

Evaluation of the National Dance Institute of New Mexico's Advanced Training Programs

AY 2013-2014 AND AY 2014-2015

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Executive Summary

More than two decades ago, the National Dance Institute of New Mexico (NDI New Mexico) started implementing its arts and healthy lifestyle programs for underserved children in rural, urban, and Native American communities throughout the state. For NDI New Mexico students who hope to learn beyond what is included in the regular programs, the Advanced Training programs are offered as after-school and weekend classes in four school districts: Albuquerque, Española, Pojoaque, and Santa Fe.



The purpose of this evaluation was to evaluate the relationship between participation in NDI New Mexico's Advanced Training programs and academic outcomes including school attendance and academic performance. The University of New Mexico Prevention Research Center (UNM PRC) analyzed school administrative data and NDI New Mexico Advanced Training program data for AY 2013-2014 and AY 2014-2015. The UNM PRC created demographic profiles of the study participants for each year and investigated associations between NDI New Mexico's Advanced Training program participation and demographic factors, school attendance, and academic performance data. Using a multivariable analysis, the data were adjusted for demographic factors that influence the relationship between program participation and the academic outcomes.

AY 2013-2014 ASSESSMENT

For AY 2013-2014, 46,047 students in grades 4 to 9 from Albuquerque, Española, Pojoaque, and Santa Fe public school districts were included in the analyses. Of these, 361 students participated in NDI New Mexico's Advanced Training programs. More females participated than males. Similar to the students who did not participate in NDI New Mexico Advanced Training programs, a majority of NDI New Mexico participating students were on the free or reduced lunch program, and a majority were Hispanic or Caucasian. Approximately 7% of NDI participants received special education services, and nearly 19% were English language learners (ELL).

Key Findings:

- Students who participated in NDI New Mexico Advanced Training programs had higher odds of having 10 or fewer absences during the school year, although not statistically significant.
- Students who participated in NDI New Mexico Advanced Training programs had nearly twice the odds of having a grade point average (GPA) greater than 3.0, and, on average, had a GPA 0.22 points higher than students who did not participate, although these associations were not statistically significant.
- Students who participated in NDI New Mexico Advanced Training programs had 2 times statistically higher odds of scoring in the proficient or advanced range when testing for the New Mexico Standards-Based Assessment (NMSBA) for both math and reading compared with students that did not participate.
- School district, gender, ethnicity, and special education status were factors associated with both participation in NDI New Mexico Advanced Training programs and academic outcomes. After adjusting for these four factors, the students who participated in NDI New Mexico Advanced Training programs had nearly 4 times statistically higher odds of having 10

or fewer absences during the school year, and had 2 times statistically higher odds of scoring in the proficient or advanced range when testing for NMSBA for both math and reading compared to students who did not participate.

AY 2014-2015 ASSESSMENT

For AY 2014-2015, 41,766 students in grades 4 to 9 from Albuquerque, Española, Pojoaque, and Santa Fe public school districts were included in the analyses. Of these, 465 students participated in NDI New Mexico's Advanced Training programs. More females participated in NDI programs than males, a majority of NDI New Mexico participating students were on the free or reduced lunch program, and a majority were Hispanic or Caucasian. Nearly 8% of NDI New Mexico Advanced Training program participants received special education services, and 9% of participating students were ELLs.

Key Findings:

- Students who participated in the NDI New Mexico Advanced Training programs had 3 times statistically higher odds of having less than 10 absences during the school year.
- Students who participated in the NDI New Mexico Advanced Training programs had 2.5 times statistically higher odds of having a GPA greater than 3.0 compared to students who did not participate.
- On average, students who participated in the NDI New Mexico Advanced Training programs had an additional 0.35 points statistically higher GPA compared to students who did not participate.
- School district, gender, ethnicity, and special education status were identified as factors potentially influencing the relationship between NDI New Mexico Advanced Training programs and academic outcomes. After adjusting for these factors, the students who participated in NDI New Mexico Advanced Training programs had nearly 8 times statistically higher odds of having less than 10 absences during the school year and had 2 times statistically higher odds of having a GPA greater than 3.0 compared with students who did not participate in these programs.



Note: Information on NMSBA test scores were not available for the AY 2014-2015 assessment.

CONCLUSION

Participation in NDI New Mexico Advanced Training programs was significantly associated with fewer absences, higher GPA and higher test scores during at least one of the assessment periods. Participation was also positively associated with being female, and Hispanic or Caucasian, and negatively associated with receiving special education services.

RECOMMENDATIONS

The NDI New Mexico Advanced Training programs are successfully reaching Hispanic and non-Hispanic Caucasian students. NDI New Mexico may want to consider conducting surveys, focus groups, or interviews to determine challenges to participation and creative strategies for increasing participation in the Advanced Training programs by Native American, Asian American and African American students, as well as by students receiving special education services.

EVALUATION OF THE NATIONAL DANCE INSTITUTE NEW MEXICO'S ADVANCED TRAINING PROGRAMS

Background

In New Mexico, 36% of children under the age of 5 were living in poverty in 2016 (NM Voices for Children, 2018). In addition, 15 out of 1,000 children suffered from maltreatment in the same year (US Department of Health and Human Services, et al., 2018). The National Center for Education Statistics estimated that New Mexico's graduation rate is 71% for all public high school students and 67% for economically disadvantaged public school students, both lower than the national average of 84% (McFarland, et al., 2018). The National Center for Education Statistics also reported that Hispanic and African American youth in NM had higher high school dropout rates relative to Caucasian youth. Data from the Albuquerque Public Schools Indian Education Department reported that the four year graduation rate for Albuquerque Public School's cohort 2016 was 47%, 24 percentage points below the statewide average for all students and the lowest rate compared to other groups (Albuquerque Public Schools Indian Education Department, 2017).

Exposure to adverse childhood experiences, such as child abuse and family violence, has been shown to reduce the likelihood of educational achievement and to increase adoption of unhealthy behaviors which can lead to long-term chronic diseases in adulthood (Dube, et al., 2003; Brown, et al., 2015; McLaughlin & Sheridan, 2016). Children who grow up in economically disadvantaged families and underrepresented communities also show a lower success rate in science, technology, engineering, and mathematics disciplines (Doerschuk, et al., 2016).

Youth development programs that allow for youth to engage with peers and to receive adult support and guidance have been associated with positive psychological outcomes and social connections especially for underserved youth (Ullrich-French, McDonough, & Smith, 2013; Roth & Brooks-Gunn, 2015). Out-of-school programs often include exploring creativity, promoting confidence, and increasing self-agency (Roth & Brooks-Gunn, 2015; Montgomery, 2017). Youth development programs focused on arts education often combine "arts instruction and art-making with life skills development", intentionally growing holistic youth ready for adulthood (Montgomery, 2017).

NATIONAL DANCE INSTITUTE OF NEW MEXICO'S ADVANCED TRAINING PROGRAMS

NDI New Mexico started over 25 years ago serving 100 children in one NM school. NDI New Mexico has now grown into an organization that reaches nearly 8,500 children through its in-school, after-school, summer, and advanced training programs all over the state. Outreach programs to underserved children in urban, rural, and Native American communities are offered in Santa Fe, Albuquerque, Northern New Mexico, and in residency.

NDI New Mexico's Advanced Training programs are after-school and weekend programs for NDI participating students who wish to learn beyond what is included in the regular outreach programs. These programs are offered at The Dance Barns in Santa Fe, the Hiland Theater in Albuquerque, and seven other locations in NM. Participating students can learn advanced choreography, tap, jazz, and voice.

Students in grades 4 to 6 join the Super Wonderful Advanced Team (SWAT), designed to provide a well-rounded theater experience and opportunities to learn discipline, enhance teamwork, and gain self-confidence. Students who have excelled in SWAT and are in grades 7 through 9 are invited to join the Celebration Team (CEL). The program includes intermediate jazz and intermediate tap technique and voice.

