

Developmental Education and Race: Success and Retention

TAIR 2016

Dr. Amanda Clark


March 1, 2016

Statement of the Problem

- High costs are associated with offering developmental education (Gallard, Albritton, & Morgan, 2010).
- Developmental education is too expensive, should not be offered in colleges, and causes "double billing" (Phipps, 2008, p. v).
- Many students who are referred to developmental education or do not complete their developmental coursework (Bailey, Jeong, & Cho, 2010; McClenney, 2004) .

Significance of the Study

- ▶ The Texas state legislature passed Senate Bill 1564 in 2011 to amend the Texas Success Initiative (TSI) placement guidelines beginning in the fall 2013 semester (Texas Education Code, 2011).
- ▶ Outcomes from this investigation may help provide achievement benchmarks for current TSI standards.



Developmental Education: A Conceptual Analysis of the Literature

- A large gap exists between students graduating from high school and being prepared for college (Moss & Yeaton, 2006).
- Some authors (e.g., Breneman & Haarlow, 1998; Strong American Schools, 2008) argued that high schools should bear the burden whereas other researchers (e.g., Barnes & Slate, 2013; Gallard, Albritton, & Morgan, 2010) contended postsecondary educators should provide the necessary resources to ensure all students are ready for college courses.



Purpose of the Study

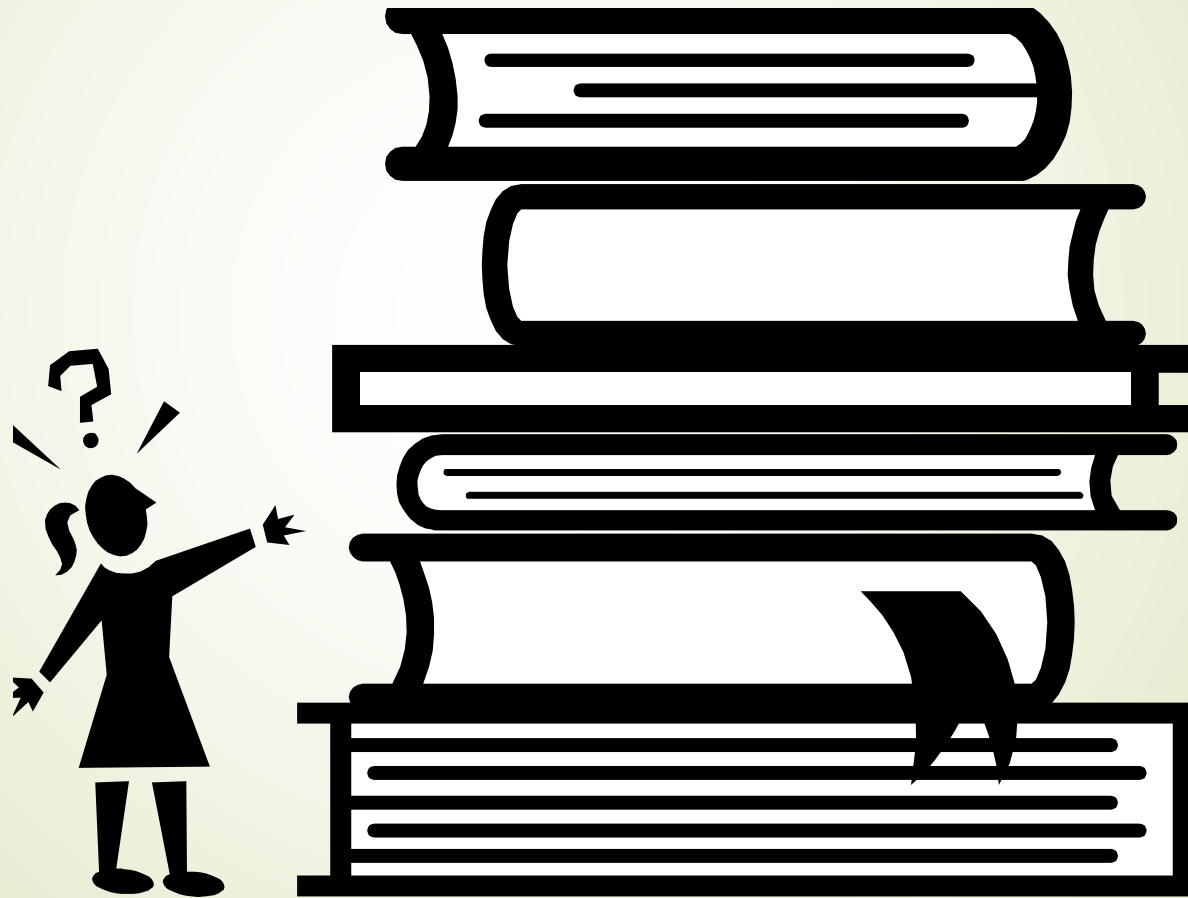
- ▶ Review of the literature regarding developmental education
- ▶ The literature review categories were determined through the use of the literature review database.
- ▶ Four Themes were identified
 - ▶ Transition from high school to college,
 - ▶ Use of placement tests,
 - ▶ Responsibility and costs of developmental education, and
 - ▶ Summaries of selected developmental education studies



