th to 12th)	School Attendance (AVG 9th to 12th)	AP Course Enrollment (AVG 9 th to 12th)	GPA (AVG 9th to 12th)	ELA Assessment 11th	Math Assessment 11th
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.00 (0.02)	0.13 (0.07)	-0.05 (0.07)	0.05 (0.05)	0.05 (0.08)	0.04 (0.09)
Hispanic (Y/N)	-0.00 (0.01)	0.10* (0.05)	-0.23*** (0.06)	-0.13*** (0.03)	-0.00 (0.06)	-0.20* (0.08)
Parent Did Not Complete High School	0.00 (0.01)	0.05 (0.04)	-0.16** (0.05)	0.01 (0.03)	-0.11* (0.05)	-0.21*** (0.06)
Parent Completed High School / Some College	0.01 (0.01)	0.07 (0.04)	-0.15** (0.05)	-0.00 (0.03)	-0.08 (0.05)	-0.17** (0.06)
Received F/R Price Meal 8th Grade (Y/N)	0.00 (0.01)	-0.11* (0.04)	-0.07 (0.04)	-0.08** (0.03)	0.03 (0.05)	0.01 (0.05)
English Learner 8th Grade (Y/N)	-0.02* (0.01)	0.21*** (0.05)	0.12** (0.04)	0.10*** (0.02)	-0.03 (0.04)	0.04 (0.05)
Special Education Status 8th Grade (Y/N)	0.00 (0.01)	-0.14* (0.07)	-0.23*** (0.03)	0.18*** (0.04)	-0.43*** (0.07)	-0.03 (0.06)
Standardized School Attendance 8th Grade	-0.01 (0.00)	0.38*** (0.05)	0.05*** (0.01)	0.07*** (0.01)	0.10*** (0.03)	0.10*** (0.03)
Received Suspension in 8th Grade (Y/N)	0.15*** (0.02)	-0.56*** (0.12)	-0.03 (0.04)	-0.27*** (0.05)	-0.15* (0.07)	-0.00 (0.07)
Standardized GPA 8th Grade	-0.04*** (0.00)	0.27*** (0.03)	0.37*** (0.02)	0.56*** (0.01)	0.33*** (0.02)	0.37*** (0.02)
Standardized ELA Assessment Score 8th Grade	0.00 (0.00)	-0.01 (0.02)	0.25*** (0.02)	0.02 (0.01)	0.34*** (0.02)	0.14*** (0.02)
Standardized Math Assessment Score 8th Grade	-0.00 (0.00)	-0.02 (0.02)	0.16*** (0.02)	0.11*** (0.01)	0.12*** (0.02)	0.39*** (0.02)
Dance Elective Enrollment 8th Grade (Y/N)	0.00 (0.01)	-0.07 (0.06)	0.09* (0.04)	-0.03 (0.03)	-0.06 (0.04)	-0.16*** (0.04)
Cohort B (vs. A)	0.01 (0.01)	-0.00 (0.03)	0.07 (0.04)	0.03 (0.02)		
Cohort C (vs. A)	0.01 (0.01)	-0.06* (0.03)	0.09* (0.04)	-0.00 (0.02)		
Cohort D (vs. A)	-0.00 (0.01)	-0.06* (0.03)	-0.31*** (0.04)	-0.25*** (0.02)		
Cohort E (vs. A)	0.01 (0.01)	-0.18*** (0.04)	-0.50*** (0.04)	-0.33*** (0.03)		
Cohort F (vs. A)	-0.01	-0.12***	-0.60***	-0.21***		

	(0.01)	(0.04)	(0.04)	(0.03)		
Dance * English Learner 8th	0.01	-0.02	-0.05	-0.03	-0.09	-0.06
	(0.02)	(0.07)	(0.07)	(0.05)	(0.08)	(0.09)
Dance * Below Average GPA 8th	-0.02	0.03	0.03	0.06	-0.04	0.06
	(0.01)	(0.05)	(0.04)	(0.03)	(0.05)	(0.05)
Cohort C (vs. B)					-0.08**	-0.06*
					(0.03)	(0.03)
Cohort D (vs. B)					-0.28***	-0.27***
					(0.03)	(0.03)
Constant	0.06***	-0.12	0.70***	0.44***	0.30***	0.33***
	(0.01)	(0.06)	(0.08)	(0.04)	(0.07)	(0.09)
Observations	8003	8003	8003	8003	4020	4020

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Males excluded from analysis. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B4. *The association between dance elective enrollment and students' high school suspension, attendance and academic achievement: Dance elective enrollment vs. pep squad, volleyball, softball, and color guard elective enrollment, outside of Santa Ana High (comparison group two)*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9 th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th	(7) High School Graduate
Dance Elective Enrollment 9 th – 12 th (Y/N)	0.01 (0.01)	-0.02 (0.02)	-0.11** (0.04)	0.06* (0.03)	0.06 (0.04)	0.16*** (0.05)	0.01 (0.01)
Male (vs. Female)	0.00 (0.02)	0.10 (0.06)	0.12 (0.08)	-0.04 (0.06)	0.07 (0.11)	0.19 (0.12)	-0.03 (0.03)
Hispanic (Y/N)	-0.00 (0.02)	0.16* (0.08)	0.08 (0.12)	-0.14* (0.06)	-0.00 (0.13)	-0.11 (0.13)	0.01 (0.01)
Parent Did Not Complete High School	-0.01 (0.02)	0.01 (0.04)	-0.15 (0.08)	0.06 (0.06)	-0.17 (0.09)	-0.19 (0.11)	-0.00 (0.01)
Parent Completed High School / Some College	-0.01 (0.02)	0.02 (0.04)	-0.17* (0.08)	0.01 (0.06)	-0.14 (0.09)	-0.13 (0.11)	0.00 (0.01)
Received F/R Price Meal 8th Grade (Y/N)	0.02 (0.01)	-0.02 (0.05)	-0.06 (0.06)	-0.12** (0.04)	0.02 (0.08)	0.03 (0.08)	-0.00 (0.01)
English Learner 8th Grade (Y/N)	-0.03 (0.01)	0.11** (0.04)	0.11* (0.05)	0.04 (0.04)	-0.04 (0.06)	-0.05 (0.06)	-0.01 (0.01)
Special Education Status 8th Grade (Y/N)	0.03 (0.02)	-0.06 (0.07)	-0.26*** (0.05)	0.09 (0.05)	-0.51*** (0.08)	-0.01 (0.08)	-0.03 (0.03)
Standardized School Attendance 8th Grade	0.01 (0.00)	0.22*** (0.04)	0.08*** (0.02)	0.08*** (0.02)	0.12** (0.04)	0.16*** (0.03)	0.01 (0.01)
Received Suspension in 8th Grade (Y/N)	0.12*** (0.04)	-0.17 (0.11)	0.04 (0.07)	-0.01 (0.06)	0.04 (0.10)	0.08 (0.10)	-0.07 (0.04)
Standardized GPA 8th Grade	-0.02** (0.01)	0.23*** (0.03)	0.36*** (0.03)	0.54*** (0.02)	0.32*** (0.04)	0.36*** (0.04)	0.03** (0.01)
Standardized ELA Assessment Score 8th Grade	0.00 (0.01)	-0.02 (0.02)	0.23*** (0.03)	0.04* (0.02)	0.31*** (0.03)	0.14*** (0.03)	-0.00 (0.01)
Standardized Math Assessment Score 8th Grade	-0.01 (0.01)	-0.03 (0.02)	0.15*** (0.03)	0.11*** (0.02)	0.17*** (0.03)	0.38*** (0.03)	-0.01 (0.01)
Dance Elective Enrollment 8th Grade (Y/N)	0.01 (0.02)	0.01 (0.04)	0.11 (0.06)	0.01 (0.04)	-0.04 (0.06)	-0.13* (0.06)	0.00 (0.01)

Cohort B (vs. A)	0.01 (0.02)	-0.02 (0.03)	0.08 (0.06)	0.04 (0.04)			
Cohort C (vs. A)	0.00 (0.02)	-0.03 (0.03)	0.17** (0.06)	0.01 (0.04)			
Cohort D (vs. A)	-0.00 (0.01)	-0.03 (0.03)	-0.28*** (0.06)	-0.22*** (0.04)			
Cohort E (vs. A)	-0.00 (0.02)	-0.17*** (0.05)	-0.43*** (0.06)	-0.27*** (0.04)			
Cohort F (vs. A)	-0.03* (0.02)	-0.07 (0.04)	-0.53*** (0.06)	-0.18*** (0.05)			
Cohort C (vs. B)					-0.11* (0.05)	-0.01 (0.05)	
Cohort D (vs. B)					-0.36*** (0.05)	-0.24*** (0.05)	
Cohort B (vs. A)							-0.01 (0.01)
Cohort C (vs. A)							-0.03** (0.01)
Constant	0.05 (0.03)	-0.02 (0.09)	0.38** (0.15)	0.46*** (0.07)	0.30 (0.16)	0.11 (0.16)	1.01*** (0.01)
Observations	2634	2634	2634	2634	1367	1367	1383