PURPOSE OF THE EVALUATION

The purpose of this evaluation was to evaluate the relationship between participation in NDI New Mexico's Advanced Training programs and academic outcomes including school attendance and academic performance.

Methods

DATA COLLECTION

NDI New Mexico provided the UNM Prevention Research Center with school administrative data obtained from the NM Public Education Department (NM PED). NDI New Mexico also provided data it collected from its Advanced Training program participants. The secondary data from NDI New Mexico were for the 2013-2014 and 2014-2015 academic years. The separate datasets were initially linked using a Student ID number that was deleted upon completion of the linkage.

The independent variable measured was participation in an NDI New Mexico Advanced Training Program. Student level outcome measures included days absent from school, grade point average (GPA), and NMSBA test scores in math and reading. Demographic data such as academic year, school district, gender, grade level, race/ethnicity, special education services provided, English language learner (ELL) status, and participation in the free-and-reduced lunch program were also examined.

NDI New Mexico Advanced Training programs were only available in the Albuquerque, Española, Pojoaque, and Santa Fe school districts, and were only for students in grades 4 to 9. Therefore, only data from those school districts and grade levels were included for data analysis.

Observations that did not contain complete information on student ID number, school district, and grade level were excluded from analysis.

DATA MEASUREMENT AND ANALYSIS

Participation in NDI Advanced Training Programs

Participation in NDI New Mexico Advanced Training was determined by presence in the NDI New Mexico program participation data set for each academic year. All students in grades 4-9 in the Albuquerque, Española, Pojoaque, and Santa Fe public school districts that were not in the NDI New Mexico data set were categorized as having not participated in NDI New Mexico Advanced Training programs.

School Attendance

Absenteeism (number of days absent) was calculated using school administrative data by subtracting the number of days present from the number of days enrolled for each year. With

habitual truancy being defined as having accumulated more than 10 unexcused absences within a school year, a binary variable was created with 0-10 absences as the cut-point.

Academic Performance

Each student's annual GPA was obtained from school administrative data by averaging grades across classes for each academic year. When analyzing grades, 25,469 students (55%) had available information on course grades. We calculated annual GPA and assessed it as both a dichotomous categorical variable and a continuous variable. The dichotomized variable was categorized as having a GPA of ≤ 3.0 , and having a GPA of > 3.0 .

Individual academic performance was also assessed for AY 2013-2014 students using the results from NMSBA Math and Reading tests. Students were grouped into Below Proficient and Proficient/Advanced Proficient levels. Test score data were not available for the analysis of the AY 2014-2015 students.

Statistical Analyses

Demographic information for each school year were described using frequency tables and illustrated with pie or bar graphs. Relationships between NDI New Mexico Advanced Training program participation and demographic factors (e.g. gender, ethnicity, etc.) were assessed using logistic regression. Odds ratios, 95% confidence intervals, and p-values were reported. Significance level was set at $p < 0.05$.

Logistic regression was also used to analyze the association between NDI New Mexico Advanced Training program participation and absenteeism, GPA, and NMSBA Test Scores. Odds ratios, 95% confidence intervals, and p-values were reported. Simple linear regression was calculated for the continuous GPA variable. Significance levels were at $p < 0.05$.

Certain demographic characteristics may impact the association between NDI program participation and the academic outcomes. As such, mixing of the effects of one factor with another may occur and can produce misleading results. Hence, demographic factors, such as ethnicity and participation in the free-and-reduced lunch program, were assessed for their relationships with absenteeism, GPA, and NMSBA Test Scores by using simple logistic regression. Multivariable regression modeling was then conducted to adjust for the effects of factors that had the potential to confound the relationships between program participation and academic outcomes. Odds ratios, 95% confidence intervals, and p-values were reported, with significance level set at $p < 0.05$.

Results

AY 2013-2014 ASSESSMENT

Flow Diagram of Participants

Figure 1 shows the flow diagram of student participants. Inclusion in the analysis required complete information on the student ID number, school district and grade level. Students who were not in grades 4 to 9 were excluded from the analysis. To limit the risk of confounding, students who did not go to a school district where NDI New Mexico programs were available were also excluded from the analysis.

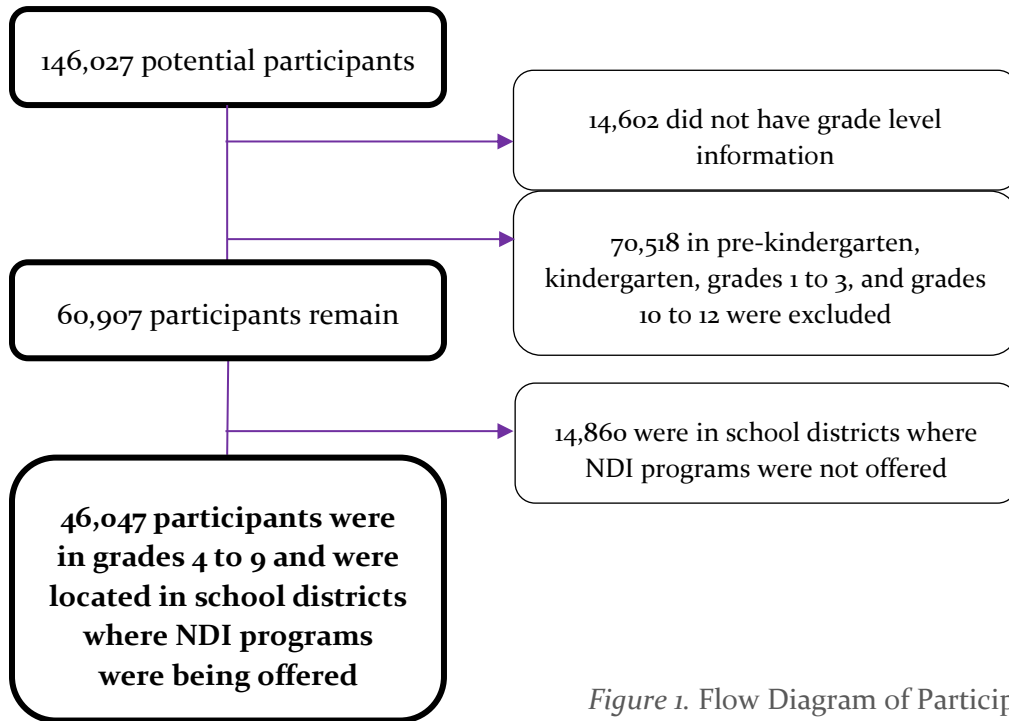


Figure 1. Flow Diagram of Participants in the AY 2013-2014 Assessment.

Demographic Profile

For AY 2013-2014, data were available for 46,047 students in grades 4 to 9 in the four public school districts where NDI New Mexico Advanced Training programs were available: Albuquerque, Española, Pojoaque, and Santa Fe. Approximately 0.01% (N=361) of those students were enrolled in the NDI New Mexico Advanced Training programs (Figure 2).

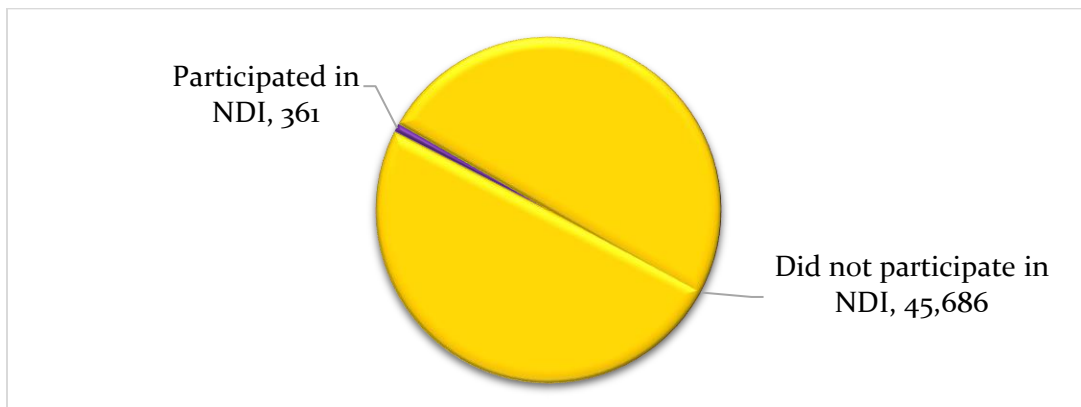


Figure 2. Participation in NDI Advanced Training programs in the Albuquerque, Española, Pojoaque, and Santa Fe School Districts, AY 2013-2014 (N= 46,047 students).

