May 2017

Thank you for your request for information on **(1) school-level factors that are associated with lower dropout rates for grade 9 students and (2) whether these factors differ by race or ethnicity.** Ask A REL is a collaborative reference desk service provided by the 10 regional educational laboratories (REL) that, by design, functions much in the same way as a technical reference library. It provides references, referrals, and brief responses in the form of citations on research-based education questions.

Please note that REL Southwest has not done an evaluation of the resources themselves, but offers this list to you for your information only.

BACKGROUND

Sizable achievement gaps separate New Mexico's Hispanic and Native American students from other student groups on the state's standardized assessment.[1] These achievement gaps contribute to New Mexico's high percentage of low-performing schools (77 percent in 2010).[2] To support ongoing efforts to address these critical needs, the New Mexico Achievement Gap Research Alliance seeks to use data and evidence to identify and understand factors that facilitate or impede progress in reducing achievement gaps among subpopulations of K–12 students in New Mexico. The following questions were converted to Ask A REL questions from the New Mexico Achievement Gap Research Alliance's research agenda.

Following an established REL Southwest protocol, we conducted a search for research reports as well as descriptive briefs on school-level factors associated with lower dropout rates for grade 9 students. The sources included federally funded organizations, additional research institutions, educational databases, and general Internet searches using Google and Bing. See the methods section at the end of this Ask A REL for additional information on how we identified the following sources.

QUESTION

What school-level factors are associated with lower dropout rates for grade 9 students? Do these school-level dropout factors differ by the racial/ethnic composition of the school?

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[1] Childress, M. (2010, February 4). Hispanic education act targets achievement gap. *The New Mexico Independent.*
[2] Usher, A. (2011). *Update with 2009-10 data and five-year trends: How many schools have not made adequate yearly progress?* Washington, DC: Center on Education Policy. Retrieved from http://www.cep-dc.org/displayDocument.cfm?DocumentID=357.

SOURCES

Bornsheuer, J. N., Polonyi, M. A., Andrews, M., Fore, B., and Onwuegbuzie, A. J. (2011). The relationship between ninth-grade retention and on-time graduation in a southeast Texas high school. *Journal of At-Risk Issues*, *Vol. 16*(2), 9-16. https://eric.ed.gov/?id=EJ960072.

From the abstract: "Currently, there are approximately 1.3 million annual high school dropouts who potentially might lose $355 billion of income over their lifetimes. Effectively addressing retention and dropout issues has far-reaching societal implications. Therefore, this study examined the relationship between ninth-grade retention and on-time graduation. For the purposes of this study, on-time graduation was defined as completion of high school within four years after entering as freshmen. A convenience method of sampling was utilized to measure ninth-grade retention and dropout rates among students (n = 1,202) in a Southeast Texas high school. A chi-square analysis determined the relationship between the variables. The findings indicated a statistically significant relationship between ninth-grade retention and on-time graduation, yielding a very large effect size (Cramer's V = 0.61). Specifically, ninth-grade students who had been retained were more than six times less likely not to graduate on time than were the ninth-grade students who had not been retained. Implications of these findings are discussed."

Curtin, J., Hurwitch, B., and Olson, T. (2012). Development and use of early warning systems. SLDS spotlight, *National Center for Education Statistics.* https://eric.ed.gov/?id=ED565705.

From the abstract: "An early warning system is a data-based tool that helps predict which students are on the right path towards eventual graduation or other grade-appropriate goals. Through such systems, stakeholders at the school and district levels can view data from a wide range of perspectives and gain a deeper understanding of student data. This "Statewide Longitudinal Data Systems" (SLDS) Spotlight takes a look at some of the early warning system development and expansion work going on in Massachusetts, Maine, and South Carolina. It discusses some of the benefits of using an early warning system and offers tips on the development of this type of system. The content of this brief was derived from an SLDS monthly topical webinar that took place on January 27, 2012."

