

DISASTERS & DROPOUTS: THE EFFECT OF
DISASTERS ON TEXAS HIGH SCHOOL DROPOUT
& GRADUATION RATES 2010-2018

By

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& GRADUATION RATES 2010-2018

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Abstract:

Schools contain some of the most vulnerable populations in a community. When a disaster strikes, the focus is primarily on the physical damages caused by the event. Previous studies that use test scores to measure disaster impact may fail to identify students who dropped out of school. Studies that incorporate dropout data generally only look at overall rates that may not capture significant changes to at-risk populations.

This study examines the sociological impact in determining a disaster event's effect on high school dropout and graduation rates. The study examined eight years of disaster and educational data from the Texas Education Agency covering overall dropout and graduation rates and the rates for at-risk subgroups. Federal Emergency Management Agency disaster declarations provided the basis for disaster data. Data analyses uses an Independent Samples 1-tailed T-test.

The study provides insight into the effect of disasters based on the size, type, and timing of the event and the student populations affected. Significant results appeared in all disaster events; however, some events demonstrated an impact in only a few student subgroups. Most events showed a negative impact on at-risk populations and, at times, in populations generally considered at a lower risk for dropping out. One event demonstrated a positive impact from a disaster event on dropout and graduation rates.

The study demonstrates that disasters can affect a student's decision to drop out of school. This effect is especially true but not limited to student populations that historically evidence a higher risk for dropping out of school.

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CHAPTER I

INTRODUCTION

The impact of a disaster on a community is more than the value of the property destroyed or the cost of cleanup. The accurate measure of a disaster is how it affects the community, the lives lost, the injured, and the disruption to the community's essential social functions. Disasters are ultimately defined by their level of human social disruption and how a community responds or fails to respond to the event (Kreps, 1998). Measuring these social effects is a challenge. Calculating the number of lives lost and injuries sustained is a straightforward if heart-wrenching task, social disruption, is not so easily quantified (Dynes, 1998).

Since one definition of disaster is related to the interruption of essential social functions (Kreps, 1998), identifying these essential social functions in the community and determining their level of specific disruption becomes a useful tool in measuring a disaster's impact. Schools fulfill one of these essential social functions. Apart from their primary role of educating children, they provide other critical services to their students. After a disaster, Schools offer parents a haven to send their children while they work or rebuild. Schools are an important social environment for many children. Schools, especially after a traumatic event, can provide counseling and support to students (Phillips, Neal & Webb, 2017).

Unfortunately, any disaster that affects a community will, to varying degrees, affect the schools in that community. For example, during the 1985 Mexico City earthquake, approximately 30% of the city's school buildings were damaged (Kreps, 1998). Hurricane Sandy in 2011 closed 1,647 school districts and 637 individual schools in 20 states. Hurricane Sandy resulted in the loss of 13,758,663 student instructional days (Wong et al., 2014). A disaster does not necessarily have to destroy a school to result in

a closure. 60-70 mph straight-line winds damaged schools in Wyandotte, Oklahoma, resulting in a two-day closure. No structural damage was reported, but water intrusion and the loss of heat and air systems made the buildings unsuitable for students and Staff (Barker, 2019). Hurricane Harvey did cause structural damage to over 600 schools in Texas. In addition to structural damage, Hurricane Harvey caused Texas school closures for other reasons, including power outages, flooding in and around the schools, and the need to use schools as emergency shelters (Jackson & Ahmed, 2020). A school's primary function is to educate and prepare students to serve as productive community members. When a disaster occurs, schools, like many other community elements, may struggle to achieve their primary function.

Purpose of this Research

The purpose of this research is to ascertain if disaster events impact communities to such a degree that children's ability to attend school and successfully graduate is negatively impacted. Students may not be able to attend due to school closure from the disaster. In disasters where the school is unaffected or recovers quickly, students may still face obstacles to returning to their education. Loss of a home or job as a result of the disaster can force a family to move, in some cases, away from their current school. Financial hardship in a family may trigger a student to seek employment rather than return to school. At-risk students struggling academically pre-disaster may not return to school post-disaster (Peek & Richardson, 2010; Pfefferbaum, Jacobs, Van Horn, & Houston, 2016; Winters, 2005).

County-level data represents the units of analysis. The annual reported dropout rate and the 4-Year completion rates illustrate students' ability to complete school and successfully graduate. Annual dropout rates incorporate data from a single school year and provide the best opportunity to achieve accurate comparability across the sample population's various counties. Four-Year graduation and dropout rates generate a longitudinal picture and contrast the information from the annual dropout rate. Along with overall dropout and graduation rates, the rates for different student groups that are historically at higher risk for dropping out are presented (Gaertner, Murphy, Ryon, Wright, Richard, Whalen &

Nagy, 2019). These at-risk populations include ethnic and racial minority groups that historically suffer a more significant impact from disaster events due to fewer economic resources and limited access to recovery resources (Mileti, 1999).

Summation of Thesis

Chapter 2 consists of a literature review of relevant research. The reviewed research includes several areas of interest to present a comprehensive background to the problem. Disasters and schools examine the direct results of a disaster event on a school. Disasters cause school staff to shift roles and take on additional responsibilities. Since most school staff live in the communities they work in, they are often personally and professionally affected by the disaster. This section examines roles schools play in the community during and after a disaster and the effect that disaster has on the academic performance of students affected by a disaster.

Dropout consequences and indicators provide a context for the causes and long-term effects of students dropping out of high school. This context provides a critical understanding of the lifelong impact that results from a student dropping out of school. A disaster event aggravates many of the causes of dropout, such as high mobility and loss of critical relationships.

Chapter 2 concludes with previous research into how disaster can affect student dropout and graduation rates. Previous studies focus on overall graduation and dropout rates and frequently fail to incorporate the effect of disasters on at-risk student populations.

Chapter 3 presents the methodology used in this study. The study compares dropout and graduation rates from Texas counties affected by a federally declared disaster event with those unaffected by the event during the same time period. Overall rates for graduation and dropout are examined as well as the rates for vulnerable or at-risk populations. Additionally, the study examines the timing, size, and type of various events. Chapter 3 presents the hypotheses for the study. The proposed hypotheses attempts to raise the question of whether disasters affect a student's decision to drop out of school or continue to

graduation in a quantifiable manner. The hypotheses introduces elements of at-risk populations along with the variables of the timing, size, and nature of the disaster event.

Chapter 4 presents the findings of the study. Significant results appear in every year that a disaster event occurred. In at least one case, these results indicate a positive effect on graduation and dropout rates from the disaster event. Overall, disaster events negatively impacted graduation and dropout rates, particularly in at-risk and vulnerable populations. Along with the size and type of the disaster event, the event's timing appears to be of particular importance. Events occurring outside of the academic year demonstrated less impact than events occurring during or immediately before the start of the academic year.

Chapter 5 provides a conclusion and summary of the study and presents potential areas for future research resulting from the findings. While a research project should answer questions and provide a contribution to the available body of knowledge, an additional benefit is the opportunity to uncover potential new avenues of research and propose new possibilities to be explored. Appendices containing detailed information on the findings and data appear at the end of the document and a bibliography of all sources. Data is presented in a manner intended to provide transparency of analyses and facilitate the reader's reproduction of results if desired. Significant results are highlighted for the sake of clarity and convenience.

CHAPTER II

REVIEW OF THE LITERATURE

Abstract

This chapter provides a historical research perspective on the relationship between schools and disasters. The chapter explores the use of dropout rates to measure the effect of disaster impact on academic institutions and explain dropout rates and their common characteristics with disaster events.

Disasters & Schools

Social capital encompasses the networks and relationships that exist in a community and how they influence communities' social and economic activities (Aldrich, 2010; Nakagawa & Shaw, 2004). Schools are both a reservoir and a generator of social capital (Baez, Fuente, & Santos, 2010). The community school acts as more than just an educational institution for children. In many cases, it is a central hub for community activities. As families grow and new generations of children move through the local school halls, they share a common history with their siblings and their parents. Even in large urban areas, schools can provide a feeling of local community within the larger municipality. During and after a disaster, these pre-existing relationships can create social capital and community resiliency, allowing people to respond more effectively and recover more quickly in a disaster event (Mutch, 2018; Nakagawa & Shaw, 2004). When social capital is disrupted or absent, it extends the recovery time for a community.

A year after the 2004 tsunami hit India, Tamil Nadu had rebuilt most of its schools. Conversely, a year after Hurricane Katrina, the City of New Orleans only had half of its schools operational. New Orleans had significantly greater financial resources than Tamil Nadu yet recovered much more slowly. Lack of adequate government oversight certainly plays a role in the disparity of the responses; however, the significance of social capital and community trust appear to be significant factors. Pre-disaster New Orleans possessed low levels of social capital (Koh & Cadigan, 2008). Tamil Nadu maintained more robust social networks pre-disaster, allowing it to recover more quickly post-disaster (Aldrich, 2010). Social capital also plays a vital role in the academic success or failure of students. The relationship between children and parents, between children and other children, and between groups of parents all contribute to providing an environment conducive to children being successful in school (Nakagawa & Shaw, 2004). A community ensuring the reopening of schools after a disaster invests in its children and sends a message to students that they are an essential part of the community. After a disaster, children returning to school represent a visible indicator of a community's progress in recovery from the event (Baez et al., 2010).

Schools do have a certain amount of resiliency built into their existing organizational structure. The two most common activities that can cause a school to close are weather and natural disasters. Weather interruptions are part of routine planning. Anticipated closure days, often referred to as "Snow days," are built into every school calendar, even for those schools that do not typically experience snow. Natural disasters are more challenging to plan for and may be of longer duration, increasing the event's negative impact on the school and its students (Wong et al., 2014).

Schools play an essential part in disaster response and recovery. Along with providing an easily recognized landmark and meeting place, they are often used as temporary shelters, distribution points for food and medicine, and counseling services. Reopening schools post-

disaster is not only a visible manifestation of recovery; it also allows parents to return to work or focus on rebuilding efforts while providing children with a stable, familiar environment (Lai, Esnard, Wyczalkowski, Savage, & Shah, 2019; Mutch, 2015; Koh & Cadigan, 2008).

The research reviewed for this study focuses on either the actions of schools and Staff during and after the disaster (DeVaney, Carr, & Allen, 2009; Love, 2011; Mutch, 2015, 2018; Pfefferbaum et al., 2016) or the academic performance of students post-disaster (Alamir & Heidelk, 2020; Barrett, Barron Ausbrooks, & Martinez-Cosio, 2012; Beaglehole, Bell, Frampton, & Moor, 2017; Di Pietro, 2018; Lai et al., 2019; Pane, McCaffrey, Kalra, & Zhou, 2008; Spencer, Polachek, & Strobl, 2016; Ward, Shelley, Kaase, & Pane, 2008). School staff frequently find themselves fulfilling unanticipated roles during and after a disaster. Unforeseen events that occur during the school day, such as earthquakes or tornados, place an immediate demand for actions from school staff (Mutch, 2015). This is especially true if the event directly impacts the school itself. Often referred to as *in loco parentis*, Staff are legally responsible for the care and welfare of the students in their charge until they can be returned to a parent or family member. Special needs students or students with pre-existing medical conditions may require medication that can complicate the treatment of injuries. School staff do not have the luxury of leaving work to attend to their personal needs until they have safely returned their students to a designated guardian (Greene, B.; Barrios, L.; Blair, J.; Kolbe, 2004). These employees are frequently suffering from losses themselves since they are members of the community as well (Norman, 2010). After the 2010-2011 earthquakes in New Zealand, teachers found themselves caring for children in buildings without power, water, and other essentials. These same teachers had no idea of the status of their own homes and families (Mutch, 2015).

After a disaster, affected schools continue to face challenges as they try to resume their primary function of educating their students. Post-Katrina schools outside of Louisiana and Mississippi struggled to incorporate students displaced by the hurricane into their classrooms.

Along with a lack of teachers and classroom space, many of these students had no records and came from educational systems operating well below those of the schools they transferred into (DeVaney et al., 2009). Many schools rose to the challenge and worked to incorporate these students into their communities. Schools that worked directly with displaced students and devoted additional resources to facilitate their academic success were rewarded with students that had fewer stress-related issues and improved grades over students who did not receive the benefit of further attention and support (Barrett et al., 2012; Pfefferbaum et al., 2016). Schools struggle with identifying sufficient resources in the best of times. The ability to draw on outside resources and collaborate with community partners is essential to facilitate a school's efforts to support their students. Large districts may be better positioned to work with and interact with government and nonprofit agencies than many smaller districts (Robinson, Murphy & Bies, 2014).

Studies of student academic achievement post-disaster frequently measure post-disaster scores to pre-disaster scores to determine disaster-related effects. A review of Texas schools after Hurricane Ike in 2008 examined 464 schools directly affected by the hurricane. The study looked at academic indicators and attempted to track academic recovery after the hurricane. The data included scores on mathematics, reading, writing, and science. Ultimately the study determined that schools with high academic performance prior to the disaster maintained that performance post-disaster. Conversely, schools with low-performance pre-disaster showed a more significant negative effect from the hurricane event (Lai et al., 2019).

A detailed study of over 800 Caribbean schools between 1993 and 2010 looked at scores in sciences, math, English, French, Spanish, and Geography. They incorporated demographic data and hurricane data to determine the effects of hurricanes on academic performance. Events that took place during the school year appeared to have a greater impact on academic achievement in math and science. For the language or humanities programs, the effect of hurricanes seemed to be minimal regardless of if it occurred during the school year or not (Spencer et al., 2016). The

potential then is that the timing of a disaster event may be relevant to its impact on a student's decision to stay in school or dropout.

One drawback of focusing on test scores is that it does not capture students who are no longer in school. The study on Hurricane Ike indicated Galveston schools suffered a 20% drop in enrollment post-disaster (Lai et al., 2019). While it assumed most of those students enrolled in other schools, as with students displaced by Katrina, the potential for students to disappear academically exists. A foreshadowing of this potential disappearance of students appears to be developing due to the shutdown of schools amid the COVID-19 pandemic, which began in the spring of 2020. The Los Angeles school district, which is the second-largest district in the country, has not been able to get into contact with over 15,000 students since March of 2020 (Blume & Kohli, 2020).

Dropout Consequences & Indicators

A dropout is a student that did not complete high school and attain a regular diploma. Some of these students may go on to take a General Educational Development Test (GED). While a GED may provide a measure of accessibility for many individuals, it does not have the same benefit as a diploma (Hauser & Koenig, 2011). Dropping out of school is not a decision; it is a process. This process begins as early as elementary school. Students who drop out of school cite low attendance, poor grades, inability to keep up, or just not liking school as reasons for dropping out. These are symptoms, not causes of the problem. Dropping out is perceived as an individual problem. The student experiences the direct effect; the community shoulders much of the cost. Dropouts have increased difficulty in finding employment and earn less. They generally have poorer health than high school graduates and have higher incidences of adverse health habits such as smoking and obesity. Poor health habits lead to increased healthcare costs that the dropout is

ill-prepared to pay. Dropouts have a higher incidence of incarceration and teenage pregnancy (Hauser & Koenig, 2011).

While there is no single definitive cause of dropout, there are indicators of a higher potential for a student to drop out. Disasters possess the potential to introduce these destabilizing variables into the academic life of an at-risk student. Lack of academic success is one of the primary indicators for a student at risk of dropping out. Academically struggling students who have their education interrupted by a disaster event may have an even harder time getting acceptable grades. Economically disadvantaged, minority, and other vulnerable populations are historically disproportionately affected by disaster (Esnard, Lai, Wyczalkowski, Malmin, & Shah, 2018). Unfortunately, these are the same populations that have demonstrated elevated rates of dropout.

Student mobility, specifically unplanned mobility, is a particularly concerning aspect of dropouts regarding a disaster. Academic movement is a characteristic of school dropouts and a common side effect of a disaster due to increased residential mobility. High mobility disrupts social relationships, impairs parental involvement in the school, and fractures student-teacher relationships. A student that suffers high mobility in the home and school locations has a significantly increased probability of dropping out of school (Rumberger, 2016; South, Haynie, & Bose, 2007). Research on Katrina has highlighted the large numbers of people who left Louisiana after the hurricane. Estimates put the number of displaced students alone from Katrina at around 200,000. Hurricane Katrina was an extreme event; smaller population shifts occurred during Hurricane Andrew in 1992, the 1995 Kobe, Japan earthquake, and the 2011 Christchurch, New Zealand earthquake (Love, 2011). Studies have shown that, initially, internally displaced students from Katrina experienced a drop in academic performance. Well supported students were able to recover and achieve academic success; this is especially true of students who moved

into more academically successful schools. Students who stayed in Louisiana or who did not transfer to schools with a more rigorous curriculum did not perform as well (Pane et al., 2008).

While it is commendable that many displaced students overcame their academic challenges, there is little focus on the students who disappeared from the educational setting. In New Orleans, over two-thirds of the displaced students either returned home or permanently relocated to another school in the state. Disturbingly, almost a third are unaccounted for in the Louisiana data. The assumption is that many of these students are likely transferred to other states out of the Louisiana system. The common complaint of the lack of records on the part of schools in other states working with displaced students supports this supposition to a degree. It is unknown how many simply did not go back to school (Sacerdote, 2012).

Disasters & Dropouts

While there is a reasonably significant amount of research on disaster affects to student academic achievement in the form of test scores and related measurements, research is more limited in the area of disasters contributing to increased dropout rates, reduction in graduations, or other indicators of students leaving school prior to Graduation. Where it has been researched, the problem is approached using differing methodologies and subject pools. A study of the 2010 Canterbury, New Zealand earthquakes focused on school enrollments. The research's objective was to determine if there was a decrease in enrollment for schools in the area affected by the earthquake. While the study did demonstrate a drop in enrollment for schools in areas with significant damage from the quake, corresponding reductions in the overall population from the affected area matched these drops in enrollment. There were several limitations to the study. The supposition was that students who left damaged communities moved to areas less affected. However, lower impacted areas did not report a corresponding increase in enrollment. Data is not available to determine if the students relocated to locations outside the study area. There is no

data on disproportionate effects to sub-groups of students in vulnerable populations such as minorities or at-risk students. Overall the study did not determine a significant impact on enrollment from the earthquake (Beaglehole et al., 2017).

Another study also looked at post-earthquake information. The 2009 L'Aquila, Italy earthquake is the focus of a survey of the academic impact on higher education students. The study did find a reduction in both on-time graduation and an increase in dropouts. The incidence of dropouts was less significant than the number of students who saw an increase in their time earning a degree. This study examined college-age students with a demonstrated focus on educational attainment. The data gathered centered primarily on determining an increase in the length of time needed to attain a degree. There was an indication that the disaster contributed to some students leaving school. There was no available information on vulnerable populations in the study (Di Pietro, 2018).

As previously discussed, Hurricane Katrina provided several research opportunities for disaster impact on schools and students. A longitudinal study attempted to answer six research questions using data from the academic year Katrina struck (2005-2006) and the academic year immediately after (2006-2007). The issues related to Demographics, discipline, test scores, retention-in-grade, and dropouts. The study used data from the Mississippi Department of Education. In both years, dropout rates for displaced students were over twice that of non-displaced students. The study did examine demographic information of displaced students; however, dropout data did not incorporate the demographic data. The study noted that tracking enrollment information on students who left the state was not always possible (Ward et al., 2008). The previous studies help determine a number of parameters for future work.

Application of Previous Findings

When investigating the relationship, if any, between disasters and increased dropout rates in schools, demographics are essential. Disasters disproportionately impact at-risk populations (Benevolenza & DeRigne, 2019; Eisenman, Cordasco, Asch, Golden, & Glik, 2007; Mileti, 1999; Zakour & Harrell, 2003; Baez et al., 2010). Students that are a part of ethnic minority groups, special education students, and economically disadvantaged students are part of these at-risk populations. Consequently, these student groups may experience higher dropout rates. These groups should be included in any data analysis. Dropout rates in of themselves may not give an accurate picture of the impact of a disaster on a student's decision to leave school. Comparing dropout rates to graduation rates provides the potential for a better view of the event's repercussions. Previous studies have focused on large scale singular events. There is no information on the impact of smaller, more localized events on dropout or graduation rates. Finally, the increased mobility generated by many disasters introduces an element of uncertainty. Until a mechanism exists to track students between state educational agencies, it may not be possible to accurately account for students displaced by a disaster that relocate to another state and disappear from the educational system.

Where previous studies focused on the impact of single events, this study examines an eight-year period that encompasses various types and sized events in a large geographic area. The Caribbean Hurricane study examined multiple events over time as well; however, it used test scores as a measure, not drop out and graduation rates. By using dropout and graduation data to measure the effect of disasters on student performance and the educational process, the objective is to capture information on students negatively impacted by a disaster that left school and did not participate in testing. Where previous studies that used dropout data only included overall rates, incorporating data for various subgroups of students including ethnic minorities, economically

disadvantaged, and other populations with an increased risk for dropout demonstrates the level at which these populations are disproportionately affected by disasters.

CHAPTER III

METHODOLOGY

Abstract

The hypotheses focuses on the relationship between disaster events and a change in high school dropout and graduation rates. All of the data used is collected by state and federal agencies and publicly available. Data analyses consisted of an Independent Samples T-test using IBM SPSS software. The advantages and limitations inherent in using this data are explained as well.

Hypotheses

There are numerous elements associated with increased dropout rates. Disasters can generate many of these elements, such as elevated levels of residential mobility and financial hardships, increasing high school dropout rates, and reducing graduation rates (Pfefferbaum et al., 2016; Winters, 2005). Previous research indicates that disasters may negatively impact a student's ability to complete school and graduate with a diploma. Not all research consistently supports this finding. Previous research fails to incorporate data on at-risk subgroups of students.

Consequently, the following hypotheses are presented:

A declared disaster in a county will be associated with increased annual and four-year dropout rates in student demographic groups for high schools located in the affected county.

§

A declared disaster event in a county will be associated with a decrease in four-year completion rates in student demographic groups for high schools located in the affected county.

Research Objectives

Based on the proposed hypotheses, the study presents the following questions related to the impact of disasters on students leaving school prior to Graduation:

1. Do counties affected by a declared disaster experience a statistically significant increase in overall annual dropout rates compared to non-affected counties?
2. Do counties affected by a declared disaster experience a statistically significant decrease in overall four-year Graduation and an increase in overall four-year Dropout rates compared to non-affected counties?
3. Do vulnerable/at-risk populations in declared disaster-affected counties experience a statistically significant increase in annual dropout rates compared to non-affected counties?
4. Do vulnerable/at-risk populations in declared disaster-affected counties experience a statistically significant decrease in four-year Graduation and increase in four-year Dropout rates compared to non-affected counties?
5. Do declared disaster events produce dissimilar resulting impacts on dropout and graduation rates based on the size, type, or timing of the event?

Data Sources

Education Data

This study incorporates data from the Texas Education Agency (TEA) for the academic years 2010-2011 through 2017-2018. Texas school graduation and dropout rates are comparable

to the national average. Their dropout rates are slightly higher but then so are their graduation rates (NCES, 2019). Along with the reported annual dropout rates for each academic year, the study uses Grade 9 four-year longitudinal graduation and dropout rates. Annual dropout rates are computed by dividing the number of reported students who dropped out in the school year by the total number of enrolled students, multiplied by 100.

$$\text{annual dropout rate} = \frac{\text{number of students who dropped out during the school year}}{\text{number of students enrolled during the school year}} \times 100$$

Figure# 1 ("Texas Education Agency," n.d.)

Graduation rate data is only available using four-year longitudinal graduation rates. The rate is based on the number of 9th graders who graduate within four years of starting the 9th grade. The rate is the number of graduates divided by the total number of students in the class, multiplied by 100.

$$\text{longitudinal graduation rate} = \frac{\text{graduates}}{\text{graduates} + \text{continuers} + \text{TxCHSE recipients} + \text{dropouts}} \times 100$$

Figure# 2 ("Texas Education Agency," n.d.)

The four-year longitudinal dropout rate is the percentage of students from the same class who leave school before finishing high school. The rate is computed similarly by dividing the number of dropouts by the total number of students in the class and multiplied by 100.

In 2017 the term General Educational Development Certificate (GED) was replaced with Texas Certificate of High School Equivalency (TxCHSE).

Annual dropout data uses data from a single year. These rates lend themselves to comparison with other schools throughout the state. Annual dropout rates are generally lower

than other methods and may not provide the most accurate picture. Individual student records provide the four-year graduation rates information and follow that student over a four-year period. Four-year data provides a more detailed data picture; however, this collection method is more susceptible to collection errors. By using both techniques, the intent is to maximize each method's benefits and limit each method's inherent disadvantages.

In 2003 the state of Texas passed legislation that required dropout rates be computed using the definition used by the National Center for Education Statistics (NCES). That legislation went into effect for the 2005-2006 school year. This change in collection strategy precludes comparing data collected from 2005-2006 and on to previous years. Hurricane Katrina struck in August of 2005 at the beginning of the school year. The change in data collection paired with Hurricane Katrina's magnitude makes the 2005-2006 school year unsuitable for this study. One benefit of the research conducted on Katrina is demonstrating the massive disruption the storm caused at all levels of the impacted and surrounding communities. For some schools, this resulted in changes to student populations, demographics, staffing levels, and budgets. Since four-year longitudinal graduation and dropout rates are used in this study, a four-year separation from Katrina is beneficial to allow for the schools affected either directly or indirectly to stabilize. A 2005-2006 freshman would be reasonably expected to graduate in 2008-2009. There were no major disaster or emergency declarations in the 2009-2010 academic year. The 2010-2011 academic year serves as the beginning of the study data set. 2017-2018 is the available last year of data available from TEA. This method allows four complete cohorts to progress from the 9th through 12th grades over the study period.

All data sets represent county-level information to coincide with county-level disaster declarations. Texas has 254 counties; however, only 252 appear in the TEA data. With a population of less than 500, Kenedy County has one elementary school and no secondary schools. Secondary school students require transportation to neighboring Kleberg County. With a

population of less than 150, Loving County has no schools of its own and transports its students to Winkler County. No specific or identifiable student information is used. No information that identifies a particular school site is used. All data is publicly available from TEA ("Texas Education Agency," n.d.). The study is not considered human subjects research.