Among the 46,047 students in the data set, 51% were female. Among the females, 1.1% (N=248) participated in the NDI New Mexico Advanced Training programs. Among the 21,249 male students, fewer than 0.5% (N=113) participated in NDI (Figure 3).

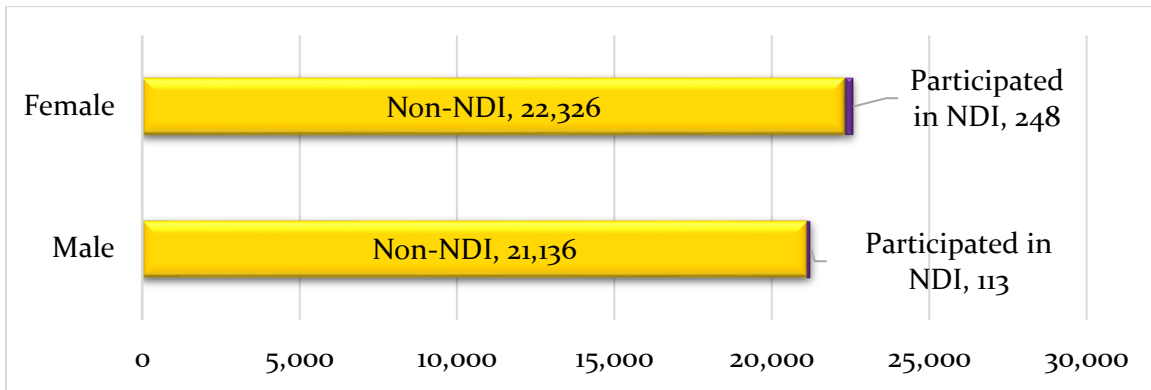


Figure 3. Participation in NDI Advanced Training Programs by gender in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014 (N = 46,047 students).

Among students who did not participate in NDI New Mexico Advanced Training programs, 70% were Hispanic; 19% were Caucasian; nearly 7% had either Asian, Pacific Islander, African American, or Multiracial ethnicities, and less than 5% were American Indian/Alaskan Native (Figure 4). Among the students who participated in NDI programs, three-quarters (76%) were Hispanic; 14% were Caucasian; 4% were Asian, Pacific Islander, African American, or Multiracial; and 4% were American Indian/Alaskan Native.

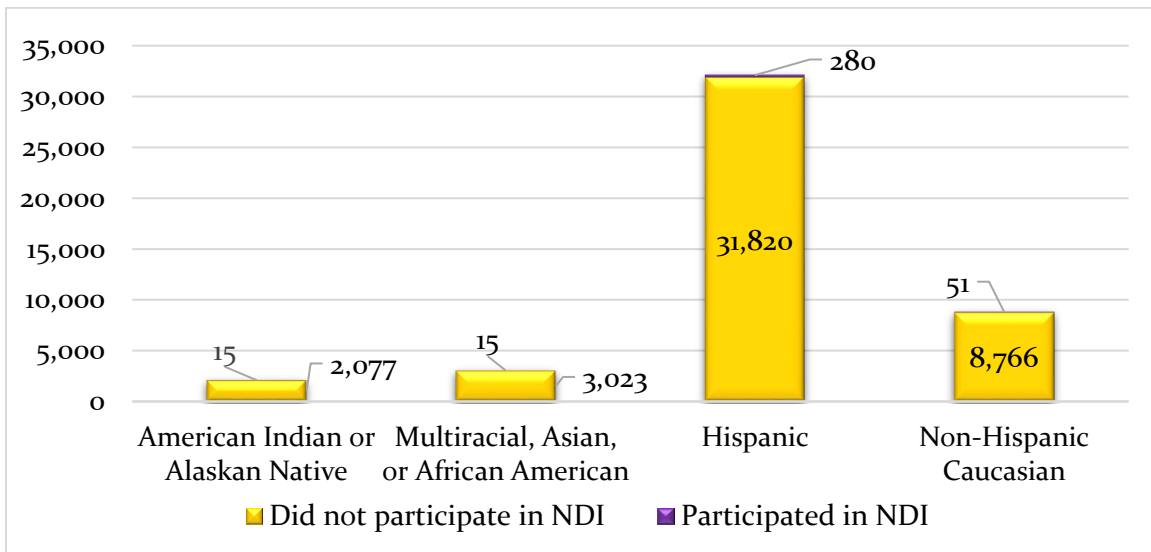


Figure 4. Participation in NDI Advanced Training Programs by race/ethnicity in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014 (n = 46,047 students).

Among students who did not participate in NDI New Mexico Advanced Training programs, nearly 69% participated in the free lunch program, 6% participated in the reduced lunch program, and 25% did not participate in a lunch program (Figure 5). This can be compared to students who participated in the NDI New Mexico Advanced Training programs, where 66% were participating in the free lunch program, 5% were participating in the reduced lunch program, and nearly 29% did not participate in a school lunch program.

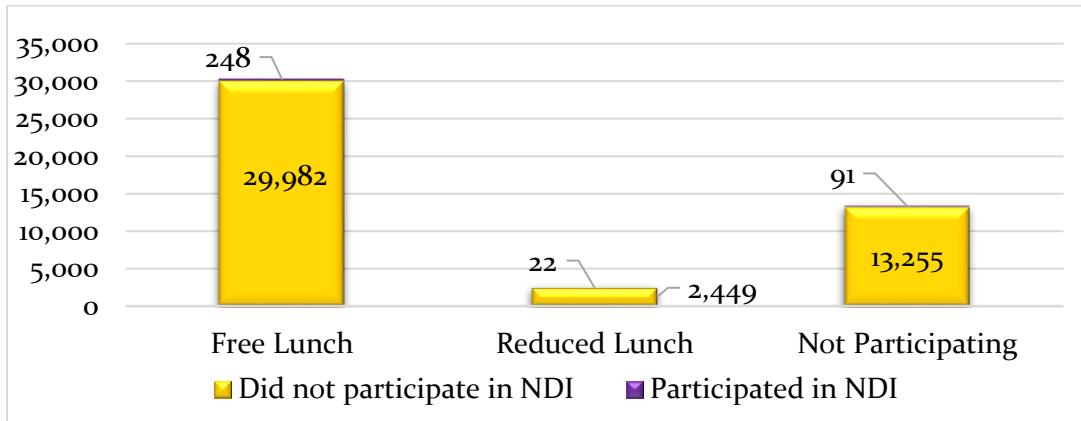


Figure 5. Participation in NDI Advanced Training programs by food program participation in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014 (n = 46,047 students).

Among non-participating students, approximately 17% were receiving special education services. Among NDI New Mexico Advanced Training program participants, approximately 7% were receiving special education services (Figure 6).