Deussen, T., Hanson, H., and Bisht, B. (2017). Are two commonly used early warning indicators accurate predictors of dropout for English Learner students? Evidence from six districts in Washington State. REL 2017-261. *Regional Educational Laboratory Northwest.* https://eric.ed.gov/?id=ED573197.

From the abstract: "Students who drop out of high school are at increased risk of a range of negative social and economic consequences, including lower earnings and poorer health. To reduce dropout rates and lessen these negative consequences, districts around the country are using early warning indicators to identify and provide supports for students at risk of dropping out. Typically, these early warning indicators include some combination of attendance, course failures, grade point average, and

suspensions or expulsions. It is not clear whether these commonly used early warning indicators work equally well for English learner students. National data suggest that English learner students drop out of high school at higher rates than other students do. English learner students are a heterogeneous group that includes students born in the United States, new immigrants, and refugees, all with varying degrees of prior exposure to English and, for those not born in the United States, different education experiences prior to arrival. Some English learner students start kindergarten in this country, while others do not arrive here until they are in high school. Some English learner students may receive only two or three years of English language services, while others may receive eight or more years. Current national data do not capture the variation in dropout and graduation rates for those different types of English learner students. This study compares data for a particular group of students--those who were classified as English learner students at any point in their K-12 education (referred to as "ever-English learner students" in this report) with data for students who were never classified as English learner students (referred to as "never-English learner students"). It also compares outcomes across subgroups of the ever-English learner student population. Specifically, the study addresses how the graduation and dropout rates of different subgroups of ever-English learner students compare with one another and with those of never-English learner students. And it examines whether two early warning indicators used to predict dropping out (six or more absences in grade 9 plus at least one course failure in grade 9, and at least one suspension or expulsion in grade 9) are accurate and useful indicators for different groups of ever-English learner students compared with never-English learner students. The students in the study are from six school districts in the south King County area of Washington state. The districts are part of the Road Map Project, a cradle-to-career initiative that seeks to double the number of students on track to graduate from college or earn a career credential between 2010 and 2020. As part of the initiative, the districts have been using a common set of early warning indicators since 2011. The initiative also has a work group focused on the large number of English learner students in the region. Regional Educational Laboratory Northwest has partnered with the work group since 2012 to use data and evidence to better understand the needs and challenges of English learner students and to inform decisions about policy and practice. The study findings highlight notable differences in graduation and dropout rates among subgroups of English learner students. Key findings from the study include: (1) Students who had ever been English learners had four-year graduation rates that were 9.5 percentage points lower and dropout rates that were 0.7 percentage point higher than those of students who had never been English learners; (2) Certain subgroups of English learner students had considerably different graduation and dropout rates from those of other English learner students; relative to long-term proficient English learner students, newcomer English learner students' four-year graduation rates were 33.8 percentage points lower and their dropout rates were 5.8 percentage points higher; and (3) The Road Map Project's early warning indicators, originally developed for Seattle Public Schools, were unable to accurately identify many future dropouts, especially among newcomer English learner students. Given that the accuracy of the Road Map Project indicators varied for subgroups of English learner students and may be evidence of the need to select and validate indicators specifically for the population of interest, the Road Map Project and other states and districts may want to examine the accuracy of their own indicators for different student populations. If

early warning indicators are weaker for a specific subgroup of English learner students, then teachers, counselors, and others may want to monitor the needs of that group in other ways. The following are appended: (1) Data and methodology; and (2) Supplemental results."

Evidence Based Education Request Desk. EBE #833A. (2011). *Regional Educational Laboratory Southeast.* https://eric.ed.gov/?id=ED537037.

From the abstract: "Over the past decade, research on dropout prevention has become focused on using evidence-based practice, and data-driven decisions, to mitigate students' dropping out of high school and instead, support and prepare students for career and college. Early warning systems or on-track indicators, in which readily available student-level data are used to predict whether a student is likely to drop out, are being harnessed by schools, districts, states, and support organizations nationwide to help prevent students from falling off the track to graduation and offer additional educational and support services to those who need them (Pinkus, 2008). Initiatives to create early warning systems are aligned with the What Works Clearinghouse Dropout Prevention Practice Guide recommendation that "utilizing data systems that support a realistic diagnosis of the number of students who dropout and that help identify individual students at high risk of dropping out" is a "critical first step" in effective intervention (Dynarski et al., 2008, p. 12). This paper provides information on K-12 early warning and success indicators. An annotated bibliography is included. (Contains 1 table and 1 footnote.)"