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B5. *The association between dance elective enrollment and students' high school suspension, attendance and academic achievement: Dance elective enrollment vs. pep squad, volleyball, softball, and color guard elective enrollment, outside of Santa Ana High (comparison group two), school-level fixed effects*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ever Suspended (Y/N 9th to 12th)	School Attendance (AVG 9th to 12th)	AP Course Enrollment (AVG 9 th to 12th)	GPA (AVG 9th to 12th)	ELA Assessment 11th	Math Assessment 11th	High School Graduate
Dance Elective Enrollment 9 th – 12 th (Y/N)	0.01 (0.01)	-0.03 (0.02)	-0.10 (0.06)	0.04 (0.03)	0.08 (0.05)	0.17 (0.08)	0.01 (0.01)
Male (vs. Female)	-0.01 (0.02)	0.13* (0.03)	0.13 (0.10)	-0.08 (0.05)	0.13 (0.12)	0.21 (0.09)	-0.03 (0.03)
Hispanic (Y/N)	0.01 (0.02)	0.02 (0.02)	0.08 (0.20)	-0.19** (0.02)	-0.12 (0.13)	-0.25 (0.16)	0.00 (0.01)
Parent Did Not Complete High School	-0.01 (0.02)	0.03 (0.03)	-0.16 (0.11)	0.03 (0.05)	-0.14 (0.08)	-0.13 (0.17)	0.00 (0.01)
Parent Completed High School / Some College	-0.01 (0.01)	0.04 (0.04)	-0.16 (0.13)	0.03 (0.05)	-0.13 (0.09)	-0.09 (0.18)	-0.00 (0.00)
Received F/R Price Meal 8th Grade (Y/N)	0.02 (0.01)	0.00 (0.02)	-0.04 (0.08)	-0.13* (0.04)	-0.00 (0.06)	0.01 (0.09)	-0.01* (0.00)
English Learner 8th Grade (Y/N)	-0.02 (0.02)	0.04 (0.03)	0.13 (0.07)	0.01 (0.04)	0.00 (0.06)	-0.09 (0.04)	-0.01 (0.01)
Special Education Status 8th Grade (Y/N)	0.01 (0.03)	-0.00 (0.04)	0.01 (0.07)	0.16* (0.05)	-0.63* (0.15)	0.17 (0.20)	0.03 (0.01)
Standardized School Attendance 8th Grade	-0.00 (0.01)	0.25* (0.06)	0.08 (0.04)	0.09 (0.06)	0.07 (0.09)	0.27* (0.07)	0.00 (0.01)
Received Suspension in 8th Grade (Y/N)	0.11 (0.05)	-0.06 (0.07)	0.05 (0.08)	0.03 (0.08)	-0.03 (0.19)	0.11 (0.11)	-0.03 (0.03)
Standardized GPA 8th Grade	-0.02 (0.01)	0.10*** (0.01)	0.40** (0.06)	0.53*** (0.03)	0.35** (0.05)	0.37** (0.06)	0.03* (0.01)
Standardized ELA Assessment Score 8th Grade	0.00 (0.01)	-0.00 (0.01)	0.24** (0.03)	0.05 (0.03)	0.31*** (0.02)	0.13* (0.03)	-0.00 (0.00)
Standardized Math Assessment Score 8th Grade	-0.01 (0.01)	-0.02 (0.01)	0.15** (0.03)	0.11* (0.02)	0.18*** (0.01)	0.40*** (0.04)	-0.01 (0.01)
Dance Elective Enrollment 8th Grade (Y/N)	0.01 (0.02)	0.01 (0.01)	-0.06 (0.07)	-0.03 (0.03)	-0.08 (0.10)	-0.09 (0.05)	0.00 (0.01)
Cohort B (vs. A)	-0.00 (0.01)	-0.02 (0.03)	0.15 (0.06)	0.04 (0.03)			
Cohort C (vs. A)	-0.01 (0.01)	-0.01 (0.01)	0.23 (0.10)	-0.01 (0.03)			
Cohort D (vs. A)	-0.02	0.00	-0.30	-0.21*			

	(0.01)	(0.01)	(0.15)	(0.05)			
Cohort E (vs. A)	-0.02	-0.08*	-0.46	-0.28			
	(0.02)	(0.02)	(0.24)	(0.10)			
Cohort F (vs. A)	-0.04	-0.05*	-0.60*	-0.18			
	(0.02)	(0.02)	(0.20)	(0.18)			
Cohort C (vs. B)					-0.09	-0.01	
					(0.11)	(0.10)	
Cohort D (vs. B)					-0.33	-0.25	
					(0.15)	(0.13)	
Cohort B (vs. A)							-0.01
							(0.00)
Cohort C (vs. A)							-0.02*
							(0.01)
Constant	0.05	0.15	0.36	0.57***	0.38*	0.22	1.01***
	(0.03)	(0.05)	(0.22)	(0.02)	(0.10)	(0.10)	(0.00)
Observations	2049	2049	2049	2049	947	945	975
R-squared	0.045	0.194	0.428	0.517	0.476	0.524	0.042

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses and clustered at the school level. Missing data were handled using listwise deletion. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade. Fixed effects account for school code in 9th grade.

Table B6. *The association between dance elective enrollment and students' high school suspension, attendance and academic achievement: Dance elective enrollment vs. pep squad, volleyball, softball, and color guard elective enrollment, outside of Santa Ana High (comparison group two), interaction model of gender, English language learner status in 8th grade, and below average GPA in 8th grade*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9 th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th	(7) High School Graduate
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.02 (0.02)	-0.09 (0.05)	0.09 (0.09)	0.12* (0.06)	0.25* (0.11)	0.17 (0.11)	-0.01 (0.01)
Male (vs. Female)	-0.03 (0.03)	0.14** (0.05)	0.14 (0.12)	-0.03 (0.13)	0.06 (0.21)	0.10 (0.21)	-0.08 (0.06)
Hispanic (Y/N)	-0.00 (0.02)	0.16 (0.08)	0.08 (0.12)	-0.14* (0.06)	0.00 (0.12)	-0.11 (0.13)	0.01 (0.01)
Parent Did Not Complete High School	-0.01 (0.02)	0.01 (0.04)	-0.14 (0.08)	0.06 (0.06)	-0.17 (0.09)	-0.19 (0.11)	-0.00 (0.01)
Parent Completed High School / Some College	-0.01 (0.02)	0.02 (0.04)	-0.17* (0.08)	0.01 (0.06)	-0.13 (0.09)	-0.13 (0.11)	-0.00 (0.01)
Received F/R Price Meal 8th Grade (Y/N)	0.03 (0.01)	-0.02 (0.05)	-0.08 (0.06)	-0.12** (0.04)	0.00 (0.08)	0.03 (0.07)	-0.00 (0.01)
English Learner 8th Grade (Y/N)	-0.05* (0.02)	0.06 (0.04)	0.24** (0.08)	0.09 (0.05)	0.07 (0.09)	-0.05 (0.09)	-0.02 (0.01)
Special Education Status 8th Grade (Y/N)	0.03 (0.02)	-0.06 (0.07)	-0.26*** (0.05)	0.08 (0.05)	-0.52*** (0.08)	-0.01 (0.08)	-0.02 (0.03)
Standardized School Attendance 8th Grade	0.01 (0.00)	0.22*** (0.04)	0.08*** (0.02)	0.08*** (0.02)	0.11** (0.04)	0.16*** (0.03)	0.01 (0.01)
Received Suspension in 8th Grade (Y/N)	0.12*** (0.04)	-0.17 (0.11)	0.04 (0.07)	-0.01 (0.06)	0.03 (0.10)	0.08 (0.10)	-0.07 (0.04)
Standardized GPA 8th Grade	-0.02* (0.01)	0.23*** (0.03)	0.36*** (0.03)	0.55*** (0.02)	0.30*** (0.04)	0.34*** (0.04)	0.04** (0.01)
Standardized ELA Assessment Score 8th Grade	0.00 (0.01)	-0.02 (0.02)	0.23*** (0.03)	0.04* (0.02)	0.31*** (0.03)	0.14*** (0.03)	-0.01 (0.01)

Standardized Math Assessment Score 8th Grade	-0.01 (0.01)	-0.03 (0.02)	0.15*** (0.03)	0.11*** (0.02)	0.17*** (0.03)	0.38*** (0.03)	-0.01 (0.01)
Dance Elective Enrollment 8th Grade(Y/N)	0.01 (0.02)	0.01 (0.04)	0.11 (0.06)	0.01 (0.04)	-0.04 (0.06)	-0.13* (0.06)	0.00 (0.01)
Cohort B (vs. A)	0.01 (0.02)	-0.02 (0.03)	0.08 (0.06)	0.04 (0.04)			
Cohort C (vs. A)	0.00 (0.02)	-0.03 (0.03)	0.18** (0.06)	0.01 (0.04)			
Cohort D (vs. A)	-0.01 (0.01)	-0.03 (0.03)	-0.27*** (0.06)	-0.22*** (0.04)			
Cohort E (vs. A)	-0.01 (0.02)	-0.17*** (0.05)	-0.43*** (0.06)	-0.27*** (0.04)			
Cohort F (vs. A)	-0.03* (0.02)	-0.07 (0.04)	-0.54*** (0.06)	-0.18*** (0.05)			
Dance * Male	0.04 (0.04)	-0.06 (0.11)	-0.05 (0.16)	-0.03 (0.14)	-0.02 (0.24)	0.10 (0.26)	0.07 (0.07)
Dance * English Learner 8th	0.04 (0.03)	0.09 (0.06)	-0.24* (0.10)	-0.08 (0.07)	-0.20 (0.12)	-0.00 (0.12)	0.01 (0.02)
Dance * Below Average GPA 8th	0.00 (0.02)	-0.02 (0.04)	-0.00 (0.06)	0.03 (0.04)	-0.07 (0.07)	-0.04 (0.07)	0.00 (0.01)
Cohort C (vs. B)					-0.11* (0.05)	-0.01 (0.05)	
Cohort D (vs. B)					-0.35*** (0.05)	-0.25*** (0.05)	
Cohort B (vs. A)							-0.01 (0.01)
Cohort C (vs. A)							-0.03** (0.01)
Constant	0.07* (0.03)	0.02 (0.09)	0.29 (0.15)	0.42*** (0.08)	0.24 (0.16)	0.12 (0.17)	1.01*** (0.01)
Observations	2634	2634	2634	2634	1367	1367	1383

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade. Fixed effects account for school code in 9th grade.