Disaster Data

The Federal Emergency Management Agency (FEMA) provides the source for disaster-related data. Designated disaster areas are assigned at the county level by FEMA. The study only uses major disaster declarations and emergency declarations that designated affected areas, either individual assistance or category "A" public assistance. Disaster events are grouped by the academic calendar year. To be included in an academic year, a disaster event must have occurred between June 1st of one year and May 31st of the following year. For example, Hurricane Harvey occurred between August 23rd and September 15th of 2017. This event would fall into the 2017-2018 school year since it occurred after June 1st, 2017, and before May 30th, 2018.

While there are no set dates for the entire state, Texas's school year generally runs from mid to late August to approximately the first week of June. The disaster dates range is based on the academic calendar with attention focused on start dates and graduation dates. An event that occurs after school is out for the year has no potential educational impact on a student who has just graduated. An event that occurs in June, July, or early August before the start of the new school year possess the potential to affect a student as they prepare for the new academic year. Of the eight years studied, three are unsuitable for analysis. The academic year 2012-2013 had a single major disaster declaration involving an explosion at a fertilizer company in McLennan County. The only county affected that year provides an insufficient sample size for analysis.

The following year 2013-2014, experienced a single Major disaster declaration as well. In this case, severe storms and flooding affected the counties of Caldwell, Freestone, Hays, and

Travis. Again a sufficiently large sample size was not available. The academic year 2016-2017 experienced no declared major disasters or emergencies from FEMA.

In the 2010-2011 tropical storm, Alex, which became Hurricane Alex, impacted 35 counties. Since the tropical storm was an emergency declaration (24 counties) and the hurricane a major disaster declaration (20 counties), and not all counties were involved in both declarations, analysis for that year consists of treating this as two separate events.

2015-2016 experienced five separate major disaster declarations. All the declarations were the result of severe storms, flooding, and several with tornados. A total of 102 counties were affected by the five events. Thirty-four counties experienced two or more events, with Walker County impacted by four of the five events, the most of any county in a single year for the study. Analyses of this year involve treating each event separately.

The remaining three years suffered a single major disaster declaration in each year. The events were of varying size and intensity, the worst being Hurricane Harvey in the 2017-2018 academic year. Over the eight-year study period, there were 338 county-level major disaster or emergency declarations, with 101 counties affected two or more times and 68 unaffected by any event. Caldwell County suffered the effects of a disaster or emergency declaration five of the eight years, while Walker County, in part due to the 2015-2016 year, absorbed the impact of 8 events over the studied period.

Data Analyses

Data is analyzed using IBM SPSS Statistics software version 26. Analyses consist of an Independent Samples 1-tailed T-Test of each of the five identified study years. To achieve a 1-tailed T-test result, the Sig. (2-tailed) probability value (p-value) generated by SPSS is divided in half. The confidence interval is set to 90% to ensure that the entire 5% of the alpha equals .05 into each tail of the test. The result provides a 95% confidence interval range for the 1-tailed test. The

test variable is the dropout or graduation rate for the overall data and for each sub-group available for that year. The grouping variable is 0 for counties that did not experience a major disaster or emergency declaration and 1 for counties that experienced a major disaster or emergency declaration that year.

The premise for annual and four-year dropout data is: the mean dropout rate for those counties that experienced a declared disaster will be greater than the mean dropout rate for counties unaffected by a declared disaster event during the same academic year.

Graduation rates require a different approach: the mean graduation rate for those counties that experienced a declared disaster event will be less than the mean graduation rate for counties unaffected by a declared disaster event during the same academic year.

The 2010-2011 academic year contains annual dropout data for 21 groups of students: special education, overage, migrant, English learner (EL), immigrant, gifted and talented, economically disadvantaged, career and technical, Title I annual, bilingual, or English as a second language (ESL), at-risk, multiracial, Pacific Islander, White, American Indian, Hispanic, Asian, African American, female, male and the all students annual dropout rate. In 2015-2016 homeless status is added to the data. In 2016-2017 the categories not economically disadvantaged, foster care, and military-connected were added to the data. In 2017-2018 dyslexia is included in annual dropout data.

The 2011 four-year longitudinal graduation data contain data for the following groups: all students, African American, Asian, Hispanic, American Indian, White, Pacific Islander, Multiracial, economically disadvantaged, female, male, at risk, bilingual or English as a second language (ESL), career and technical education, gifted and talented, immigrant, limited English proficient (LEP), migrant, special education and Title I. In 2012 limited English proficient (LEP) was changed to English language learner (ELL), and the group was divided into 9-12 ELL and

last year ELL. 2016 added homeless in grades 9-12. In 2017 TEA introduced categories for not economically disadvantaged, foster care in Grades 9-12, foster care in last year, and military-connected. Dyslexia was added in 2018 as a category. Analyses for the four-year longitudinal graduation data is limited to the Graduation and four-year dropout rates.

The data provided by TEA may contain a dash (-) or a dot (.) in place of a numerical value. A dash (-) is indicative of omitted data to protect student information. A dot (.) indicates either no students or an error in computing the rate. A dash or dot is treated as missing data and is not incorporated into the results.

Texas functions as a suitable environment for the study for several reasons. The location of the state along the gulf coast results in frequent disaster level weather events. The broad geographic area (268,820 square miles) means that no single event affected all counties for the study period. This allows for the comparison of affected and unaffected areas. Texas schools fall close to the national average for graduation and dropout rates. For example, in 2019, Texas Graduation rates were 90%, 5% higher than the national average of 85%. In the same year, the US had a national dropout rate of 6%, while Texas was 7.1% (NCES, 2019). Finally, the Texas Education Agency makes its data readily available and provides it in a consistent format.

CHAPTER IV

FINDINGS

Abstract

Analyses of the data demonstrated significant results in all events. The number of results depended on several factors, including the event's size, type, and timing. One particular event demonstrated a positive impact on all significant results for dropout and graduation rates. This positive impact occurred in isolated categories of students on two other occasions.

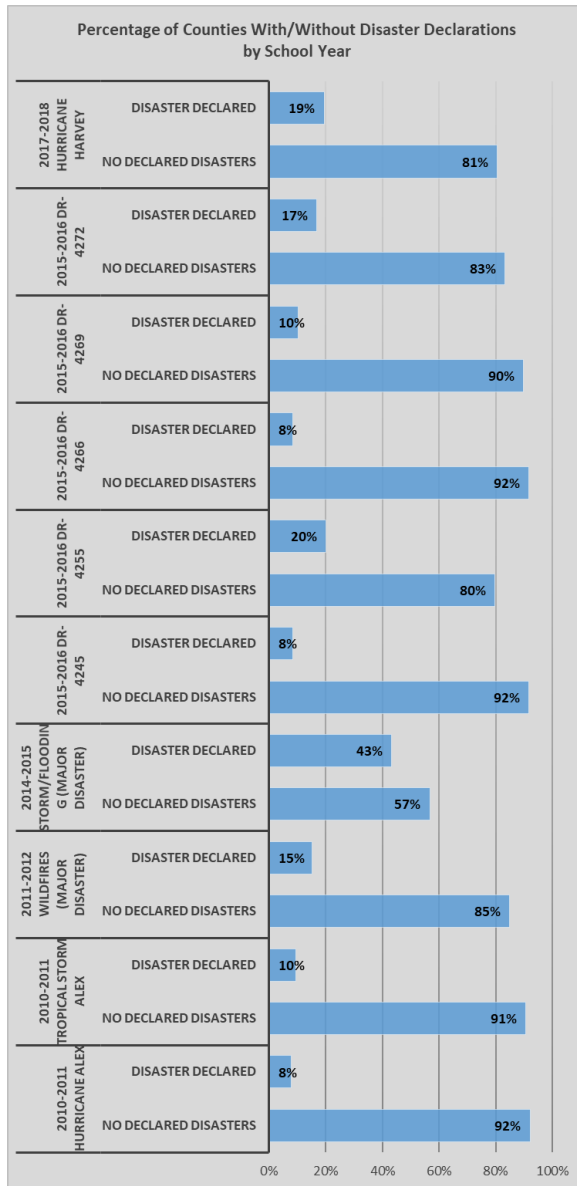
Data Introduction

The findings of the data analysis are presented here. Summary tables are used to illustrate the findings. A complete set of data results appears in the appendix. Data is presented by the academic school year. Each year's summary information consists of the number and percentage of significant results to non-significant results for annual dropout rates and the four-year Graduation and dropout rates. A second summary table displays a comparative means for student categories that demonstrated a significant difference between disasters designated counties and non-disaster designated counties for the annual dropout rates and the four-year Graduation and dropout rates.

If more than one event occurred in the academic year, summary tables for the number and percentage of significant results to non-significant results appear for annual dropout rates and the four-year graduation and dropout rates of each event. Comparative means data appears similarly with data provided for individual (named) events.

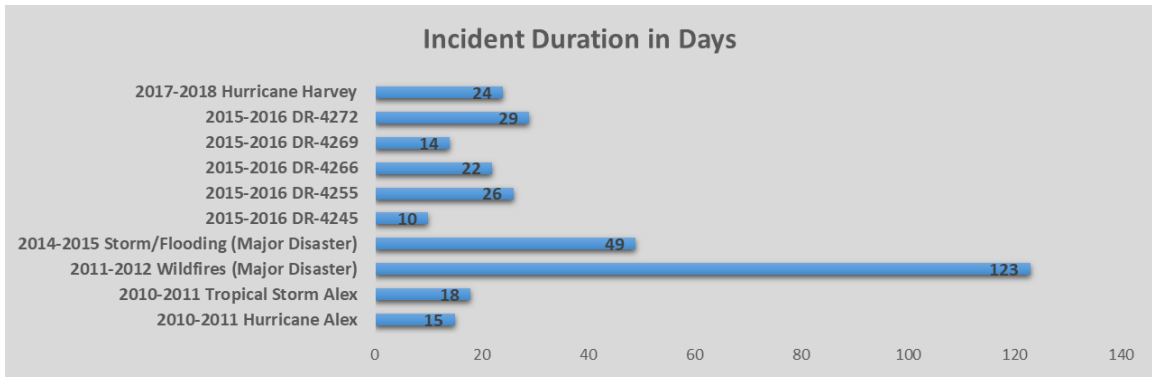
The number and percentage of counties with and without disaster declarations are presented first, along with the cost in approved assistance dollars and duration in days of each event. Counties with multiple events have information for the number of counties affected in each event. Summary data tables do not include the academic years 2012-2013, 2013-2014, and 2016-2017 as they were not part of the study.

Disaster Data



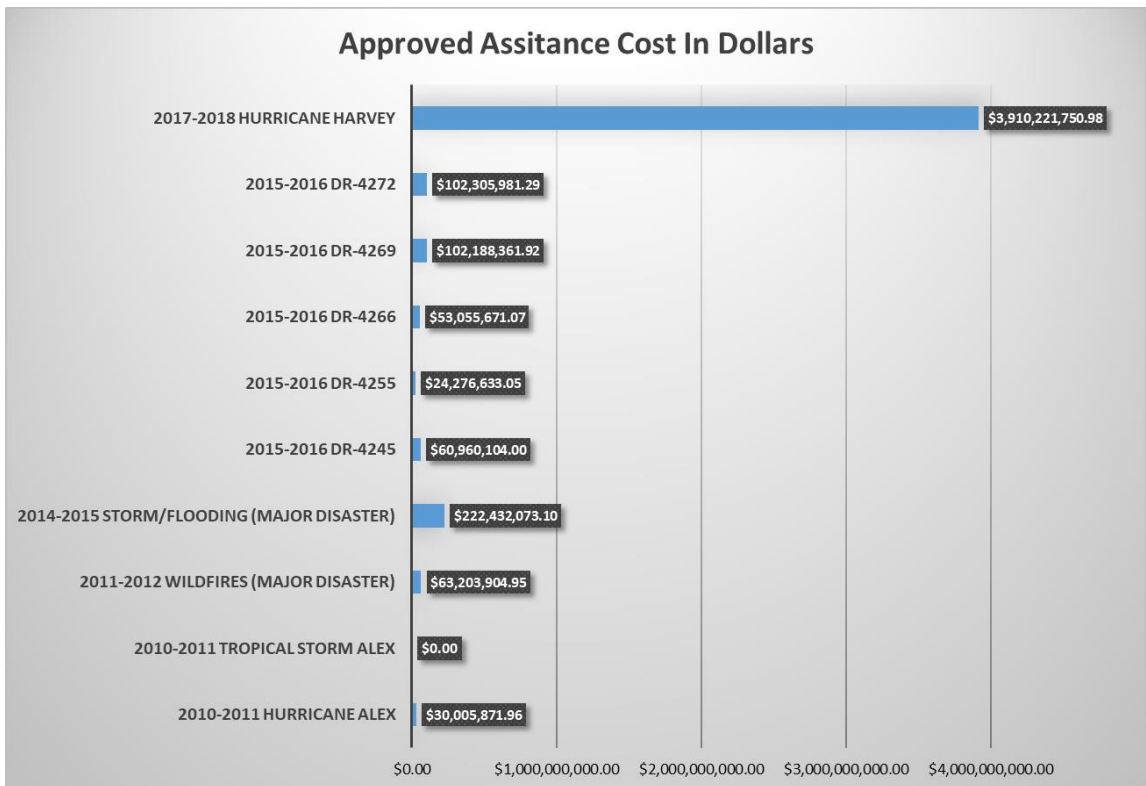
Table# 1

The event's size, based on the number of affected counties, ranged from approximately 8% to almost 50%. One of the advantages of using Texas for the study is the variety and number of events that regularly impact the state. Due to its large size and position along the gulf coast Texas, unfortunately, provides frequent opportunities to study affected and unaffected counties in the same event.



Table# 2

The duration of disaster events lasted from two days to over four months for the 2011 wildfire event.



Table# 3

The average cost of a disaster event over the ten events studied was \$456,865,035.23. Hurricane Harvey skews this number significantly. Removing Harvey from the equation reduces the average to \$73,158,733.48, a difference of almost \$390 million. Tropical storm Alex was not included in the financial data as there were no assistance dollars authorized for that event. All assistance

dollars were for the Hurricane declaration, even though the storm had a more significant impact area.

Descriptions for the subcategories of students are presented as they appear. These descriptions are based on the criteria used by the TEA (Gaertner, Freya; Murphy, Daniel; Ryon, Holly; Wright, Brittany; Richard, Kallus; Whalen, Christine; Nagy, 2019)

Data Analysis

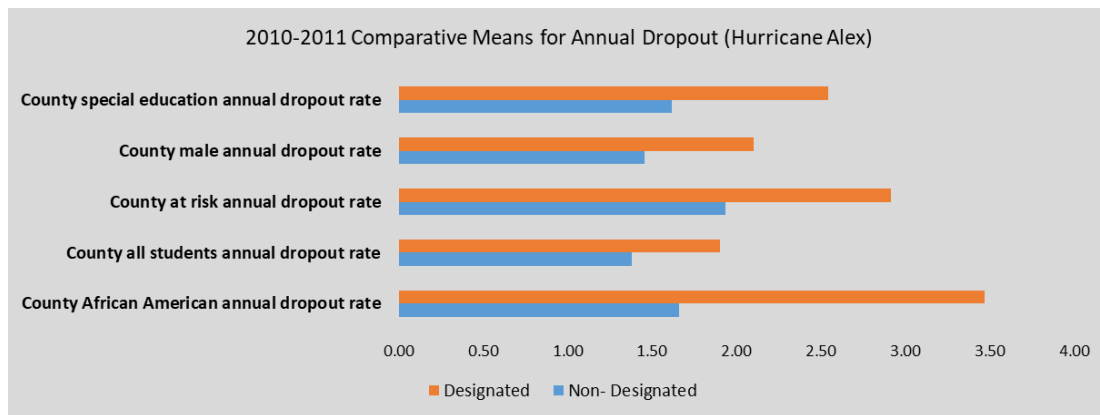
2010-2011

Annual Dropout 2010-2011 Number of Significant Results

		Count	Column N %
<i>2010-2011 Significant Result Hurricane Alex</i>	No Significant Result	16	76.2%
	Significant Result	5	23.8%
<i>2010-2011 Significant Result Tropical Storm Alex</i>	No Significant Result	7	33.3%
	Significant Result	14	66.7%

Table# 4

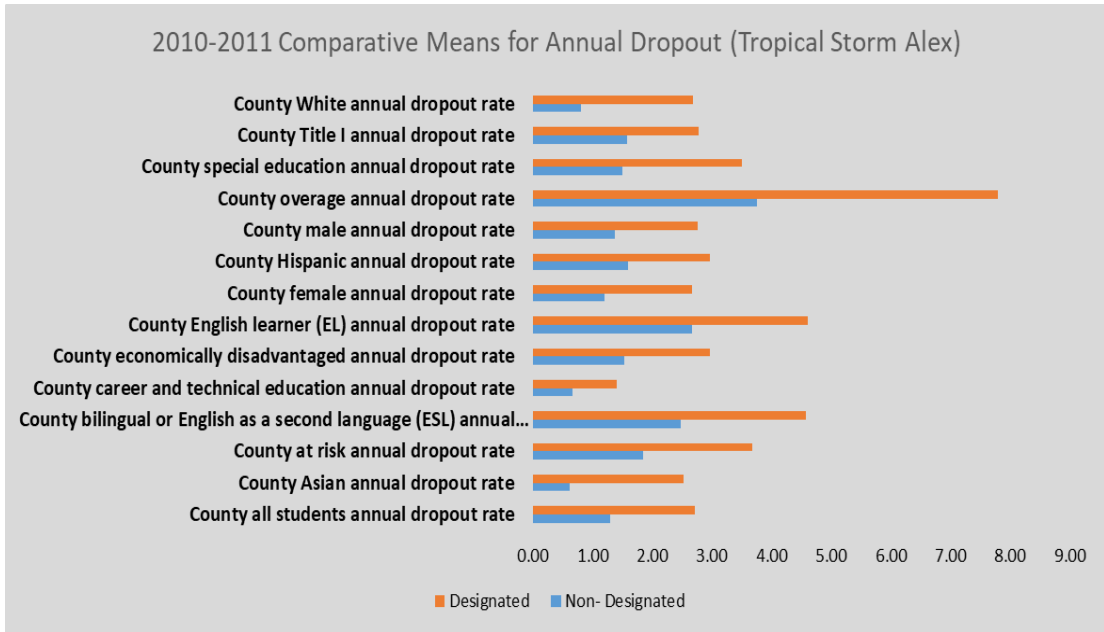
Tropical Storm Alex was upgraded to Hurricane Alex. However, there were different counties in the designated areas for each event. While there is some overlap in the affected counties, these events are treated as two separate disasters.



Table# 5

Categories of students based on ethnicity are derived from questions asking students to identify their racial group. Answers with more than one race are categorized as multiracial.

Students are only included in one racial category to prevent duplication or being counted multiple times. A special education student is identified as enrolled in a special education program or receiving special education services in addition to a general education program. At-risk students have been previously identified as having risk indicators for dropping out of school.



Table# 6

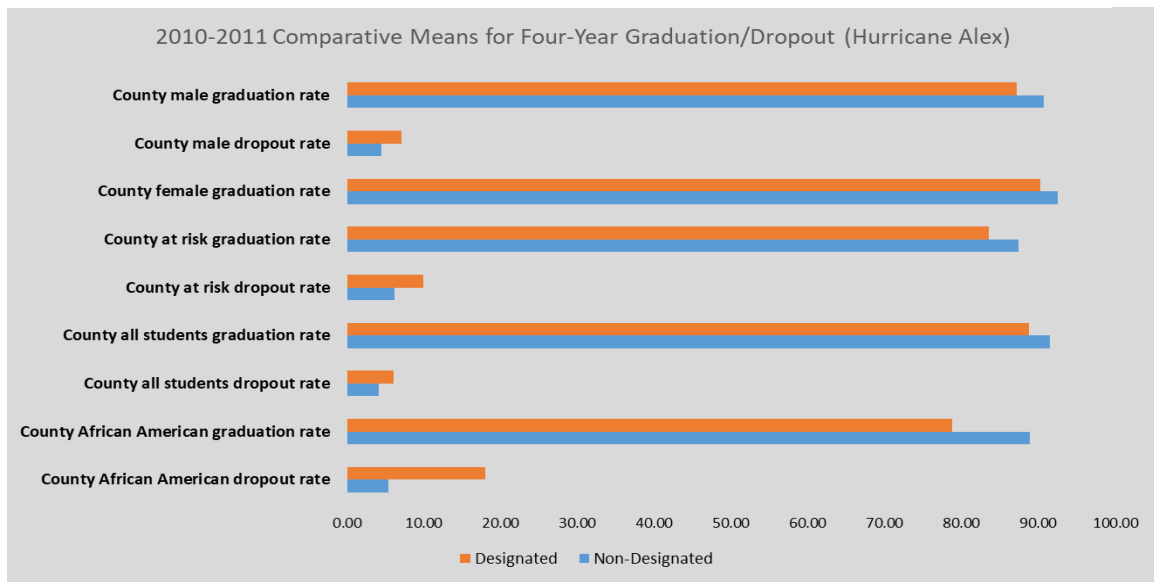
Most students enter the 1st grade at age six. The age of a typical student is their grade level plus five years. An "overage" student has an age that is greater than their grade plus five years. English learner (EL) student is identified as having limited English proficiency. Bilingual or English as a second language (ESL) students are enrolled in a dual-language instruction program. Career and technical education (CTE) students are enrolled in specific carer tech programs; this category does not include students who are taking CTE courses as an elective.

Four-Year Graduation/Dropout 2010-2011 Significant Results

		Count	Column N %
<i>2011 Significant Result Hurricane Alex</i>	No Significant Result	31	77.5%
	Significant Result	9	22.5%
<i>2011 Significant Result Tropical Storm Alex</i>	No Significant Result	19	47.5%
	Significant Result	21	52.5%

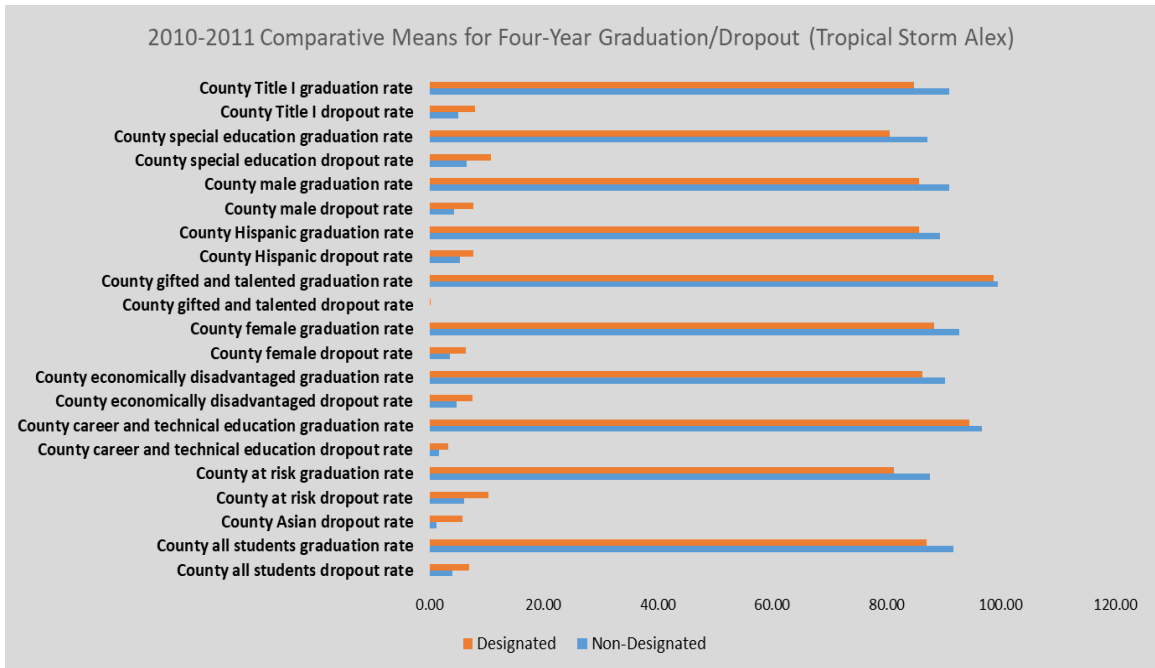
Table# 7

This table represents graduation and dropout rates from four-year longitudinal data; this accounts for the increased number of total categories of students. Subcategories of students in the four-year rates do not align precisely with the subcategories of students used in the annual rate.



Table# 8

The disparity in the scale for some groups is the difference between graduation rates and dropout rates. Graduation rates are decidedly larger than dropout rates. The study looked for an increase in dropout rates and decreased graduation rates for counties in a designated disaster region. A decreased graduation may or may not be accompanied by an increased dropout rate in any given year for a specific group.



Table# 9

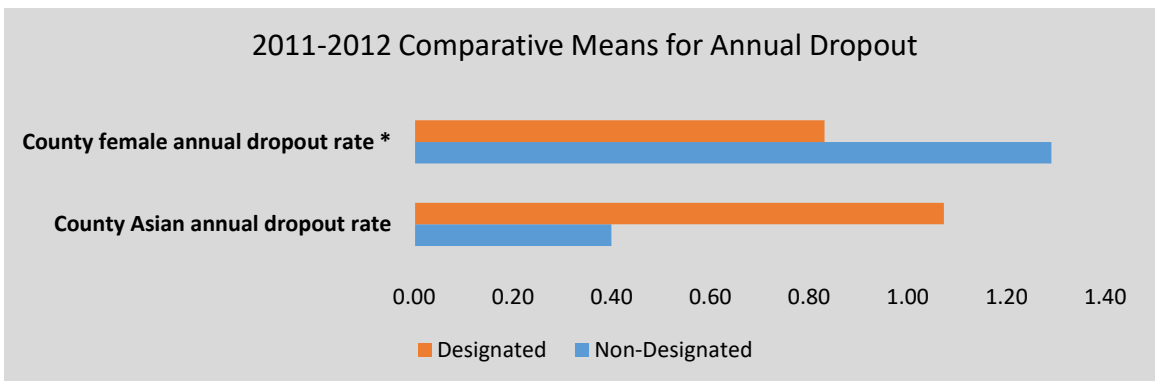
The area affected by the storm produced over twice as many significant results as the area impacted by the hurricane.