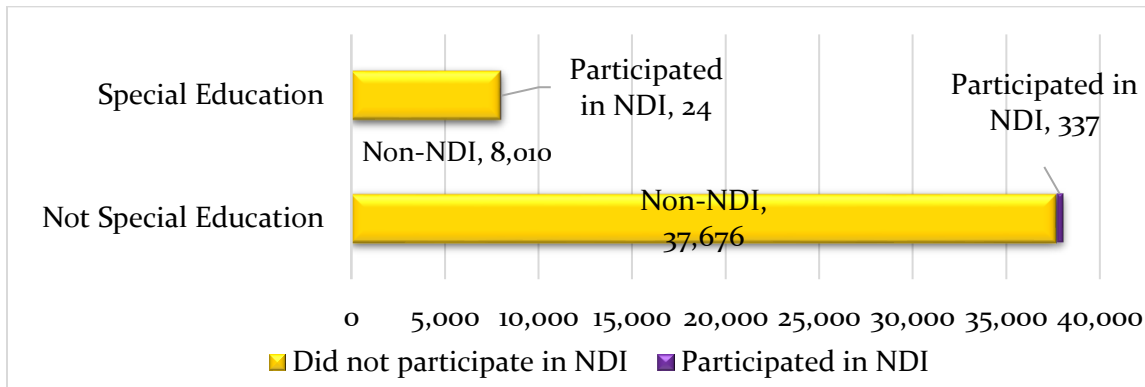


Figure 6. Participation in NDI Advanced Training Programs by special education status in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014 (n = 46,047 students).

Among the students who did not participate in NDI New Mexico Advanced Training programs, approximately 17% were English language learners (Figure 7); nearly 19% of NDI New Mexico Advanced Training programs participants were English language learners.

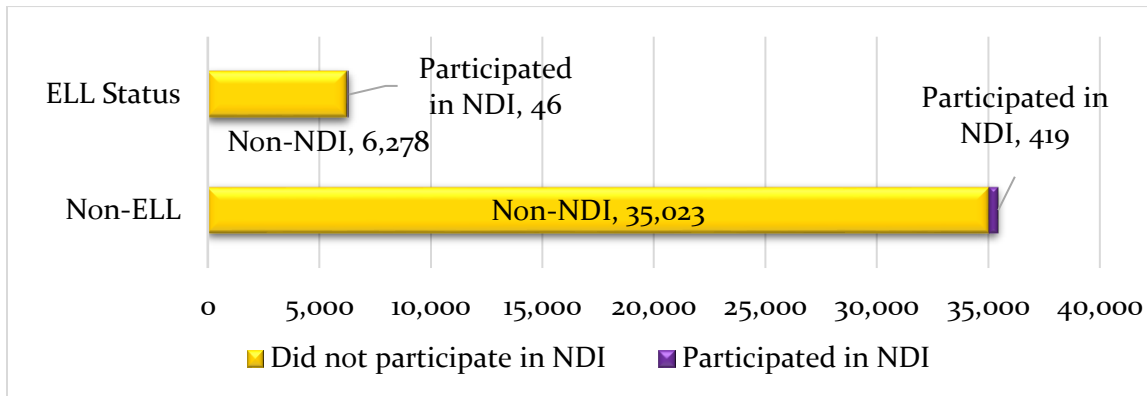


Figure 7. Participation in NDI Advanced Training Programs by English Language Learner Status in the Albuquerque, Española, Pojoaque, and Santa Fe School Districts, AY 2013 to 2014 (n = 46,047 Grades 4-9 students).

Most students did not repeat a grade from the year before, regardless of participation in NDI New Mexico Advanced Training programs (see Figure 8).

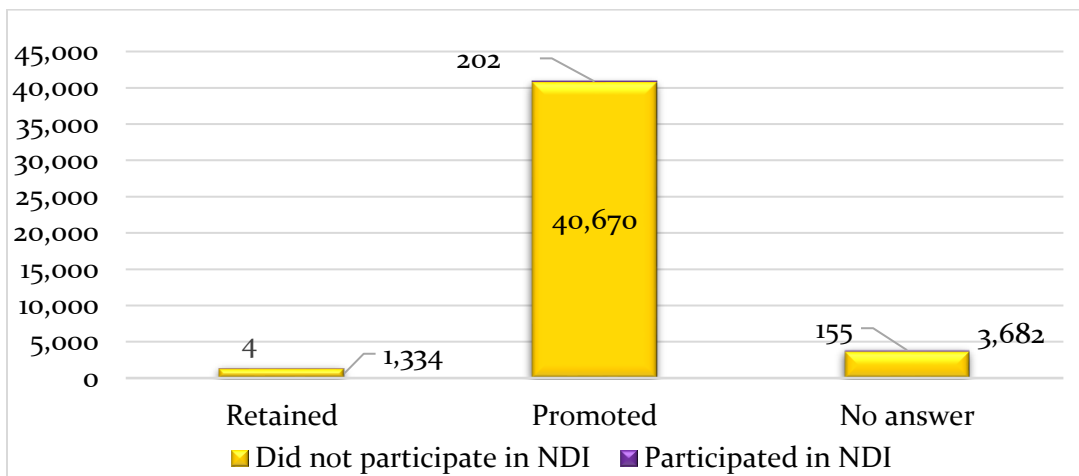


Figure 8. Participation in NDI Advanced Training Programs by having been retained a year in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014 (n = 46,047 students).

Statistical Analysis

For AY 2013-2014, students in the Española, Pojoaque, and Santa Fe Public School Districts had significantly higher odds of participating in NDI New Mexico Advanced Training programs compared to students in the Albuquerque Public Schools (Table 1). Specifically, Pojoaque students had 4 times higher odds (95% CI 2.21-7.24, p=0.000); Española students had 10 times higher odds

(95% CI 7.68-14.06, p=0.000), and Santa Fe students had 13 times higher odds (95% CI 10.30-16.46, p=0.000) of participating in NDI New Mexico Advanced Training programs compared to Albuquerque Public School students.

Table 1. Frequency and bivariate analysis of demographic factors of 46,047 students, grades 4-9, in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014.

<i>Variables</i>	<i>Did not participate in NDIAT programs</i>	<i>Participated in NDIAT programs</i>	<i>Total</i>	<i>Odds Ratios (95% CIs, p-value)</i>
School District				
Albuquerque	40,021 (87.60%)	142 (39.34%)	40,163	1.00
Española	1,681 (3.68%)	62 (17.17%)	1,743	10.39 (7.68-14.06)**
Pojoaque	845 (1.85%)	12 (3.32%)	857	4.00 (2.21-7.24)**
Santa Fe	3,139 (6.87%)	145 (40.17%)	3,284	13.02 (10.30-16.46)**
Gender				
Female	22,326 (48.87%)	248 (68.70%)	22,574	2.30 (1.84-2.87)**
Male	23,360 (51.13%)	113 (31.30%)	23,473	1.00
Ethnicity				
Caucasian	8,766 (19.19%)	51 (14.13%)	8,817	1.00
Hispanic	31,820 (69.65%)	280 (77.56%)	32,100	1.51 (1.12-2.04)*
American Indian, Alaskan Native	2,077 (4.55%)	15 (4.16%)	2,092	1.24 (0.70-2.21)
Multiracial, Asian, Pacific Islander, African American	3,023 (6.62%)	15 (4.16%)	3,038	0.85 (0.48-1.52)
School lunch status				
Free lunch	29,982 (65.63%)	248 (68.70%)	30,230	1.20 (0.95-1.53)
Reduced price	2,449 (5.36%)	22 (6.09%)	2,471	1.31 (0.82-2.09)
Not participating	13,255 (29.01%)	91 (25.21%)	13,346	1.00
Special education				
Yes	8,010 (17.53%)	24 (6.65%)	8,034	1.00
No	38,013 (82.55%)	337 (93.35%)	38,013	2.99 (1.97-4.52)**

ELL status				
Yes	7,890 (17.27%)	68 (18.84%)	7,958	1.00
No	37,796 (82.73%)	293 (81.16%)	38,089	0.90 (0.69-1.17)
Retained year before				
Yes	1,334 (3.18%)	4 (1.94%)	1,338	1.00
No	40,670 (96.82%)	202 (98.06%)	40,872	1.66 (0.61-4.46)
Missing data	3,682	155		

* significance level is $p \leq 0.05$ and $p > 0.005$, ** significance level $p \leq 0.005$

Female students have two times higher odds (95% CI 1.84-2.87, $p=0.000$) of participating in an NDI New Mexico Advanced Training program compared to male students. Hispanic students have higher odds of participating in an NDI New Mexico Advanced Training program than students of other ethnicities. Specifically, Hispanic students have 1.51 times higher odds (95% CI 1.12-2.04, $p=0.007$) of being an NDI New Mexico Advanced Training program participant compared to Caucasian, American Indian or Alaskan Native, African American, Asian, Pacific Islander, and Multiracial students.