Table B7. *The association between Santa Ana High enrollment and students' high school suspension, attendance, and academic achievement: Santa Ana High enrollment vs. enrollment in other high schools within the district, non-dance elective students in high school (comparison group three)*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9 th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th	(7) High School Graduate
Enrolled at Santa Ana High	-0.05*** (0.00)	-0.01 (0.02)	-0.01 (0.01)	-0.20*** (0.01)	-0.09*** (0.02)	-0.13*** (0.02)	0.00 (0.01)
Male (vs. Female)	0.03*** (0.00)	0.16*** (0.01)	-0.14*** (0.01)	-0.19*** (0.01)	-0.09*** (0.02)	0.10*** (0.02)	-0.02*** (0.00)
Hispanic (Y/N)	0.01 (0.01)	0.13** (0.04)	-0.22*** (0.04)	-0.10*** (0.02)	-0.01 (0.04)	-0.17*** (0.05)	-0.00 (0.01)
Parent Did Not Complete High School	-0.00 (0.01)	0.04 (0.03)	-0.11** (0.03)	-0.07** (0.02)	-0.10** (0.04)	-0.17*** (0.04)	-0.00 (0.01)
Parent Completed High School / Some College	0.00 (0.01)	0.05 (0.03)	-0.11*** (0.03)	-0.05* (0.02)	-0.06 (0.04)	-0.16*** (0.04)	0.00 (0.01)
Received F/R Price Meal 8th Grade (Y/N)	-0.01 (0.01)	-0.10* (0.04)	-0.03 (0.03)	-0.06** (0.02)	0.03 (0.04)	0.01 (0.04)	0.01 (0.01)
English Learner 8th Grade (Y/N)	-0.00 (0.01)	0.17*** (0.03)	0.07*** (0.02)	0.08*** (0.02)	-0.05 (0.03)	-0.01 (0.03)	-0.01** (0.01)
Special Education Status 8th Grade (Y/N)	0.02** (0.01)	-0.17*** (0.04)	-0.18*** (0.02)	0.22*** (0.02)	-0.41*** (0.04)	-0.14*** (0.04)	-0.05*** (0.01)
Standardized School Attendance 8th Grade	-0.01** (0.00)	0.42*** (0.03)	0.03*** (0.01)	0.08*** (0.01)	0.06*** (0.02)	0.05** (0.02)	0.02** (0.01)
Received Suspension in 8th Grade (Y/N)	0.20*** (0.01)	-0.60*** (0.07)	0.01 (0.02)	-0.31*** (0.03)	-0.17*** (0.04)	-0.05 (0.04)	-0.00 (0.02)
Standardized GPA 8th Grade	-0.04*** (0.00)	0.22*** (0.02)	0.30*** (0.01)	0.57*** (0.01)	0.32*** (0.02)	0.38*** (0.02)	0.02*** (0.00)
Standardized ELA Assessment Score 8th Grade	0.00 (0.00)	-0.05** (0.02)	0.23*** (0.01)	-0.01 (0.01)	0.36*** (0.01)	0.12*** (0.01)	-0.00 (0.00)

Standardized Math Assessment Score 8th Grade	-0.00 (0.00)	0.01 (0.02)	0.15*** (0.01)	0.12*** (0.01)	0.08*** (0.01)	0.38*** (0.01)	0.00 (0.00)
Dance Elective Enrollment 8th Grade (Y/N)	0.00 (0.01)	-0.15 (0.08)	-0.02 (0.04)	-0.07* (0.03)	-0.12* (0.05)	-0.18*** (0.05)	0.00 (0.01)
Cohort B (vs. A)	-0.01 (0.01)	0.02 (0.02)	0.04 (0.03)	0.01 (0.02)			
Cohort C (vs. A)	-0.01 (0.01)	-0.04 (0.02)	0.08** (0.03)	-0.02 (0.02)			
Cohort D (vs. A)	-0.01 (0.01)	-0.02 (0.02)	-0.23*** (0.02)	-0.25*** (0.02)			
Cohort E (vs. A)	-0.02** (0.01)	-0.08** (0.03)	-0.34*** (0.02)	-0.32*** (0.02)			
Cohort F (vs. A)	-0.06*** (0.01)	-0.08** (0.03)	-0.40*** (0.02)	-0.16*** (0.02)			
Cohort C (vs. B)					-0.11*** (0.02)	-0.05* (0.02)	
Cohort D (vs. B)					-0.24*** (0.02)	-0.21*** (0.02)	
Cohort B (vs. A)							-0.01* (0.00)
Cohort C (vs. A)							-0.01* (0.00)
Constant	0.08*** (0.01)	-0.12* (0.05)	0.61*** (0.05)	0.47*** (0.03)	0.33*** (0.05)	0.32*** (0.06)	1.00*** (0.01)
Observations	17437	17437	17437	17437	8501	8501	8380

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B8. *The association between Santa Ana High enrollment and students' high school suspension, attendance, and academic achievement: Santa Ana High enrollment vs. enrollment in other high schools within the district, non-dance elective students in high school (comparison group three), interaction model of gender, English language learner status in 8th grade, and below average GPA in 8th grade*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9 th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th	(7) High School Graduate
Enrolled at Santa Ana High	-0.02 (0.01)	-0.12 (0.11)	0.09 (0.06)	-0.14** (0.05)	-0.04 (0.07)	-0.21** (0.07)	0.01 (0.01)
Male (vs. Female)	0.04*** (0.00)	0.16*** (0.02)	-0.14*** (0.02)	-0.19*** (0.01)	-0.09*** (0.02)	0.11*** (0.02)	-0.01** (0.00)
Hispanic (Y/N)	0.01 (0.01)	0.14*** (0.04)	-0.22*** (0.04)	-0.10*** (0.02)	-0.01 (0.04)	-0.16** (0.05)	-0.00 (0.01)
Parent Did Not Complete High School	-0.00 (0.01)	0.04 (0.03)	-0.11** (0.03)	-0.07** (0.02)	-0.10** (0.04)	-0.17*** (0.04)	-0.00 (0.01)
Parent Completed High School / Some College	0.00 (0.01)	0.06 (0.03)	-0.11*** (0.03)	-0.05* (0.02)	-0.06 (0.04)	-0.16*** (0.04)	0.00 (0.01)
Received F/R Price Meal 8th Grade (Y/N)	-0.01 (0.01)	-0.10* (0.04)	-0.03 (0.03)	-0.06** (0.02)	0.03 (0.04)	0.01 (0.04)	0.01 (0.01)
English Learner 8th Grade (Y/N)	-0.00 (0.01)	0.15*** (0.03)	0.09*** (0.02)	0.09*** (0.02)	-0.04 (0.03)	-0.01 (0.03)	-0.01* (0.01)
Special Education Status 8th Grade (Y/N)	0.02** (0.01)	-0.17*** (0.04)	-0.18*** (0.02)	0.22*** (0.02)	-0.41*** (0.04)	-0.14*** (0.03)	-0.05*** (0.01)
Standardized School Attendance 8th Grade	-0.01** (0.00)	0.42*** (0.03)	0.03*** (0.01)	0.08*** (0.01)	0.07*** (0.02)	0.05** (0.02)	0.02** (0.01)
Received Suspension in 8th Grade (Y/N)	0.20*** (0.01)	-0.60*** (0.07)	0.01 (0.02)	-0.31*** (0.03)	-0.17*** (0.04)	-0.05 (0.04)	-0.00 (0.02)
Standardized GPA 8th Grade	-0.05*** (0.00)	0.22*** (0.02)	0.30*** (0.01)	0.57*** (0.01)	0.32*** (0.02)	0.40*** (0.02)	0.02*** (0.00)

Standardized ELA Assessment Score 8th Grade	0.00 (0.00)	-0.05** (0.02)	0.23*** (0.01)	-0.01 (0.01)	0.36*** (0.01)	0.12*** (0.01)	-0.00 (0.00)
Standardized Math Assessment Score 8th Grade	-0.00 (0.00)	0.01 (0.02)	0.15*** (0.01)	0.12*** (0.01)	0.08*** (0.01)	0.38*** (0.01)	0.00 (0.00)
Dance Elective Enrollment 8th Grade (Y/N)	-0.00 (0.01)	-0.15 (0.08)	-0.02 (0.04)	-0.07* (0.03)	-0.12* (0.05)	-0.18*** (0.05)	0.00 (0.01)
Cohort B (vs. A)	-0.01 (0.01)	0.02 (0.02)	0.04 (0.03)	0.01 (0.02)			
Cohort C (vs. A)	-0.01 (0.01)	-0.04 (0.02)	0.08** (0.03)	-0.02 (0.02)			
Cohort D (vs. A)	-0.01 (0.01)	-0.02 (0.02)	-0.23*** (0.02)	-0.25*** (0.02)			
Cohort E (vs. A)	-0.02** (0.01)	-0.08** (0.03)	-0.34*** (0.02)	-0.32*** (0.02)			
Cohort F (vs. A)	-0.06*** (0.01)	-0.08** (0.03)	-0.40*** (0.02)	-0.16*** (0.02)			
Santa Ana High * Male	-0.04*** (0.01)	-0.01 (0.03)	-0.02 (0.03)	0.00 (0.03)	-0.04 (0.04)	-0.04 (0.04)	-0.02* (0.01)
Santa Ana High * English Learner 8th	0.02 (0.01)	0.11 (0.12)	-0.09 (0.05)	-0.07 (0.04)	-0.04 (0.07)	-0.00 (0.07)	-0.02 (0.01)
Santa Ana High * Below Average GPA 8th	-0.03*** (0.01)	0.03 (0.06)	-0.01 (0.03)	-0.00 (0.03)	0.02 (0.04)	0.20*** (0.04)	0.03* (0.01)
Cohort C (vs. B)					-0.11*** (0.02)	-0.05* (0.02)	
Cohort D (vs. B)					-0.24*** (0.02)	-0.21*** (0.02)	
Cohort B (vs. A)							-0.01* (0.00)
Cohort C (vs. A)							-0.01* (0.00)
Constant	0.08*** (0.01)	-0.12* (0.05)	0.60*** (0.05)	0.46*** (0.03)	0.32*** (0.05)	0.30*** (0.06)	0.99*** (0.01)
Observations	17437	17437	17437	17437	8501	8501	8380