2011-2012

Annual Dropout 2011-2012 Significant Results

	Count	Column N %
<i>2011/2012 Significant Result</i>		
No Significant Result	19	90.50%
Significant Result	2*	9.50%

Table# 10



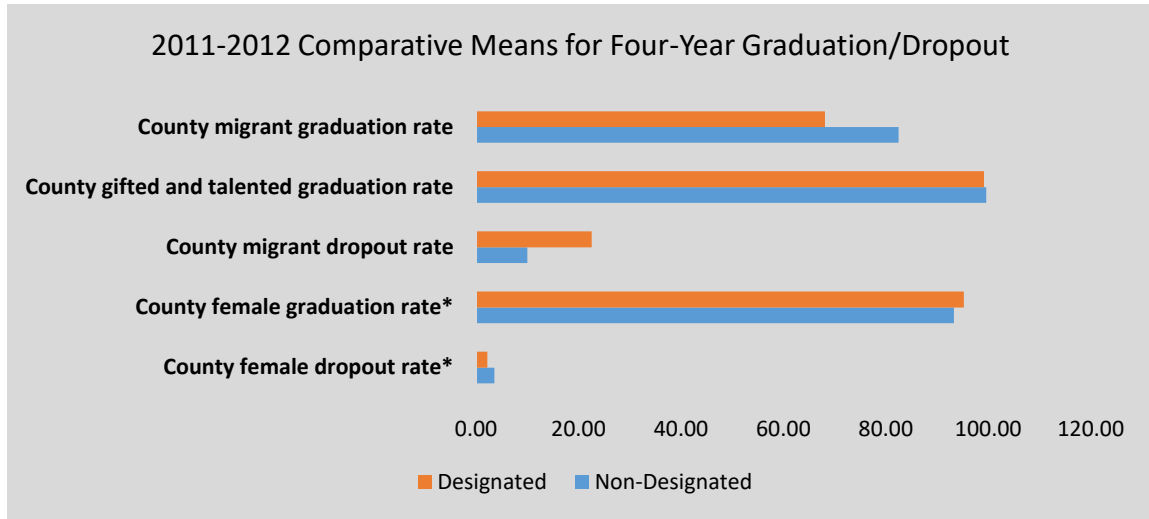
Table# 11

Categories designated with a * represent instances where a significant result failed to support the direction of the proposed hypothesis. In this case, the dropout rate for female students in a disaster designated county was significantly less than that of a non-designated disaster county.

Four-Year Graduation/Dropout 2011-2012 Significant Results

		Count	Column N %
<i>2012 Significant Result</i>	No Significant Result	37	88.10%
	Significant Result	5*	11.90%

Table# 12



Table# 13

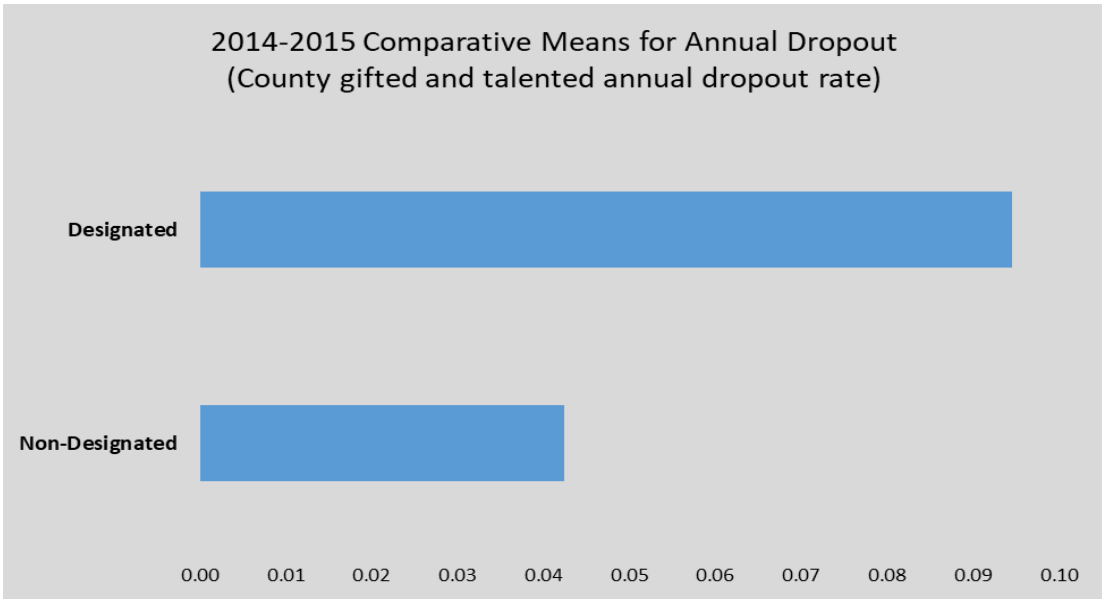
The failure to support the direction of the proposed hypothesis in the female student annual dropout rate is reproduced in the female students' four-year graduation and dropout rates.

2014-2015

Annual Dropout 2014-2015 Significant Results

		Count	Column N %
<i>2014/2015 Significant Result</i>	No Significant Result	20	95.20%
	Significant Result	1	4.80%

Table# 14



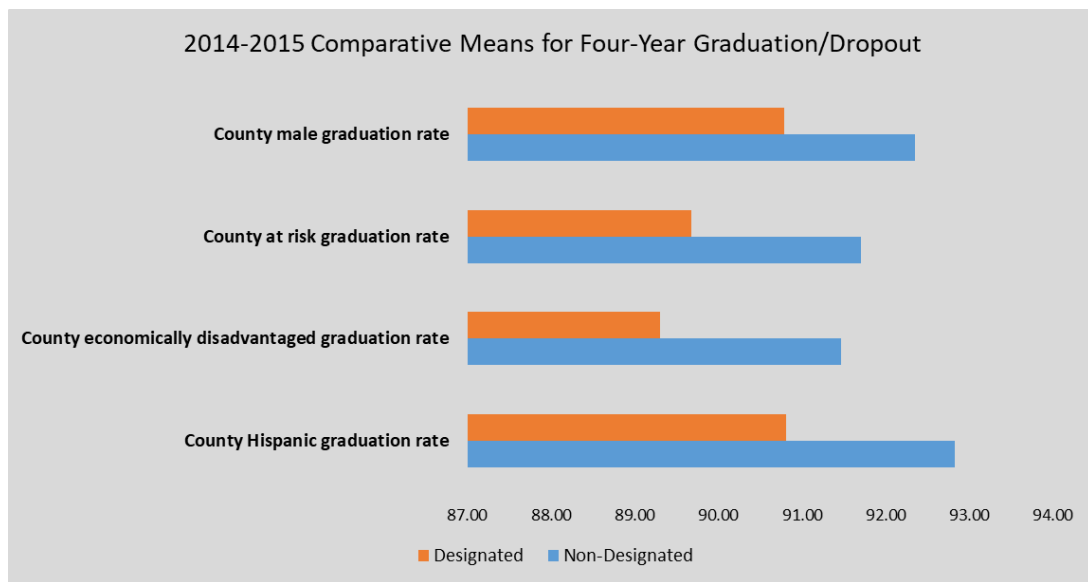
Table# 15

Gifted and talented are students typically perform at a higher academic level or demonstrate increased ability in creative or artistic accomplishments.

Four-Year Graduation/Dropout 2014-2015 Significant Results

	Count	Column N %
<i>2015 Significant Result</i>	No Significant Result	38
	Significant Result	4

Table# 16



Table# 17

A student classified as economically disadvantaged is designated as eligible for free or reduced lunch under federal guidelines.

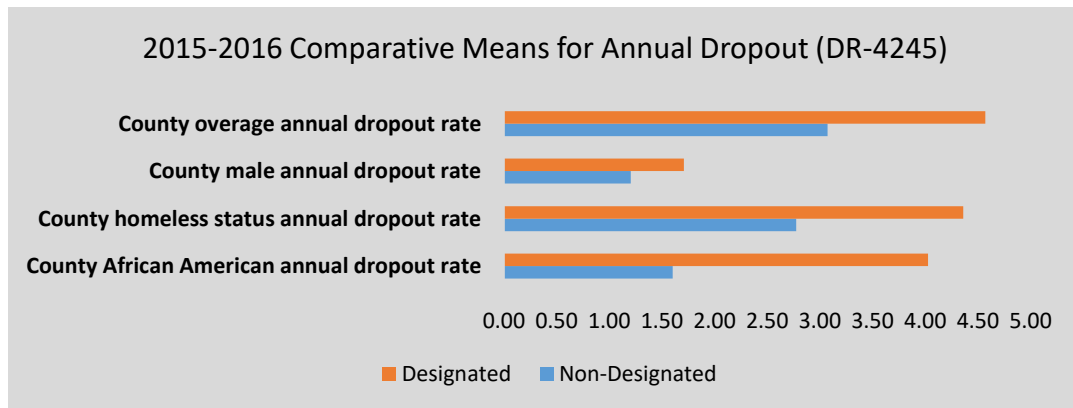
2015-2016

Annual Dropout 2015-2016 Significant Results

		Count	Column N %
<i>2015/2016 Significant Result 4245</i>	No Significant Result	18	81.82%
	Significant Result	4	18.18%
<i>2015/2016 Significant Result 4255</i>	No Significant Result	17	77.27%
	Significant Result	5*	22.73%
<i>2015/2016 Significant Result 4266</i>	No Significant Result	21	95.45%
	Significant Result	1	4.55%
<i>2015/2016 Significant Result 4269</i>	No Significant Result	21	95.45%
	Significant Result	1	4.55%

Table# 18

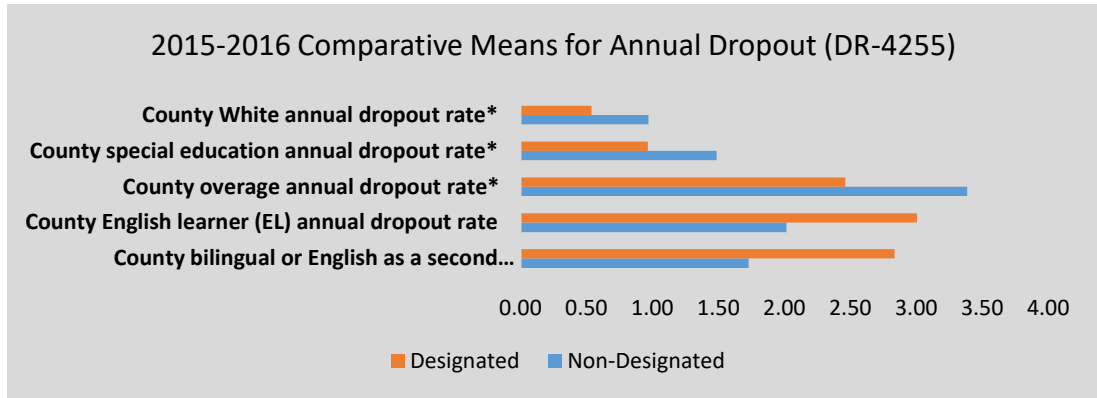
The 2015-2016 School year was the only other year to contain multiple events. There were no significant results for event DR-4272 in the annual dropout data.



Table# 19

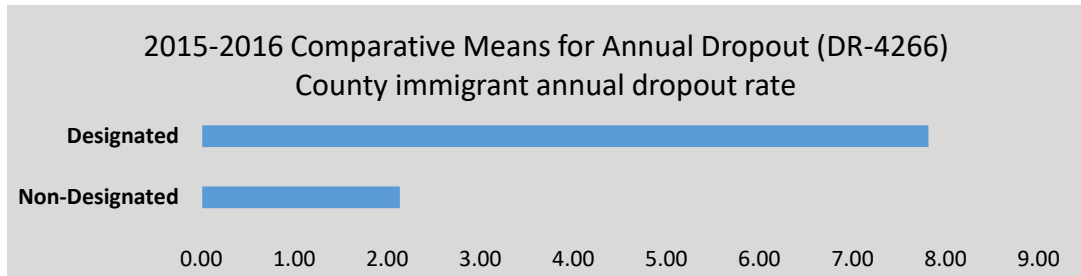
A homeless student lacks a fixed or appropriate nighttime residence. A student is classified as homeless if they experienced a lack of residence at any time during the school year. For four-year

rates, students that experienced a lack of residence at any time during the measured four years are classified as homeless.



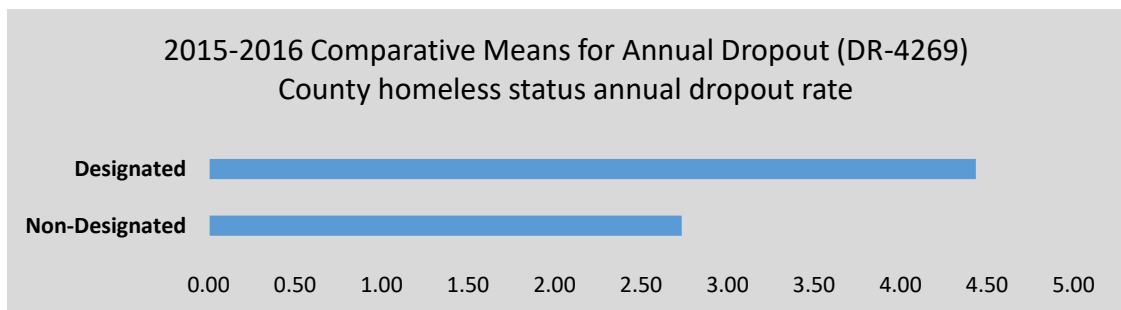
Table# 20

There are three categories in this event that displayed results that failed to support the direction of the proposed hypothesis.



Table# 21

Immigrant students are those not born in the United States (US) or a US territory and have attended school in the US for less than three years. Citizenship is not considered in this classification.



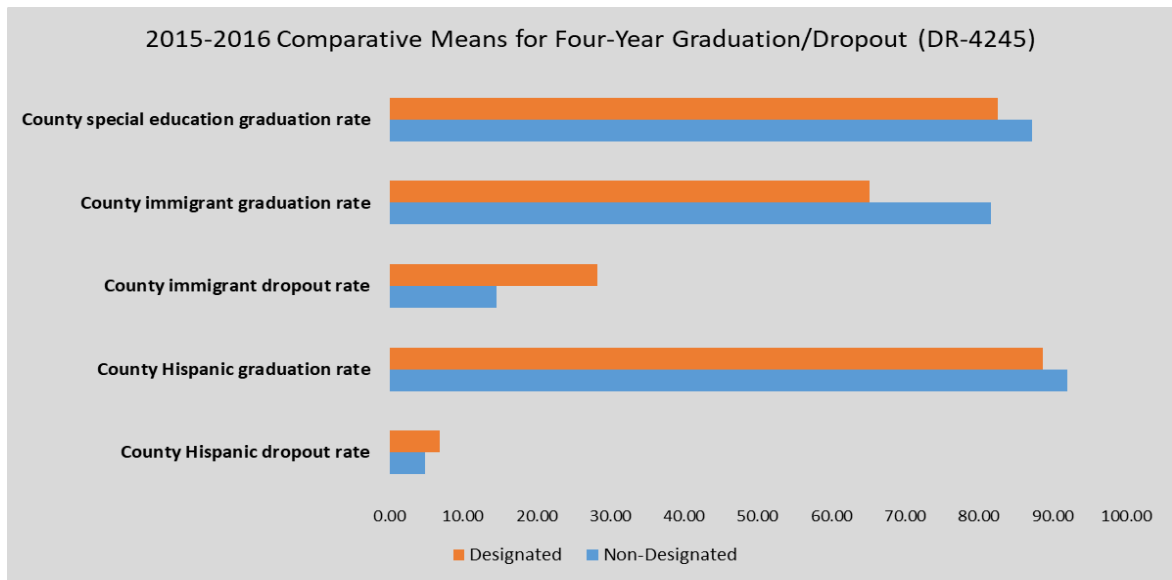
Table# 22

Four-Year Graduation/Dropout 2015-2016 Significant Results

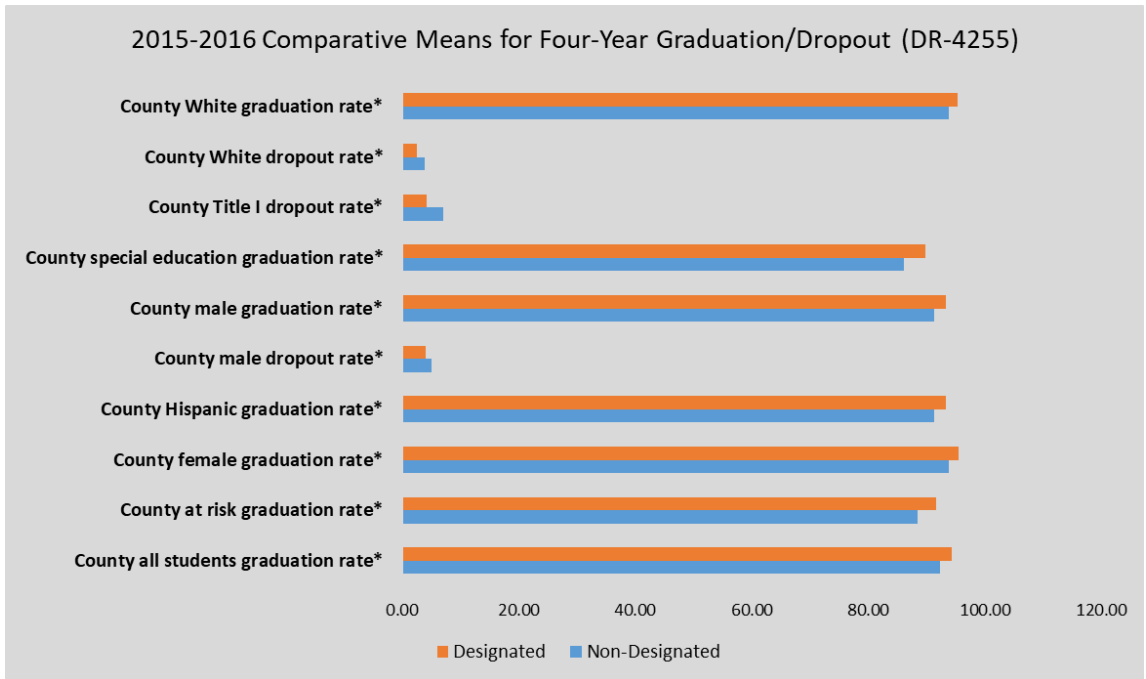
		Count	Column N %
2016 Significant Result 4245	No Significant Result	39	88.60%
	Significant Result	5	11.40%
2016 Significant Result 4255	No Significant Result	34	77.30%
	Significant Result	10*	22.70%
2016 Significant Result 4266	No Significant Result	38	86.40%
	Significant Result	6*	13.60%
2016 Significant Result 4272	No Significant Result	39	88.60%
	Significant Result	5	11.40%

Table# 23

There were no significant results for event DR-4269 in the four-year graduation and dropout results.

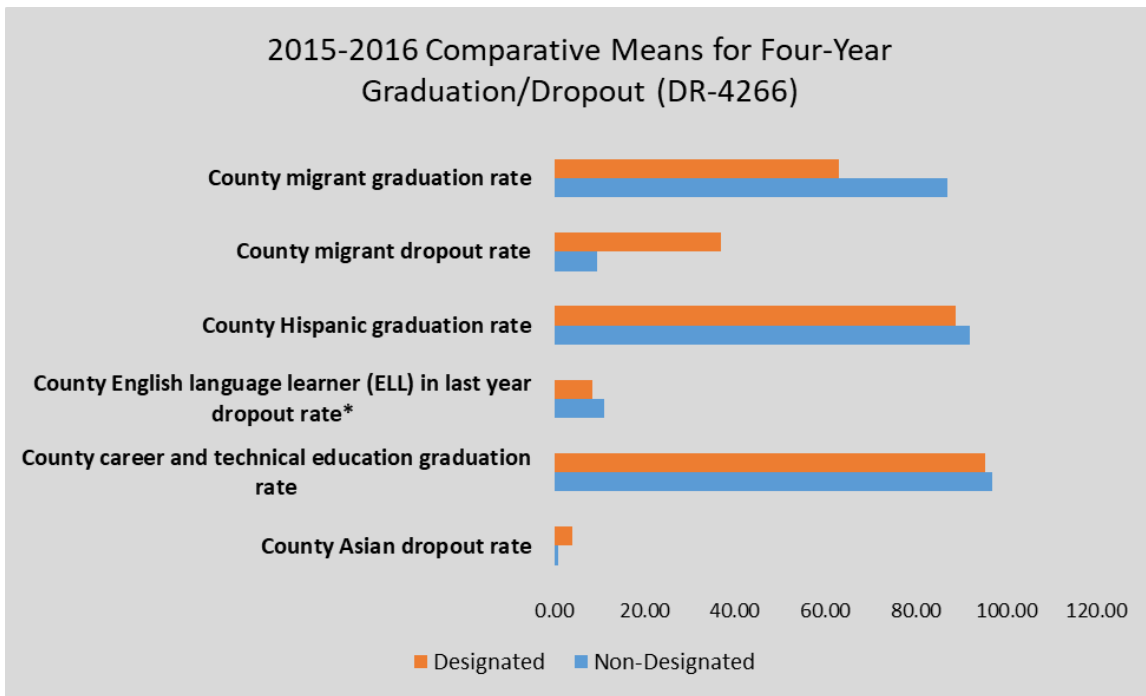


Table# 24

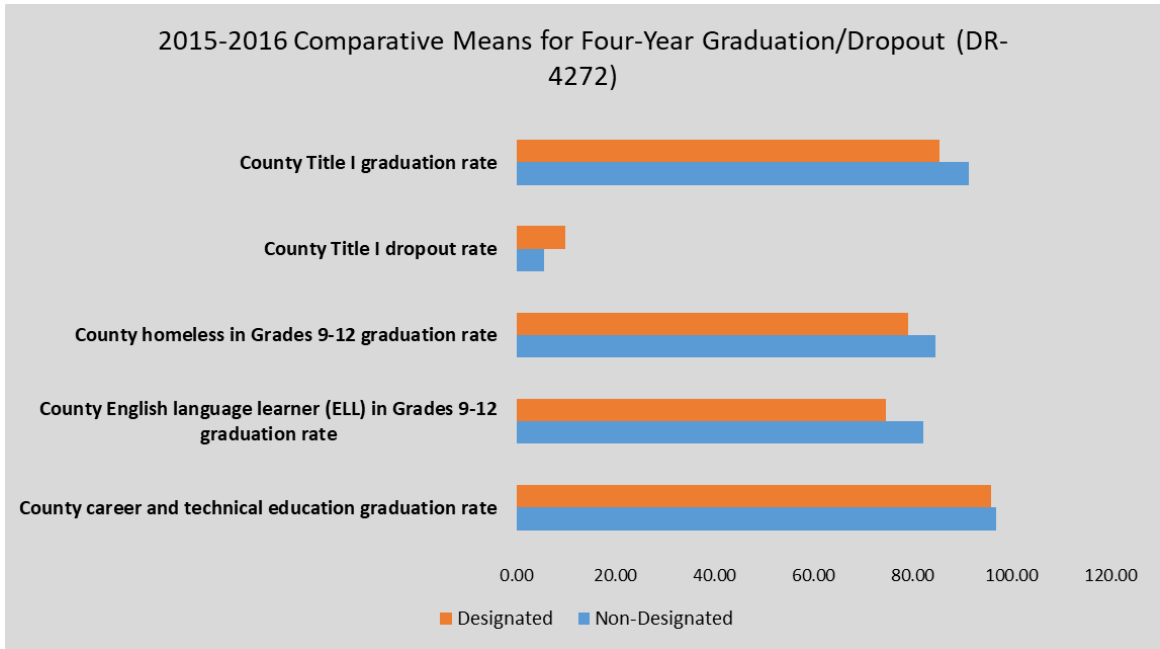


Table# 25

This particular event resulted in all significant results failing to support the direction of the proposed hypothesis.



Table# 26



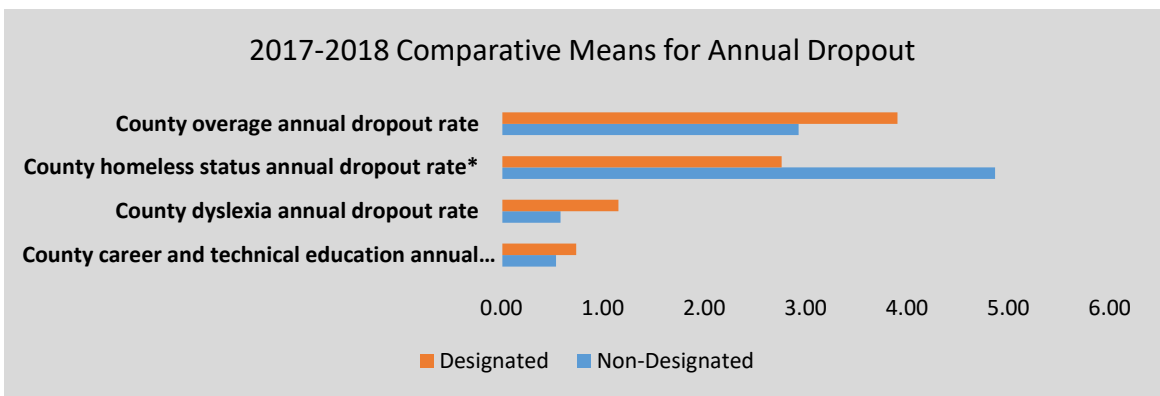
Table# 27

2017-2018

Annual Dropout 2017-2018 Significant Results

		Count	Column N %
<i>2017/2018 Significant Result</i>	No Significant Result	22	84.60%
	Significant Result	4*	15.40%

Table# 28



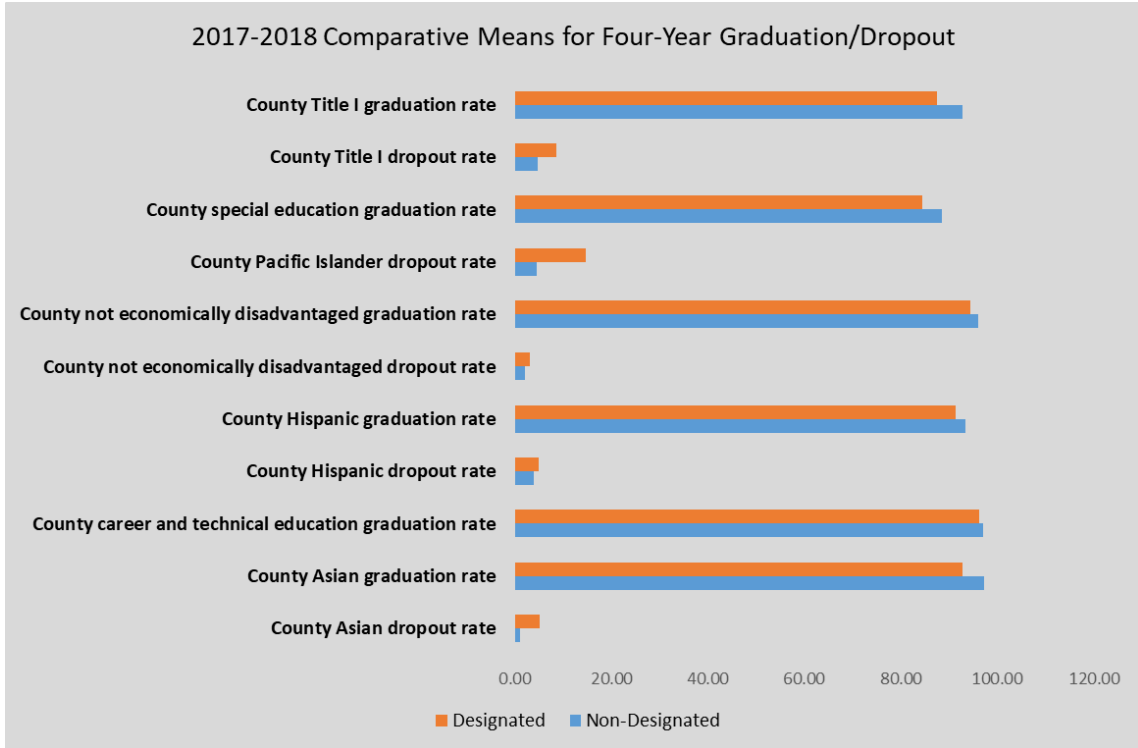
Table# 29

2017-2018 is the first year dyslexia appears as a student subgroup. Students in this category are classified as dyslexic based on state testing and screening administered in kindergarten.