Hartmann, T., Good, D., and Edmunds, K. (2011). Exito: Keeping high-risk youth on track to graduation through out-of-school time supports. *Afterschool Matters, Number 14,* 20-29. https://eric.ed.gov/?id=EJ980182.

From the abstract: "Exito" means "success" in Spanish, so it is a fitting name for a dropout prevention program. Set in a large neighborhood high school in a low-income, largely Latino section of Philadelphia, Exito supports ninth- and tenth-grade students who are at risk of dropping out of school by providing them with afterschool programming and case management services. The program was designed and is implemented by a large multiservice community agency, Congreso de Latinos Unidos (Congreso), working in partnership with the school. Funding comes from Philadelphia's Department of Human Services and from private foundations. When Exito was launched in the 2008-2009 school year, Congreso contracted a four-year longitudinal evaluation following the first cohort of program participants through high school graduation. The evaluation, now in its third year, has assessed student outcomes and studied program implementation. Results from the first two years suggest that Exito shows promise for reducing the dropout rate among those it serves. The program has attracted teens with "early warning indicators" for dropping out of school. In addition, program participation has been associated with positive student outcomes. Participants had fewer school absences than a comparison group for both of the first two years of the program; in year 2, they were also more likely to pass major subjects than a comparison group. This article describes the Exito program model, provides early evidence of its benefits, and shares promising practices as well as challenges identified by the evaluation. (Contains 1 table and 1 note.)".

Hartman, J., Wilkins, C., Gregory, L., Gould, L. F., and D'Souza, S. (2011). Applying an on-track indicator for high school graduation: Adapting the consortium on Chicago school research indicator for five Texas districts. REL 2011-No. 100. *Regional Educational Laboratory Southwest.* https://eric.ed.gov/?id=ED514377.

*From the abstract: "*This study uses a measure of the on-track or off-track status of students at the end of grade 9 as an indicator of whether students in five Texas districts would graduate from high school in four years. In all five districts, on-time graduation rates were higher for students who were on track at the end of grade 9 than for students who were off track, both for students overall and for all racial/ethnic groups. This study is a first step in helping local districts and the Texas Education Agency develop an on-track indicator that accurately differentiates at the end of grade 9 between students who do and those who do not graduate on time. Appended are: (1) Study methodology; (2) District profiles; and (3) Off-track analysis. (Contains 1 box, 3 figures, 9 tables and 13 notes.) [For the summary report, see ED514376.]"

Henry, K. L., Cavanagh, T. M., and Oetting, E. R. (2011). Perceived parental investment in school as a mediator of the relationship between socio-economic indicators and educational outcomes in rural America. *Journal of Youth and Adolescence*, *Vol. 40*(9), 1164-1177. https://eric.ed.gov/?id=EJ933403.

From the abstract: "Each year, 1.3 million students fail to graduate, dropping the United States' high school graduation rate to 69%. One of the most salient predictors of high school dropout is socio-economic status (SES), which makes important an improved understanding of the reasons why SES affects educational outcomes. In this study, multilevel mediation models were utilized to examine parental investment in school as a mediator of the relationship between SES and educational outcomes among an ethnically diverse sample of 64,350 7th to 9th grade students from 199 rural communities and towns in the U.S. (50% male, 63% non-Hispanic White). These relationships were assessed at the individual and school district level. Results indicate that parental investment is an important mediator at both levels. Within school districts, 28% of the effect of SES on the expectation to graduate from high school is mediated by perceived parental investment. Between school districts, 60% of the effect of concentrated disadvantage on the district's high school graduation rate and nearly all (87%) of the effect of concentrated disadvantage on the average expectation to graduate from high school among students in the district is mediated by perceived parental investment. Implications for prevention are discussed."