Brief History of Developmental Education

- Varying opinions about when developmental education began
 - 1849 (Brier, 1984)
 - Wellesley College in 1894 (Cross, 1976)
 - 15th Century at Harvard College (Waycaster, 2001)
 - 1600s (Parker, Bustillos, and Behringer, 2010)
- Developmental courses in place by 1930s with full programs implemented by 1960s (Kulik, Kulik, and Shwalb, 1983)
- Expansion of open admissions led to an increase of postsecondary enrollment with no change to the number of students needing developmental education (Phipps, 1998)

Literature Review Themes





Transition from High School to College

Transition from High School to College

- Greene and Forster (2003)
- Greene and Winters (2005)
- Cabrera et al. (2006)
- Achieve Inc. (2007)

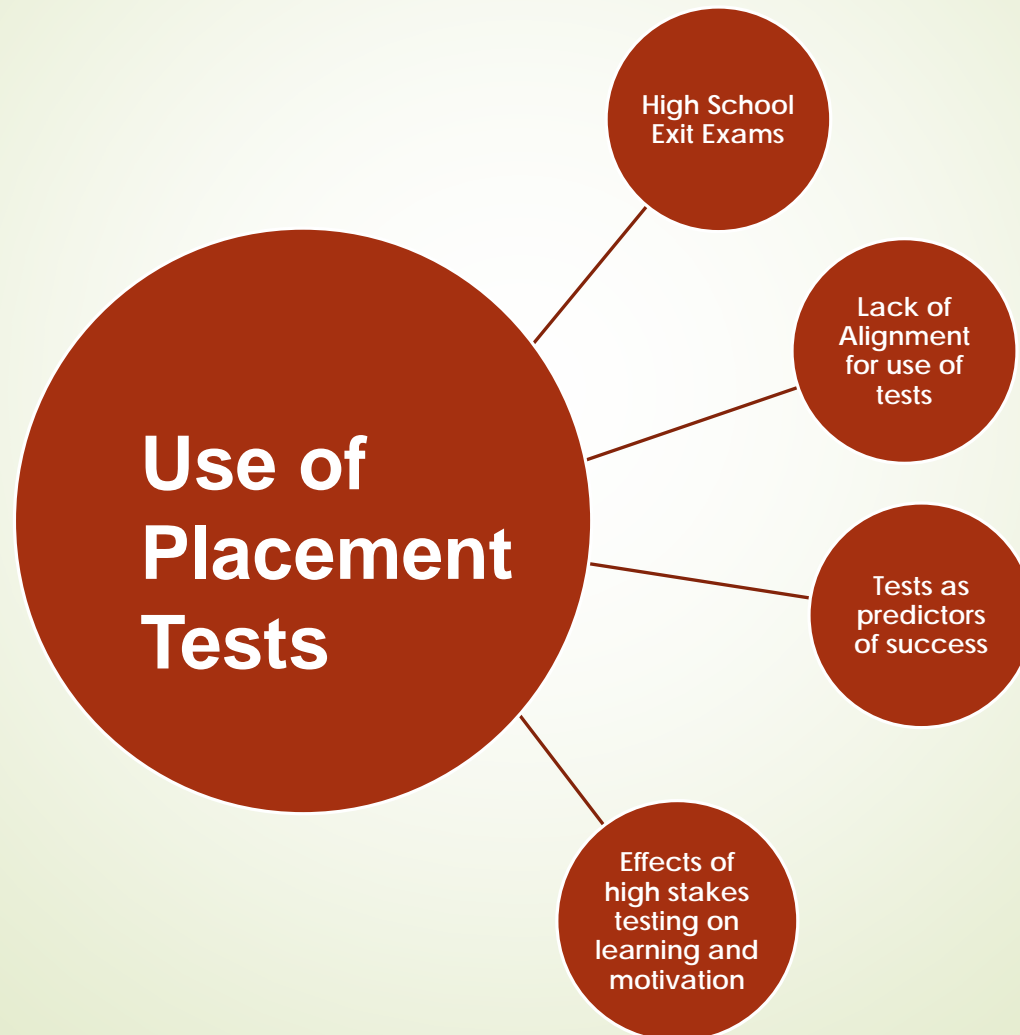
College Readiness

- Byrd and MacDonald (2005)
- Barnes, Slate, and Rojas-LeBouef (2010)
- Combs et al. (2010)
- Radunzel and Noble (2012)
- Barnes and Slate (2013)
- Blume and Zumeta (2013)
- Kena et al. (2014)