Four-Year Graduation/Dropout 2017-2018 Significant Results

		Count	Column N %
2018 Significant Result	No Significant Result	43	79.60%
	Significant Result	11	20.40%

Table# 30



Table# 31

TEA does not define a Not Economically Disadvantaged student. It is presumed to be students who do not qualify for free or reduced lunches based on federal criteria. 2017-2018 is the first year this category appears in the data.

Results

As proposed in the research objectives, the results of the data analysis are presented in this section.

Question #1- Do counties affected by a declared disaster experience a statistically significant increase in overall annual dropout rates compared to non-affected counties?

In all years studied that had declared Major Disasters or Emergency Declaration, there were increases in annual dropout rates for at least one subcategory of student populations. Only the 2010-2011 academic year saw a rise in the overall annual student dropout rates. This increase occurred in the counties affected by both the Hurricane Alex and Tropical storm Alex events. The mean dropout rate for counties unaffected by Hurricane Alex was 1.38. Of the 20 counties affected by the hurricane, seven of them, Dawson, Calhoun, Garza, Lynn, Cottle, Foard, and Motley, had a mean dropout rate below that of the unaffected counties; the remaining 13 counties account for the significant increase in dropout rates. For the counties not affected by Tropical storm Alex, the mean dropout rate was 1.29. The storm affected 24 counties. Two of the tropical storm-affected counties, Wilson and McMullen, evidenced dropout rates below that of the unaffected counties. Even though most counties impacted by these two events experienced an increase in their overall dropout rates, some counties managed to mitigate the effect of the disaster events on their students and maintain a dropout rate lower than that of counties unaffected by the disaster events.

The answer to this question is that in one academic year, two events appear to have precipitated a statistically significant increase in the overall dropout rate for the counties impacted by a Major Disaster or Emergency Declaration. The annual dropout rate for all students is the least sensitive measurement of dropouts. Since it encompasses all students regardless of any risk factors, students with pre-existing at-risk indicators may get lost in the overall student population. For an event to impact a county significantly enough to increase the overall student dropout rate appears to be unusual in that it only happened in one studied year. While there are technically two events being looked at, they occurred in overlapping time and counties. This overlap may account for the increased negative effect experienced by the designated counties on their annual dropout rates.

Question #2- Do counties affected by a declared disaster experience a statistically significant decrease in overall four-year Graduation and an increase in overall four-year Dropout rates compared to non-affected counties?

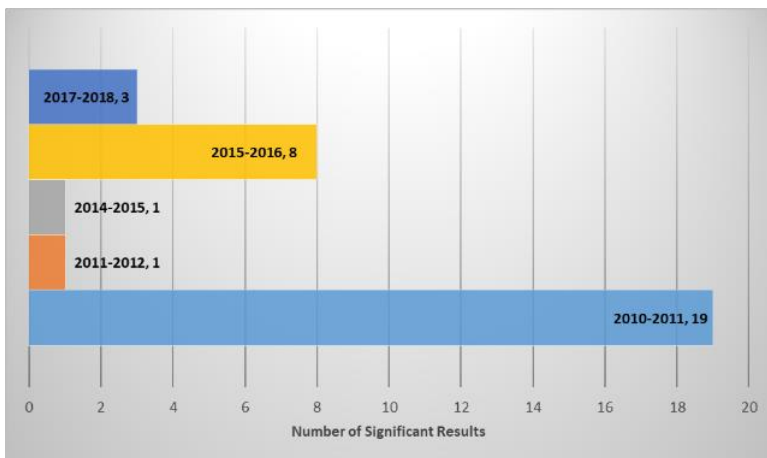
There were significant decreases in four-year graduation rates and/or increases in four-year dropout rates in at least one subcategory of students in all but one of the studied years with a Major Disaster or Emergency Declaration. Like the annual rates, significant results in the overall rates only occurred in a single academic year, 2011-2012. Tropical Storm Alex and Hurricane Alex's impacts on the annual dropout rates are reflected to a degree in the four-year data. The mean graduation rate for counties unaffected by Hurricane Alex is 91.55. Of the 20 counties affected by the hurricane, five of them, Lampasas, Lynn, Cottle, Motley, and Foard, had higher graduation rates than the unaffected counties. Eight counties, Starr, Zapata, Lampasas, Calhoun, Lynn, Cottle, Motley, and Foard, had lower four-year dropout rates than the unaffected counties. The specific affected counties with four-year rates for Graduation and dropout comparable to or better than the unaffected counties do not align precisely with each other or with the counties in a similar position from the annual data. Only Cottle, Foard, Lynn, and Motley appear in all three data sets as having rates for dropout or Graduation better than unaffected counties.

Results for Tropical Storm Alex show four counties; Refugio, Wilson, Comal, and McMullen, with four-year graduation rates above the 91.78 rate demonstrated by the unaffected counties. Three of these counties, Wilson, Comal, and McMullen, along with Zapata county, also evidenced lower four-year dropout rates than their unaffected counterparts. Only Wilson and McMullen reflected dropout rates lower than the unaffected counties.

The answer to this second question is similar to that of the first question. Overall four-year graduation and dropout rates appear to be affected by disaster events in only one year. Tropical Storm later Hurricane Alex are the only events to initiate a change in the overall rates.

No other event in the period studied elicited this level of impact on the overall dropout and graduation rates. There is an expectation that a high graduation rate will correspond to a low dropout rate. While that does appear to be accurate in many cases, it is not necessarily a direct correlation. There is also some disparity between annual dropout rates and four-year rates for dropout and Graduation. This disparity highlights the strengths and limitations of the two methods and provides validation for using information from both data sets to examine this problem.

Question #3- Do vulnerable/at-risk populations in declared disaster-affected counties experience a statistically significant increase in annual dropout rates compared to non-affected counties?



Table# 32

There were 198 results returned over the eight-year study period.

These results reflect the mean dropout rate for various sub-groups of students in counties with Major Disaster or Emergency Declarations.

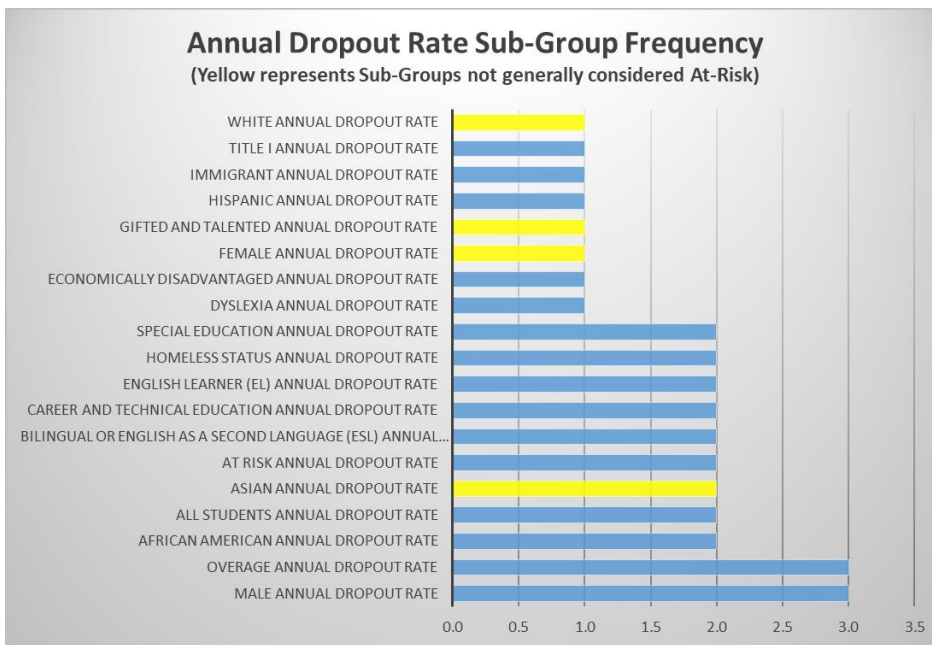
The results can be categorized into three groups. The first group are

those results with no statistically significant result; the affected counties are essentially the same as the unaffected counties. The second group are those affected counties that demonstrate a higher dropout rate that is statistically significant from the unaffected counties. The third group are affected counties that show a lower dropout rate that is statistically significant from the unaffected counties. This last group will be covered at the end of the discussion in question #5.

Of the 198 results for all the disaster-affected counties, 32 were determined to be lower than counties that did not suffer a disaster declaration. Five outcomes were higher than those in the unaffected counties. Statistically significant results represent about 1/6 of the total results.

These results represent students who have been previously identified as belonging to a sub-group within the broader population. While most of these subgroups would be considered possessing characteristics that would increase their risk of dropout, some are historically at lower dropout rates than the overall student population. Students who are ethnically Asian and White students have the lowest national dropout rates compared to other races. Female students are at a slightly lower risk for dropout than their male counterparts (Rosen, Chen, & Ingels, 2015). These groups demonstrated higher dropout rates at one point or another when disaster-affected counties are compared to non-affected counties. In 2014-2015 the only group in the affected counties to evidence an increase in dropout rates was the gifted and talented sub-group of students. This increase resulted from seven out of the 109 affected counties having dropout rates higher than the mean of the unaffected counties, with only five counties missing data in this category for the year.

Gifted and Talented is a category of students defined by high academic achievement and



Table# 33

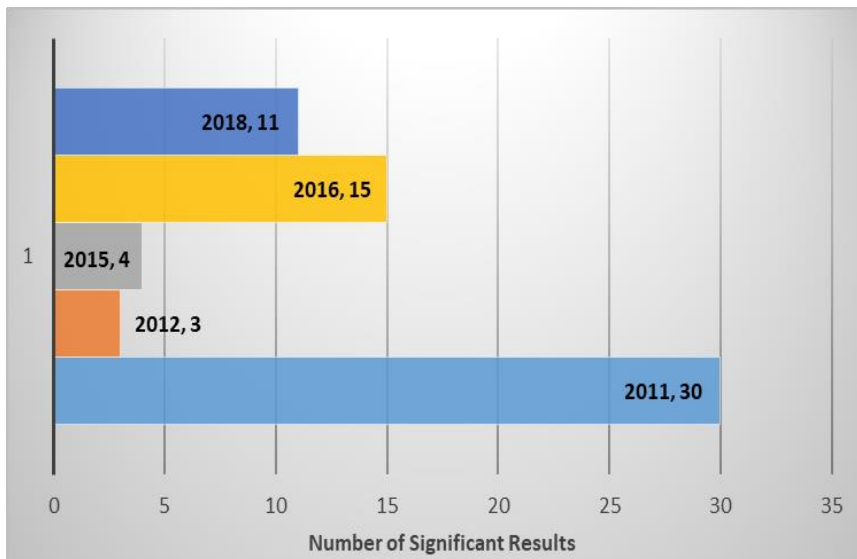
generally lower dropout rates than typical students (Matthews, 2006). In most instances, though, the groups appearing in the results are

those students considered at-risk for dropping out. No one group appeared consistently in all disaster events. Male and Overage subgroups demonstrated significant results three times over the study period. African American, At Risk, ESL, EL, Homeless, and Special Education subgroups

showed significant results twice over the study period along with the overall student dropout rate and Asian students. Dyslexic, Economically Disadvantaged, Hispanic, Immigrant, and Title I students, along with Female, Gifted & Talented, and White students had a single occurrence of a statistically significant result. The majority of the results are from the 2010-2011 and 2015-2016 events. The effect on annual dropouts in at-risk student groups appears to depend on the nature of the precipitating event. Not all events produce significant results in multiple sub-groups.

The severity of the event is inconclusive as well. Even though Hurricane Harvey in 2017 was longer in duration and more expensive than Hurricane Alex, Hurricane Harvey resulted in a smaller impact on dropout rates than Alex. While the answer to this question appears to be yes, disasters produce statistically significant increases in at-risk student dropout rates; these increases are not uniform for all events or subgroups of students and appear to be subject to other variables.

Question # 4- Do vulnerable/at-risk populations in declared disaster-affected counties experience a statistically significant decrease in four-year Graduation and an increase in four-year Dropout rates compared to non-affected counties?



Table# 34

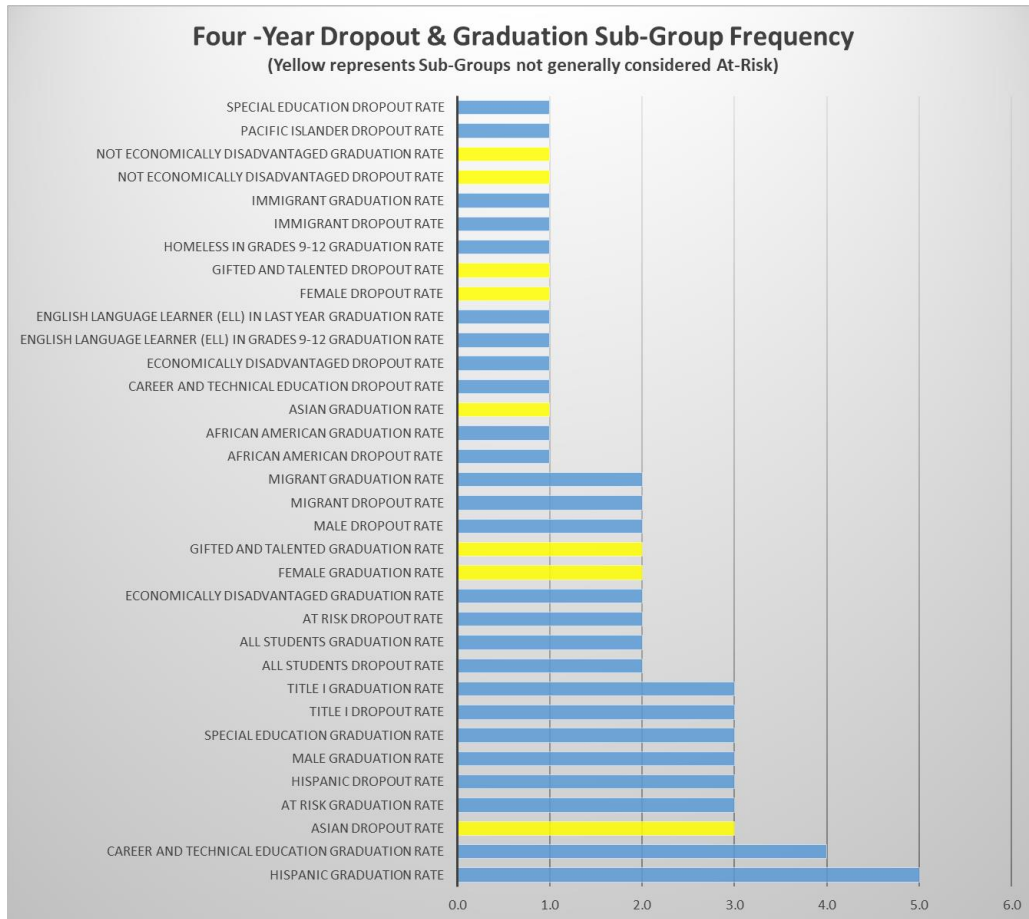
Four-year Graduation and four-year dropout rates follow a similar pattern as those demonstrated by the annual dropout rates. There were a total of 318 results in the events that occurred over the

eight years studied. Sixty-three of the results indicated a statistically significant negative impact

on four-year Graduation and dropout rates. Thirteen additional results generated a statistically significant positive impact on the four-year rates.

The events in the 2010-2011 academic year again proved to have the most significant negative impact on the four-year rates. Tropical storm Alex produced significant results in 21 categories, while Hurricane Alex produced significant results in only 9.

While most of the subcategories of students experiencing adverse effects were at-risk students in the case of Tropical Storm Alex, the Gifted and Talented category is negatively impacted in both graduation and dropout rates along with Asian dropout rates. Female and Male



Table# 35

graduation rates dropped in both events, but only Male dropout rates appeared in both events.

Female dropout rates were unaffected in the hurricane event. In 2011-2012 the migrant

graduation and dropout rates displayed a negative effect, as did the gifted and talented students.

2017-2018 saw Hurricane Harvey reduce graduations and increase dropouts among Hispanic and Title I students, along with Asian students and students classified as Not Economically Disadvantaged.

Over the study period, Hispanic graduation rates showed a statistically significant drop five times. Career Technical Education graduation rates were similarly affected four times over the study period. Asian, Hispanic, and Title I dropout rates increased three times. Graduation rates for At-Risk, Male, Special Education, and Title I were all reduced three times. The All Student and Migrant Dropout and graduation rates demonstrated significant results twice, as did the At-Risk and Male dropout rates and the Economically Disadvantaged, Female and Gifted and Talented graduation rates. African American, Immigrant, and Not Economically Disadvantaged appeared once for graduation and dropout rates. ELL and Homeless subgroups saw a negative impact on graduation rates once, as did the Female, Gifted and Talented, Homeless, and Special Education dropout rates.

As with the annual dropout rates, there does appear to be a negative impact from disasters on graduation and dropout rates, with 1/5 of the available results indicating a negative effect on the four-year rates. As with the annual dropout rates, no subgroup or groups appeared consistently in most of the events. Hispanic graduation rates appeared most frequently, producing a statistically significant drop in 1/2 of the events. The effect varies from event to event irrespective of the size and cost of the disaster.

Question #5- Do declared disaster events produce dissimilar resulting impacts on dropout and graduation rates based on the size, type, or timing of the event?

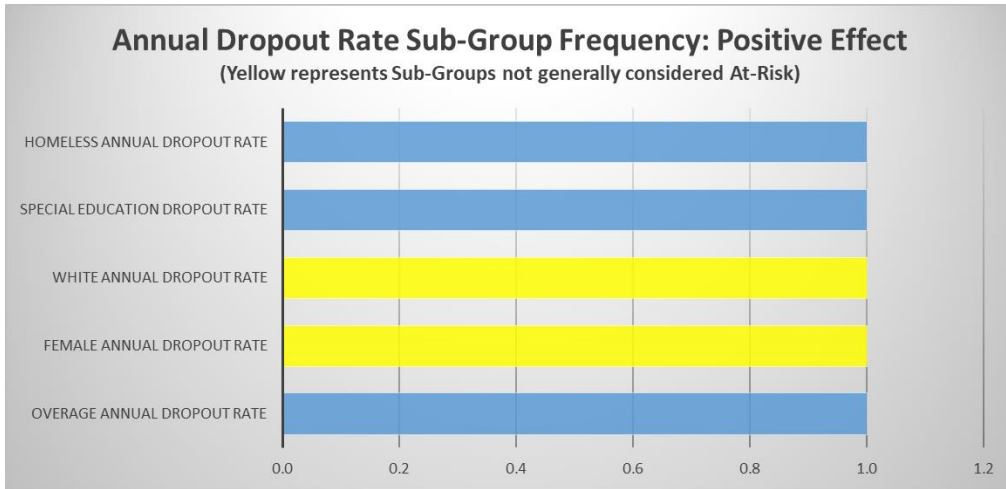
The purpose behind this question is to examine some of the variables associated with any set of naturally occurring disaster events located in a specific geographical setting and within a set time frame. Disaster size does appear to be a variable, but not necessarily the most critical

variable. Hurricane Harvey was the most extensive and most expensive of the events during the studied years. However, Tropical Storm Alex generated the most results in both the annual and four-year data. Hurricanes are notorious for producing significant damage in a relatively short amount of time. That the two events that produced the largest number of significant results are hurricanes was unsurprising, the fact that Alex was more detrimental to academic performance than Harvey is. That Tropical Storm Alex significantly impacted graduation and dropout rates more than the two hurricanes is noteworthy.

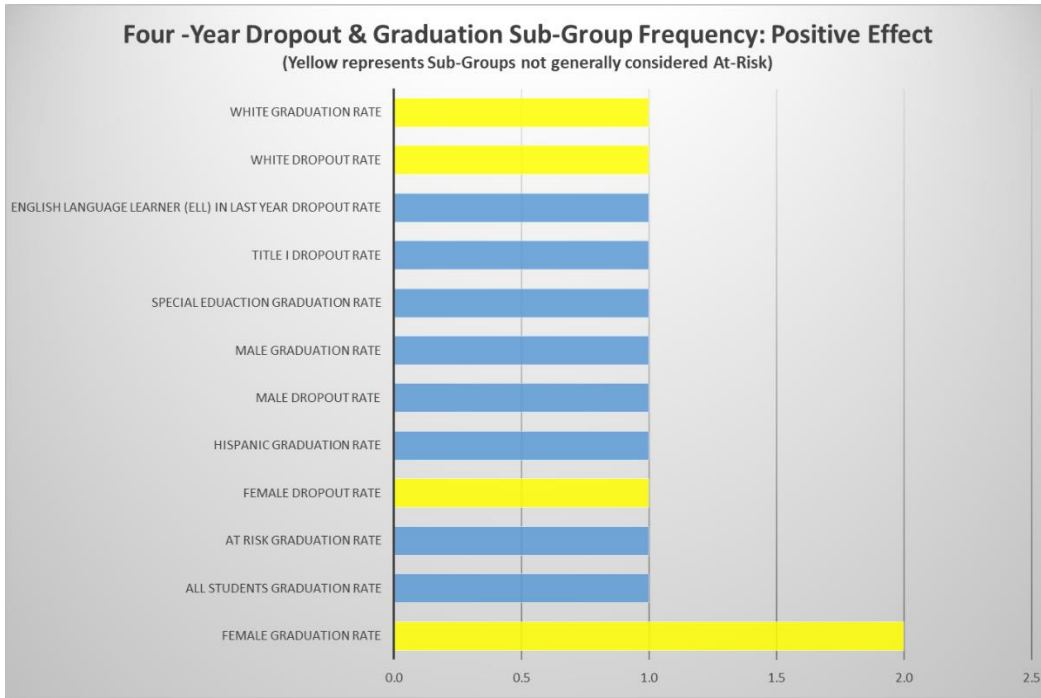
The 2011 wildfires disaster declaration had the most prolonged duration of any events yet produced some of the fewest results. While wildfires can be devastating, as an event, they do not typically involve lengthy school closures. Unplanned school closures of short duration have minimal impact on academic instruction. As previously mentioned, schools regularly plan for weather or other events to impact the school calendar. While the severe weather events all demonstrated a negative impact on annual dropout or four-year dropout and graduation rates in at least one category, schools appear to mitigate these events to a degree. However, the student groups that were negatively impacted to a significant degree were predominantly at-risk populations. This trend would then support the argument that even low impact events have a disproportionate effect on student populations at a higher risk for dropout.

There were three separate instances of disasters generating a positive result on dropout and graduation rates. The 2011-2012 Wildfires produced a positive effect in the annual female dropout rate and the four-year female graduation and dropout rates. Hurricane Harvey delivered a single positive result in the annual dropout rate for homeless students. Declared Disaster 4266, which consisted of severe storms, tornados, and flooding, produced a single positive effect in the English Language learner (ELL) in last year four-year dropout rate. One event, however, was particularly anomalous. DR-4255, named winter storm "Goliath," was an unprecedented snowfall in Texas, a state not generally known for high snowfall totals. This event produced the largest

number of significant results with a positive effect on three out of the five annual dropout results and all ten of the four-year dropout and graduation rates for that event.



Table# 36



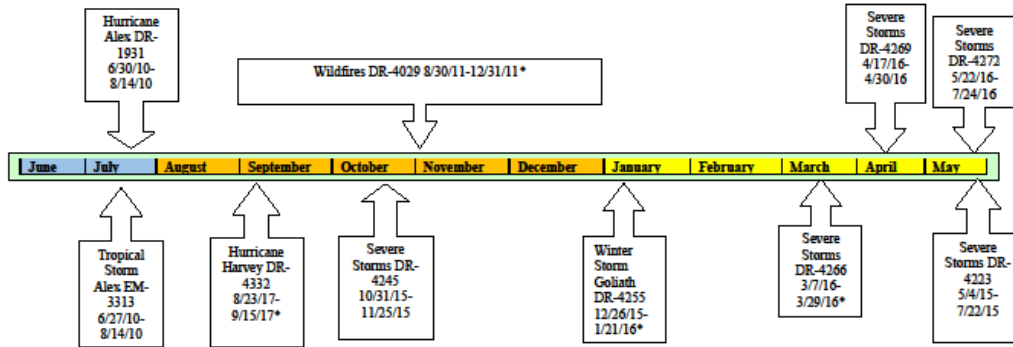
Table# 37

Academic calendars revolve around specific milestones and dates. The study on Caribbean hurricanes and academic achievement suggested that closures that occur during the school year have a more significant negative impact on student performance than events that

appear outside the school year. Timing may account for part of the positive effect on dropout and graduation rates.