Students who do not receive special education services have 3 times higher odds (95% CI 1.97-4.52, $p=0.000$) of participating in NDI New Mexico Advanced Training programs compared with students who receive special education services. No significant difference was found among the school lunch categories, ELL status, or grade retention in relation to odds of NDI New Mexico Advanced Training program participation.

The demographic characteristics that were statistically associated with NDI program participation were then assessed for associations with absenteeism, GPA, and NMSBA Test Scores. School district, ethnicity, and having received special education services were statistically associated with all academic outcomes, while gender was only statistically associated with attendance and GPA. The multivariable data analysis performed for each outcome adjusted for these confounders.

Attendance: During AY 2013-2014, 96% (346) of the 361 NDI New Mexico Advanced Training program participating students and 95% (43,465) of the 45,686 non-NDI students had 0 to 10 absences. When assessed for an association with school attendance, there was no significant difference between students who participated in NDI New Mexico Advanced Training programs and students who did not participate (Table 2).

Upon adjusting for four confounders (e.g. school district, gender, ethnicity, and having received special education services), students with NDI program participation were found to have nearly 4 times statistically higher odds (95% CI 2.24-6.46, $p=0.000$) of having 0 to 10 absences (low absenteeism) compared to students who did not participate.

Table 2. Assessing the relationship between NDI participation and attendance records, grades, and NMSBA test scores among students, grades 4 – 9, in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014.

Participated in NDI advanced training program	Greater than 10 days absent	0 to 10 days absent	Total (n = 46,047)	Odds Ratio (95% CIs, p-value)
Yes	15 (1%)	346 (1%)	361	1.18 (0.70-1.98)
No	2,221 (99%)	43,465 (99%)	45,686	1.00
	GPA ≤ 3.0	GPA > 3.0	Total (n = 25,469)	Odds Ratio (95% CIs, p-value)
Yes	16 (0.1%)	25 (0.2%)	41	1.73 (0.92-3.24)
No	13,348 (99.9%)	12,080 (99.8%)	25,428	1.00
	Below proficient NMSBA Math test score	Proficient or advanced NMSBA Math test score	Total (n = 37,992)	Odds Ratios (95% CIs, p-value)
Yes	149 (43%)	196 (57%)	345	2.05 (1.66-2.54)**
No	22,951 (61%)	14,696 (39%)	37,647	1.00
	Below proficient NMSBA Reading test score	Proficient or advanced NMSBA Reading test score	Total (n = 37,962)	Odds Ratios (95% CIs, p-value)
Yes	116 (34%)	229 (66%)	345	2.05 (1.64-2.56)**
No	19,160 (51%)	18,457 (49%)	37,617	1.00

* significance level is $p \leq 0.05$, ** significance level $p \leq 0.005$

Grade Point Average: NDI New Mexico Advanced Training program participants in AY 2013-2014 had nearly twice (1.73, 95% CI 0.92-3.24, $p=0.088$) the odds of having a GPA greater than 3.0 compared to students who did not participate in NDI New Mexico Advanced Training programs. However, the association was not statistically significant. When examining GPA as a continuous variable using simple linear regression, students who participated in NDI New Mexico Advanced Training programs had, on average, an additional 0.22 points higher GPA than students who did not participate in NDI New Mexico Advanced Training programs. This association was also not statistically significant at $p=0.065$ (Table 2).

After adjusting for all four confounders, students who participated in the NDI New Mexico Advanced Training program had 1.5 times higher odds (95% CI 0.80-2.89, $p=0.200$) of having a

GPA greater than 3.0 compared to students who did not participate. However, this association was still not statistically significant (Table 3).

Test Scores: NMSBA Math test scores were available for approximately 83% (n = 37,992) of students and NMSBA Reading test scores were available for 82% (n = 37,962) of students. Students participating in NDI New Mexico Advanced Training programs had significantly higher odds of having proficient or advanced NMSBA math test scores (95% CI 1.66-2.54, p=0.000) and NMSBA reading test scores (95% CI 1.64-2.56, p=0.000) compared to non-NDI students.

Upon controlling for confounders, students who participated in NDI New Mexico Advanced Training programs were still shown to have 2 times statistically higher odds of scoring in the proficient or advanced range for both the NMSBA math test (95% CI 1.86-2.93, p=0.000) and the reading test (95% CI 1.59-2.56, p=0.000) in comparison with the students who did not participate (Table 3).

Table 3. Multivariable analysis of the relationship between NDI participation and attendance records, grades, and NMSBA test scores among students, grades 4 – 9, in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2013-2014.

<i>Participated in NDI advanced training program</i>	<i>Unadjusted Odds Ratio (95% CIs, p-value)</i>	<i>Adjusted Odds Ratio*** (95% CIs, p-value)</i>
	0 to 10 days absent (n = 46,047)	0 to 10 days absent (n = 46,047)
Yes	1.18 (0.70-1.98)	3.80 (2.24-6.46)**
No	1.00	1.00
	GPA > 3.0 (n = 25,469)	GPA > 3.0 (n = 25,469)
Yes	1.73 (0.92-3.24)	1.52 (0.80-2.89)
No	1.00	1.00
	Proficient or advanced NMSBA Math test score (n = 37,992)	Proficient or advanced NMSBA Math test score (n = 37,992)
Yes	2.05 (1.66-2.54)**	2.34 (1.86-2.93)**
No	1.00	1.00
	Proficient or advanced NMSBA Reading test score (n = 37,962)	Proficient or advanced NMSBA Reading test score (n = 37,962)
Yes	2.05 (1.64-2.56)**	2.01 (1.59-2.56)**
No	1.00	1.00

* significance level is $p \leq 0.05$, ** significance level $p \leq 0.005$

*** Odds ratio estimates were adjusted for school district, gender, ethnicity, and having received special education services.

AY 2014-2015 ASSESSMENT

Flow Diagram of Participants

Figure 9 shows the flow diagram of student participants for AY 2014-2015. Inclusion in the analysis required complete information on the student ID number, school district and grade level. Students who were not in grades 4 to 9 were excluded from the analysis. To limit the risk of confounding, students who did not go to a school district where NDI New Mexico programs were available were also excluded from the analysis.

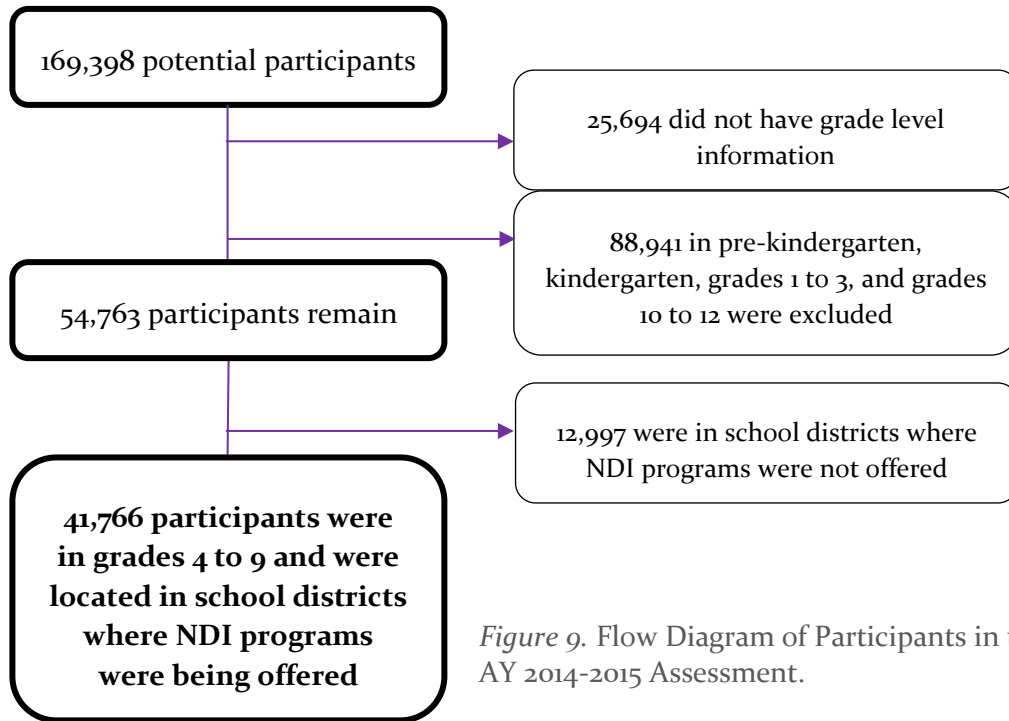


Figure 9. Flow Diagram of Participants in the AY 2014-2015 Assessment.