Communication between K-12 and Postsecondary Institutions

- Le, Hamilton, and Robyn (2000)
- Kirst and Venezia (2001)
- Brown and Niemi (2007)
- Barnett et al. (2012)


Use of Placement Tests





Costs of and Responsibility for Developmental Education

- Costs of developmental education
 - \$1 Billion spent annually on developmental education (Breneman & Haarlow, 1998)
 - 13% increase in costs of developmental education from 1998-2005 (Pretlow & Wathington, 2012)
 - Federal financial aid, specifically Pell grants, should only be awarded to students taking credit-bearing, transferable courses (Petrilli, 2013)
 - Abraham (1998) estimated annual costs to be between \$415 million to \$788 million using several different calculation methods




Costs of and Responsibility for Developmental Education (cont.)

- ▶ Responsibility for developmental education
 - ▶ Baccalaureate degree-granting institutions are not offering developmental education (NCES, 2003) forcing some students to attend community colleges and hope to transfer.
 - ▶ Moore (2002) argued that students in developmental education at 4-year institutions have much higher retention rates than developmental education students at 2-year institution.
 - ▶ Success can breed success in developmental education at a 4-year institution when done properly (McDade, 2002).



Costs of and Responsibility for Developmental Education

- ▶ Performance Based Funding and Developmental Education
 - ▶ Tennessee was the first state to utilize performance funding in 1979 (Dougherty, Natow, and Vega, 2013)
 - ▶ Currently 27 states have utilized performance funding at some point (Dougherty & Reddy, 2013)
 - ▶ Offenstein and Shulock (2010) reported performance funding has shifted from rewarding ultimate outcomes rewarding intermediate students outcomes such as completion of developmental education classes.
 - ▶ Only eight states have analyzed the impact of performance funding and no evidence is present that performance funding initiatives including developmental education measures increase rates of completing developmental courses, persistence, or graduation (Dougherty & Reddy, 2013).



Summary of Select Articles on Developmental Education Study Populations

- ▶ Single school studies
 - ▶ Eggert, 2009; Jacobson, 2006; Kolajo, 2004; Moss & Yeaton, 2006; Sheldon & Durdella, 2010
- ▶ Longitudinal and Large Population Studies
 - ▶ Bettinger and Long, 2005; 2006; Calcagno & Long, 2008; Martorell & McFarlin, 2011; Noble & Sawyer, 2013; Skidmore et al., 2014
- ▶ Developmental Education Course Enrollment Patterns
 - ▶ Bailey et al., 2010; Kolajo, 2004; Sheldon & Durdella, 2010; Noble & Sawyer, 2013; Weissmann, Silk, & Bulakowski, 1997
- ▶ Student and faculty perceptions of developmental education
 - ▶ Barnett, 2007; De Leon, 2012; Young, 2008