Timeline

A timeline of the disasters illustrates when each event occurred in relation to the academic year.



Figure# 3

Winter Storm Goliath initially impacted the state of Texas when schools were out over their winter break. A minimal impact from a disaster over a planned break would support the information from the study on Caribbean schools (Spencer et al., 2016). A disaster having a net positive effect requires examination of other potential variables. One possibility may have to do with schools having access to federal disaster funds to recover from the storm while their students were already on a planned break. This timing minimized the academic impact on the students. Since the storm occurred over a scheduled break, it allowed schools to draw on outside resources to prepare their buildings and infrastructure for the return of students. Most disasters involve residential disruption and increased mobility. Goliath was a winter storm which tends to inhibit mobility.

While not necessarily anticipated, finding a disaster positively impacting graduation and dropout rates is exciting. At times schools have benefitted from disasters. Usually, this appears as new facilities to replace those severely damaged or destroyed by the disaster (Baez et al., 2010). Winter Storm Goliath did not have the same destructive effect as most other events, as evidenced

by the fact that it had the lowest amount of approved assistance dollars. The affected communities appeared able to overcome the negative impact of the event on many of their students and surpass their unaffected neighbors in decreasing their dropouts and increasing the graduation rates, especially in their at-risk populations. This winter storm is an area that would benefit from further study.

The answer to this question is that the size, type, and timing of an event all appear to play a role in how dropout rates and graduation rates are affected by a disaster event. A large event occurring outside the academic year or over a break may be less significant than a smaller event at a critical time in the academic year, such as just before or right as school is starting. Hurricane Harvey and Tropical Storm/Hurricane Alex pose some interesting comparisons. These events occurred at the beginning of the school year. Harvey was by all accounts a more extensive and more damaging event, yet it produced a smaller impact on dropout and graduation rates. While both events appeared to have a detrimental effect on dropout and graduation rates, there are undoubtedly other mitigating variables at work. One possibility may have to do with the seven years between the two events. Alex happened just a few years after Katrina, before the lessons of that event could be fully appreciated and applied. While the areas affected by the two storms were geographically adjacent, they contain differences in the affected areas' demographic and economic makeup.

There is sufficient data to justify support for the proposed hypothesis for dropout and graduation rates in most cases. A statistically significant result demonstrated that counties affected by a disaster had lower graduation rates and higher dropout rates than counties unaffected by a disaster declaration in the same academic year. The primary exception was in 2015 during winter storm Goliath, when counties affected by a disaster declaration experienced lower dropout rates and higher graduation rates in all but two statistically significant categories compared to their unaffected counterparts.

CHAPTER V

CONCLUSION

There is a propensity to view disasters as an external physical event, and the only way to measure that event is in dollars spent to conduct repairs and the number of lives lost. In reality, the measure of a disaster is how it impacts all elements of a community, especially the vulnerable populations of that community.

Disasters are sociological events as much as physical events. They require sociological solutions to the problems they create (Quarantelli, 1999). For schools, their primary objective is the education of students. A student that fails to graduate represents not only a failure to achieve by that student; it is a failure to perform by the system designed to educate that student. No system is perfect, and unfortunately, despite the best efforts of educators, counselors, and other school staff, some students will not complete their high school education.

Even low impact events generated a change in the dropout and graduation rates. In some cases, it may have only been in a single subcategory of students. A small adverse alteration in dropout or graduation rates is critical. These changes are more than a shift in percentages. They represent an individual who has had the course of their life adversely impacted and will experience fewer opportunities, be less productive, and even live a shorter life.

Limitations

There are undoubtedly other variables at play. The economic strength of a community, its resilience, demographics, geography, and other factors undoubtedly affect how a community and

its schools manage to mitigate a disaster event's effects on students. The disparity in some cases between dropout rates and graduation rates represent a potential for students who "disappear" from the system. As with Hurricane Katrina, some of the missing students result from moving out of the county or state, and those students completed their education elsewhere. However, there is the potential that these students are also uncounted dropouts who fell through the cracks and never completed their education. Schools, by and large, work diligently to facilitate the educational success of their students. Schools have limited excess resources. The ability to expend those resources in a manner that benefits their students the most is always challenging.

The use of FEMA disaster declarations poses a challenge. Disaster declarations contain an element of political influence, with declarations more likely in presidential reelection years. Disaster declarations are more common for larger events such as hurricanes, while smaller events are subject to increased political pressures (Salkowe & Chakraborty, 2009; Husted & Nickerson, 2014; Reeves, 2011). The passage of the Stafford Act in 1988 resulted in an increase in disaster declarations and less correlation between political party affiliations and declarations (Salkowe & Chakraborty, 2009). FEMA declarations still represent the most consistent and reliable source for disaster events for the purposes of this study.

Future Research

There are some findings from this study that hold potential value for educators and school administrators. While large-scale events have a more significant impact, even small scale events can increase the chances that an at-risk student may drop out of school. At-risk students are not the only students affected by a disaster. A disaster can negatively impact those students who are generally considered to be at a lower risk for dropout. The timing of an event is as important as the size or type of event. A disaster that strikes during or right before the school year will have a more significant impact than an event occurring over a scheduled break or at the end of the academic year. The discovery of a disaster demonstrating a positive effect on dropout and

graduation rates reveals an area of great potential for future study. The ability to use a disaster event to benefit students would be invaluable information for school districts.

Final Remarks

It is easy to assume that a student who drops out after a disaster event had risk factors for dropping out before the disaster. Disasters rarely precipitate an action or behavior, but they frequently exacerbate a pre-existing condition (Quarantelli & Dynes, 1977). In most cases, the research here would support that assumption. Most of the subgroups affected represent at-risk students. However, even students with a successful academic history experienced a negative impact. Gifted and Talented students, Asian, White, and Female students are all categories that generally experience lower dropout rates relative to other student groups. Each of these categories of students also suffered a negative effect on dropout and graduation rates after a declared disaster, although to a lesser degree than at-risk student groups. Conversely, in at least one case, a winter storm disaster event resulted in improved dropout rates and graduation rates for at-risk student populations. While unexpected, this positive result provides further evidence that disasters act as an agent of change on students and their educational achievement.

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APPENDICES

Appendix 1 (2010-2011 Tropical Storm Alex)

2010-2011 Comparative Means of Significant Results for Annual Dropout (Tropical Storm Alex)														
Disaster Declaration	all students annual dropout rate	Asian annual dropout rate	at risk annual dropout rate	Bilingual or English as a second language (ESL) annual dropout rate	career and technical education annual dropout rate	economically disadvantaged annual dropout rate	English learner (EL) annual dropout rate	female annual dropout rate	Hispanic annual dropout rate	male annual dropout rate	average annual dropout rate	special education annual dropout rate	Title I annual dropout rate	White annual dropout rate
Non- Designated	1.29	0.62	1.84	2.48	0.67	1.53	2.67	1.20	1.59	1.37	3.75	1.50	1.58	0.81
Designated	2.71	2.52	3.67	4.58	1.41	2.96	4.61	2.66	2.98	2.77	7.80	3.51	2.78	2.68
Total	1.42	0.82	2.01	2.69	0.74	1.66	2.86	1.34	1.72	1.51	4.13	1.69	1.69	0.99

2010-2011 Comparative Means of Significant Results Four Year Graduation & Dropout Rates (Tropical Storm Alex)																					
Disaster Declaration	all students dropout rate	all students graduation rate	Asian dropout rate	at risk dropout rate	at risk graduation rate	career and technical education dropout rate	career and technical education graduation rate	economically disadvantaged dropout rate	economically disadvantaged graduation rate	female dropout rate	female graduation rate	gifted and talented dropout rate	gifted and talented graduation rate	Hispanic dropout rate	Hispanic graduation rate	male dropout rate	male graduation rate	special education dropout rate	special education graduation rate	Title I dropout rate	Title I graduation rate
Non-Designated	4.04	91.78	1.26	6.10	87.68	1.78	96.68	4.73	90.29	3.63	92.77	0.09	99.58	5.34	89.45	4.39	90.95	6.61	87.15	5.07	91.01
Designated	7.06	87.03	5.84	10.42	81.37	3.33	94.48	7.56	86.31	6.38	88.35	0.25	98.82	7.77	85.68	7.75	85.79	10.78	80.59	8.00	84.86
Total	4.33	91.33	1.82	6.51	87.08	1.93	96.47	5.00	89.91	3.89	92.35	0.11	99.51	5.58	89.09	4.71	90.46	7.01	86.52	5.36	90.40

Independent Samples Test 2010-2011 Annual Dropout Rates (Tropical Storm Alex) Equal variances assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2- tailed)	Sig. (1- tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
White annual dropout rate	63.16	0.00	-5.56	250.00	0.00	0.00	-1.87	0.34	-2.42	-1.31
female annual dropout rate	3.89	0.05	-5.44	250.00	0.00	0.00	-1.46	0.27	-1.91	-1.02
all students annual dropout rate	6.32	0.01	-5.44	250.00	0.00	0.00	-1.42	0.26	-1.85	-0.99
overage annual dropout rate	5.59	0.02	-5.12	250.00	0.00	0.00	-4.05	0.79	-5.36	-2.74
at risk annual dropout rate	5.00	0.03	-4.94	250.00	0.00	0.00	-1.83	0.37	-2.44	-1.22
economically disadvantaged annual dropout rate	1.71	0.19	-4.81	250.00	0.00	0.00	-1.44	0.30	-1.93	-0.94
male annual dropout rate	8.93	0.00	-4.79	250.00	0.00	0.00	-1.39	0.29	-1.87	-0.91
special education annual dropout rate	3.18	0.08	-4.79	250.00	0.00	0.00	-2.01	0.42	-2.70	-1.31
Hispanic annual dropout rate	0.95	0.33	-4.28	250.00	0.00	0.00	-1.38	0.32	-1.92	-0.85
career and technical education annual dropout rate	4.46	0.04	-4.17	250.00	0.00	0.00	-0.74	0.18	-1.04	-0.45
Title I annual dropout rate	0.82	0.37	-2.97	234.00	0.00	0.00	-1.21	0.41	-1.88	-0.54

Independent Samples Test 2010-2011 Annual Dropout Rates (Tropical Storm Alex) Equal variances assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian annual dropout rate	24.05	0.00	-2.58	204.00	0.01	0.01	-1.90	0.74	-3.12	-0.68
bilingual or English as a second language (ESL) annual dropout rate	2.97	0.09	-2.30	233.00	0.02	0.01	-2.09	0.91	-3.60	-0.59
English learner (EL) annual dropout rate	1.38	0.24	-2.16	236.00	0.03	0.02	-1.94	0.90	-3.42	-0.46
African American annual dropout rate	3.06	0.08	-1.54	224.00	0.13	0.06	-1.01	0.66	-2.09	0.08
migrant annual dropout rate	0.00	0.99	-1.11	176.00	0.27	0.13	-2.19	1.97	-5.46	1.07
American Indian annual dropout rate	2.02	0.16	-0.94	217.00	0.35	0.17	-0.87	0.92	-2.40	0.65
gifted and talented annual dropout rate	0.13	0.72	-0.49	250.00	0.62	0.31	-0.02	0.05	-0.10	0.06
immigrant annual dropout rate	0.82	0.37	0.45	176.00	0.65	0.33	1.10	2.44	-2.93	5.13
multiracial annual dropout rate	0.59	0.44	0.36	231.00	0.72	0.36	0.19	0.53	-0.68	1.06
Pacific Islander annual dropout rate	0.00	0.97	-0.07	108.00	0.94	0.47	-0.14	1.86	-3.22	2.95

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Tropical Storm Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
all students dropout rate	0.46	0.50	-4.06	250.00	0.00	0.00	-3.02	0.74	-4.25	-1.79
all students graduation rate	0.06	0.80	3.71	250.00	0.00	0.00	4.75	1.28	2.63	6.86
Asian dropout rate	15.99	0.00	-1.95	146.00	0.05	0.03	-4.58	2.34	-8.46	-0.70
at risk dropout rate	0.00	0.99	-3.46	250.00	0.00	0.00	-4.32	1.25	-6.38	-2.26
at risk graduation rate	0.43	0.51	3.10	250.00	0.00	0.00	6.31	2.03	2.95	9.67
career and technical education dropout rate	1.29	0.26	-3.34	248.00	0.00	0.00	-1.55	0.46	-2.32	-0.78
career and technical education graduation rate	2.18	0.14	3.42	248.00	0.00	0.00	2.20	0.64	1.14	3.27
economically disadvantaged dropout rate	0.67	0.42	-3.26	249.00	0.00	0.00	-2.83	0.87	-4.26	-1.40
economically disadvantaged graduation rate	2.91	0.09	2.65	249.00	0.01	0.00	3.98	1.50	1.50	6.46

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Tropical Storm Alex) Equal Variances Assumed

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
female dropout rate	0.01	0.92	-3.30	250.00	0.00	0.00	-2.75	0.83	-4.13	-1.38
female graduation rate	0.09	0.77	3.64	250.00	0.00	0.00	4.41	1.21	2.41	6.41
gifted and talented dropout rate	3.91	0.05	-1.65	247.00	0.10	0.05	-0.16	0.10	-0.33	0.00
gifted and talented graduation rate	5.63	0.02	2.04	247.00	0.04	0.02	0.76	0.37	0.15	1.37
Hispanic dropout rate	1.42	0.24	-2.14	250.00	0.03	0.02	-2.42	1.13	-4.29	-0.56
Hispanic graduation rate	4.12	0.04	2.12	250.00	0.03	0.02	3.78	1.78	0.84	6.72
male dropout rate	1.27	0.26	-3.86	250.00	0.00	0.00	-3.36	0.87	-4.79	-1.92
male graduation rate	0.01	0.93	3.35	250.00	0.00	0.00	5.17	1.54	2.62	7.71
special education dropout rate	0.18	0.67	-2.59	246.00	0.01	0.01	-4.17	1.61	-6.82	-1.51
special education graduation rate	1.66	0.20	2.82	246.00	0.01	0.00	6.57	2.33	2.72	10.42
Title I dropout rate	0.00	0.99	-2.00	231.00	0.05	0.02	-2.93	1.47	-5.36	-0.51

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Tropical Storm Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Title I graduation rate	0.86	0.35	2.75	231.00	0.01	0.00	6.15	2.24	2.46	9.85
African American dropout rate	0.17	0.68	-1.54	197.00	0.12	0.06	-3.82	2.47	-7.90	0.27
White graduation rate	1.37	0.24	1.34	249.00	0.18	0.09	1.69	1.27	-0.40	3.79
African American graduation rate	0.08	0.78	1.22	197.00	0.22	0.11	4.08	3.34	-1.44	9.61
American Indian graduation rate	2.96	0.09	-1.19	149.00	0.23	0.12	-7.62	6.38	-18.17	2.94
bilingual or English as a second language (ESL) dropout rate	0.01	0.92	-1.12	184.00	0.26	0.13	-6.52	5.82	-16.15	3.11
Multiracial graduation rate	0.60	0.44	0.78	172.00	0.44	0.22	4.02	5.15	-4.51	12.54
limited English proficient (LEP) dropout rate	1.29	0.26	-0.76	196.00	0.45	0.22	-4.29	5.66	-13.65	5.07
Pacific Islander dropout rate	1.80	0.18	0.72	66.00	0.47	0.24	3.53	4.87	-4.61	11.66

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Tropical Storm Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Multiracial dropout rate	0.48	0.49	-0.70	172.00	0.48	0.24	-0.79	1.13	-2.67	1.08
Asian graduation rate	1.28	0.26	0.67	146.00	0.51	0.25	2.78	4.18	-4.13	9.69
migrant graduation rate	6.73	0.01	-0.53	104.00	0.59	0.30	-3.52	6.59	-14.46	7.42
immigrant graduation rate	0.28	0.60	-0.51	108.00	0.61	0.31	-4.72	9.32	-20.19	10.76
White dropout rate	0.04	0.85	-0.48	249.00	0.63	0.32	-0.38	0.78	-1.67	0.92
migrant dropout rate	1.35	0.25	-0.29	104.00	0.78	0.39	-1.30	4.53	-8.82	6.23
limited English proficient (LEP) graduation rate	3.63	0.06	0.22	196.00	0.83	0.41	1.48	6.73	-9.64	12.60
bilingual or English as a second language (ESL) graduation rate	1.97	0.16	0.17	184.00	0.86	0.43	1.21	6.95	-10.27	12.70
American Indian dropout rate	0.08	0.78	0.16	149.00	0.87	0.44	0.49	3.04	-4.54	5.53

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Tropical Storm Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Pacific Islander graduation rate	0.09	0.77	0.05	66.00	0.96	0.48	0.54	9.82	-15.84	16.91
immigrant dropout rate	0.26	0.61	-0.04	108.00	0.97	0.48	-0.31	8.16	-13.84	13.22

Appendix 2 (2010-2011 Hurricane Alex)

2010-2011 Comparative Means of Significant Results for Annual Dropout Rates (Hurricane Alex)					
Disaster Declaration	African American annual dropout rate	all students annual dropout rate	at risk annual dropout rate	male annual dropout rate	special education annual dropout rate
Non- Designated	1.66	1.38	1.94	1.45	1.62
Designated	3.47	1.91	2.92	2.11	2.55
Total	1.78	1.42	2.01	1.51	1.69

2010-2011 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates (Hurricane Alex)									
Disaster Declaration	African American dropout rate	African American graduation rate	all students dropout rate	all students graduation rate	at risk dropout rate	at risk graduation rate	female graduation rate	male dropout rate	male graduation rate
Non- Designated	5.42	88.89	4.18	91.55	6.21	87.38	92.53	4.50	90.74
Designated	18.01	78.80	6.06	88.81	9.96	83.56	90.26	7.10	87.21
Total	6.37	88.13	4.33	91.33	6.51	87.08	92.35	4.71	90.46

Independent Samples Test 2010-2011 Annual Dropout Rates (Hurricane Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
African American annual dropout rate	16.64	0.00	-2.56	224.00	0.01	0.01	-1.81	0.71	-2.98	-0.64
at risk annual dropout rate	6.67	0.01	-2.34	250.00	0.02	0.01	-0.98	0.42	-1.67	-0.29
male annual dropout rate	2.51	0.11	-1.99	250.00	0.05	0.02	-0.65	0.33	-1.19	-0.11
special education annual dropout rate	2.89	0.09	-1.96	250.00	0.05	0.03	-0.93	0.47	-1.70	-0.15
all students annual dropout rate	1.81	0.18	-1.75	250.00	0.08	0.04	-0.52	0.30	-1.01	-0.03
White annual dropout rate	13.65	0.00	-1.54	250.00	0.12	0.06	-0.59	0.38	-1.23	0.04
overage annual dropout rate	0.95	0.33	-1.47	250.00	0.14	0.07	-1.33	0.90	-2.81	0.16
female annual dropout rate	2.42	0.12	-1.40	250.00	0.16	0.08	-0.43	0.31	-0.94	0.08
Hispanic annual dropout rate	1.20	0.27	-1.13	250.00	0.26	0.13	-0.41	0.36	-1.01	0.19
multiracial annual dropout rate	3.54	0.06	1.11	231.00	0.27	0.13	0.68	0.61	-0.33	1.68
bilingual or English as a second language	0.04	0.84	-0.99	233.00	0.32	0.16	-1.02	1.03	-2.71	0.68

Independent Samples Test 2010-2011 Annual Dropout Rates (Hurricane Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
(ESL) annual dropout rate										
Title I annual dropout rate	0.01	0.90	-0.92	234.00	0.36	0.18	-0.40	0.44	-1.13	0.32
career and technical education annual dropout rate	0.26	0.61	-0.92	250.00	0.36	0.18	-0.18	0.20	-0.51	0.15
economically disadvantaged annual dropout rate	0.39	0.53	-0.91	250.00	0.37	0.18	-0.31	0.34	-0.87	0.25
English learner (EL) annual dropout rate	0.09	0.76	-0.75	236.00	0.45	0.23	-0.76	1.01	-2.43	0.91
gifted and talented annual dropout rate	0.58	0.45	-0.74	250.00	0.46	0.23	-0.04	0.05	-0.12	0.05
Asian annual dropout rate	0.86	0.35	0.49	204.00	0.62	0.31	0.45	0.92	-1.07	1.98
Pacific Islander annual dropout rate	0.78	0.38	0.46	108.00	0.64	0.32	1.38	2.98	-3.56	6.32
immigrant annual dropout rate	0.55	0.46	0.26	176.00	0.80	0.40	0.71	2.75	-3.85	5.26
migrant annual dropout rate	0.34	0.56	-0.20	176.00	0.84	0.42	-0.44	2.17	-4.03	3.16

Independent Samples Test 2010-2011 Annual Dropout Rates (Hurricane Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
American Indian annual dropout rate	0.12	0.73	0.17	217.00	0.86	0.43	0.17	1.01	-1.50	1.85

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Hurricane Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
African American dropout rate	30.34	0.00	-5.08	197.00	0.00	0.00	-12.58	2.48	-16.67	-8.49
African American graduation rate	9.17	0.00	2.90	197.00	0.00	0.00	10.09	3.48	4.34	15.85
all students dropout rate	3.83	0.05	-2.27	250.00	0.02	0.01	-1.87	0.83	-3.24	-0.51
all students graduation rate	0.00	0.95	1.93	250.00	0.05	0.03	2.74	1.42	0.40	5.08

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Hurricane Alex) Equal Variances Assumed

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
at risk dropout rate	4.49	0.04	-2.74	250.00	0.01	0.00	-3.74	1.37	-6.00	-1.48
at risk graduation rate	1.07	0.30	1.71	250.00	0.09	0.04	3.82	2.24	0.13	7.52
female graduation rate	0.36	0.55	1.69	250.00	0.09	0.05	2.27	1.34	0.05	4.48
male dropout rate	4.73	0.03	-2.71	250.00	0.01	0.00	-2.60	0.96	-4.18	-1.02
male graduation rate	0.18	0.67	2.08	250.00	0.04	0.02	3.53	1.69	0.73	6.33
economically disadvantaged dropout rate	1.23	0.27	-1.61	249.00	0.11	0.05	-1.54	0.96	-3.12	0.04
special education dropout rate	0.57	0.45	-1.51	246.00	0.13	0.07	-2.66	1.76	-5.56	0.25
female dropout rate	5.98	0.02	-1.51	250.00	0.13	0.07	-1.39	0.92	-2.90	0.13
economically disadvantaged graduation rate	0.34	0.56	1.49	249.00	0.14	0.07	2.46	1.65	-0.26	5.18
Hispanic dropout rate	1.93	0.17	-1.48	250.00	0.14	0.07	-1.82	1.23	-3.86	0.22
gifted and talented dropout rate	2.94	0.09	-1.38	247.00	0.17	0.08	-0.15	0.11	-0.34	0.03

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Hurricane Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
bilingual or English as a second language (ESL) graduation rate	0.30	0.58	1.27	184.00	0.20	0.10	10.56	8.30	-3.15	24.28
American Indian dropout rate	4.94	0.03	1.15	149.00	0.25	0.13	4.39	3.83	-1.94	10.73
special education graduation rate	0.24	0.62	1.10	246.00	0.27	0.14	2.82	2.57	-1.42	7.06
American Indian graduation rate	4.55	0.03	1.03	149.00	0.30	0.15	8.34	8.07	-5.01	21.69
career and technical education dropout rate	0.26	0.61	-1.00	248.00	0.32	0.16	-0.51	0.51	-1.36	0.34
Pacific Islander graduation rate	4.23	0.04	0.97	66.00	0.34	0.17	13.62	14.04	-9.80	37.04
limited English proficient (LEP) graduation rate	4.65	0.03	0.90	196.00	0.37	0.18	7.29	8.07	-6.04	20.62
limited English proficient	0.83	0.36	-0.90	196.00	0.37	0.18	-6.11	6.80	-17.35	5.12

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Hurricane Alex) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
(LEP) dropout rate										
Asian graduation rate	2.07	0.15	-0.87	146.00	0.39	0.19	-4.52	5.20	-13.13	4.08
migrant graduation rate	1.95	0.17	0.85	104.00	0.40	0.20	6.30	7.38	-5.95	18.56
Title I graduation rate	0.02	0.89	0.82	231.00	0.41	0.21	1.98	2.42	-2.02	5.97
Hispanic graduation rate	0.56	0.45	0.81	250.00	0.42	0.21	1.57	1.95	-1.65	4.79
bilingual or English as a second language (ESL) dropout rate	0.06	0.81	-0.78	184.00	0.44	0.22	-5.43	7.00	-17.00	6.13
career and technical education graduation rate	1.72	0.19	0.69	248.00	0.49	0.24	0.50	0.72	-0.68	1.68
immigrant graduation rate	0.28	0.60	0.69	108.00	0.49	0.25	8.26	11.95	-11.57	28.10
Multiracial graduation rate	0.85	0.36	-0.64	172.00	0.52	0.26	-3.97	6.22	-14.26	6.32
White graduation rate	0.28	0.60	-0.59	249.00	0.56	0.28	-0.82	1.39	-3.11	1.47

Independent Samples Test 2010-2011 Four Year Graduation & Dropout Rates (Hurricane Alex) Equal Variances Assumed

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Pacific Islander dropout rate	0.92	0.34	0.52	66.00	0.61	0.30	3.65	7.03	-8.08	15.39
gifted and talented graduation rate	1.09	0.30	-0.46	247.00	0.64	0.32	-0.19	0.42	-0.88	0.49
Title I dropout rate	0.00	0.96	-0.44	231.00	0.66	0.33	-0.69	1.58	-3.29	1.92
Asian dropout rate	0.47	0.50	0.41	146.00	0.68	0.34	1.21	2.96	-3.69	6.10
immigrant dropout rate	1.91	0.17	0.27	108.00	0.79	0.40	2.78	10.46	-14.58	20.14
White dropout rate	0.47	0.49	0.24	249.00	0.81	0.40	0.21	0.86	-1.20	1.62
migrant dropout rate	2.22	0.14	0.08	104.00	0.93	0.47	0.42	5.09	-8.03	8.86
Multiracial dropout rate	0.00	0.97	-0.02	172.00	0.98	0.49	-0.03	1.37	-2.29	2.23

Appendix 3 (2011-2012)