Note. * p<0.05, ** p<0.01, *** p<0.001. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B9. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: Dance elective enrollment, Santa Ana High, vs. dance elective enrollment, outside of Santa Ana High (comparison group 4)*

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever Suspended (Y/N 9th to 12th)	School Attendance (AVG 9th to 12th)	AP Course Enrollment (AVG 9th to 12th)	GPA (AVG 9th to 12th)	ELA Assessment 11th	Math Assessment 11th
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.01 (0.01)	0.04 (0.02)	-0.01 (0.03)	-0.18*** (0.03)	-0.21*** (0.05)	-0.28*** (0.05)
Male (vs. Female)	0.03 (0.03)	0.07 (0.07)	-0.01 (0.09)	-0.05 (0.07)	0.01 (0.11)	0.14 (0.11)
Hispanic (Y/N)	-0.02 (0.03)	0.23* (0.11)	0.20 (0.13)	-0.16* (0.07)	-0.11 (0.12)	-0.32* (0.15)
Parent Did Not Complete High School	-0.03 (0.02)	0.01 (0.05)	-0.21* (0.09)	0.02 (0.06)	-0.23* (0.09)	-0.27* (0.11)
Parent Completed High School / Some College	-0.03 (0.02)	0.03 (0.05)	-0.19* (0.09)	0.01 (0.06)	-0.20* (0.10)	-0.21 (0.11)
Received F/R Price Meal 8th Grade (Y/N)	0.04** (0.01)	-0.08 (0.06)	-0.09 (0.07)	-0.10 (0.05)	-0.08 (0.10)	0.05 (0.09)
English Learner 8th Grade (Y/N)	-0.00 (0.01)	0.17** (0.05)	0.05 (0.05)	0.06 (0.04)	-0.07 (0.07)	0.01 (0.07)
Special Education Status 8th Grade (Y/N)	0.01 (0.02)	-0.02 (0.06)	-0.18*** (0.04)	0.12* (0.05)	-0.32*** (0.08)	0.03 (0.08)
Standardized School Attendance 8th Grade	0.00 (0.00)	0.19*** (0.03)	0.07*** (0.02)	0.06*** (0.02)	0.10** (0.03)	0.09*** (0.03)
Received Suspension in 8th Grade (Y/N)	0.12*** (0.03)	-0.21 (0.11)	-0.05 (0.05)	-0.09 (0.06)	-0.02 (0.10)	0.07 (0.09)
Standardized GPA 8th Grade	-0.03*** (0.01)	0.25*** (0.03)	0.32*** (0.02)	0.53*** (0.02)	0.35*** (0.03)	0.36*** (0.04)

Standardized ELA Assessment Score 8th Grade	-0.00 (0.01)	-0.03 (0.02)	0.23*** (0.02)	0.03 (0.02)	0.35*** (0.03)	0.12*** (0.03)
Standardized Math Assessment Score 8th Grade	-0.00 (0.01)	-0.02 (0.02)	0.16*** (0.03)	0.11*** (0.02)	0.09* (0.03)	0.32*** (0.03)
Dance Elective Enrollment 8th Grade (Y/N)	-0.00 (0.01)	0.01 (0.03)	0.12* (0.06)	0.00 (0.04)	0.00 (0.06)	-0.11* (0.05)
Cohort B (vs. A)	0.01 (0.02)	0.01 (0.03)	0.16** (0.06)	0.04 (0.04)		
Cohort C (vs. A)	-0.00 (0.02)	-0.01 (0.03)	0.16** (0.06)	-0.07* (0.04)		
Cohort D (vs. A)	-0.00 (0.02)	-0.06 (0.03)	-0.28*** (0.05)	-0.30*** (0.04)		
Cohort E (vs. A)	-0.02 (0.02)	-0.15** (0.05)	-0.34*** (0.05)	-0.30*** (0.04)		
Cohort F (vs. A)	-0.04** (0.02)	-0.10* (0.04)	-0.48*** (0.06)	-0.21*** (0.05)		
Cohort C (vs. B)					-0.15** (0.05)	-0.02 (0.05)
Cohort D (vs. B)					-0.36*** (0.05)	-0.30*** (0.05)
Constant	0.07* (0.03)	-0.11 (0.12)	0.25 (0.15)	0.56*** (0.09)	0.64*** (0.15)	0.49** (0.18)
Observations	2715	2715	2715	2715	1368	1368

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B10. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: Dance elective enrollment, Santa Ana High, vs. dance elective enrollment, outside of Santa Ana High (comparison group 4) interaction model of gender, English language learner status in 8th grade, and below average GPA in 8th grade*

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever Suspended (Y/N 9th to 12th)	School Attendance (AVG 9th to 12th)	AP Course Enrollment (AVG 9 th to 12th)	GPA (AVG 9th to 12th)	ELA Assessment 11th	Math Assessment 11th
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.06 (0.03)	-0.09 (0.17)	-0.10 (0.11)	-0.28** (0.11)	-0.58** (0.18)	-0.87*** (0.16)
Male (vs. Female)	0.03 (0.03)	0.07 (0.08)	0.04 (0.10)	-0.06 (0.07)	-0.02 (0.12)	0.12 (0.13)
Hispanic (Y/N)	-0.02 (0.03)	0.24* (0.11)	0.22 (0.13)	-0.15* (0.07)	-0.10 (0.12)	-0.29 (0.15)
Parent Did Not Complete High School	-0.03 (0.02)	0.01 (0.05)	-0.21* (0.09)	0.02 (0.06)	-0.22* (0.09)	-0.25* (0.11)
Parent Completed High School / Some College	-0.03 (0.02)	0.03 (0.05)	-0.18* (0.09)	0.01 (0.06)	-0.19 (0.09)	-0.19 (0.11)
Received F/R Price Meal 8th Grade (Y/N)	0.04** (0.01)	-0.08 (0.06)	-0.09 (0.07)	-0.10 (0.05)	-0.07 (0.10)	0.05 (0.09)
English Learner 8th Grade (Y/N)	-0.01 (0.02)	0.15** (0.05)	0.04 (0.06)	0.05 (0.05)	-0.11 (0.07)	-0.05 (0.08)
Special Education Status 8th Grade (Y/N)	0.02 (0.02)	-0.02 (0.06)	-0.18*** (0.05)	0.12* (0.05)	-0.32*** (0.08)	0.03 (0.08)
Standardized School Attendance 8th Grade	0.00 (0.00)	0.19*** (0.03)	0.07*** (0.02)	0.06*** (0.02)	0.10** (0.03)	0.09*** (0.03)
Received Suspension in 8th Grade (Y/N)	0.12*** (0.03)	-0.21 (0.11)	-0.05 (0.05)	-0.08 (0.06)	-0.02 (0.10)	0.07 (0.09)
Standardized GPA 8th Grade	-0.03*** (0.01)	0.26*** (0.03)	0.33*** (0.03)	0.53*** (0.02)	0.37*** (0.04)	0.39*** (0.04)
Standardized ELA Assessment Score 8th Grade	-0.00 (0.01)	-0.03 (0.02)	0.22*** (0.02)	0.03 (0.02)	0.35*** (0.03)	0.11*** (0.03)
Standardized Math Assessment Score 8th Grade	-0.00 (0.01)	-0.03 (0.02)	0.16*** (0.03)	0.11*** (0.02)	0.08* (0.03)	0.32*** (0.03)
Dance Elective Enrollment 8th Grade (Y/N)	-0.00	0.01	0.12*	0.00	0.01	-0.11

	(0.01)	(0.03)	(0.06)	(0.04)	(0.06)	(0.05)
Cohort B (vs. A)	0.01	0.01	0.16**	0.04		
	(0.02)	(0.03)	(0.06)	(0.04)		
Cohort C (vs. A)	-0.00	-0.01	0.16**	-0.08*		
	(0.02)	(0.03)	(0.06)	(0.04)		
Cohort D (vs. A)	-0.00	-0.06	-0.28***	-0.30***		
	(0.02)	(0.03)	(0.05)	(0.04)		
Cohort E (vs. A)	-0.02	-0.15**	-0.34***	-0.30***		
	(0.02)	(0.05)	(0.05)	(0.04)		
Cohort F (vs. A)	-0.04**	-0.10**	-0.48***	-0.21***		
	(0.02)	(0.04)	(0.06)	(0.05)		
Dance * Male	0.04	0.02	-0.29	0.06	0.11	0.06
	(0.08)	(0.13)	(0.22)	(0.24)	(0.31)	(0.25)
Dance * English Learner 8th	0.04	0.10	0.05	0.09	0.30	0.47**
	(0.03)	(0.19)	(0.11)	(0.11)	(0.18)	(0.16)
Dance * Below Average GPA 8th	0.02	0.07	0.09	0.02	0.18	0.30***
	(0.02)	(0.07)	(0.06)	(0.06)	(0.09)	(0.08)
Cohort C (vs. B)					-0.15**	-0.01
					(0.05)	(0.05)
Cohort D (vs. B)					-0.36***	-0.30***
					(0.05)	(0.05)
Constant	0.08*	-0.11	0.25	0.57***	0.64***	0.49**
	(0.03)	(0.12)	(0.16)	(0.09)	(0.15)	(0.18)
Observations	2715	2715	2715	2715	1368	1368