Kotok, S., Ikoma, S., and Bodovski, K. (2016). School climate and dropping out of school in the era of accountability. *American Journal of Education, Vol. 122*(4), 569-599. https://eric.ed.gov/?id=EJ1108826.

From the abstract: "Using data from the High School Longitudinal Study of 2009 (HSLS:09)--a large nationally representative sample of US high school students--we employed multilevel structural equation modeling (SEM) to examine the relationship between school characteristics and the likelihood that a student will drop out of high school. We used a multifaceted framework on school climate to assess the degree to which school attachment, disciplinary order, disciplinary fairness, and academic climate

are associated with individuals dropping out of high school. Additionally, we examined how structural and compositional characteristics of schools influence school climate and dropping out of school. Our findings indicate that attending a high school with better disciplinary order and stronger school attachment for the students is associated with a decreased likelihood of dropping out, above and beyond individual characteristics."

Magen-Nagar, N. & Shachar, H. (2017). Quality of teaching and dropout risk: A multi-level analysis. *Journal of Education for Students Placed at Risk*, *Vol. 22(*1), 9-24. https://eric.ed.gov/?id=EJ1129543.

*From the abstract: "*The purpose of this study is to examine how the quality of teaching contributes to a sense of belonging and satisfaction, while considering students' personal and socioeconomic variables, in explaining the risk of dropping out of school. Two thousand, eight hundred and seventy 4th- to 9th-grade students from 105 classes in 18 schools participated in this research. A 3-level HLM6 analysis was performed: Students, classes, and schools. Findings showed the effect of the type of school (traditional vs. experimental) on the connections between quality of teaching and dropout risk; these connections are stronger in traditional schools. The conclusion was that quality of teaching plays an important role in decreasing the risk of dropout. Teaching quality has a significant effect on students' satisfaction and their sense of belonging, thereby affecting the risk of dropout."

Norbury, H., Wong, M., Wan, M., Reese, K., Dhilon, S., and Gerdeman, R. D. (2012). Using the freshman on-track indicator to predict graduation in two urban districts in the Midwest region. REL 2012-No. 134. *Regional Educational Laboratory Midwest*. https://eric.ed.gov/?id=ED531422.

From the abstract: "Recent estimates suggest that of U.S. public high school freshmen in the fall of 2005 24.5 percent did not graduate on time in 2008/09 (Stillwell, Sable, and Plotts 2011). As states and school districts attempt to boost graduation rates, they face the challenge of identifying which students are at risk of not graduating on time. Early warning indicators based on measurable student outcomes and behaviors could help identify students at risk while there is still time to redirect their trajectory away from dropping out or falling behind. The current study focuses on the freshman on-track indicator developed by the Consortium on Chicago School Research (CCSR). The current study examined three research questions for two urban districts in the Midwest Region: (1) What were the freshman on-track and offtrack rates for recent cohorts, overall and by student background subgroup?; (2) How did four-year in-district graduation rates compare for on-track and off-track freshmen in recent cohorts, overall and by student background subgroup?; and (3) To what extent does the on-track indicator predict four-year graduation rates for recent cohorts in each district, after accounting for baseline student background characteristics? The main results of the study are the following: (1) For both districts, students who were on track at the end of grade 9 graduated on time at a higher rate than did students who were off track. This was the case both overall and for every student background subgroup examined in each district; (2) For both districts, the on-track indicator was a significant predictor of on-time high school graduation, even after controlling for student background characteristics and for student assessment test scores in grade 8. The odds of on-time

graduation for students who were on track at the end of their freshman year was estimated to be 6.6 times that of students who had similar characteristics but were off track at the end of their freshman year for District A and 5.5 times for District B; and (3) For both districts, the effect size of being on track compared with being off track (as measured by increases in the odds of graduating) was larger than the effect size for every student background characteristic and for grade 8 assessment test scores. The pattern of results in this study is similar to that of prior studies (Allensworth and Easton 2005; Hartman et al. 2011), with some differences in overall on-track rates, on-track rates for particular student subgroups, and the degree to which the on-track indicator differentiates between graduates and nongraduates. (Contains 3 notes.) [For the full report, "Using the Freshman On-Track Indicator to Predict Graduation in Two Urban Districts in the Midwest Region. Issues & Answers. REL 2012-No. 134," see ED531421.]"