2011-2012 Comparative Means of Significant Results for Annual Dropout Rates		
Disaster Declaration	County Asian annual dropout rate	County female annual dropout rate *
Non-Designated	0.40	1.29
Designated	1.07	0.83
Total	0.51	1.22

2012 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates					
Disaster Declaration	County female dropout rate*	County female graduation rate*	County migrant dropout rate	County migrant graduation rate	County gifted and talented graduation rate
Non-Designated	3.58	93.30	10.03	82.53	99.63
Designated	2.19	95.23	22.61	68.11	99.19
Total	3.37	93.59	11.74	80.57	99.56

Independent Samples Test 2011-2012 Annual Drop Out Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian annual dropout rate	14.99	0.00	-2.02	205.00	0.05	0.02	-0.67	0.33	-1.23	-0.12
female annual dropout rate	9.01	0.00	1.80	250.00	0.07	0.04	0.46	0.26	0.04	0.88
White annual dropout rate	11.64	0.00	1.62	250.00	0.11	0.05	0.31	0.19	-0.01	0.62
career and technical education	9.60	0.00	1.18	250.00	0.24	0.12	0.19	0.16	-0.08	0.46

Independent Samples Test 2011-2012 Annual Drop Out Rates Equal Variances Assumed

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
annual dropout rate										
all students annual dropout rate	7.48	0.01	1.16	250.00	0.25	0.12	0.28	0.24	-0.12	0.69
special education annual dropout rate	7.54	0.01	1.14	250.00	0.26	0.13	0.41	0.36	-0.19	1.01
immigrant annual dropout rate	1.86	0.17	-1.08	176.00	0.28	0.14	-1.33	1.23	-3.35	0.70
overage annual dropout rate	7.94	0.01	1.04	250.00	0.30	0.15	0.70	0.68	-0.42	1.82
economically disadvantaged annual dropout rate	4.86	0.03	0.83	250.00	0.41	0.20	0.23	0.27	-0.22	0.68
multiracial annual dropout rate	1.80	0.18	0.70	225.00	0.48	0.24	1.05	1.48	-1.41	3.50
at risk annual dropout rate	5.80	0.02	0.52	250.00	0.60	0.30	0.17	0.32	-0.36	0.70
male annual dropout rate	4.77	0.03	0.50	250.00	0.62	0.31	0.13	0.26	-0.30	0.56
Title I annual dropout rate	1.27	0.26	0.46	239.00	0.64	0.32	0.21	0.45	-0.53	0.94
American Indian annual dropout rate	0.32	0.57	-0.40	209.00	0.69	0.35	-0.33	0.84	-1.71	1.05

Independent Samples Test 2011-2012 Annual Drop Out Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
bilingual or English as a second language (ESL) annual dropout rate	0.00	0.99	-0.31	236.00	0.76	0.38	-0.44	1.41	-2.77	1.89
migrant annual dropout rate	0.06	0.81	0.21	170.00	0.83	0.42	0.25	1.16	-1.67	2.17
Hispanic annual dropout rate	2.76	0.10	0.20	250.00	0.84	0.42	0.07	0.32	-0.47	0.60
African American annual dropout rate	7.79	0.01	0.14	225.00	0.89	0.45	0.06	0.46	-0.69	0.82
gifted and talented annual dropout rate	0.05	0.83	0.13	250.00	0.90	0.45	0.00	0.03	-0.05	0.06
English learner (EL) annual dropout rate	0.45	0.50	-0.13	238.00	0.90	0.45	-0.13	1.00	-1.77	1.52
Pacific Islander annual dropout rate	0.01	0.93	0.06	106.00	0.95	0.47	0.11	1.76	-2.80	3.03

Independent Samples Test 2011-2012 Four Year Graduation & Drop Out Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
female dropout rate	15.91	0.00	2.29	250.00	0.02	0.01	1.39	0.61	0.39	2.39
female graduation rate	7.89	0.01	-2.10	250.00	0.04	0.02	-1.93	0.92	-3.45	-0.41
migrant dropout rate	14.44	0.00	-1.99	101.00	0.05	0.02	-12.58	6.33	-23.09	-2.08
gifted and talented graduation rate	10.29	0.00	1.82	241.00	0.07	0.03	0.44	0.24	0.04	0.84
migrant graduation rate	6.28	0.01	1.76	101.00	0.08	0.04	14.42	8.20	0.81	28.02
English language learner (ELL) in Grades 9-12 dropout rate	5.39	0.02	1.60	221.00	0.11	0.05	4.36	2.72	-0.13	8.85
all students dropout rate	12.91	0.00	1.55	250.00	0.12	0.06	0.96	0.62	-0.06	1.98
gifted and talented dropout rate	7.43	0.01	-1.48	241.00	0.14	0.07	-0.24	0.16	-0.51	0.03
American Indian dropout rate	4.44	0.04	1.38	248.00	0.17	0.08	1.36	0.98	-0.26	2.99
at risk dropout rate	12.88	0.00	1.23	249.00	0.22	0.11	1.22	0.99	-0.41	2.85
economically disadvantaged dropout rate	6.50	0.01	1.16	250.00	0.25	0.12	0.98	0.85	-0.42	2.38

Independent Samples Test 2011-2012 Four Year Graduation & Drop Out Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Multiracial graduation rate	4.02	0.05	-1.14	148.00	0.25	0.13	-1.75	1.53	-4.27	0.78
English language learner (ELL) in last year dropout rate	1.86	0.17	1.13	187.00	0.26	0.13	5.03	4.47	-2.35	12.41
African American graduation rate	9.17	0.00	-1.05	199.00	0.29	0.15	-3.10	2.94	-7.96	1.77
American Indian graduation rate	3.11	0.08	-1.01	248.00	0.31	0.16	-1.26	1.25	-3.32	0.79
Hispanic dropout rate	1.71	0.19	0.87	249.00	0.38	0.19	0.88	1.01	-0.79	2.55
male dropout rate	14.80	0.00	0.83	250.00	0.41	0.20	0.60	0.73	-0.60	1.80
all students graduation rate	3.21	0.07	-0.82	250.00	0.41	0.21	-0.82	1.00	-2.48	0.83
Asian graduation rate	1.66	0.20	-0.79	153.00	0.43	0.22	-2.74	3.47	-8.48	3.00
at risk graduation rate	3.74	0.05	-0.78	249.00	0.44	0.22	-1.24	1.59	-3.87	1.40
Multiracial dropout rate	1.00	0.32	0.72	148.00	0.47	0.24	2.22	3.07	-2.86	7.30
special education dropout rate	5.41	0.02	0.66	248.00	0.51	0.25	0.81	1.22	-1.21	2.83

Independent Samples Test 2011-2012 Four Year Graduation & Drop Out Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
African American dropout rate	8.73	0.00	0.66	199.00	0.51	0.26	1.11	1.69	-1.68	3.89
special education graduation rate	2.00	0.16	-0.62	248.00	0.54	0.27	-1.12	1.82	-4.13	1.88
bilingual or English as a second language (ESL) dropout rate	0.27	0.60	0.61	183.00	0.54	0.27	2.73	4.50	-4.71	10.17
economically disadvantaged graduation rate	1.07	0.30	-0.60	250.00	0.55	0.27	-0.76	1.25	-2.82	1.31
White dropout rate	1.02	0.31	0.52	193.00	0.60	0.30	1.19	2.27	-2.56	4.94
Pacific Islander dropout rate	0.50	0.48	-0.50	56.00	0.62	0.31	-4.17	8.37	-18.17	9.82
Asian dropout rate	0.77	0.38	0.49	153.00	0.63	0.31	0.57	1.17	-1.36	2.50
English language learner (ELL) in last year graduation rate	0.15	0.70	-0.48	187.00	0.63	0.31	-2.66	5.48	-11.72	6.41
English language learner (ELL) in Grades 9-12 graduation rate	0.55	0.46	-0.48	221.00	0.63	0.32	-1.90	3.98	-8.48	4.68
Hispanic graduation rate	0.11	0.74	-0.39	249.00	0.70	0.35	-0.56	1.44	-2.94	1.82
Title I dropout rate	0.16	0.69	0.33	235.00	0.74	0.37	0.44	1.33	-1.76	2.63

Independent Samples Test 2011-2012 Four Year Graduation & Drop Out Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
White graduation rate	0.94	0.33	-0.30	193.00	0.76	0.38	-0.85	2.83	-5.52	3.83
Title I graduation rate	0.42	0.52	0.27	235.00	0.79	0.39	0.51	1.90	-2.62	3.64
career and technical education dropout rate	4.55	0.03	0.24	250.00	0.81	0.40	0.10	0.41	-0.58	0.78
career and technical education graduation rate	3.22	0.07	-0.21	250.00	0.83	0.42	-0.12	0.55	-1.02	0.79
bilingual or English as a second language (ESL) graduation rate	0.23	0.63	0.16	183.00	0.88	0.44	0.89	5.68	-8.49	10.27
male graduation rate	2.47	0.12	0.10	250.00	0.92	0.46	0.12	1.21	-1.87	2.12
Pacific Islander graduation rate	0.07	0.80	-0.07	56.00	0.94	0.47	-0.67	9.49	-16.54	15.21

Appendix 4 (2014-2015)

2014-2015 Comparative Means of Significant Results for Annual Dropout	
Disaster Declaration	gifted and talented annual dropout rate
Non-Designated	0.04
Designated	0.09
Total	0.07

2015 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates				
Disaster Declaration	at risk graduation rate	economically disadvantaged graduation rate	Hispanic graduation rate	male graduation rate
Non-Designated	91.71	91.46	92.82	92.35
Designated	89.68	89.30	90.81	90.79
Total	90.82	90.52	91.95	91.67

Independent Samples Test 2014-2015 Annual Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
gifted and talented annual dropout rate	8.03	0.00	-1.74	246.00	0.08	0.04	-0.05	0.03	-0.10	0.00

Independent Samples Test 2014-2015 Annual Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
immigrant annual dropout rate	3.88	0.05	-1.50	185.00	0.14	0.07	-1.35	0.90	-2.84	0.14
bilingual or English as a second language (ESL) annual dropout rate	0.03	0.87	-1.34	236.00	0.18	0.09	-0.57	0.43	-1.28	0.13
male annual dropout rate	2.61	0.11	-1.20	250.00	0.23	0.12	-0.21	0.17	-0.49	0.08
overage annual dropout rate	2.08	0.15	-1.16	250.00	0.25	0.12	-0.53	0.46	-1.29	0.23
at risk annual dropout rate	3.87	0.05	-1.11	250.00	0.27	0.13	-0.21	0.19	-0.53	0.10
career and technical education annual dropout rate	0.95	0.33	-1.07	250.00	0.28	0.14	-0.12	0.11	-0.30	0.06
migrant annual dropout rate	1.15	0.28	0.65	162.00	0.52	0.26	0.66	1.00	-1.01	2.32
English learner (EL) annual dropout rate	0.95	0.33	-0.57	236.00	0.57	0.29	-0.26	0.46	-1.03	0.50
Pacific Islander annual dropout rate	0.86	0.35	0.42	115.00	0.67	0.34	0.86	2.02	-2.49	4.20
Asian annual dropout rate	0.44	0.51	-0.42	205.00	0.67	0.34	-0.31	0.73	-1.52	0.90

Independent Samples Test 2014-2015 Annual Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
multiracial annual dropout rate	0.16	0.69	-0.40	230.00	0.69	0.34	-0.22	0.54	-1.10	0.67
all students annual dropout rate	2.36	0.13	-0.35	250.00	0.73	0.36	-0.07	0.20	-0.40	0.26
White annual dropout rate	4.17	0.04	-0.34	250.00	0.73	0.37	-0.06	0.18	-0.35	0.23
Hispanic annual dropout rate	0.94	0.33	-0.33	250.00	0.74	0.37	-0.08	0.25	-0.50	0.33
Title I annual dropout rate	0.31	0.58	-0.32	232.00	0.75	0.37	-0.09	0.29	-0.57	0.39
American Indian annual dropout rate	0.37	0.54	0.23	199.00	0.82	0.41	0.28	1.21	-1.72	2.28
African American annual dropout rate	5.36	0.02	0.21	229.00	0.84	0.42	0.09	0.46	-0.66	0.85
economically disadvantaged annual dropout rate	5.71	0.02	-0.20	249.00	0.84	0.42	-0.05	0.26	-0.48	0.38
female annual dropout rate	3.30	0.07	0.18	250.00	0.86	0.43	0.05	0.25	-0.37	0.46
special education annual dropout rate	7.47	0.01	0.12	250.00	0.91	0.45	0.04	0.30	-0.46	0.53

Independent Samples Test 2014-2015 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Hispanic graduation rate	0.03	0.87	2.28	248.00	0.02	0.01	2.01	0.88	0.56	3.47
economically disadvantaged graduation rate	2.65	0.10	2.17	248.00	0.03	0.02	2.16	1.00	0.51	3.81
at risk graduation rate	0.40	0.53	2.06	247.00	0.04	0.02	2.02	0.98	0.41	3.64
male graduation rate	0.60	0.44	1.72	250.00	0.09	0.04	1.56	0.91	0.06	3.06
all students graduation rate	0.29	0.59	1.63	250.00	0.10	0.05	1.23	0.75	-0.02	2.47
Multiracial graduation rate	5.05	0.03	-1.59	185.00	0.11	0.06	-2.05	1.29	-4.19	0.08
Asian graduation rate	3.82	0.05	1.48	142.00	0.14	0.07	2.72	1.84	-0.32	5.76
male dropout rate	4.33	0.04	-1.37	250.00	0.17	0.09	-0.75	0.55	-1.65	0.15
economically disadvantaged dropout rate	10.97	0.00	-1.34	248.00	0.18	0.09	-0.92	0.69	-2.05	0.21
Multiracial dropout rate	1.32	0.25	1.21	185.00	0.23	0.11	2.93	2.43	-1.09	6.95
female graduation rate	1.57	0.21	1.19	250.00	0.23	0.12	0.86	0.72	-0.33	2.04
at risk dropout rate	2.96	0.09	-1.19	247.00	0.23	0.12	-0.77	0.64	-1.83	0.30

Independent Samples Test 2014-2015 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Title I graduation rate	0.01	0.93	1.12	230.00	0.26	0.13	1.77	1.58	-0.84	4.38
White continuation rate	2.41	0.12	1.07	248.00	0.29	0.14	0.90	0.84	-0.48	2.28
all students dropout rate	3.77	0.05	-1.04	250.00	0.30	0.15	-0.49	0.47	-1.27	0.29
Pacific Islander graduation rate	1.70	0.20	1.03	66.00	0.31	0.15	6.45	6.27	-4.00	16.90
Asian dropout rate	2.10	0.15	-1.01	142.00	0.31	0.16	-0.80	0.79	-2.11	0.51
bilingual or English as a second language (ESL) dropout rate	0.01	0.91	-0.90	188.00	0.37	0.18	-2.34	2.60	-6.64	1.96
special education graduation rate	6.06	0.01	0.86	244.00	0.39	0.20	1.36	1.59	-1.27	3.99
gifted and talented graduation rate	1.42	0.24	0.85	244.00	0.40	0.20	0.14	0.16	-0.13	0.40
African American graduation rate	0.99	0.32	0.84	194.00	0.40	0.20	2.07	2.46	-1.99	6.13
White dropout rate	3.34	0.07	-0.83	248.00	0.41	0.20	-0.45	0.54	-1.35	0.45
Hispanic dropout rate	5.79	0.02	-0.76	248.00	0.45	0.22	-0.42	0.55	-1.34	0.49

Independent Samples Test 2014-2015 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
career and technical education dropout rate	1.53	0.22	-0.72	250.00	0.47	0.24	-0.24	0.33	-0.79	0.31
career and technical education graduation rate	3.21	0.07	0.66	250.00	0.51	0.25	0.28	0.42	-0.41	0.96
female dropout rate	2.94	0.09	-0.62	250.00	0.53	0.27	-0.30	0.47	-1.08	0.49
bilingual or English as a second language (ESL) graduation rate	0.01	0.93	0.62	188.00	0.54	0.27	1.87	3.02	-3.12	6.87
migrant graduation rate	0.70	0.40	0.61	95.00	0.54	0.27	3.29	5.37	-5.62	12.21
African American dropout rate	1.05	0.31	-0.59	194.00	0.56	0.28	-0.97	1.64	-3.69	1.75
English language learner (ELL) in Grades 9-12 dropout rate	0.96	0.33	-0.44	191.00	0.66	0.33	-1.18	2.66	-5.57	3.22
immigrant graduation rate	2.97	0.09	-0.42	119.00	0.68	0.34	-2.12	5.07	-10.53	6.29
Title I dropout rate	0.55	0.46	-0.41	230.00	0.68	0.34	-0.48	1.18	-2.43	1.46
American Indian graduation rate	0.35	0.55	0.39	149.00	0.70	0.35	1.33	3.41	-4.32	6.97

Independent Samples Test 2014-2015 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Pacific Islander dropout rate	0.24	0.62	-0.38	66.00	0.71	0.35	-2.00	5.29	-10.81	6.82
English language learner (ELL) in last year graduation rate	3.13	0.08	0.35	211.00	0.72	0.36	1.01	2.86	-3.71	5.73
immigrant dropout rate	1.83	0.18	0.32	119.00	0.75	0.37	1.18	3.66	-4.89	7.25
English language learner (ELL) in last year dropout rate	1.43	0.23	-0.31	211.00	0.76	0.38	-0.68	2.21	-4.33	2.97
English language learner (ELL) in Grades 9-12 graduation rate	0.63	0.43	0.29	191.00	0.77	0.39	0.87	3.04	-4.15	5.90
American Indian dropout rate	0.27	0.60	-0.25	149.00	0.80	0.40	-0.79	3.20	-6.09	4.50
migrant dropout rate	0.03	0.87	-0.24	95.00	0.81	0.41	-1.02	4.29	-8.15	6.11
special education dropout rate	9.20	0.00	-0.18	244.00	0.85	0.43	-0.19	1.03	-1.90	1.52
gifted and talented dropout rate	0.22	0.64	0.17	244.00	0.87	0.43	0.02	0.12	-0.18	0.22

Appendix 5 (2015-2016 DR 4245)

2015-2016 Comparative Means of Significant Results for Annual Dropout (DR-4245)				
Disaster Declaration	African American annual dropout rate	homeless status annual dropout rate	male annual dropout rate	average annual dropout rate
Non-Designated	1.60	2.78	1.21	3.08
Designated	4.03	4.36	1.71	4.57
Total	1.82	2.93	1.25	3.20

2016 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates (DR-4245)					
Disaster Declaration	Hispanic dropout rate	Hispanic graduation rate	immigrant dropout rate	immigrant graduation rate	special education graduation rate
Non-Designated	4.89	91.94	14.57	81.64	87.24
Designated	6.91	88.74	28.21	65.11	82.60
Total	5.06	91.67	16.20	79.66	86.84

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
average annual dropout rate	0.43	0.51	-1.97	250.00	0.05	0.02	-1.50	0.76	-2.75	-0.24
African American annual dropout rate	4.36	0.04	-1.95	230.00	0.05	0.03	-2.42	1.24	-4.48	-0.37
male annual dropout rate	0.36	0.55	-1.77	250.00	0.08	0.04	-0.50	0.29	-0.97	-0.03
homeless status annual dropout rate	3.67	0.06	-1.66	220.00	0.10	0.05	-1.58	0.96	-3.16	-0.01

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
special education annual dropout rate	3.10	0.08	-1.65	250.00	0.10	0.05	-0.65	0.39	-1.30	0.00
economically disadvantaged annual dropout rate	1.11	0.29	-0.85	249.00	0.40	0.20	-0.38	0.45	-1.13	0.36
all students annual dropout rate	0.56	0.45	-0.82	250.00	0.41	0.21	-0.31	0.38	-0.94	0.32
Hispanic annual dropout rate	0.74	0.39	-0.82	250.00	0.42	0.21	-0.36	0.44	-1.08	0.37
White annual dropout rate	0.61	0.44	-0.81	250.00	0.42	0.21	-0.28	0.35	-0.87	0.30
career and technical education annual dropout rate	8.20	0.00	-0.70	250.00	0.48	0.24	-0.10	0.14	-0.32	0.13
at risk annual dropout rate	2.42	0.12	-0.64	250.00	0.52	0.26	-0.27	0.42	-0.96	0.42
Pacific Islander annual dropout rat	1.59	0.21	0.63	113.00	0.53	0.26	1.79	2.83	-2.89	6.48
multiracial annual dropout rate	1.76	0.19	0.58	233.00	0.56	0.28	0.68	1.17	-1.26	2.62
migrant annual dropout rate	0.77	0.38	0.44	160.00	0.66	0.33	0.42	0.96	-1.16	2.01
English learner (EL) annual dropout rate	4.40	0.04	-0.42	238.00	0.68	0.34	-0.32	0.76	-1.57	0.94

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
American Indian annual dropout rate	0.51	0.48	0.33	200.00	0.74	0.37	0.64	1.96	-2.59	3.87
bilingual or English as a second language (ESL) annual dropout rate	4.55	0.03	-0.25	237.00	0.80	0.40	-0.19	0.75	-1.43	1.06
Asian annual dropout rate	0.31	0.58	0.24	209.00	0.81	0.41	0.22	0.95	-1.34	1.79
female annual dropout rate	0.97	0.33	-0.21	250.00	0.83	0.42	-0.11	0.50	-0.93	0.72
Title I annual dropout rate	0.25	0.61	-0.14	234.00	0.89	0.44	-0.24	1.63	-2.93	2.46
gifted and talented annual dropout rate	0.22	0.64	0.07	248.00	0.95	0.47	0.01	0.14	-0.23	0.25
immigrant annual dropout rate	0.47	0.49	-0.02	190.00	0.99	0.49	-0.03	1.97	-3.29	3.23
Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Hispanic dropout rate	0.02	0.88	-1.67	250.00	0.10	0.05	-2.02	1.21	-4.02	-0.03
Hispanic graduation rate	0.53	0.47	1.89	250.00	0.06	0.03	3.20	1.70	0.40	6.00
immigrant dropout rate	0.75	0.39	-1.68	123.00	0.10	0.05	-13.65	8.11	-27.10	-0.20
immigrant graduation rate	0.29	0.59	1.91	123.00	0.06	0.03	16.53	8.63	2.22	30.83
special education graduation rate	2.93	0.09	1.72	244.00	0.09	0.04	4.63	2.69	0.19	9.07
Title I graduation rate	1.87	0.17	1.49	233.00	0.14	0.07	4.71	3.16	-0.51	9.94
male graduation rate	0.77	0.38	1.30	250.00	0.20	0.10	2.06	1.59	-0.56	4.68
Pacific Islander graduation rate	5.50	0.02	-1.29	61.00	0.20	0.10	-12.30	9.52	-28.21	3.60
American Indian graduation rate	4.54	0.03	-1.05	133.00	0.29	0.15	-4.16	3.95	-10.71	2.39
migrant dropout rate	2.68	0.10	0.96	105.00	0.34	0.17	6.62	6.92	-4.86	18.09
White graduation rate	1.19	0.28	0.95	250.00	0.34	0.17	1.30	1.37	-0.96	3.57

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
migrant graduation rate	3.81	0.05	-0.93	105.00	0.36	0.18	-6.93	7.49	-19.36	5.49
all students graduation rate	1.87	0.17	0.80	250.00	0.43	0.21	1.07	1.34	-1.14	3.28
special education dropout rate	2.92	0.09	-0.79	244.00	0.43	0.21	-1.54	1.94	-4.75	1.66
male dropout rate	5.52	0.02	-0.74	250.00	0.46	0.23	-0.70	0.95	-2.28	0.87
at risk graduation rate	6.99	0.01	0.73	249.00	0.47	0.23	1.38	1.89	-1.75	4.51
homeless in Grades 9-12 dropout rate	6.16	0.01	-0.71	225.00	0.48	0.24	-2.03	2.86	-6.76	2.70
Title I dropout rate	0.02	0.89	-0.71	233.00	0.48	0.24	-1.71	2.42	-5.70	2.28
bilingual or English as a second language (ESL) graduation rate	2.54	0.11	0.70	202.00	0.48	0.24	3.48	4.94	-4.69	11.65
Pacific Islander dropout rate	1.62	0.21	0.67	61.00	0.50	0.25	4.04	5.98	-5.96	14.03
Asian dropout rate	1.78	0.18	0.67	155.00	0.51	0.25	0.87	1.30	-1.29	3.02

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
female dropout rate	6.77	0.01	0.63	250.00	0.53	0.27	0.62	0.99	-1.02	2.26
American Indian dropout rate	1.14	0.29	0.62	133.00	0.54	0.27	1.96	3.15	-3.26	7.17
Multiracial graduation rate	1.64	0.20	0.61	199.00	0.54	0.27	1.74	2.83	-2.94	6.42
career and technical education dropout rate	9.17	0.00	0.59	250.00	0.55	0.28	0.32	0.55	-0.58	1.23
English language learner (ELL) in last year graduation rate	2.87	0.09	0.59	223.00	0.56	0.28	2.75	4.69	-5.00	10.49
English language learner (ELL) in Grades 9-12 graduation rate	4.51	0.03	0.58	205.00	0.56	0.28	2.99	5.17	-5.56	11.53
economically disadvantaged graduation rate	1.77	0.18	0.56	249.00	0.58	0.29	1.06	1.91	-2.09	4.22
homeless in Grades 9-12 graduation rate	6.00	0.02	0.55	225.00	0.59	0.29	2.07	3.78	-4.18	8.31
gifted and talented graduation rate	1.58	0.21	-0.40	237.00	0.69	0.34	-0.13	0.31	-0.64	0.39
White dropout rate	1.61	0.21	-0.40	250.00	0.69	0.35	-0.41	1.04	-2.13	1.30