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B11. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: Dance elective enrollment vs. non-dance elective enrollment, Santa Ana High (comparison group 5)*

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever Suspended (Y/N 9th to 12th)	School Attendance (AVG 9th to 12th)	AP Course Enrollment (AVG 9 th to 12th)	GPA (AVG 9th to 12th)	ELA Assessment 11th	Math Assessment 11th
Dance Elective Enrollment 9 th – 12 th (Y/N)	0.00 (0.01)	0.18*** (0.03)	-0.08* (0.04)	0.09** (0.03)	-0.17*** (0.05)	-0.18*** (0.05)
Hispanic (Y/N)	-0.05 (0.04)	0.63* (0.27)	0.53 (0.28)	0.06 (0.11)	0.05 (0.21)	0.08 (0.21)
Parent Did Not Complete High School	-0.03 (0.03)	0.07 (0.12)	-0.25* (0.12)	-0.10 (0.09)	-0.22 (0.13)	-0.33* (0.17)
Parent Completed High School / Some College	-0.03 (0.03)	0.06 (0.12)	-0.26* (0.12)	-0.05 (0.09)	-0.27* (0.13)	-0.40* (0.17)
Received F/R Price Meal 8th Grade (Y/N)	-0.02 (0.03)	-0.06 (0.19)	0.06 (0.10)	-0.01 (0.11)	0.22 (0.14)	0.01 (0.14)
English Learner 8th Grade (Y/N)	0.02* (0.01)	0.22 (0.14)	-0.03 (0.07)	0.07 (0.06)	-0.06 (0.08)	0.00 (0.08)
Special Education Status 8th Grade (Y/N)	-0.02 (0.01)	-0.11 (0.10)	-0.15** (0.05)	0.36*** (0.06)	-0.20 (0.11)	0.02 (0.09)
Standardized School Attendance 8th Grade	-0.00 (0.00)	0.36*** (0.06)	0.03 (0.02)	0.08*** (0.02)	0.10** (0.04)	0.03 (0.03)
Received Suspension in 8th Grade (Y/N)	0.14*** (0.04)	-0.56** (0.19)	-0.02 (0.06)	-0.35*** (0.08)	-0.34*** (0.10)	-0.21* (0.08)
Standardized GPA 8th Grade	-0.04*** (0.01)	0.30*** (0.05)	0.31*** (0.03)	0.53*** (0.03)	0.32*** (0.04)	0.21*** (0.04)
Standardized ELA Assessment Score 8th Grade	-0.01 (0.01)	-0.09* (0.04)	0.27*** (0.03)	0.04 (0.03)	0.43*** (0.04)	0.08* (0.04)
Standardized Math Assessment Score 8th Grade	0.00 (0.01)	0.04 (0.04)	0.23*** (0.03)	0.16*** (0.03)	0.02 (0.04)	0.37*** (0.04)
Dance Elective Enrollment 8th Grade(Y/N)	-0.00 (0.01)	-0.10 (0.11)	-0.17** (0.06)	-0.12* (0.05)	-0.10 (0.07)	-0.19** (0.06)
Cohort B (vs. A)	-0.01 (0.02)	0.06 (0.06)	0.13 (0.07)	0.04 (0.05)		
Cohort C (vs. A)	-0.05** (0.01)	-0.05 (0.07)	0.18* (0.07)	-0.12* (0.05)		
Cohort D (vs. A)	-0.02 (0.02)	-0.14* (0.07)	-0.18** (0.07)	-0.28*** (0.06)		

Cohort E (vs. A)	-0.04*	-0.16*	-0.28***	-0.32***		
	(0.01)	(0.07)	(0.06)	(0.06)		
Cohort F (vs. A)	-0.04**	-0.06	-0.40***	-0.23***		
	(0.02)	(0.07)	(0.06)	(0.06)		
Cohort C (vs. B)					-0.05	0.07
					(0.06)	(0.05)
Cohort D (vs. B)					-0.15**	-0.13*
					(0.06)	(0.05)
Constant	0.14**	-0.73*	0.01	0.13	0.11	0.09
	(0.05)	(0.30)	(0.34)	(0.15)	(0.24)	(0.22)
Observations	2196	2196	2196	2196	1039	1039

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Males excluded from analysis. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B12. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: Dance elective enrollment vs. non-dance elective enrollment, Santa Ana High (comparison group 5), interaction model of English language learner status in 8th grade and below average GPA in 8th grade*

	(1) Ever Suspended (Y/N 9 th to 12 th)	(2) School Attendance (AVG 9 th to 12 th)	(3) AP Course Enrollment (AVG 9 th to 12 th)	(4) GPA (AVG 9 th to 12 th)	(5) ELA Assessment 11 th	(6) Math Assessment 11 th
Dance Elective Enrollment 9 th – 12 th (Y/N)	-0.01 (0.02)	0.12 (0.25)	-0.14 (0.13)	-0.03 (0.11)	-0.32 (0.17)	-0.57*** (0.14)
Hispanic (Y/N)	-0.05 (0.04)	0.63* (0.27)	0.54 (0.28)	0.08 (0.11)	0.09 (0.21)	0.17 (0.21)
Parent Did Not Complete High School	-0.03 (0.03)	0.06 (0.12)	-0.25* (0.12)	-0.10 (0.09)	-0.22 (0.13)	-0.34* (0.16)
Parent Completed High School / Some College	-0.03 (0.03)	0.06 (0.12)	-0.26* (0.12)	-0.06 (0.09)	-0.27* (0.14)	-0.41* (0.17)
Received F/R Price Meal 8 th Grade (Y/N)	-0.02 (0.03)	-0.06 (0.19)	0.06 (0.10)	-0.01 (0.11)	0.23 (0.14)	0.01 (0.14)
English Learner 8 th Grade (Y/N)	0.02 (0.01)	0.21 (0.17)	-0.03 (0.09)	0.04 (0.07)	-0.09 (0.09)	-0.09 (0.10)
Special Education Status 8 th Grade (Y/N)	-0.02 (0.01)	-0.11 (0.10)	-0.15** (0.05)	0.37*** (0.06)	-0.20 (0.11)	0.02 (0.09)
Standardized School Attendance 8 th Grade	-0.00 (0.00)	0.35*** (0.06)	0.03 (0.02)	0.08*** (0.02)	0.10** (0.04)	0.03 (0.03)
Received Suspension in 8 th Grade (Y/N)	0.14*** (0.04)	-0.56** (0.19)	-0.02 (0.06)	-0.34*** (0.08)	-0.34*** (0.10)	-0.21* (0.08)
Standardized GPA 8 th Grade	-0.04*** (0.01)	0.31*** (0.05)	0.32*** (0.03)	0.54*** (0.03)	0.33*** (0.04)	0.23*** (0.04)
Standardized ELA Assessment Score 8 th Grade	-0.01 (0.01)	-0.09* (0.04)	0.27*** (0.03)	0.04 (0.03)	0.43*** (0.04)	0.08* (0.04)
Standardized Math Assessment Score 8 th Grade	0.00 (0.01)	0.05 (0.04)	0.23*** (0.03)	0.16*** (0.03)	0.01 (0.04)	0.37*** (0.04)
Dance Elective Enrollment 8 th Grade (Y/N)	-0.00 (0.01)	-0.09 (0.11)	-0.16* (0.06)	-0.12* (0.05)	-0.09 (0.07)	-0.18** (0.06)
Cohort B (vs. A)	-0.01 (0.02)	0.06 (0.06)	0.13 (0.07)	0.04 (0.05)		
Cohort C (vs. A)	-0.05** (0.01)	-0.04 (0.07)	0.18* (0.07)	-0.12* (0.05)		
Cohort D (vs. A)	-0.02 (0.02)	-0.14* (0.07)	-0.18** (0.07)	-0.28*** (0.06)		
Cohort E (vs. A)	-0.04* (0.01)	-0.16* (0.07)	-0.28*** (0.06)	-0.32*** (0.06)		

Cohort F (vs. A)	-0.04** (0.02)	-0.06 (0.07)	-0.40*** (0.06)	-0.23*** (0.06)		
Dance * English Learner 8th	0.01 (0.02)	0.03 (0.28)	0.04 (0.13)	0.11 (0.11)	0.13 (0.17)	0.37* (0.15)
Dance * Below Average GPA 8th	0.00 (0.02)	0.06 (0.09)	0.07 (0.06)	0.05 (0.06)	0.07 (0.09)	0.13 (0.08)
Cohort C (vs. B)					-0.05 (0.06)	0.07 (0.05)
Cohort D (vs. B)					-0.15** (0.06)	-0.13* (0.05)
Constant	0.14** (0.05)	-0.73* (0.31)	0.01 (0.34)	0.14 (0.15)	0.10 (0.24)	0.10 (0.22)
Observations	2196	2196	2196	2196	1039	1039