Roberts, G., Vaughn, S., Fall, A-M., and Vaughn, M. (2013). Preventing school dropout with secondary students: The implementation of an individualized reading intervention and dropout prevention intervention. *Society for Research on Educational Effectiveness.* https://eric.ed.gov/?id=ED564085.

From the abstract: "Students transitioning from middle school to high school face a range of academic and social challenges. Academic content is more diverse and challenging, and its delivery is increasingly text based, requiring competence in literacy and problem-solving skill areas. Students entering 9th grade often struggle to find an appropriate peer group and may face challenges at home, hindering motivation and diminishing school engagement. The combined and interrelated challenges of poor achievement and low school engagement increase the likelihood of dropping out. This study addresses important educational problems by providing evidence to support the efficacy of implementing individualized reading instruction and a dropout prevention program separately and in conjunction in improving reading achievement and school engagement for secondary students most at risk for academic failure. The reading intervention Check and Connect (C&C) was developed for struggling adolescents and originally field tested with funding from the Eunice Kennedy Shriver National Institutes of Child Health and Human Development. The dropout prevention intervention in this study used a modified version of Check and Connect. The two studies that comprise the evidence base for C&C were conducted in the Minneapolis metropolitan area and targeted a specific population (primarily African American males receiving special education services), indicating a need for replication with other populations. The results from the first two years of the study are statistically significant in favor of the treatment group for the variables of high importance including students' perceptions of their school engagement and reading-related outcomes. Specifically, participants in the intensive reading interventions--with and without C&C--significantly outperformed those in a randomized, untreated comparison on a standardized measure of reading comprehension, and students participating in the modified C&C treatments--with and without reading--reported higher levels of school engagement over time compared to students in the untreated comparison. A table is appended."

Rosen, J. A., Chen, X., and Ingels, S. (2015). Early high school dropouts: What are their characteristics? Data point. NCES 2015-066. *National Center for Education Statistics.* https://eric.ed.gov/?id=ED554582.

From the abstract: "This Data Point utilizes data from the High School Longitudinal Study of 2009 (HSLS:09), a nationally representative, longitudinal study of more than 23,000 ninth-graders in 2009. HSLS:09 surveyed students, their parents, math and science teachers, school administrators, and school counselors. The study included information about students who were enrolled in school in the fall term of 2009 as ninth-graders and who were not enrolled in school and had not earned a regular high school diploma or alternative credential such as a GED in spring 2012, when they should have been 11th-graders. These students are referred to as "dropouts" in this report."

What Works Clearinghouse (2015). Reconnecting Youth. What Works Clearinghouse Intervention Report. *U.S. Department of Education.* https://eric.ed.gov/?id=ED556124.

From the abstract: ""Reconnecting Youth" is an elective, credit-bearing course for students at risk of dropping out of school due to frequent absenteeism, low grades, or a history of dropping out. The curriculum focuses on building self-esteem, decision making, personal control, and interpersonal communication skills. The What Works Clearinghouse (WWC) reviewed all of the existing research on the program and its impacts on middle school, junior high school, or high school students who are at risk of dropping out or have already dropped out. The review finds that none of the existing research meets WWC design standards. Therefore, more research is needed to determine whether the program is effective for dropout prevention. A glossary of terms is included."

Wood, L., Kiperman, S., Esch, R. C., Leroux, A. J., and Truscott, S. D. (2017). Predicting dropout using student- and school-level Factors: An ecological perspective. *School Psychology Quarterly, Vol. 32*(1), 35-49. https://eric.ed.gov/?id=EJ1134361.