Demographic Profile

For AY 2014-2015, data were available for 41,766 students from grades 4 to 9 in the four school districts where NDI New Mexico Advanced Training programs were available: Albuquerque, Española, Pojoaque, and Santa Fe Publics School Districts. Approximately 1% (N=465) of those students were enrolled in the NDI programs (Figure 10).

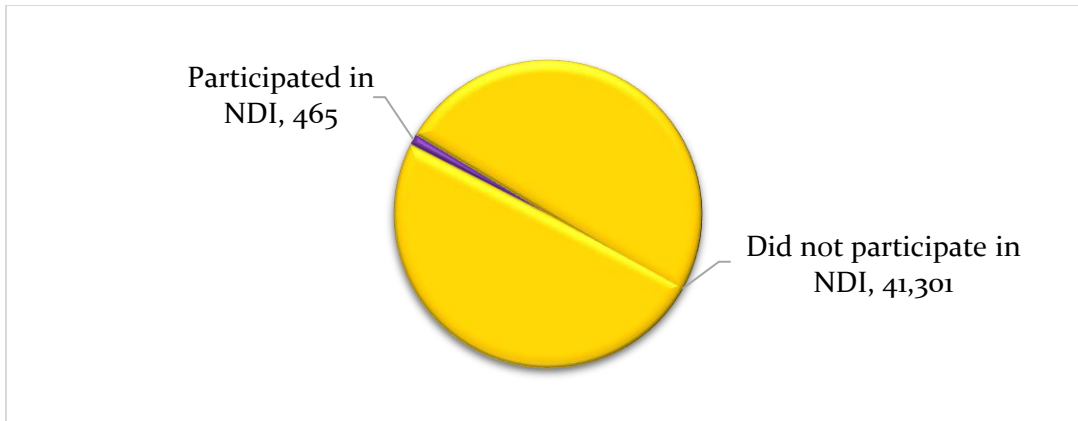


Figure 10. Participation in NDI New Mexico Advanced Training Programs in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015 (n = 41,766 students).

Among the 41,766 students, nearly half (20,492) were female (Figure 11). Among the female students, 1.6% (N=327) participated in NDI New Mexico Advanced Training programs. Among the 21,274 male students, 0.6% (N=138) participated in NDI New Mexico Advanced Training programs.

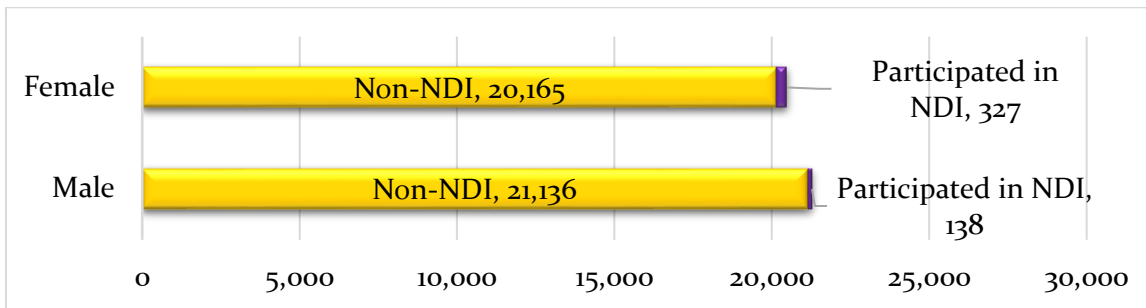


Figure 11. Participation in NDI New Mexico Advanced Training Programs by gender in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015 (n = 41,766 students).

Among students who did not participate in NDI New Mexico Advanced Training programs, 70% were Hispanic; 19% were Caucasian; approximately 6% had either Asian, Pacific Islander, African American, or Multiracial ethnicities, and less than 5% were American Indian/Alaskan Native (Figure 12). Among the students who participated in NDI programs, nearly three-quarters (72%) were Hispanic; 21% were Caucasian; less than 4% were Asian, Pacific Islander, African American, or Multiracial; and less than 3% were American Indian/Alaskan Native.

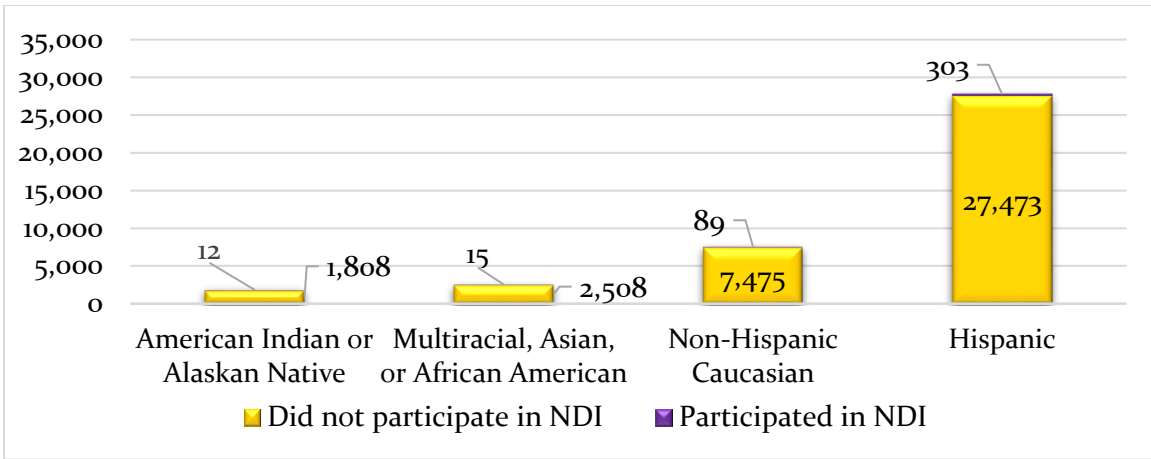


Figure 12. Participation in NDI New Mexico Advanced Training Programs by race/ethnicity in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015 (n = 41,766 students).

Among students who did not participate in NDI New Mexico Advanced Training programs, 66% participated in the free lunch program, 5% participated in the reduced lunch program, and 29% did not participate in a lunch program (Figure 13). This can be compared to students who participated in the NDI New Mexico Advanced Training programs, where 65% were participating in the free lunch program, 6% were participating in the reduced lunch program, and nearly 29% did not participate in a school lunch program.