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Males excluded from analysis. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B13. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: SanArts dance conservatory enrollment vs. dance elective enrollment, Santa Ana High (comparison group 6)*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9 th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th	(1) High School Graduate
SanArts Dance Conservatory Enrollment	-0.01 (0.02)	-0.03 (0.05)	0.41** (0.15)	0.17 (0.09)	0.40** (0.13)	0.19 (0.15)	0.02 (0.02)
Male (vs. Female)	0.12 (0.08)	0.12 (0.08)	-0.20 (0.20)	-0.02 (0.21)	0.07 (0.28)	0.26 (0.18)	-0.17 (0.14)
Parent Did Not Complete High School	-0.09 (0.07)	0.00 (0.09)	-0.26 (0.17)	-0.08 (0.18)	-0.24 (0.27)	-0.63 (0.47)	-0.02 (0.02)
Parent Completed High School / Some College	-0.09 (0.06)	-0.00 (0.09)	-0.27 (0.18)	-0.06 (0.19)	-0.33 (0.28)	-0.76 (0.47)	-0.02 (0.02)
Received F/R Price Meal 8th Grade (Y/N)	0.03 (0.02)	-0.13 (0.11)	0.03 (0.18)	0.06 (0.19)	-0.09 (0.23)	0.04 (0.17)	0.04 (0.02)
Special Education Status 8th Grade (Y/N)	-0.00 (0.03)	-0.03 (0.06)	-0.09 (0.07)	0.23* (0.11)	-0.28* (0.12)	0.01 (0.17)	0.04 (0.02)
Standardized School Attendance 8th Grade	-0.00 (0.01)	0.18** (0.06)	0.06* (0.03)	0.06 (0.04)	0.09* (0.04)	0.00 (0.03)	-0.00 (0.01)
Received Suspension in 8th Grade (Y/N)	0.10 (0.06)	-0.15 (0.13)	-0.04 (0.09)	-0.46*** (0.11)	-0.12 (0.18)	-0.34 (0.18)	-0.08 (0.07)
Standardized GPA 8th Grade	-0.04*** (0.01)	0.19*** (0.05)	0.25*** (0.04)	0.48*** (0.04)	0.26*** (0.06)	0.22*** (0.06)	-0.02 (0.01)
Standardized ELA Assessment Score 8th Grade	-0.01 (0.01)	-0.03 (0.03)	0.21*** (0.05)	0.01 (0.04)	0.42*** (0.06)	0.07 (0.06)	0.02 (0.01)
Standardized Math Assessment Score 8th Grade	0.00 (0.01)	-0.04 (0.03)	0.19*** (0.05)	0.18*** (0.04)	-0.03 (0.07)	0.27*** (0.06)	0.02 (0.01)
Dance Elective Enrollment 8th Grade (Y/N)	0.01 (0.02)	-0.04 (0.05)	-0.01 (0.09)	-0.08 (0.08)	-0.18 (0.10)	-0.19 (0.10)	-0.03 (0.04)
Cohort B (vs. A)	-0.03 (0.04)	0.12* (0.05)	0.00 (0.10)	-0.12 (0.09)			
Cohort C (vs. A)	-0.06* (0.03)	0.11* (0.05)	0.24 (0.14)	-0.30** (0.09)			
Cohort D (vs. A)	-0.05 (0.03)	-0.07 (0.05)	-0.28** (0.10)	-0.43*** (0.09)			
Cohort E (vs. A)	-0.04 (0.03)	-0.07 (0.08)	-0.29** (0.09)	-0.33*** (0.10)			
Cohort F (vs. A)	-0.07* (0.03)	-0.15* (0.07)	-0.48*** (0.10)	-0.34** (0.10)			
Cohort C (vs. B)					0.01 (0.11)	0.07 (0.10)	
Cohort D (vs. B)					-0.17 (0.10)	-0.20* (0.09)	
Cohort B (vs. A)							-0.03

Cohort C (vs. A)							(0.02)
							0.01
							(0.01)
Constant	0.14*	0.34**	0.46	0.37	0.25	0.31	0.97***
	(0.07)	(0.13)	(0.25)	(0.24)	(0.36)	(0.50)	(0.03)
Observations	657	657	657	657	299	299	275

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Table B14. *The association between dance elective enrollment and students' high school suspension, attendance, and academic achievement: SanArts dance conservatory enrollment vs. dance elective enrollment, Santa Ana High (comparison group 6), interaction model of below average GPA in 8th grade*

	(1) Ever Suspended (Y/N 9th to 12th)	(2) School Attendance (AVG 9th to 12th)	(3) AP Course Enrollment (AVG 9 th to 12th)	(4) GPA (AVG 9th to 12th)	(5) ELA Assessment 11th	(6) Math Assessment 11th	(1) High School Graduate
SanArts Dance Conservatory Enrollment	-0.01 (0.02)	-0.05 (0.06)	0.57** (0.19)	0.15 (0.11)	0.46** (0.15)	0.29 (0.24)	-0.02 (0.04)
Male (vs. Female)	0.11 (0.08)	0.12 (0.08)	-0.14 (0.21)	-0.03 (0.21)	0.07 (0.28)	0.24 (0.19)	-0.18 (0.15)
Parent Did Not Complete High School	-0.09 (0.07)	-0.00 (0.08)	-0.22 (0.17)	-0.09 (0.19)	-0.19 (0.28)	-0.69 (0.46)	-0.02 (0.02)
Parent Completed High School / Some College	-0.09 (0.06)	-0.00 (0.08)	-0.23 (0.17)	-0.06 (0.19)	-0.28 (0.28)	-0.77 (0.46)	-0.02 (0.02)
Received F/R Price Meal 8th Grade (Y/N)	0.03 (0.02)	-0.13 (0.11)	0.00 (0.18)	0.06 (0.19)	-0.09 (0.23)	-0.04 (0.17)	0.05 (0.02)
Special Education Status 8th Grade (Y/N)	-0.00 (0.03)	-0.03 (0.06)	-0.10 (0.07)	0.23* (0.11)	-0.28* (0.12)	-0.01 (0.16)	0.04 (0.02)
Standardized School Attendance 8th Grade	-0.00 (0.01)	0.18** (0.06)	0.06* (0.03)	0.06 (0.04)	0.09* (0.04)	0.01 (0.03)	-0.01 (0.01)
Received Suspension in 8th Grade (Y/N)	0.10 (0.06)	-0.15 (0.13)	-0.06 (0.09)	-0.46*** (0.11)	-0.12 (0.18)	-0.34* (0.16)	-0.08 (0.08)
Standardized GPA 8th Grade	-0.04*** (0.01)	0.20*** (0.05)	0.24*** (0.04)	0.48*** (0.04)	0.25*** (0.06)	0.21*** (0.06)	-0.02 (0.01)
Standardized ELA Assessment Score 8th Grade	-0.01 (0.01)	-0.03 (0.03)	0.21*** (0.04)	0.01 (0.04)	0.41*** (0.06)	0.09 (0.06)	0.02 (0.01)
Standardized Math Assessment Score 8th Grade	0.00 (0.01)	-0.04 (0.03)	0.19*** (0.05)	0.18*** (0.04)	-0.03 (0.07)	0.26*** (0.06)	0.02 (0.01)
Dance Elective Enrollment 8th Grade (Y/N)	0.01 (0.02)	-0.04 (0.05)	-0.01 (0.09)	-0.08 (0.08)	-0.17 (0.10)	-0.17 (0.10)	-0.04 (0.04)
Cohort B (vs. A)	-0.03 (0.04)	0.12** (0.05)	-0.02 (0.10)	-0.12 (0.09)			
Cohort C (vs. A)	-0.06* (0.03)	0.11* (0.05)	0.22 (0.14)	-0.29** (0.10)			
Cohort D (vs. A)	-0.05 (0.03)	-0.06 (0.05)	-0.31** (0.10)	-0.43*** (0.10)			
Cohort E (vs. A)	-0.04 (0.03)	-0.07 (0.08)	-0.30** (0.09)	-0.32*** (0.10)			
Cohort F (vs. A)	-0.07* (0.03)	-0.15* (0.07)	-0.50*** (0.10)	-0.34** (0.11)			
Conservatory * Below Average GPA 8 th	0.02 (0.08)	0.07 (0.10)	-0.64* (0.29)	0.10 (0.20)	-0.40* (0.17)	0.11 (0.28)	0.06 (0.05)
Cohort C (vs. B)					0.01	0.07	

					(0.11)	(0.10)	
Cohort D (vs. B)					-0.18	-0.20*	
					(0.10)	(0.09)	
Cohort B (vs. A)							-0.03
							(0.02)
Cohort C (vs. A)							0.01
							(0.01)
Constant	0.14*	0.34**	0.46	0.37	0.20	0.33	0.98***
	(0.07)	(0.13)	(0.25)	(0.24)	(0.36)	(0.51)	(0.03)
Observations	657	657	657	657	299	299	275

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Reference group for parent education refers to parents who completed postsecondary education or training. Continuous covariates and dependent variables are standardized. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Adolescents in Cohort A were not administered the statewide ELA and Math assessments in 11th grade.