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
at risk dropout rate	15.46	0.00	0.39	249.00	0.69	0.35	0.52	1.33	-1.67	2.72
gifted and talented dropout rate	0.87	0.35	0.38	237.00	0.70	0.35	0.06	0.17	-0.21	0.34
African American graduation rate	4.29	0.04	-0.35	201.00	0.73	0.36	-1.08	3.07	-6.15	3.99
Asian graduation rate	0.87	0.35	-0.26	155.00	0.79	0.40	-0.80	3.04	-5.84	4.24
Multiracial dropout rate	0.37	0.54	0.22	199.00	0.83	0.41	0.74	3.41	-4.89	6.37
economically disadvantaged dropout rate	5.34	0.02	-0.16	249.00	0.87	0.44	-0.21	1.33	-2.41	1.98
bilingual or English as a second language (ESL) dropout rate	4.89	0.03	0.15	202.00	0.88	0.44	0.60	4.06	-6.11	7.31
career and technical education graduation rate	5.71	0.02	-0.15	250.00	0.88	0.44	-0.11	0.76	-1.37	1.15
English language learner (ELL) in Grades 9-12 dropout rate	7.32	0.01	0.12	205.00	0.91	0.45	0.52	4.45	-6.83	7.88
female graduation rate	4.08	0.04	0.10	250.00	0.92	0.46	0.14	1.35	-2.09	2.37

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4245) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
African American dropout rate	5.03	0.03	0.10	201.00	0.92	0.46	0.19	1.90	-2.94	3.33
English language learner (ELL) in last year dropout rate	4.83	0.03	-0.04	223.00	0.97	0.49	-0.14	3.75	-6.34	6.06
all students dropout rate	6.54	0.01	-0.04	250.00	0.97	0.49	-0.03	0.86	-1.45	1.39

Appendix 6 (2015-2016 DR 4255)

2015-2015 Comparative Means of Significant Results for Annual Dropout (DR-4255)					
Disaster Declaration	bilingual or English as a second language (ESL) annual dropout rate	English learner (EL) annual dropout rate	average annual dropout rate*	special education annual dropout rate*	White annual dropout rate*
Non-Designated	1.73	2.02	3.39	1.49	0.97
Designated	2.84	3.01	2.46	0.97	0.54
Total	1.93	2.20	3.20	1.38	0.88

2016 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates (DR-4255)										
Disaster Declaration	all students graduation rate*	at risk graduation rate*	female graduation rate*	Hispanic graduation rate*	male dropout rate*	male graduation rate*	special education graduation rate*	Title I dropout rate*	White dropout rate*	White graduation rate*
Non-Designated	92.37	88.46	93.75	91.24	5.07	91.22	86.06	6.96	3.83	93.82
Designated	94.37	91.65	95.64	93.39	3.95	93.37	90.08	4.21	2.53	95.42
Total	92.78	89.11	94.14	91.67	4.85	91.65	86.84	6.39	3.56	94.15

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4255) Equal Variances Assumed

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
bilingual or English as a second language (ESL) annual dropout rate	12.52	0.00	-2.01	237.00	0.05	0.02	-1.11	0.55	-2.02	-0.20
special education annual dropout rate	2.96	0.09	1.93	250.00	0.05	0.03	0.52	0.27	0.08	0.97
English learner (EL) annual dropout rate	8.20	0.00	-1.80	238.00	0.07	0.04	-0.99	0.55	-1.90	-0.08
White annual dropout rate	1.56	0.21	1.78	250.00	0.08	0.04	0.43	0.24	0.03	0.83
average annual dropout rate	0.82	0.36	1.77	250.00	0.08	0.04	0.92	0.52	0.06	1.79
immigrant annual dropout rate	8.45	0.00	-1.59	190.00	0.11	0.06	-2.56	1.61	-5.22	0.10
male annual dropout rate	0.06	0.80	1.42	250.00	0.16	0.08	0.28	0.20	-0.05	0.60
economically disadvantaged annual dropout rate	0.83	0.36	1.37	249.00	0.17	0.09	0.43	0.31	-0.09	0.95
migrant annual dropout rate	5.90	0.02	-1.35	160.00	0.18	0.09	-0.96	0.71	-2.13	0.21
all students annual dropout rate	0.50	0.48	1.18	250.00	0.24	0.12	0.31	0.26	-0.12	0.74

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
African American annual dropout rate	2.08	0.15	1.13	230.00	0.26	0.13	1.00	0.89	-0.47	2.46
American Indian annual dropout rate	3.33	0.07	1.05	200.00	0.29	0.15	1.64	1.56	-0.93	4.21
at risk annual dropout rate	0.00	0.95	1.02	250.00	0.31	0.15	0.29	0.29	-0.18	0.77
Title I annual dropout rate	1.59	0.21	0.99	234.00	0.32	0.16	1.11	1.12	-0.74	2.95
female annual dropout rate	0.21	0.65	0.96	250.00	0.34	0.17	0.33	0.34	-0.24	0.89
homeless status annual dropout rate	0.13	0.72	0.87	220.00	0.38	0.19	0.62	0.71	-0.56	1.79
career and technical education annual dropout rate	0.21	0.64	0.74	250.00	0.46	0.23	0.07	0.09	-0.09	0.23
Hispanic annual dropout rate	0.04	0.84	0.59	250.00	0.56	0.28	0.18	0.30	-0.32	0.67
gifted and talented annual dropout rate	0.60	0.44	0.46	248.00	0.65	0.32	0.05	0.10	-0.12	0.21
Pacific Islander annual dropout rate	0.44	0.51	-0.45	113.00	0.65	0.33	-1.34	2.96	-6.25	3.57
Asian annual dropout rate	0.55	0.46	0.43	209.00	0.67	0.33	0.33	0.76	-0.93	1.59

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
multiracial annual dropout rate	0.64	0.43	-0.22	233.00	0.83	0.41	-0.19	0.84	-1.57	1.20

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
all students graduation rate	1.25	0.26	-2.19	250.00	0.03	0.01	-2.00	0.91	-3.51	-0.49
at risk graduation rate	0.13	0.71	-2.48	249.00	0.01	0.01	-3.19	1.29	-5.32	-1.06
female graduation rate	0.30	0.59	-2.04	250.00	0.04	0.02	-1.88	0.92	-3.40	-0.36
Hispanic graduation rate	0.08	0.78	-1.85	250.00	0.07	0.03	-2.15	1.17	-4.08	-0.23
male dropout rate	0.01	0.93	1.72	250.00	0.09	0.04	1.13	0.65	0.05	2.20
male graduation rate	0.09	0.76	-1.98	250.00	0.05	0.02	-2.15	1.09	-3.95	-0.36

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
special education graduation rate	0.19	0.66	-2.13	244.00	0.03	0.02	-4.02	1.89	-7.14	-0.90
Title I dropout rate	4.67	0.03	1.67	233.00	0.10	0.05	2.75	1.65	0.02	5.48
White dropout rate	2.12	0.15	1.83	250.00	0.07	0.03	1.30	0.71	0.13	2.47
White graduation rate	0.74	0.39	-1.70	250.00	0.09	0.04	-1.60	0.94	-3.15	-0.05
Title I graduation rate	2.77	0.10	-1.63	233.00	0.10	0.05	-3.54	2.17	-7.13	0.04
special education dropout rate	1.35	0.25	1.59	244.00	0.11	0.06	2.16	1.36	-0.09	4.42
all students dropout rate	1.53	0.22	1.58	250.00	0.12	0.06	0.93	0.59	-0.04	1.90
homeless in Grades 9-12 dropout rate	2.37	0.13	1.55	225.00	0.12	0.06	3.33	2.15	-0.21	6.88
economically disadvantaged graduation rate	0.25	0.62	-1.49	249.00	0.14	0.07	-1.96	1.32	-4.14	0.21
immigrant graduation rate	1.71	0.19	-1.46	123.00	0.15	0.07	-10.67	7.28	-22.74	1.40
African American graduation rate	2.26	0.13	-1.46	201.00	0.15	0.07	-3.37	2.32	-7.20	0.46

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
at risk dropout rate	1.44	0.23	1.41	249.00	0.16	0.08	1.29	0.91	-0.22	2.79
American Indian graduation rate	3.78	0.05	-1.25	133.00	0.21	0.11	-4.31	3.45	-10.03	1.41
English language learner (ELL) in last year graduation rate	0.10	0.76	-1.24	223.00	0.22	0.11	-4.36	3.52	-10.17	1.45
gifted and talented graduation rate	4.27	0.04	-1.21	237.00	0.23	0.11	-0.27	0.22	-0.64	0.10
female dropout rate	0.02	0.88	1.20	250.00	0.23	0.12	0.82	0.68	-0.31	1.94
African American dropout rate	1.07	0.30	1.17	201.00	0.24	0.12	1.67	1.43	-0.70	4.05
homeless in Grades 9-12 graduation rate	0.20	0.65	-1.13	225.00	0.26	0.13	-3.22	2.84	-7.92	1.47
economically disadvantaged dropout rate	0.31	0.58	0.91	249.00	0.36	0.18	0.83	0.92	-0.68	2.35
Pacific Islander graduation rate	3.44	0.07	0.91	61.00	0.37	0.18	9.34	10.30	-7.87	26.55
immigrant dropout rate	0.58	0.45	0.87	123.00	0.39	0.19	5.94	6.86	-5.43	17.31

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Pacific Islander dropout rate	2.54	0.12	0.81	61.00	0.42	0.21	5.19	6.42	-5.53	15.92
Multiracial dropout rate	0.00	0.95	-0.71	199.00	0.48	0.24	-1.85	2.61	-6.17	2.46
bilingual or English as a second language (ESL) dropout rate	2.38	0.12	-0.68	202.00	0.49	0.25	-2.19	3.20	-7.48	3.10
English language learner (ELL) in Grades 9-12 graduation rate	0.03	0.85	-0.68	205.00	0.50	0.25	-2.75	4.07	-9.48	3.98
career and technical education graduation rate	0.04	0.84	-0.65	250.00	0.52	0.26	-0.34	0.53	-1.21	0.53
Hispanic dropout rate	0.04	0.84	0.57	250.00	0.57	0.28	0.48	0.84	-0.90	1.86
American Indian dropout rate	0.43	0.51	0.46	133.00	0.65	0.32	1.26	2.76	-3.31	5.82
bilingual or English as a second language (ESL) graduation rate	0.29	0.59	-0.44	202.00	0.66	0.33	-1.71	3.90	-8.16	4.74
Asian graduation rate	0.71	0.40	0.42	155.00	0.67	0.34	1.14	2.69	-3.32	5.60

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4255) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian dropout rate	0.38	0.54	0.37	155.00	0.71	0.36	0.43	1.15	-1.48	2.33
Multiracial graduation rate	1.47	0.23	-0.37	199.00	0.71	0.36	-0.80	2.17	-4.39	2.79
migrant dropout rate	0.02	0.88	0.36	105.00	0.72	0.36	2.07	5.73	-7.45	11.58
career and technical education dropout rate	0.25	0.62	0.33	250.00	0.74	0.37	0.12	0.38	-0.50	0.75
English language learner (ELL) in Grades 9-12 dropout rate	0.41	0.52	-0.24	205.00	0.81	0.41	-0.84	3.51	-6.64	4.95
migrant graduation rate	0.08	0.77	-0.20	105.00	0.84	0.42	-1.24	6.20	-11.54	9.05
gifted and talented dropout rate	0.01	0.91	0.11	237.00	0.91	0.46	0.01	0.12	-0.19	0.21
English language learner (ELL) in last year dropout rate	0.46	0.50	0.11	223.00	0.91	0.46	0.31	2.82	-4.35	4.97

Appendix 7 (2015-2016 DR 4266)

2015-2015 Comparative Means of Significant Results for Annual Dropout (DR-4266)	
Disaster Declaration	immigrant annual dropout rate
Non-Designated	2.13
Designated	7.82
Total	2.64

2016 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates (DR-4266)						
Disaster Declaration	County Asian dropout rate	County career and technical education graduation rate	County English language learner (ELL) in last year graduation rate	County Hispanic graduation rate	County migrant dropout rate	County migrant graduation rate
Non-Designated	0.97	96.90	83.34	91.91	9.49	87.17
Designated	3.92	95.42	74.91	89.00	50.00	50.00
Total	1.31	96.77	82.59	91.67	10.25	86.48

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
immigrant annual dropout rate	28.34	0.00	-2.73	190.00	0.01	0.00	-5.68	2.08	-9.13	-2.24
Asian annual dropout rate	7.71	0.01	-1.58	209.00	0.12	0.06	-1.49	0.94	-3.05	0.07
migrant annual dropout rate	3.21	0.08	0.97	160.00	0.33	0.17	1.08	1.12	-0.77	2.93
Hispanic annual dropout rate	0.69	0.41	0.74	250.00	0.46	0.23	0.32	0.44	-0.40	1.05
African American annual dropout rate	1.24	0.27	0.52	230.00	0.60	0.30	0.65	1.25	-1.42	2.72
overage annual dropout rate	3.46	0.06	0.43	250.00	0.67	0.33	0.33	0.77	-0.94	1.59
American Indian annual dropout rate	0.54	0.46	0.37	200.00	0.71	0.36	0.74	2.00	-2.56	4.05
career and technical education annual dropout rate	5.36	0.02	-0.29	250.00	0.78	0.39	-0.04	0.14	-0.27	0.19
White annual dropout rate	1.36	0.24	-0.26	250.00	0.80	0.40	-0.09	0.35	-0.67	0.49
homeless status annual dropout rate	0.61	0.43	-0.22	220.00	0.83	0.41	-0.21	0.96	-1.80	1.38

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
multiracial annual dropout rate	0.46	0.50	0.17	233.00	0.86	0.43	0.21	1.17	-1.73	2.14
special education annual dropout rate	2.36	0.13	-0.17	250.00	0.87	0.43	-0.07	0.39	-0.72	0.59
all students annual dropout rate	0.73	0.39	0.15	250.00	0.88	0.44	0.06	0.38	-0.57	0.69
at risk annual dropout rate	1.34	0.25	0.12	250.00	0.91	0.45	0.05	0.42	-0.64	0.74
female annual dropout rate	0.37	0.54	0.11	250.00	0.91	0.46	0.06	0.50	-0.77	0.88
Pacific Islander annual dropout rate	0.04	0.84	0.11	113.00	0.91	0.46	0.36	3.32	-5.15	5.86
male annual dropout rate	2.69	0.10	0.07	250.00	0.94	0.47	0.02	0.29	-0.45	0.49
Title I annual dropout rate	0.13	0.72	0.07	234.00	0.95	0.47	0.10	1.60	-2.53	2.74
lingual or English as a second language (ESL) annual dropout rate	0.08	0.78	-0.06	237.00	0.95	0.48	-0.05	0.77	-1.32	1.23
gifted and talented annual dropout rate	0.00	0.98	0.03	248.00	0.98	0.49	0.00	0.14	-0.23	0.24

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
English learner (EL) annual dropout rate	0.34	0.56	0.00	238.00	1.00	0.50	0.00	0.76	-1.25	1.25
economically disadvantaged annual dropout rate	0.31	0.58	0.00	249.00	1.00	0.50	0.00	0.45	-0.75	0.75

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR- 4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian dropout rate	20.26	0.00	-2.30	155.00	0.02	0.01	-2.94	1.28	-5.06	-0.82
career and technical education graduation rate	1.88	0.17	1.95	250.00	0.05	0.03	1.48	0.76	0.22	2.73
English language learner (ELL) in last year graduation rate	8.74	0.00	1.81	223.00	0.07	0.04	8.43	4.66	0.74	16.13

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR- 4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Hispanic graduation rate	13.00	0.00	1.72	250.00	0.09	0.04	2.91	1.70	0.11	5.72
migrant dropout rate	9.95	0.00	-2.58	105.00	0.01	0.01	-40.51	15.70	-66.56	-14.46
migrant graduation rate	8.26	0.00	2.17	105.00	0.03	0.02	37.17	17.13	8.74	65.60
White graduation rate	0.16	0.69	1.57	250.00	0.12	0.06	2.15	1.37	-0.11	4.40
male graduation rate	0.99	0.32	1.47	250.00	0.14	0.07	2.34	1.59	-0.29	4.96
immigrant dropout rate	9.02	0.00	-1.31	123.00	0.19	0.10	-12.82	9.76	-29.00	3.36
at risk graduation rate	0.18	0.67	1.28	249.00	0.20	0.10	2.42	1.89	-0.70	5.54
gifted and talented graduation rate	4.41	0.04	-1.14	237.00	0.25	0.13	-0.36	0.31	-0.87	0.16
Title I graduation rate	1.63	0.20	1.12	233.00	0.26	0.13	3.48	3.10	-1.64	8.60
all students graduation rate	0.32	0.57	1.11	250.00	0.27	0.13	1.48	1.34	-0.73	3.69
Asian graduation rate	2.45	0.12	0.98	155.00	0.33	0.16	2.98	3.04	-2.05	8.00

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR- 4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
bilingual or English as a second language (ESL) dropout rate	0.18	0.67	0.86	202.00	0.39	0.19	3.67	4.25	-3.35	10.70
Pacific Islander dropout rate	2.63	0.11	0.83	61.00	0.41	0.20	5.86	7.04	-5.90	17.63
economically disadvantaged graduation rate	0.05	0.82	0.80	249.00	0.43	0.21	1.52	1.91	-1.63	4.67
immigrant graduation rate	6.26	0.01	0.80	123.00	0.43	0.21	8.32	10.46	-9.02	25.67
English language learner (ELL) in Grades 9-12 graduation rate	0.62	0.43	0.76	205.00	0.45	0.22	4.13	5.42	-4.82	13.09
English language learner (ELL) in last year dropout rate	0.20	0.66	0.76	223.00	0.45	0.22	2.85	3.75	-3.34	9.04
American Indian graduation rate	1.43	0.23	0.74	133.00	0.46	0.23	3.15	4.29	-3.95	10.25
Multiracial dropout rate	0.18	0.67	0.69	199.00	0.49	0.25	2.34	3.41	-3.29	7.97
English language learner (ELL) in Grades 9-12 dropout rate	0.17	0.68	0.68	205.00	0.50	0.25	3.16	4.66	-4.54	10.86

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR- 4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
 bilingual or English as a second language (ESL) graduation rate	1.74	0.19	0.64	202.00	0.53	0.26	3.30	5.18	-5.27	11.87
special education dropout rate	1.82	0.18	0.63	244.00	0.53	0.27	1.22	1.94	-1.99	4.43
Hispanic dropout rate	0.65	0.42	-0.57	250.00	0.57	0.28	-0.70	1.22	-2.71	1.31
female graduation rate	0.41	0.52	0.55	250.00	0.58	0.29	0.75	1.35	-1.48	2.97
African American dropout rate	3.25	0.07	0.52	201.00	0.60	0.30	0.99	1.90	-2.14	4.13
gifted and talented dropout rate	0.75	0.39	0.44	237.00	0.66	0.33	0.07	0.17	-0.20	0.35
homeless in Grades 9-12 graduation rate	2.39	0.12	0.42	225.00	0.68	0.34	1.57	3.78	-4.67	7.82
female dropout rate	5.27	0.02	0.37	250.00	0.71	0.36	0.37	0.99	-1.27	2.01
career and technical education dropout rate	1.85	0.18	-0.35	250.00	0.73	0.36	-0.19	0.55	-1.09	0.71
White dropout rate	4.43	0.04	-0.31	250.00	0.76	0.38	-0.32	1.04	-2.03	1.39

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR- 4266) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
economically disadvantaged dropout rate	5.48	0.02	0.30	249.00	0.76	0.38	0.40	1.33	-1.79	2.59
Pacific Islander graduation rate	0.51	0.48	0.28	61.00	0.78	0.39	3.17	11.38	-15.83	22.17
African American graduation rate	0.38	0.54	0.28	201.00	0.78	0.39	0.85	3.07	-4.22	5.93
American Indian dropout rate	0.20	0.66	0.26	133.00	0.80	0.40	0.87	3.41	-4.78	6.52
homeless in Grades 9-12 dropout rate	1.85	0.17	0.23	225.00	0.82	0.41	0.66	2.86	-4.07	5.39
special education graduation rate	1.94	0.16	-0.22	244.00	0.83	0.41	-0.59	2.70	-5.06	3.87
all students dropout rate	5.81	0.02	0.20	250.00	0.84	0.42	0.17	0.86	-1.25	1.59
at risk dropout rate	5.79	0.02	-0.17	249.00	0.87	0.43	-0.22	1.33	-2.42	1.97
Multiracial graduation rate	0.43	0.51	0.15	199.00	0.88	0.44	0.42	2.84	-4.26	5.11
male dropout rate	6.80	0.01	-0.15	250.00	0.88	0.44	-0.14	0.96	-1.72	1.44
Title I dropout rate	0.65	0.42	-0.05	233.00	0.96	0.48	-0.12	2.37	-4.03	3.80

Appendix 8 (2015-2016 DR 4269)

2015-2015 Comparative Means of Significant Results for Annual Dropout (DR-4269)	
Disaster Declaration	homeless status annual dropout rate
Non-Designated	2.74
Designated	4.44
Total	2.93

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
homeless status annual dropout rate	0.21	0.64	-1.93	220.00	0.06	0.03	-1.70	0.88	-3.16	-0.24
career and technical education annual dropout rate	0.07	0.79	-1.13	250.00	0.26	0.13	-0.14	0.13	-0.35	0.07
English learner (EL) annual dropout rate	0.96	0.33	-0.85	238.00	0.40	0.20	-0.59	0.70	-1.75	0.56
Asian annual dropout rate	2.19	0.14	0.84	209.00	0.40	0.20	0.72	0.86	-0.70	2.15

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Pacific Islander annual dropout rate	2.05	0.16	0.80	113.00	0.43	0.21	2.48	3.11	-2.68	7.64
special education annual dropout rate	1.58	0.21	-0.78	250.00	0.43	0.22	-0.28	0.36	-0.87	0.31
American Indian annual dropout rate	1.50	0.22	0.66	200.00	0.51	0.26	1.19	1.81	-1.80	4.19
bilingual or English as a second language (ESL) annual dropout rate	0.14	0.71	-0.53	237.00	0.59	0.30	-0.37	0.69	-1.50	0.77
Title I annual dropout rate	0.60	0.44	0.46	234.00	0.64	0.32	0.68	1.48	-1.75	3.12
at risk annual dropout rate	1.19	0.28	-0.45	250.00	0.65	0.33	-0.17	0.38	-0.80	0.46
gifted and talented annual dropout rate	0.72	0.40	0.42	248.00	0.67	0.34	0.05	0.13	-0.16	0.27
African American annual dropout rate	2.21	0.14	0.40	230.00	0.69	0.34	0.46	1.14	-1.42	2.34
migrant annual dropout rate	0.33	0.56	0.35	160.00	0.72	0.36	0.34	0.96	-1.25	1.93
female annual dropout rate	1.22	0.27	0.29	250.00	0.77	0.39	0.13	0.45	-0.61	0.88

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
White annual dropout rate	2.54	0.11	0.27	250.00	0.78	0.39	0.09	0.32	-0.44	0.62
male annual dropout rate	3.39	0.07	-0.24	250.00	0.81	0.41	-0.06	0.26	-0.49	0.37
multiracial annual dropout rate	0.77	0.38	0.17	233.00	0.87	0.43	0.18	1.07	-1.59	1.94
economically disadvantaged annual dropout rate	0.76	0.38	-0.14	249.00	0.89	0.45	-0.06	0.41	-0.74	0.62
all students annual dropout rate	1.44	0.23	0.13	250.00	0.90	0.45	0.05	0.35	-0.53	0.62
immigrant annual dropout rate	0.00	0.98	-0.07	190.00	0.94	0.47	-0.13	1.82	-3.14	2.89
average annual dropout rate	4.44	0.04	-0.07	250.00	0.95	0.47	-0.05	0.70	-1.20	1.10
Hispanic annual dropout rate	1.00	0.32	-0.02	250.00	0.98	0.49	-0.01	0.40	-0.66	0.65

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
American Indian dropout rate	5.39	0.02	1.26	133.00	0.21	0.10	3.78	3.00	-1.19	8.75
bilingual or English as a second language (ESL) dropout rate	3.60	0.06	1.12	202.00	0.27	0.13	4.10	3.67	-1.97	10.17
Asian dropout rate	3.99	0.05	1.06	155.00	0.29	0.15	1.26	1.19	-0.71	3.23
Title I dropout rate	2.56	0.11	-1.03	233.00	0.30	0.15	-2.25	2.19	-5.86	1.36
English language learner (ELL) in last year dropout rate	6.11	0.01	0.98	223.00	0.33	0.16	3.27	3.33	-2.24	8.78
Pacific Islander graduation rate	3.22	0.08	-0.97	61.00	0.34	0.17	-12.39	12.81	-33.79	9.01
migrant dropout rate	1.97	0.16	0.95	105.00	0.35	0.17	7.09	7.50	-5.35	19.54
migrant graduation rate	1.69	0.20	-0.92	105.00	0.36	0.18	-7.45	8.12	-20.92	6.02
female dropout rate	7.32	0.01	0.88	250.00	0.38	0.19	0.79	0.90	-0.70	2.28
Title I graduation rate	0.85	0.36	0.83	233.00	0.41	0.20	2.39	2.87	-2.36	7.13

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
English language learner (ELL) in last year graduation rate	4.07	0.04	-0.82	223.00	0.41	0.21	-3.42	4.17	-10.31	3.47
English language learner (ELL) in Grades 9-12 dropout rate	4.16	0.04	0.81	205.00	0.42	0.21	3.25	4.03	-3.41	9.90
career and technical education dropout rate	3.03	0.08	0.73	250.00	0.47	0.23	0.36	0.50	-0.46	1.18
Multiracial graduation rate	1.92	0.17	0.66	199.00	0.51	0.25	1.71	2.58	-2.56	5.98
American Indian graduation rate	1.58	0.21	-0.65	133.00	0.52	0.26	-2.46	3.79	-8.74	3.82
economically disadvantaged dropout rate	6.66	0.01	0.63	249.00	0.53	0.26	0.76	1.21	-1.23	2.75
bilingual or English as a second language (ESL) graduation rate	1.28	0.26	-0.62	202.00	0.54	0.27	-2.76	4.48	-10.17	4.65
Asian graduation rate	0.80	0.37	-0.58	155.00	0.56	0.28	-1.63	2.79	-6.25	2.99
White dropout rate	7.49	0.01	0.58	250.00	0.56	0.28	0.54	0.94	-1.01	2.10
all students dropout rate	9.48	0.00	0.57	250.00	0.57	0.28	0.45	0.78	-0.84	1.74