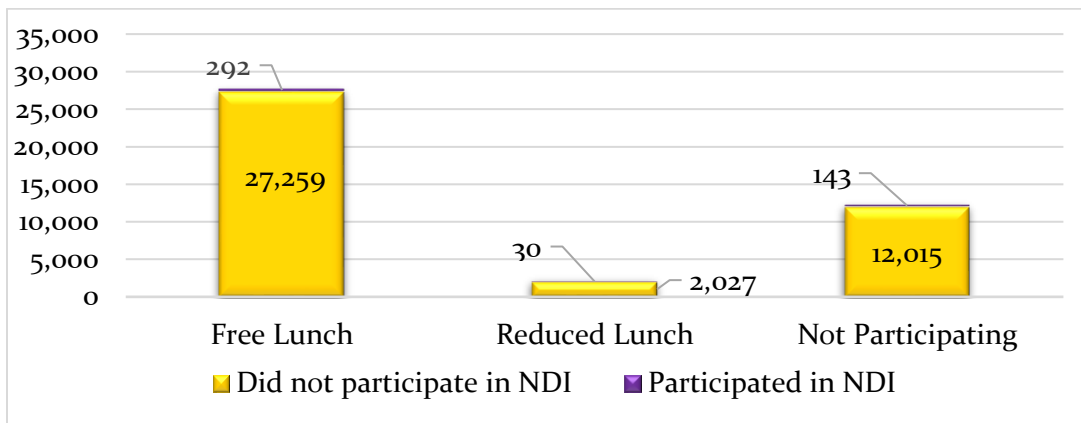


Figure 13. Participation in NDI Advanced Training Programs by food program status in the Albuquerque, Española, Pojoaque, and Santa Fe School Districts, AY 2014 to 2015 (n = 41,766 students).

Among non-participating students, approximately 18% were receiving special education services. Among NDI New Mexico Advanced Training program participants, approximately 8% were receiving special education services (Figure 14).

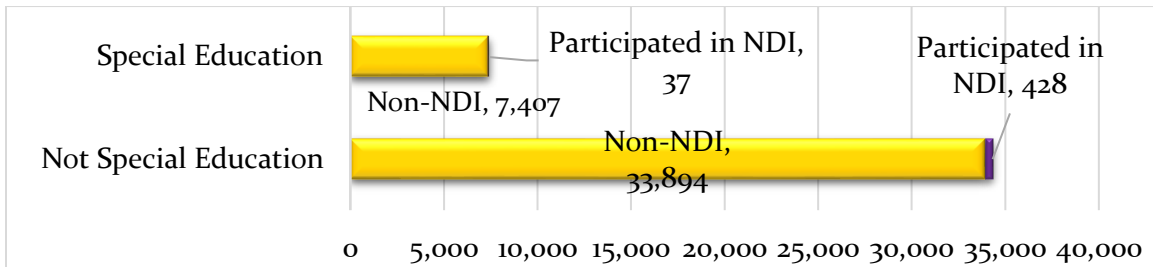


Figure 14. Participation in NDI New Mexico Advanced Training Programs by special education status in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015 (n = 41,766 students).

Among the students who did not participate in NDI New Mexico Advanced Training programs, approximately 15% were English language learners (Figure 15); nearly 9% of NDI New Mexico Advanced Training programs participants were English language learners.

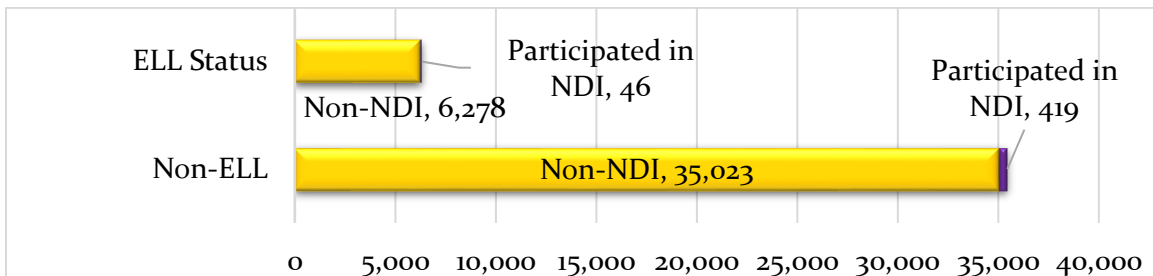


Figure 15. Participation in NDI New Mexico Advanced Training Programs by ELL status in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015 (n = 41,766 students).

Among students with available data, most (96%) students who did not participate in NDI New Mexico Advanced Training programs did not repeat the year before. Among those with available data on retention, all but two students (99%) participating in NDI New Mexico Advanced Training programs did not repeat the year before (Figure 16).

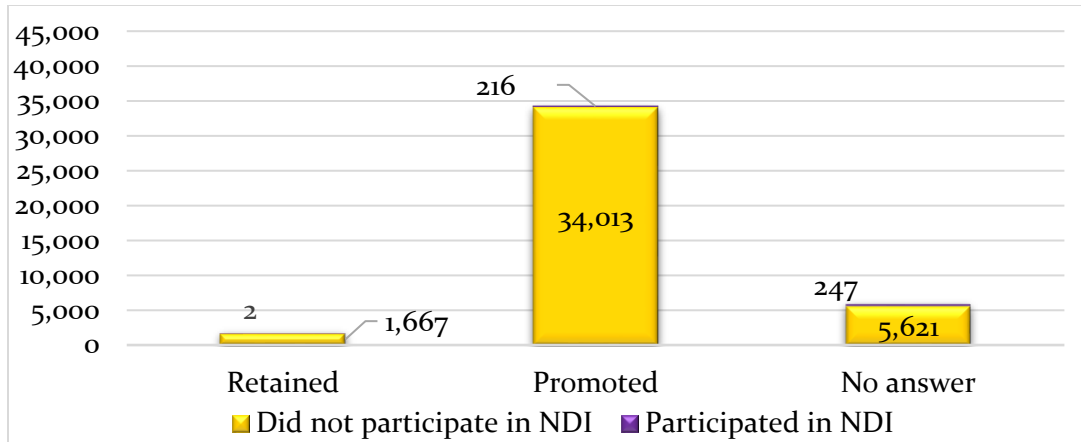


Figure 16. Participation in NDI New Mexico Advanced Training Programs by retention status in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015 (n = 41,766 students).

Statistical Analysis

During AY 2014-2015, students in the Española, Pojoaque, and Santa Fe Public School Districts had significantly higher odds of participating in NDI New Mexico Advanced Training programs compared to students in the Albuquerque Public Schools (Table 4). Specifically, Pojoaque students had 4 times higher odds of participating in NDI New Mexico Advanced Training programs (95% CI 2.35-7.10, $p=0.000$), Española students had nearly 9 times higher odds of participating (95% CI 6.35-12.07, $p=0.000$), and Santa Fe students had nearly 10 times higher odds of participating (95% CI 7.72-11.83, $p=0.000$) compared to Albuquerque Public School students.

Table 4. Frequency and bivariate analysis of demographic factors of 41,766 students, grades 4 to 9, in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015.

Variables	Did not participate in NDIAT programs	Participated in NDIAT programs	Total	Odds Ratios (95% CIs, p-value)
School District				
Albuquerque	32,440 (82.62%)	147 (35.08%)	32,587	1.00
Española	1,311 (3.34%)	52 (12.41%)	1,363	8.75 (6.35-12.07)**
Pojoaque	756 (1.93%)	14 (3.34%)	770	4.09 (2.35-7.10)**
Santa Fe	4,757 (12.12%)	206 (49.16%)	4,963	9.56 (7.72-11.83)**
Gender				
Female	19,201 (48.90%)	291 (69.45%)	19,492	2.38(1.93-2.93)**
Male	20,063 (51.10%)	128 (30.55%)	20,191	1.00

Ethnicity				
Caucasian	7,475 (19.04%)	89 (21.24%)	7,564	1.99 (1.15-3.45)*
Hispanic	27,473 (69.97%)	303 (72.32%)	27,776	1.84 (1.10-3.10)*
American Indian, Alaskan Native	1,808 (4.60%)	12 (2.86%)	1,820	1.11 (0.52-2.38)
Multiracial, Asian, Pacific Islander, African American	2,508 (6.39%)	15 (3.58%)	2,523	1.00
School lunch status				
Free lunch	25,896 (65.95%)	272 (64.92%)	26,168	0.99 (0.80-1.23)
Reduced price	1,940 (4.94%)	26 (6.21%)	1,966	1.27 (0.83-1.94)
Not participating	11,428 (29.11%)	121 (28.88%)	11,549	1.00
Special education services				
Yes	7,063 (17.99%)	32 (7.64%)	32,588	1.00
No	32,201 (82.01%)	387 (92.36%)	7,095	2.65 (1.85-3.81)**
ELL status				
Yes	5,891 (15.00%)	37 (8.83%)	5,928	1.00
No	33,373 (85.00%)	382 (91.17%)	33,755	1.82 (1.30-2.56)**
Retained year before				
Yes	1,483 (4.37%)	2 (0.99%)	1,485	1.00
No	32,428 (95.63%)	200 (99.01%)	32,628	4.57 (1.13-18.43)*
Missing data	5,353	217		

* significance level is $p \leq 0.05$, ** significance level $p \leq 0.005$

Female students had twice the odds (95% CI 1.93-2.93, $p=0.000$) of participating in an NDI New Mexico Advanced Training programs compared to male students.