From the abstract: "High school dropout has been associated with negative outcomes, including increased rates of unemployment, incarceration, and mortality. Dropout rates vary significantly depending on individual and environmental factors. The purpose of our study was to use an ecological perspective to concurrently explore student- and school-level predictors associated with dropout for the purpose of better understanding how to prevent it. We used the Education Longitudinal Study of 2002 dataset. Participants included 14,106 sophomores across 684 public and private schools. We identified variables of interest based on previous research on dropout and implemented hierarchical generalized linear modeling. In the final model, significant student-level predictors included academic achievement, retention, sex, family socioeconomic status (SES), and extracurricular involvement. Significant school-level predictors included school SES and school size. Race/ethnicity, special education status, born in the United States, English as first language, school urbanicity, and school region did not significantly predict dropout after controlling for the aforementioned predictors.

Implications for prevention and intervention efforts within a multitiered intervention model are discussed."

ADDITIONAL ORGANIZATIONS AND RESOURCES TO CONSULT

We also searched for appropriate organizations and resources that may be useful. We have not done an evaluation of these organizations or the resources themselves but offer this list for reference only.

- **American Institutes for Research—Early Warning Systems in Education**— http://www.earlywarningsystems.org/tools-supports/

From the website: "An early warning system (EWS) uses readily available data to identify students who are at risk of failing to meet key educational milestones, allowing educators to intervene early. Schools can use information from an EWS to support at-risk students with both school-wide strategies and targeted interventions. States, districts, and schools can use EWS data to examine school-level patterns to address systemic issues that may be impeding a student's ability to meet key educational milestones. AIR has developed the EWS Online Tool to facilitate an effective early warning system by providing educators the necessary data from across data systems in an easy-to-access platform."

- **National Dropout Prevention Center/Network** — http://dropoutprevention.org/who-we-are/our-mission/

From the website: "The mission of the National Dropout Prevention Center/Network is to increase graduation rates through research and evidence-based solutions.

Since inception, the National Dropout Prevention Center/Network has worked to improve opportunities for all young people to fully develop the academic, social, work, and healthy life skills needed to graduate from high school and lead productive lives. By promoting awareness of successful programs and policies related to dropout prevention, the work of the Network and its members has made an impact on education from the local to the national level."

- **What Works Clearinghouse** — https://ies.ed.gov/ncee/wwc/WhatWeDo and https://ies.ed.gov/ncee/wwc/FWW/Results?filters=,Dropout-Prevention

From the website: "For more than a decade, the WWC has been a central and trusted source of scientific evidence on education programs, products, practices, and policies. We review the research, determine which studies meet rigorous standards, and summarize the findings. We focus on high-quality research to answer the question "what works in education?" Why Does Quality Matter in Education Research? Not all education research is equal. Identifying well-designed studies, trustworthy research, and meaningful findings to inform decisions and improve student outcomes can be tricky. That's where the WWC comes in."

METHODS

Keywords and Search Strings Used in the Searches

Drop out, students, high school, grade 9, ninth grade, school, ethnicity, race, intervention, prevention, practices

Search of Databases and Websites

- Institute of Education Sciences (IES) website (http://www.ies.ed.gov) and IES sources: Regional Educational Laboratory (REL) Program, National Center for Education Statistics (NCES), National Center for Education Research (NCER), What Works Clearinghouse (WWC)

- ERIC database (www.eric.ed.gov)

- Google Scholar (scholar.google.com)

- Google (www.google.com)

- Bing (www.bing.com)

Criteria for Inclusion

REL Southwest selected resources that provide research on school-level factors associated with lower dropout rates for grade 9 students. When REL Southwest staff reviewed resources, we considered – among other things – three factors:

1. **Date of Publication:** The most current information (primarily published from 2011 to the present) is included.

2. **Source and Funder of the Report/Brief/Article:** Priority was given to publications written in relevant, peer-reviewed journals or reports or produced by well-known research organizations.

3. **Methodology:** Sources include reported studies, literature reviews and policy reports.