Appendix C

Linear regressions predicting the association between dance elective enrollment and adolescents' high school suspension, attendance, and academic achievement: Interaction models of gender, English language learner status in 8th grade, and scoring below average GPA in 8th grade

Table C1. Linear regression predicting the association between adolescents' dance elective enrollment and their subsequent high school suspension, attendance, and academic achievement: Interaction model predicting the differential association of dance for males versus females (i.e., the coefficients shown represent the interaction term of dance on being male)

	1	2	3	4	5	6	7
	Days Suspension (Y/N)	School Attendance (AVG)	AP Course Enrollment (AVG)	GPA (AVG)	ELA Assessment 11th	Math Assessment 11th	High School Graduate
<i>Comparison</i>							
One: Dance Elective vs. No Dance Elective, Outside of Santa Ana High	--	--	--	--	--	--	--
Two: Dance Elective vs. Other Female Dominant Activity, Outside of Santa Ana High	0.04 (0.04)	-0.06 (0.011)	-0.05 (0.16)	-0.03 (0.14)	-0.02 (0.24)	0.10 (0.26)	0.07 (0.07)
	<i>n</i> = 2634	<i>n</i> = 2634	<i>n</i> = 2634	<i>n</i> = 2634	<i>n</i> = 1367	<i>n</i> = 1367	<i>n</i> = 1383
Three: Santa Ana High vs. Non-Santa Ana High, Non- Dance Elective Students	-0.04*** (0.01)	-0.01 (0.03)	-0.02 (0.03)	0.00 (0.03)	-0.04 (0.04)	-0.04 (0.05)	-0.02* (0.01)
	<i>n</i> = 17437	<i>n</i> = 17437	<i>n</i> = 17437	<i>n</i> = 17437	<i>n</i> = 8501	<i>n</i> = 8501	<i>n</i> = 8380
Four: Dance Elective, Santa Ana High vs. Dance Elective, Outside of Santa Ana High	0.04 (0.08)	0.02 (0.13)	-0.29 (0.22)	0.06 (0.24)	0.11 (0.31)	0.06 (0.25)	--
	<i>n</i> = 2715	<i>n</i> = 2715	<i>n</i> = 2715	<i>n</i> = 2715	<i>n</i> = 1368	<i>n</i> = 1368	
Five: Dance Elective vs. No Dance Elective, Santa Ana High	--	--	--	--	--	--	--
Six: SanArts Dance Conservatory vs. Dance Elective, Santa Ana High	--	--	--	--	--	--	--

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Covariates include gender, race, parent education level, received free-or reduced-price meal in 8th grade, English language learner status in 8th grade, special education status in 8th grade, dance elective enrollment in 8th grade, ever received school suspension in 8th grade, total days of school attendance in 8th grade, GPA in 8th grade, ELA and math assessment proficiency in 8th grade, and cohort-level indicators. All continuous predictor and outcome variables are standardized using z-scores. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Due to the cohort sequential design, two cohorts of on-time students had not completed the 11th grade statewide assessments. Dashes represent instances where a lack of variance existed between comparison groups. Tables displaying models with the full set of covariates can be found in Appendix B.

Table C2. Linear regression predicting the association between adolescents' dance elective enrollment and their subsequent high school suspension, attendance, and academic achievement: Interaction model predicting the differential association of dance for students who had or had not reached English language learner status by 8th grade (i.e., the coefficients shown represent the interaction term of dance on being on English language learner in 8th grade)

	1	2	3	4	5	6	7
	Days Suspension (Y/N)	School Attendance (AVG)	AP Course Enrollment (AVG)	GPA (AVG)	ELA Assessment 11th	Math Assessment 11th	High School Graduate
<i>Comparison</i>							
One: Dance Elective vs. No Dance Elective, Outside of Santa Ana High	0.01 (0.02) <i>n</i> = 8003	-0.02 (0.07) <i>n</i> = 8003	-0.05 (0.07) <i>n</i> = 8003	-0.03 (0.05) <i>n</i> = 8003	-0.09 (0.08) <i>n</i> = 4020	-0.06 (0.09) <i>n</i> = 4020	--
Two: Dance Elective vs. Other Female Dominant Activity, Outside of Santa Ana High	0.04 (0.03) <i>n</i> = 2634	0.09 (0.06) <i>n</i> = 2634	-0.24* (0.10) <i>n</i> = 2634	-0.08 (0.07) <i>n</i> = 2634	-0.20 (0.12) <i>n</i> = 1367	-0.00 (0.12) <i>n</i> = 1367	0.01 (0.02) <i>n</i> = 1383
Three: Santa Ana High vs. Non- Santa Ana High, Non-Dance Elective Students	0.02 (0.01) <i>n</i> = 17437	0.11 (0.12) <i>n</i> = 17437	-0.09 (0.05) <i>n</i> = 17437	-0.07 (0.04) <i>n</i> = 17437	-0.04 (0.07) <i>n</i> = 8501	-0.00 (0.07) <i>n</i> = 8501	-0.02 (0.01) <i>n</i> = 8380
Four: Dance Elective, Santa Ana High vs. Dance Elective, Outside of Santa Ana High	0.04 (0.03) <i>n</i> = 2715	0.10 (0.19) <i>n</i> = 2715	0.05 (0.11) <i>n</i> = 2715	0.09 (0.11) <i>n</i> = 2715	0.30 (0.18) <i>n</i> = 1368	0.47** (0.16) <i>n</i> = 1368	--
Five: Dance Elective vs. No Dance Elective, Santa Ana High	0.01 (0.02) <i>n</i> = 2196	0.03 (0.28) <i>n</i> = 2196	0.04 (0.13) <i>n</i> = 2196	0.11 (0.11) <i>n</i> = 2196	0.13 (0.17) <i>n</i> = 1039	0.37* (0.15) <i>n</i> = 1039	--
Six: SanArts Dance Conservatory vs. Dance Elective, Santa Ana High	--	--	--	--	--	--	--

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Covariates include gender, race, parent education level, received free-or reduced-price meal in 8th grade, English language learner status in 8th grade, special education status in 8th grade, dance elective enrollment in 8th grade, ever received school suspension in 8th grade, total days of school attendance in 8th grade, GPA in 8th grade, ELA and math assessment proficiency in 8th grade, and cohort-level indicators. All continuous predictor and outcome variables are standardized using z-scores. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Due to the cohort sequential design, two cohorts of on-time students had not completed the 11th grade statewide assessments. Dashes represent instances where a lack of variance existed between comparison groups. Tables displaying models with the full set of covariates can be found in Appendix B.

Table C3. Linear regression predicting the association between adolescents' dance elective enrollment and their subsequent high school suspension, attendance, and academic achievement: Interaction model predicting the differential association of dance for students who did or did not score a below average GPA in 8th grade (i.e., the coefficients shown represent the interaction term of dance on scoring a below average GPA in 8th grade)

	1	2	3	4	5	6	7
	Days Suspension (Y/N)	School Attendance (AVG)	AP Course Enrollment (AVG)	GPA (AVG)	ELA Assessment 11th	Math Assessment 11th	High School Graduate
<i>Comparison</i>							
One: Dance Elective vs. No Dance Elective, Outside of Santa Ana High	-0.02 (0.01) <i>n</i> = 8003	0.03 (0.05) <i>n</i> = 8003	0.03 (0.04) <i>n</i> = 8003	0.06 (0.03) <i>n</i> = 8003	-0.04 (0.05) <i>n</i> = 4020	0.06 (0.05) <i>n</i> = 4020	--
Two: Dance Elective vs. Other Female Dominant Activity, Outside of Santa Ana High	0.00 (0.02) <i>n</i> = 2634	-0.02 (0.04) <i>n</i> = 2634	-0.00 (0.06) <i>n</i> = 2634	0.03 (0.04) <i>n</i> = 2634	-0.07 (0.07) <i>n</i> = 1367	-0.04 (0.07) <i>n</i> = 1367	0.00 (0.01) <i>n</i> = 1383
Three: Santa Ana High vs. Non-Santa Ana High, Non- Dance Elective Students	-0.03 (0.01) <i>n</i> = 17437	0.03 (0.06) <i>n</i> = 17437	-0.01 (0.03) <i>n</i> = 17437	-0.00 (0.03) <i>n</i> = 17437	0.02 (0.04) <i>n</i> = 8501	0.20*** (0.04) <i>n</i> = 8501	0.03* (0.01) <i>n</i> = 8380
Four: Dance Elective, Santa Ana High vs. Dance Elective, Outside of Santa Ana High	0.02 (0.02) <i>n</i> = 2715	0.07 (0.07) <i>n</i> = 2715	0.09 (0.06) <i>n</i> = 2715	0.02 (0.06) <i>n</i> = 2715	0.18 (0.09) <i>n</i> = 1368	0.30*** (0.08) <i>n</i> = 1368	--
Five: Dance Elective vs. No Dance Elective, Santa Ana High	0.00 (0.02) <i>n</i> = 2196	0.06 (0.09) <i>n</i> = 2196	0.07 (0.06) <i>n</i> = 2196	0.05 (0.06) <i>n</i> = 2196	0.07 (0.09) <i>n</i> = 1039	0.13 (0.08) <i>n</i> = 1039	--
Six: SanArts Dance Conservatory vs. Dance Elective, Santa Ana High	0.02 (0.08)	0.07 (0.10)	-0.64* (0.29)	0.10 (0.20)	-0.40* (0.17)	0.11 (0.28)	0.06 (0.05)

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized coefficients are displayed. Robust standard errors in parentheses. Missing data were handled using full information maximum likelihood. Covariates include gender, race, parent education level, received free-or reduced-price meal in 8th grade, English language learner status in 8th grade, special education status in 8th grade, dance elective enrollment in 8th grade, ever received school suspension in 8th grade, total days of school attendance in 8th grade, GPA in 8th grade, ELA and math assessment proficiency in 8th grade, and cohort-level indicators. All continuous predictor and outcome variables are standardized using z-scores. Dependent variables are calculated as averages of data collected between 9th to 12th grades. Due to the cohort sequential design, two cohorts of on-time students had not completed the 11th grade statewide assessments. Dashes represent instances where a lack of variance existed between comparison groups. Tables displaying models with the full set of covariates can be found in Appendix B.

Appendix D

The Scanlan Collaborative Interview Method outline (extracted from Scanlan et al., (2013).

Section I. Beginning the Interview

- Introductory comments and informed consent
- Background questions to initiate descriptive conversation

Section II. Commitment to the All Blacks

- Creating an All Black focus
- Strengthening the collaborative partnership
- Defining commitment to the All Blacks

Section III. Player-derived Sources of Commitment

- Orienting instructions
- Open-ended questions and probes of personal commitment sources
- Detailing the relationship of each source to commitment
- Final elaboration probes for player-derived sources

Section IV. Construct-derived Sources of Commitment

- Orienting instructions
- Lead-up questions
- Direct test of Model constructs

Section V. Interview Conclusion

Section VI. Evaluation and Summary of the Interview

The Scanlan Collaborative Interview Method outline (extracted from Scanlan et al., (2013).