Caucasian and Hispanic students had higher odds of participating in NDI New Mexico Advanced Training programs than students with other race/ethnicities. Specifically, Caucasians had twice the odds (95% CI 1.15-3.45, $p=0.014$) and Hispanics had nearly twice the odds (95% CI 1.10-3.10, $p=0.021$) of being an NDI New Mexico Advanced Training program participant compared to

students with American Indian or Alaskan Native, African American, Asian, Pacific Islander, and Multiracial ethnicities.

Students who did not receive special education services had nearly 3 times higher odds (95% CI 1.85-3.81, $p=0.000$) of participating in NDI New Mexico Advanced Training programs compared with students who received special education services. Students who were not ELLs had nearly twice the odds (95% CI 1.30-2.56, $p=0.001$) of participating in NDI New Mexico Advanced Training programs than students who were ELLs. Students who were not retained in school the year before had nearly 5 times higher odds (95% CI 1.13-18.43, $p=0.033$) of being in an NDI New Mexico Advanced Training programs compared with students who were retained.

School lunch status was used as proxy for socioeconomic status. Lunch status categories were free lunch, reduced pricing lunch, and non-participation in a school lunch program. No significant differences among the school lunch categories were found in relation to odds of NDI participation (Table 4).

Demographic factors found to be statistically associated with NDI New Mexico Advanced Training program participation (i.e. school district, gender, etc.) were then assessed for their relationships with school attendance and academic performance outcomes (Table 5). Multivariable data analyses of the association of program participation with absenteeism and GPA were adjusted for the type of school district, gender, ethnicity, and having received special education services.

Attendance: During AY 2014-2015, students who participated in NDI New Mexico Advanced Training programs had 3 times higher odds (95% CI 1.42-6.36, $p=0.004$) of having 10 or less than 10 absences compared to students who did not participate (Table 5).

After controlling for the four mentioned confounding variables, students with NDI program participation were found to have nearly 8 times statistically higher odds (95% CI 3.63-16.40, $p=0.000$) of having 0 to 10 absences (lower absenteeism) relative to students who did not participate in the programs (Table 6).

Grade Point Average: NDI New Mexico Advanced Training program participants in AY 2014-2015 had 2.5 times (2.52, 95% CI 1.37-4.63, $p=0.003$) higher odds of having a GPA greater than 3.0 compared to students who were not NDI New Mexico Advanced Training program participants. When looking at GPA as a continuous variable, students who participated in NDI New Mexico Advanced Training programs had, on average, an additional 0.35 points ($p=0.002$) higher GPA than students who did not participate in NDI programs (Table 5).

Upon adjusting for school district, gender, ethnicity, and having received special education services, students who participated in NDI New Mexico Advanced Training programs had 2.2 times statistically higher odds (95% CI 1.19-4.09, $p=0.012$) of having a GPA greater than 3.0 compared to students who were not program participants (Table 6).

Test Scores: NMSBA test score data was not available for AY 2014-2015.

Table 5. Assessing the association between NDI New Mexico Advanced Training program participation and attendance records and GPA among students, grades 4-9, in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015.

Participated in NDI advanced training program	Greater than 10 days absent	0 to 10 days absent	Total (n = 46,047)	Odds Ratios (95% CIs, p-value)
Yes	7 (0.4%)	412 (1%)	419	3.01 (1.42-6.36)**
No	1,910 (99.6%)	37,354 (99%)	39,264	1.00
	GPA ≤ 3.0	GPA > 3.0 and ≤ 4.0	Total (n = 24,999)	Odds Ratios (95% CIs, p-value)
Yes	15 (0.1%)	34 (0.3%)	49	2.52 (1.37-4.63)**
No	13,143 (99.9%)	11,807 (99.7%)	24,950	1.00

* significance level is $p \leq 0.05$, ** significance level $p \leq 0.005$

Table 6. Multivariable analysis of the relationship between NDI program participation, and attendance records and GPA among students, grades 4-9, in the Albuquerque, Española, Pojoaque, and Santa Fe Public School Districts, AY 2014-2015.

Participated in NDI advanced training program	Unadjusted Odds Ratio (95% CIs, p-value)	Adjusted Odds Ratio*** (95% CIs, p-value)
	0 to 10 days absent (n = 39,683)	0 to 10 days absent (n = 39,683)
Yes	3.01 (1.42-6.36)**	7.72 (3.63-16.40)**
No	1.00	1.00
	GPA > 3.0 (n = 24,999)	GPA > 3.0 (n = 24,999)
Yes	2.52 (1.37-4.63)**	2.20 (1.19-4.09)*
No	1.00	1.00

* significance level is $p \leq 0.05$, ** significance level $p \leq 0.005$

*** Odds ratio estimates were adjusted for school district, gender, ethnicity, and having received special education services.

Discussion

The need for positive youth development opportunities are crucial in building personal and social assets among the underserved youth in NM. With the creative process being at the center of NDI New Mexico's Advanced Training programs, youth are able to "build the personal, social, and intellectual capabilities they need to succeed in school, career, and life" (Montgomery, 2017). Overall, participation in NDI New Mexico's Advanced Training programs, after being adjusted for school district, gender, ethnicity, and having received special education services, was associated with higher odds of 1 or fewer absences (lower absenteeism), higher odds of a GPA greater than 3.0, a higher average GPA, and scored higher on both math and reading NM Standards-Based Assessments.

LIMITATIONS

Students who had missing student ID numbers and grade levels were not included in the analyses. Additionally, it is possible that students categorized as not having participated in NDI New Mexico programs were actually NDI program participants. This could have led to differential misclassification with regard to NDI participation. Missing NMSBA test scores for AY 2014-2015 precluded an assessment of those data.

NEXT STEPS

Future research on the impact of NDI New Mexico's Advanced Training programs may include establishing associations across multiple years, including data from outreach programs, and examining gains in other measures (e.g., self-confidence). It would also be informative to include an evaluation of measures related to program implementation. Factors such as consistency in attendance and reasons for attrition from the training programs can also be examined. By determining whether activities and curricula were implemented as planned, the organization can further identify the strengths and weaknesses of the programs. For example, using qualitative methods, such as semi-structured interviews with the instructors and participating students, can help detect areas for improvement. And lastly, longer-term outcomes, such as high school graduation rates and indicators of positive socioeconomic mobility, can also be evaluated for participants of the NDI New Mexico programs when they grow into adulthood.

NDI New Mexico can also consider conducting focus group discussions with groups which were identified to have lower program involvement rates, like males and minority students, to pinpoint potential challenges to participation. Findings from such research can assist in the expansion of NDI New Mexico's program curricula. It can also lead to NDI New Mexico's programs becoming more complementary of other after-school activities.

Conclusions

Participation in NDI New Mexico Advanced Training programs was significantly associated with fewer absences, higher GPA and higher test scores during at least one of the assessment periods. Participation was also positively associated with being female, and Hispanic or Caucasian, and negatively associated with receiving special education services. NDI New Mexico's Advanced Training programs are a promising intervention for youth development among the state's underserved communities.

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