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Hispanic dropout rate	8.57	0.00	0.49	250.00	0.63	0.31	0.54	1.10	-1.29	2.36
economically disadvantaged graduation rate	5.87	0.02	-0.45	249.00	0.65	0.33	-0.79	1.74	-3.65	2.08
at risk dropout rate	7.84	0.01	0.45	249.00	0.66	0.33	0.54	1.21	-1.46	2.53
English language learner (ELL) in Grades 9-12 graduation rate	2.44	0.12	-0.43	205.00	0.67	0.33	-2.01	4.69	-9.76	5.74
Pacific Islander dropout rate	0.69	0.41	0.41	61.00	0.68	0.34	3.28	8.02	-10.12	16.68
immigrant dropout rate	1.35	0.25	0.40	123.00	0.69	0.35	3.08	7.78	-9.80	15.97
at risk graduation rate	6.51	0.01	0.39	249.00	0.69	0.35	0.68	1.72	-2.17	3.52
female graduation rate	4.81	0.03	-0.38	250.00	0.70	0.35	-0.47	1.23	-2.50	1.56
Multiracial dropout rate	0.91	0.34	0.36	199.00	0.72	0.36	1.12	3.11	-4.01	6.26
career and technical education graduation rate	2.59	0.11	-0.34	250.00	0.73	0.37	-0.24	0.69	-1.38	0.91
special education dropout rate	8.47	0.00	0.34	244.00	0.74	0.37	0.59	1.77	-2.33	3.51

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
homeless in Grades 9-12 graduation rate	4.12	0.04	0.31	225.00	0.76	0.38	1.07	3.44	-4.61	6.76
gifted and talented graduation rate	0.03	0.87	0.30	237.00	0.76	0.38	0.09	0.28	-0.38	0.55
male graduation rate	4.75	0.03	0.23	250.00	0.81	0.41	0.34	1.45	-2.05	2.73
special education graduation rate	7.45	0.01	0.18	244.00	0.86	0.43	0.43	2.46	-3.63	4.49
White graduation rate	7.50	0.01	-0.16	250.00	0.87	0.44	-0.20	1.25	-2.26	1.85
African American dropout rate	2.98	0.09	-0.15	201.00	0.88	0.44	-0.26	1.73	-3.12	2.59
all students graduation rate	5.97	0.02	-0.15	250.00	0.88	0.44	-0.18	1.22	-2.19	1.83
homeless in Grades 9-12 dropout rate	1.78	0.18	-0.15	225.00	0.88	0.44	-0.39	2.61	-4.69	3.92
gifted and talented dropout rate	0.09	0.76	0.07	237.00	0.94	0.47	0.01	0.15	-0.24	0.26
African American graduation rate	5.93	0.02	-0.04	201.00	0.97	0.48	-0.11	2.80	-4.74	4.51
Hispanic graduation rate	4.71	0.03	-0.03	250.00	0.98	0.49	-0.05	1.55	-2.61	2.51

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4269) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
immigrant graduation rate	0.88	0.35	-0.03	123.00	0.98	0.49	-0.23	8.30	-13.99	13.53
male dropout rate	11.28	0.00	0.00	250.00	1.00	0.50	0.00	0.87	-1.44	1.43

Appendix 9 (2015-2016 DR 4272)

2016 Comparative Means of Significant Results for Four Year Graduation & Dropout Rates (DR- 4272)					
Disaster Declaration	career and technical education graduation rate	English language learner (ELL) in Grades 9-12 graduation rate	homeless in Grades 9-12 graduation rate	Title I dropout rate	Title I graduation rate
Non-Designated	96.95	82.19	84.75	5.67	91.47
Designated	95.91	74.60	79.27	9.88	85.61
Total	96.77	80.87	83.73	6.39	90.47

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
multiracial annual dropout rate	3.54	0.06	-1.33	233.00	0.18	0.09	-1.16	0.87	-2.60	0.28
homeless status annual dropout rate	0.12	0.73	-1.22	220.00	0.22	0.11	-0.88	0.72	-2.08	0.31
migrant annual dropout rate	2.22	0.14	0.91	160.00	0.36	0.18	0.68	0.74	-0.55	1.91
Asian annual dropout rate	1.09	0.30	0.62	209.00	0.54	0.27	0.45	0.72	-0.75	1.64
American Indian annual dropout rate	1.05	0.31	0.60	200.00	0.55	0.27	0.92	1.53	-1.60	3.44
career and technical education annual dropout rate	1.19	0.28	-0.59	250.00	0.55	0.28	-0.06	0.10	-0.23	0.11
gifted and talented annual dropout rate	0.85	0.36	0.56	248.00	0.58	0.29	0.06	0.11	-0.12	0.23
White annual dropout rate	0.48	0.49	-0.47	250.00	0.64	0.32	-0.12	0.26	-0.56	0.31
male annual dropout rate	2.62	0.11	-0.40	250.00	0.69	0.34	-0.09	0.21	-0.44	0.27
African American annual dropout rate	1.66	0.20	0.35	230.00	0.72	0.36	0.33	0.94	-1.22	1.89
Hispanic annual dropout rate	1.30	0.26	0.35	250.00	0.73	0.36	0.11	0.32	-0.42	0.65

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
special education annual dropout rate	0.48	0.49	-0.33	250.00	0.75	0.37	-0.10	0.29	-0.58	0.39
Title I annual dropout rate	0.17	0.68	-0.27	234.00	0.79	0.39	-0.33	1.21	-2.33	1.67
at risk annual dropout rate	3.02	0.08	-0.27	250.00	0.79	0.39	-0.08	0.31	-0.60	0.43
Pacific Islander annual dropout rate	0.08	0.78	-0.26	113.00	0.79	0.40	-0.71	2.67	-5.14	3.72
economically disadvantaged annual dropout rate	1.14	0.29	-0.20	249.00	0.84	0.42	-0.07	0.34	-0.62	0.49
immigrant annual dropout rate	0.07	0.79	-0.18	190.00	0.86	0.43	-0.29	1.58	-2.90	2.32
female annual dropout rate	1.12	0.29	0.12	250.00	0.91	0.45	0.04	0.37	-0.57	0.65
overage annual dropout rate	5.42	0.02	0.11	250.00	0.91	0.46	0.06	0.57	-0.87	1.00
bilingual or English as a second language (ESL) annual dropout rate	0.03	0.87	0.04	237.00	0.97	0.48	0.02	0.56	-0.90	0.95
English learner (EL) annual dropout rate	0.03	0.87	-0.04	238.00	0.97	0.49	-0.02	0.57	-0.96	0.92

Independent Samples Test 2015-2016 Annual Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
all students annual dropout rate	1.45	0.23	0.01	250.00	0.99	0.50	0.00	0.28	-0.47	0.47

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Title I graduation rate	17.30	0.00	2.52	233.00	0.01	0.01	5.86	2.33	2.02	9.71
Title I dropout rate	17.62	0.00	-2.37	233.00	0.02	0.01	-4.21	1.78	-7.14	-1.28
homeless in Grades 9-12 graduation rate	0.00	0.98	1.95	225.00	0.05	0.03	5.47	2.80	0.85	10.10
English language learner (ELL) in Grades 9-12 graduation rate	0.59	0.44	1.90	205.00	0.06	0.03	7.60	4.00	0.99	14.21
career and technical education graduation rate	1.65	0.20	1.85	250.00	0.07	0.03	1.04	0.56	0.11	1.97

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
English language learner (ELL) in last year graduation rate	1.28	0.26	1.54	223.00	0.13	0.06	5.30	3.44	-0.39	10.98
American Indian dropout rate	7.37	0.01	1.48	133.00	0.14	0.07	4.18	2.83	-0.51	8.87
English language learner (ELL) in Grades 9-12 dropout rate	2.24	0.14	-1.47	205.00	0.14	0.07	-5.06	3.45	-10.77	0.64
African American dropout rate	0.22	0.64	-1.46	201.00	0.14	0.07	-2.12	1.45	-4.51	0.27
bilingual or English as a second language (ESL) graduation rate	0.01	0.93	1.43	202.00	0.15	0.08	5.62	3.93	-0.87	12.12
gifted and talented dropout rate	6.72	0.01	1.40	237.00	0.16	0.08	0.17	0.12	-0.03	0.38
male graduation rate	0.01	0.92	1.31	250.00	0.19	0.10	1.54	1.18	-0.40	3.48
economically disadvantaged graduation rate	0.75	0.39	1.15	249.00	0.25	0.13	1.62	1.41	-0.71	3.95
immigrant dropout rate	2.53	0.11	-1.14	123.00	0.26	0.13	-8.08	7.10	-19.84	3.69
at risk graduation rate	0.64	0.42	1.06	249.00	0.29	0.14	1.49	1.40	-0.83	3.81

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian dropout rate	3.53	0.06	1.03	155.00	0.31	0.15	1.05	1.03	-0.65	2.75
Hispanic graduation rate	0.05	0.82	0.99	250.00	0.32	0.16	1.25	1.26	-0.84	3.34
African American graduation rate	0.00	0.97	0.97	201.00	0.33	0.17	2.29	2.35	-1.59	6.16
gifted and talented graduation rate	2.68	0.10	-0.96	237.00	0.34	0.17	-0.22	0.23	-0.60	0.16
White graduation rate	1.21	0.27	0.91	250.00	0.36	0.18	0.93	1.02	-0.75	2.61
all students graduation rate	0.14	0.71	0.87	250.00	0.38	0.19	0.86	0.99	-0.77	2.50
immigrant graduation rate	1.60	0.21	0.85	123.00	0.40	0.20	6.48	7.59	-6.10	19.06
English language learner (ELL) in last year dropout rate	0.51	0.47	-0.83	223.00	0.41	0.20	-2.29	2.76	-6.86	2.27
male dropout rate	4.16	0.04	-0.80	250.00	0.43	0.21	-0.56	0.71	-1.73	0.60
Pacific Islander graduation rate	1.42	0.24	-0.77	61.00	0.44	0.22	-7.66	9.94	-24.25	8.94
bilingual or English as a second	0.01	0.93	-0.70	202.00	0.48	0.24	-2.27	3.24	-7.62	3.08

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
language (ESL) dropout rate										
career and technical education dropout rate	0.44	0.51	-0.57	250.00	0.57	0.28	-0.23	0.41	-0.90	0.44
migrant dropout rate	1.78	0.18	-0.55	105.00	0.58	0.29	-3.48	6.31	-13.94	6.98
Multiracial graduation rate	1.22	0.27	0.51	199.00	0.61	0.30	1.14	2.21	-2.52	4.80
female dropout rate	5.48	0.02	0.49	250.00	0.62	0.31	0.36	0.74	-0.85	1.58
economically disadvantaged dropout rate	3.47	0.06	-0.46	249.00	0.65	0.32	-0.45	0.98	-2.08	1.17
American Indian graduation rate	0.50	0.48	-0.43	133.00	0.67	0.33	-1.54	3.59	-7.49	4.40
Pacific Islander dropout rate	0.53	0.47	0.41	61.00	0.68	0.34	2.53	6.21	-7.83	12.90
homeless in Grades 9-12 dropout rate	3.28	0.07	0.37	225.00	0.71	0.36	0.79	2.14	-2.74	4.32
migrant graduation rate	0.64	0.43	0.32	105.00	0.75	0.37	2.18	6.83	-9.15	13.51
special education graduation rate	1.85	0.18	-0.28	244.00	0.78	0.39	-0.57	2.01	-3.89	2.74

Independent Samples Test 2015-2016 Four Year Graduation & Dropout Rates (DR-4272) Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
female graduation rate	0.73	0.39	0.28	250.00	0.78	0.39	0.28	1.00	-1.37	1.94
Multiracial dropout rate	0.89	0.35	-0.28	199.00	0.78	0.39	-0.74	2.66	-5.14	3.66
at risk dropout rate	4.64	0.03	-0.26	249.00	0.80	0.40	-0.25	0.99	-1.88	1.37
White dropout rate	3.65	0.06	-0.21	250.00	0.83	0.42	-0.16	0.77	-1.43	1.11
all students dropout rate	4.96	0.03	-0.11	250.00	0.91	0.45	-0.07	0.64	-1.13	0.98
Asian graduation rate	0.06	0.81	-0.11	155.00	0.91	0.46	-0.27	2.41	-4.26	3.71
Hispanic dropout rate	2.48	0.12	-0.08	250.00	0.94	0.47	-0.07	0.90	-1.56	1.42
special education dropout rate	3.62	0.06	-0.02	244.00	0.99	0.49	-0.02	1.44	-2.41	2.36

Appendix 10 (2017-2018)

2017-2018 Comparative Means of Significant Results for Annual Dropout Rates				
Disaster Declaration	career and technical education annual dropout rate	dyslexia annual dropout rate	homeless status annual dropout rate*	average annual dropout rate
Non-Designated	0.54	0.58	4.87	2.93
Designated	0.74	1.16	2.76	3.91
Total	0.58	0.70	4.43	3.12

2017-2018 Comparative Means for Significant Results for Four Year Graduation & Dropout Rates											
Disaster Declaration	Asian dropout rate	Asian graduation rate	career and technical education graduation rate	Hispanic dropout rate	Hispanic graduation rate	not economically disadvantaged dropout rate	not economically disadvantaged graduation rate	Pacific Islander dropout rate	special education graduation rate	Title I dropout rate	Title I graduation rate
Non-Designated	1.16	97.37	97.16	3.94	93.38	2.15	96.14	4.53	88.55	4.79	92.89
Designated	5.08	92.91	96.34	5.06	91.35	3.10	94.51	14.79	84.43	8.57	87.47
Total	2.19	96.20	97.00	4.16	92.98	2.34	95.82	7.22	87.74	5.55	91.79

Independent Samples Test 2017-2018 Annual Dropout Rates Equal Variances Assumed

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
dyslexia annual dropout rate	6.76	0.01	-3.00	242.00	0.00	0.00	-0.57	0.19	-0.88	-0.26
career and technical education annual dropout rate	0.89	0.35	-2.03	250.00	0.04	0.02	-0.20	0.10	-0.36	-0.04
overage annual dropout rate	1.66	0.20	-1.91	250.00	0.06	0.03	-0.98	0.51	-1.82	-0.13
homeless status annual dropout rate	7.58	0.01	1.69	230.00	0.09	0.05	2.11	1.25	0.05	4.17
special education annual dropout rate	0.70	0.40	-1.55	249.00	0.12	0.06	-0.46	0.30	-0.95	0.03
male annual dropout rate	1.25	0.27	-1.41	250.00	0.16	0.08	-0.31	0.22	-0.67	0.05
at risk annual dropout rate	1.68	0.20	-1.26	250.00	0.21	0.10	-0.31	0.25	-0.72	0.10
economically disadvantaged annual dropout rate	0.53	0.47	-1.16	249.00	0.25	0.12	-0.30	0.25	-0.72	0.12
migrant annual dropout rate	5.19	0.02	-1.16	163.00	0.25	0.12	-2.78	2.39	-6.74	1.18
White annual dropout rate	0.29	0.59	-1.14	250.00	0.26	0.13	-0.20	0.18	-0.50	0.09
foster care annual dropout rate	2.12	0.15	-0.98	169.00	0.33	0.16	-1.92	1.95	-5.15	1.32

Independent Samples Test 2017-2018 Annual Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
all students annual dropout rate	1.58	0.21	-0.81	250.00	0.42	0.21	-0.17	0.21	-0.53	0.18
military-connected annual dropout rate	1.99	0.16	-0.80	185.00	0.43	0.21	-0.29	0.36	-0.88	0.31
multiracial annual dropout rate	2.07	0.15	0.60	225.00	0.55	0.27	0.22	0.37	-0.38	0.83
English learner (EL) annual dropout rate	1.53	0.22	0.60	243.00	0.55	0.27	0.68	1.14	-1.20	2.56
Title I annual dropout rate	0.04	0.85	-0.58	235.00	0.56	0.28	-0.31	0.54	-1.21	0.58
Asian annual dropout rate	1.18	0.28	0.56	207.00	0.58	0.29	0.19	0.35	-0.38	0.76
Pacific Islander annual dropout rate	0.84	0.36	0.54	111.00	0.59	0.30	1.17	2.17	-2.43	4.78
Hispanic annual dropout rate	1.22	0.27	-0.49	250.00	0.62	0.31	-0.12	0.25	-0.53	0.28
not economically disadvantaged annual dropout rate	2.02	0.16	-0.48	250.00	0.63	0.32	-0.08	0.16	-0.34	0.19
gifted and talented annual dropout rate	0.38	0.54	-0.44	248.00	0.66	0.33	-0.02	0.04	-0.08	0.05
bilingual or English as a second language	0.90	0.34	0.40	243.00	0.69	0.34	0.46	1.14	-1.42	2.34

Independent Samples Test 2017-2018 Annual Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
(ESL) annual dropout rate										
African American annual dropout rate	2.32	0.13	0.37	225.00	0.71	0.35	0.50	1.34	-1.72	2.72
female annual dropout rate	1.96	0.16	-0.21	250.00	0.84	0.42	-0.05	0.23	-0.43	0.33
American Indian annual dropout rate	0.04	0.84	0.07	197.00	0.94	0.47	0.10	1.34	-2.11	2.31
immigrant annual dropout rate	0.02	0.90	-0.05	180.00	0.96	0.48	-0.03	0.64	-1.10	1.03

Independent Samples Test 2017-2018 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian dropout rate	17.91	0.00	-2.15	150.00	0.03	0.02	-3.92	1.82	-6.94	-0.91

Independent Samples Test 2017-2018 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Asian graduation rate	15.35	0.00	2.03	150.00	0.04	0.02	4.47	2.21	0.82	8.12
career and technical education graduation rate	0.36	0.55	1.75	250.00	0.08	0.04	0.82	0.47	0.05	1.60
Hispanic dropout rate	1.42	0.23	-1.69	250.00	0.09	0.05	-1.12	0.66	-2.21	-0.02
Hispanic graduation rate	0.97	0.33	1.96	250.00	0.05	0.03	2.02	1.04	0.32	3.73
not economically disadvantaged dropout rate	0.22	0.64	-1.87	250.00	0.06	0.03	-0.95	0.51	-1.80	-0.11
not economically disadvantaged graduation rate	0.14	0.71	2.32	250.00	0.02	0.01	1.62	0.70	0.47	2.78
Pacific Islander dropout rate	13.37	0.00	-1.81	59.00	0.08	0.04	-10.26	5.67	-19.73	-0.79
special education graduation rate	5.02	0.03	2.33	246.00	0.02	0.01	4.12	1.76	1.21	7.03
Title I dropout rate	4.83	0.03	-2.07	236.00	0.04	0.02	-3.78	1.83	-6.80	-0.76
Title I graduation rate	6.97	0.01	2.50	236.00	0.01	0.01	5.42	2.16	1.84	8.99
male graduation rate	1.69	0.20	1.58	250.00	0.12	0.06	1.72	1.09	-0.08	3.53

Independent Samples Test 2017-2018 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
all students graduation rate	1.69	0.19	1.49	250.00	0.14	0.07	1.30	0.87	-0.15	2.74
special education dropout rate	6.27	0.01	-1.42	246.00	0.16	0.08	-1.57	1.11	-3.40	0.26
gifted and talented graduation rate	4.89	0.03	1.34	241.00	0.18	0.09	0.26	0.19	-0.06	0.58
economically disadvantaged graduation rate	1.79	0.18	1.27	249.00	0.21	0.10	1.49	1.18	-0.45	3.43
all students dropout rate	2.22	0.14	-1.20	250.00	0.23	0.12	-0.66	0.55	-1.58	0.25
at risk graduation rate	4.39	0.04	1.20	248.00	0.23	0.12	1.43	1.19	-0.54	3.40
female dropout rate	1.98	0.16	-1.16	250.00	0.25	0.12	-0.55	0.48	-1.34	0.24
economically disadvantaged dropout rate	2.87	0.09	-1.10	249.00	0.27	0.14	-0.80	0.73	-2.00	0.40
female graduation rate	3.13	0.08	1.09	250.00	0.28	0.14	0.84	0.77	-0.43	2.10
at risk dropout rate	4.28	0.04	-1.07	248.00	0.29	0.14	-0.83	0.78	-2.11	0.45
male dropout rate	2.89	0.09	-1.07	250.00	0.29	0.14	-0.79	0.74	-2.01	0.43

Independent Samples Test 2017-2018 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
migrant graduation rate	2.02	0.16	-1.07	100.00	0.29	0.14	-6.65	6.23	-17.00	3.69
bilingual or English as a second language (ESL) graduation rate	0.00	0.98	1.04	207.00	0.30	0.15	3.26	3.14	-1.92	8.45
career and technical education dropout rate	1.23	0.27	-0.92	250.00	0.36	0.18	-0.34	0.37	-0.95	0.27
Multiracial dropout rate	2.85	0.09	0.92	191.00	0.36	0.18	1.63	1.78	-1.30	4.57
American Indian graduation rate	2.11	0.15	-0.85	127.00	0.40	0.20	-3.53	4.14	-10.39	3.33
military-connected graduation rate	1.37	0.25	0.81	133.00	0.42	0.21	2.13	2.62	-2.21	6.46
Pacific Islander graduation rate	2.31	0.13	0.76	59.00	0.45	0.23	5.51	7.26	-6.62	17.63
American Indian dropout rate	1.91	0.17	0.73	127.00	0.47	0.23	2.90	3.99	-3.71	9.50
homeless in Grades 9-12 dropout rate	6.08	0.01	0.71	226.00	0.48	0.24	1.53	2.16	-2.05	5.10
foster care in Grades 9-12 graduation rate	0.00	0.99	0.70	143.00	0.49	0.24	3.90	5.57	-5.33	13.12
English learner (EL) in Grades 9-12 graduation rate	0.39	0.54	0.66	220.00	0.51	0.26	1.92	2.92	-2.91	6.74

Independent Samples Test 2017-2018 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
Multiracial graduation rate	1.96	0.16	-0.60	191.00	0.55	0.27	-1.63	2.71	-6.11	2.84
English learner (EL) in last year dropout rate	1.34	0.25	0.53	210.00	0.60	0.30	1.57	2.97	-3.33	6.47
White dropout rate	2.45	0.12	-0.53	250.00	0.60	0.30	-0.36	0.68	-1.48	0.76
military-connected dropout rate	0.45	0.51	-0.46	133.00	0.65	0.32	-1.08	2.34	-4.95	2.79
dyslexia dropout rate	0.00	0.98	-0.44	228.00	0.66	0.33	-0.66	1.49	-3.12	1.80
migrant dropout rate	0.20	0.66	0.38	100.00	0.71	0.35	1.97	5.24	-6.72	10.67
immigrant graduation rate	0.27	0.60	-0.37	125.00	0.71	0.36	-1.96	5.29	-10.73	6.81
immigrant dropout rate	0.51	0.48	0.35	125.00	0.72	0.36	1.86	5.25	-6.84	10.56
foster care in Grades 9-12 dropout rate	0.10	0.75	-0.35	143.00	0.73	0.36	-1.57	4.52	-9.06	5.91
dyslexia graduation rate	1.35	0.25	-0.30	228.00	0.77	0.38	-0.64	2.17	-4.23	2.95
White graduation rate	4.02	0.05	-0.29	250.00	0.77	0.39	-0.49	1.68	-3.27	2.28

Independent Samples Test 2017-2018 Four Year Graduation & Dropout Rates Equal Variances Assumed										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Sig. (1-tailed)	Mean Difference	Std. Error Difference	90% Confidence Interval of the Difference	
									Lower	Upper
English learner (EL) in last year graduation rate	0.38	0.54	0.27	210.00	0.79	0.39	0.94	3.50	-4.84	6.73
foster care in last year graduation rate	0.15	0.70	-0.24	88.00	0.81	0.41	-1.82	7.55	-14.37	10.73
African American graduation rate	6.03	0.02	-0.24	195.00	0.81	0.41	-0.56	2.33	-4.40	3.29
gifted and talented dropout rate	0.21	0.65	-0.23	241.00	0.82	0.41	-0.03	0.11	-0.21	0.16
homeless in Grades 9-12 graduation rate	3.04	0.08	0.12	226.00	0.91	0.45	0.34	2.87	-4.41	5.08
English learner (EL) in Grades 9-12 dropout rate	0.16	0.69	-0.10	220.00	0.92	0.46	-0.22	2.22	-3.89	3.45
foster care in last year dropout rate	0.01	0.93	0.10	88.00	0.92	0.46	0.67	7.03	-11.01	12.35
African American dropout rate	2.96	0.09	0.05	195.00	0.96	0.48	0.09	1.97	-3.16	3.34
bilingual or English as a second language (ESL) dropout rate	0.33	0.57	-0.02	207.00	0.99	0.49	-0.04	2.66	-4.43	4.34

Appendix 11 Institutional Review Board (Not Human Subjects Research)



Oklahoma State University Institutional Review Board

Date: 06/04/2020
Application Number: IRB-20-278
Proposal Title: Disasters & Dropouts: The Effect of Disasters on Texas Secondary School Annual Dropout Rates 2010/11-2017/18

Principal Investigator: Ian Wolfe
Co-Investigator(s):
Faculty Adviser: Haley Murphy
Project Coordinator:
Research Assistant(s):

Processed as: Not Human Subjects Research

Status Recommended by Reviewer(s): Closed

Based on the information provided in this application, the OSU-Stillwater IRB has determined that your project does not qualify as human subject research as defined in 45 CFR 46.102 (d) and (f) and is not subject to oversight by the OSU IRB. Should you have any questions or concerns, please do not hesitate to contact the IRB office at 405-744-3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

VITA

Ian S. Wolfe

Candidate for the Degree of

Master of Science

Thesis: DISASTERS & DROPOUTS: THE EFFECT OF DISASTERS ON TEXAS HIGH SCHOOL DROPOUT & GRADUATION RATES 2010-2018

Major Field: FIRE AND EMERGENCY MANAGEMENT ADMINISTRATION

Biographical:

Education:

Completed the requirements for the Master of Science in Fire & Emergency Management Administration at Oklahoma State University, Stillwater, Oklahoma, in December 2020.

Completed the requirements for the Bachelor of Science in Industrial Safety at the University of Central Oklahoma, Edmond, Oklahoma, in May 2011.

Completed the requirements for the Associates of Applied Science in Occupational Safety at Oklahoma State University, Oklahoma City, Oklahoma, in May 2008.

Experience:

Safety Director March 2014 – Present
Oklahoma City Public Schools, Oklahoma City, OK

Risk Manager March 2012- March 2014
Oklahoma City University, Oklahoma City, OK

Safety Coordinator March 2008 – March 2012
Oklahoma County EHS, Oklahoma City, OK