Appendix E

Scanlan Collaborative Interview Method: Protocol Parts One and Two

Section 1. Beginning the Interview

Introduction to interview:

This is the first interview of a series of interviews about your experiences with dance and the SanArts Dance Conservatory. During this interview, we will talk about your experience with dance and your sources of commitment to dance. You can also tell me anything about yourself that will help us understand your commitment to dance. I will use semi-structured interview questions during the conversation. You can say a little or as much as you want to each question and stop the interview at any time.

Background questions to initiate descriptive conversation

- How old were you when you began dancing?
- What got you into dancing to begin with?
- What dance classes did you take before coming to SAHS? (in-or out- of school)
- What dance classes have you taken while at SAHS? (in-or out- of school) – describe your pathway into the Conservatory
- Were you here when the Conservatory first opened? What were your thoughts?
- What made you audition for the SanArts Dance Conservatory?
- Do you or did you have someone you look up to in the dance community (e.g. someone famous/an idol)?
 - Who was he/she and what made them an idol?
- What is the most important thing that has kept you dancing?
- What do you find most enjoyable about dancing?
- How long have you been dancing for the SanArts Dance Conservatory?
- What grade are you in?
- How long have you been enrolled at Santa Ana High?
- What are your plans after you graduate?
- What are your roles with the dance conservatory?

Bounding commitment and establishing a partnership

It's clear that you have made a commitment to dancing and have achieved the highest level within your high school. It is this commitment to dance, and the things that create it for you, that we want both you and us to better understand, today and during our next interview.

Through our discussion, we will work together to develop, and lay out, your own personal picture of what creates your commitment to dancing.

Today, we will do this in 2 steps:

1. I will define commitment for you so that we make sure we are talking about the same thing.
2. Next, I will ask you to discuss your sources of this commitment.

Do you have questions about where we are going with this interview—its general flow?

As you can see, there really can't be any right or wrong answers here because we're talking about your own picture of commitment. Again, let me stress that your comments will remain confidential and anonymous.

We ask only that you talk about what you really think and feel so that the picture here will be accurate and complete.

If you feel uncomfortable doing this at any time during the interview, please just tell us and we will go on to the next thing.

Definition of commitment to dance

By commitment to the dance we mean "Your desire and determination to keep dancing."

Do you have any questions about what we mean by commitment?

Does this definition make sense to you?

Is there anything you would like to add to this definition?

Orienting instructions for player-derived sources of commitment

In discussing your sources of commitment, please keep two important things in mind:

First, please feel free to draw on any aspect of dance or your Dance Conservatory experience in identifying the causes of your commitment.

Your sources of commitment could come from things or people both in or out of the Dance Conservatory. For example, your sources could come from training and practices, concerts and tests, relationships and interactions with people (such as your family, fellow dancers, dance instructors, the public), or from any other important part of your experience as a SanArts Conservatory Dancer.

So, when you are thinking about what your sources of commitment are— think big. Draw on your total experience as a dancer, and how you got here.

The second point to keep in mind as we discuss the sources of your commitment is that there are two general types of sources that can operate at any given time:

Those that strengthen your commitment.

Those that lessen your commitment (chip away at it).^[L]_[SEP]So, in discussing the causes of your commitment, please consider both kinds.

Player-derived sources of commitment

Thinking about your total dance experience and things that can strengthen or lessen your commitment:

What are the sources of your commitment to continue dancing?

What creates or lessens your desire and determination to keep dancing?

[Probes]

What other sources of commitment do you have?

What (or who) else creates this commitment in you?

Do you have any other sources of commitment?

Part Two

Validating player-derived sources

This is the second interview about your experiences with dance and the SanArts Dance Conservatory. During this interview, we will continue talking about your sources of commitment to dance.

Remember, there can't really be any right or wrong answers here because we're talking about your own picture of commitment.

You can say as little or as much as you want to each question and stop the interview at any time.

Let me stress that your comments will remain confidential and anonymous.

First, I will introduce the sources of commitment you told me during our last interview. You can add sources at this time.

Then, we will agree on what to call each source and in what direction that source influences your commitment to dance. Remember that there are two general types of sources that can operate at any given time:

Those that strengthen your commitment to dance.

Those that lesson (of chip away at) your commitment to dance.

If you have changed your mind since last time we talked, we can remove that source from your picture of commitment. Each source you validate will be written down and placed on the board in front of us.

Do you have any questions about where we are going with this interview?

[For interviewer]

Step 1. Show each player-derived commitment source

Step 2. Agree on what to call that source

Step 3. Validate direction of influence on commitment. *Does (source) strengthen or lessen your*

desire to keep dancing? Or does it do both?

Step 4. Ask, *How does (source) (strengthen and/or lessen) your commitment to keep dancing?*

[Cycle through those four steps until each player-derived source is discussed]

Construct-derived sources

So, what is developing here is your own, individual picture of commitment.

So far, you have identified these [point to board] as the causes of your commitment to keep dancing. To complete your picture, I will now present some additional items that some athletes in the past have identified as sources of their own commitment. Some athletes think all of these are causes of their commitment, others think none of these are sources, and some think some of the items are sources and other items aren't. So again, there are not right or wrong answers here.

To do so, we will:

Step 1. Define each item

Step 2. Ask you some questions about the item to see what it means to you

Step 3. Then ask you to evaluate whether it is important enough to include in your own picture of commitment

It's possible you have already mentioned some of these items. We will be on the lookout for that.

Do you have any questions about where we will be doing?

[For interviewer]

Step 1. Show each construct-derived commitment source on flashcard and give definition

Step 2. Ask lead-up question that is on the back of every card

Step 3. Ask, *how does (construct) relate to your commitment? Does it strengthen, lessen, or have*

no effect on your commitment? Or is it already on the board?

[No effect, drop from board. Has an effect, ask if it is important enough to keep on board; if yes,

keep on board, and validate direction of effect. If effect is already on the board, that construct is confirmed]

[Cycle through those four steps until each construct-derived source is discussed]

Interview conclusion

- Review player's commitment picture/ summarize the picture for the player (member checking, Miles & Huberman, 1994)
- Reinforce partnership
- Thank player for time and opportunity to evaluate their commitment
- Get name, email, and tell them about the survey.
- Hand out new assent/informed consent
- Follow-up interview (graduates/ and HS students)

Evaluation and summary of interview

- Associate records commitment picture
- Each member of the research team writes an independent appraisal of the interview (includes issues like general impressions and evaluations of the interview, comments on the player's involvement, the interviewer's consistency and interaction, any problems or oddities encountered, insights gained, and anything else that helps put the interview in perspective.
- Research team discusses these appraisals at first opportunity/ record any other relevant points (weekly lab meeting)

Appendix F

The adaptation of the Eccles Expectancy Value Theory of Activity Choice used with the Scanlan Interview Method

Construct	EVT Construct Definition	Lead up question(s)
<i>Expectancies</i>	<i>Domain-specific beliefs about your personal efficacy to master the task (Eccles, 1983; Eccles, 2009).</i>	
Self-concept of ability	Your belief about how good are you at dance	On a scale of 1 to 10, 10 being the best, how good do you think you are at dance? Does that level of ability influence your commitment to keep dancing?
Estimates of task difficulty	How difficult you think a task in dance will be	How difficult is dance for you? Will learning a difficult skill in dance make you want to keep dancing? Does it make you want to dance less?
Interpretations of previous experiences and performances	Your interpretation of your past experiences and performances in dance	How would you describe your past experiences in dance? Can you think of positive experiences that have kept you dancing? What about negative experiences?
Beliefs and behaviors of significant socializers (e.g. teammates, friends, and dance coaches)	The actions of peers, teachers, parents, or other adults that influence one's commitment to dance	Who do you spend the most time with? In what ways do the influence you motivation to dance?
<i>Subjective Task Values</i>	<i>The importance you attach to an activity that is perceived as available</i>	
Interest value	How much interest one has in dance	How much interest do you have in dance? What about dance do you find interesting?

Importance value	How important is it to be a “dancer”	How important is it to you to be a dancer? How important is it that other people see you as a dancer?
Enjoyment value	How enjoyable is dancing to you	How enjoyable is dance to you? What do you like about it?
Utility values	The extent to which dance helps your reach your larger goals	How much does dance help you reach your larger goals (i.e., college and career plans)? Larger goals are things that you want to do after this program
<i>Identity</i>		
Costs	<i>What is given up or lost to engage in a specific task</i> <i>(definitions listed below are adapted from Flake et al. 2015)</i>	
Efforts	The amount of time, effort, or amount of work put forth for dance, that could we spend on other things	How much effort do you put into dance that could be spent on other things?
Emotional	A psychological state that results from you exerting effort for the task	How much does dance affect your well-being? Does it give you stress or anxiety? Does that make you want to stop dancing?

Appendix G

SanArts Dance Conservatory Interview Worksheet

Interview Date: _____

Interviewee: _____

Interviewer and Assistant: _____

Key
↑ Strengthen
↓ Lessen
-- N/A or no effect
★ Both

	Effect(s) on Commitment: (Strengthen, lessen, both, or neither)	Add to board	Matched to a dancer-derived source (Y/N) If yes, list the personal source match
Self-concept of ability			
Estimates of task difficulty			
Interpretations of previous experiences and performances			
Beliefs and behaviors of significant socializers			
Enjoyment value			
Interest value			
Importance value			
Utility values			
Personal Identity			
Social Identity			
Standing out			
Fitting in			
Efforts			
Emotional			

Notes:

Appendix H

Example of Commitment Board