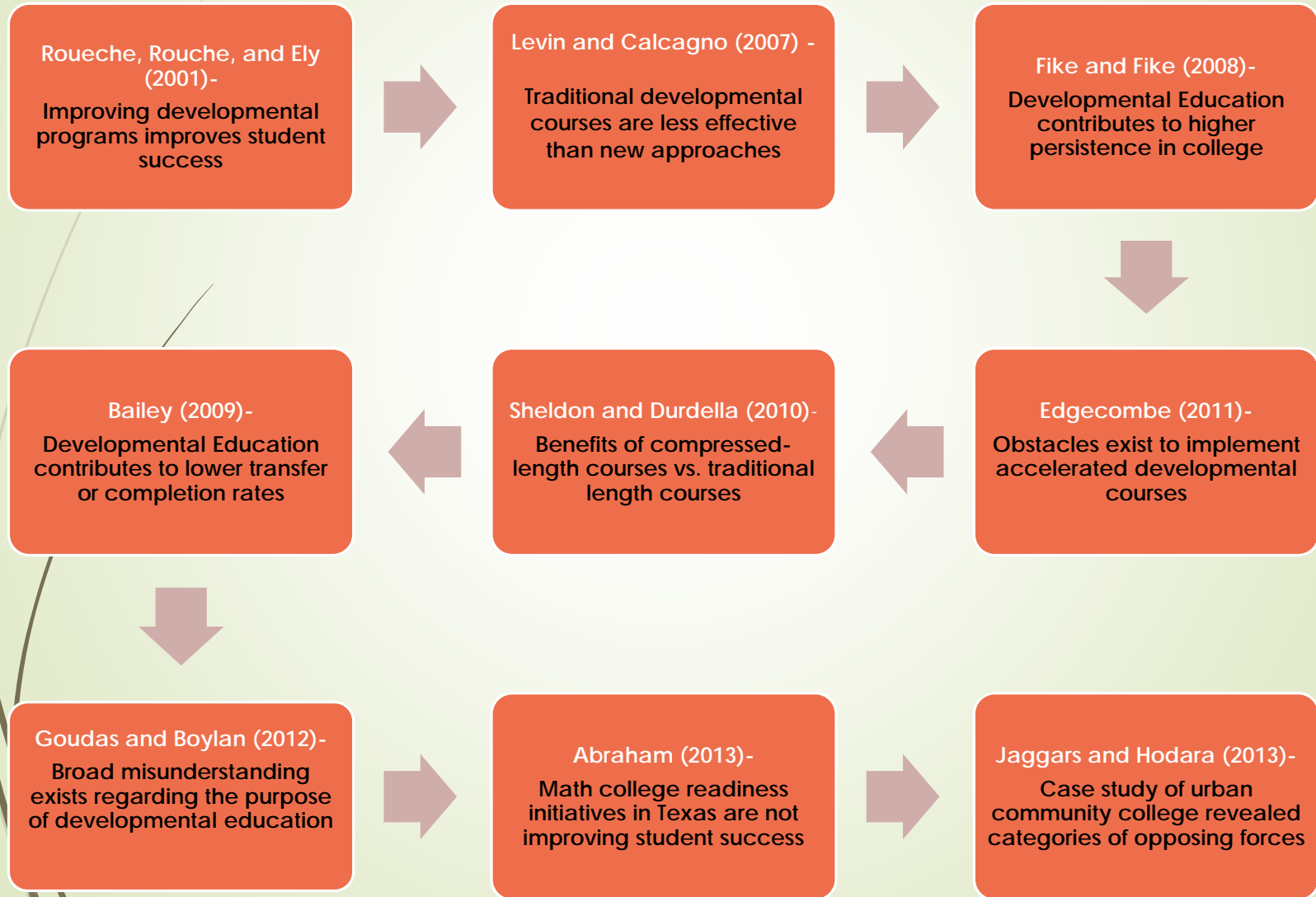


Texas Community Colleges

➤ Intro

- Community colleges serve the largest populations of underprepared students (McClenney, 2004).
- Community colleges are open admissions institutions and have an obligation to provide developmental education (McMillan, Parke, & Lanning, 1997).
- Approximately 60% of incoming students are referred to at least one developmental course (Bailey & Cho, 2010).
- The importance of improving developmental education programs to enhance student success is in direct support of the national call to produce 8 million additional college graduates by 2020 (Templin, 2011).

Review of Literature



Variables

➤ Independent Variable(s)

➤ Ethnicity

- Black, Hispanic, and White

➤ Developmental Status

- Requiring vs not requiring developmental education

➤ Dependent Variable(s)

➤ 3-year Graduation Rates

➤ 3-year Persistence Rates



Method

▶ Participants

- ▶ All publicly-funded Texas community colleges
- ▶ First-time full-time credential seeking students included

▶ Instrumentation

- ▶ Data downloaded from THECB Developmental Education Accountability Website

Descriptive Statistics Results

Graduation Rates

Ethnicity	Students Requiring Developmental Education			Students Not Requiring Developmental Education		
	<i>n</i> of institutions	M	SD	<i>n</i> of institutions	M	SD
Fall 2010						
Black	56	8.43	6.76	40	15.12	10.14
Hispanic	66	9.97	6.40	68	19.82	9.35
White	69	11.50	6.64	72	21.31	10.16
Fall 2011						
Black	64	9.44	7.71	50	16.62	12.55
Hispanic	70	9.40	5.95	71	21.37	9.70
White	72	10.88	6.71	72	21.60	11.08
Fall 2012						
Black	60	7.50	7.78	52	17.34	10.28
Hispanic	71	10.09	6.44	68	21.13	12.52
White	75	11.51	7.70	72	19.26	10.27

Inferential Statistics Results

Graduation Rates

Ethnicity	Statistical Significance	partial η^2	Effect Size	Higher Graduation Rate
Fall 2010				
Black	Yes	.14	Large	DE Not Required
Hispanic	Yes	.28	Large	DE Not Required
White	Yes	.25	Large	DE Not Required
Fall 2011				
Black	Yes	.11	Moderate	DE Not Required
Hispanic	Yes	.36	Very Large	DE Not Required
White	Yes	.26	Large	DE Not Required
Fall 2012				
Black	Yes	.23	Large	DE Not Required
Hispanic	Yes	.24	Large	DE Not Required
White	Yes	.16	Large	DE Not Required

Descriptive Statistics Results

Persistence Rates

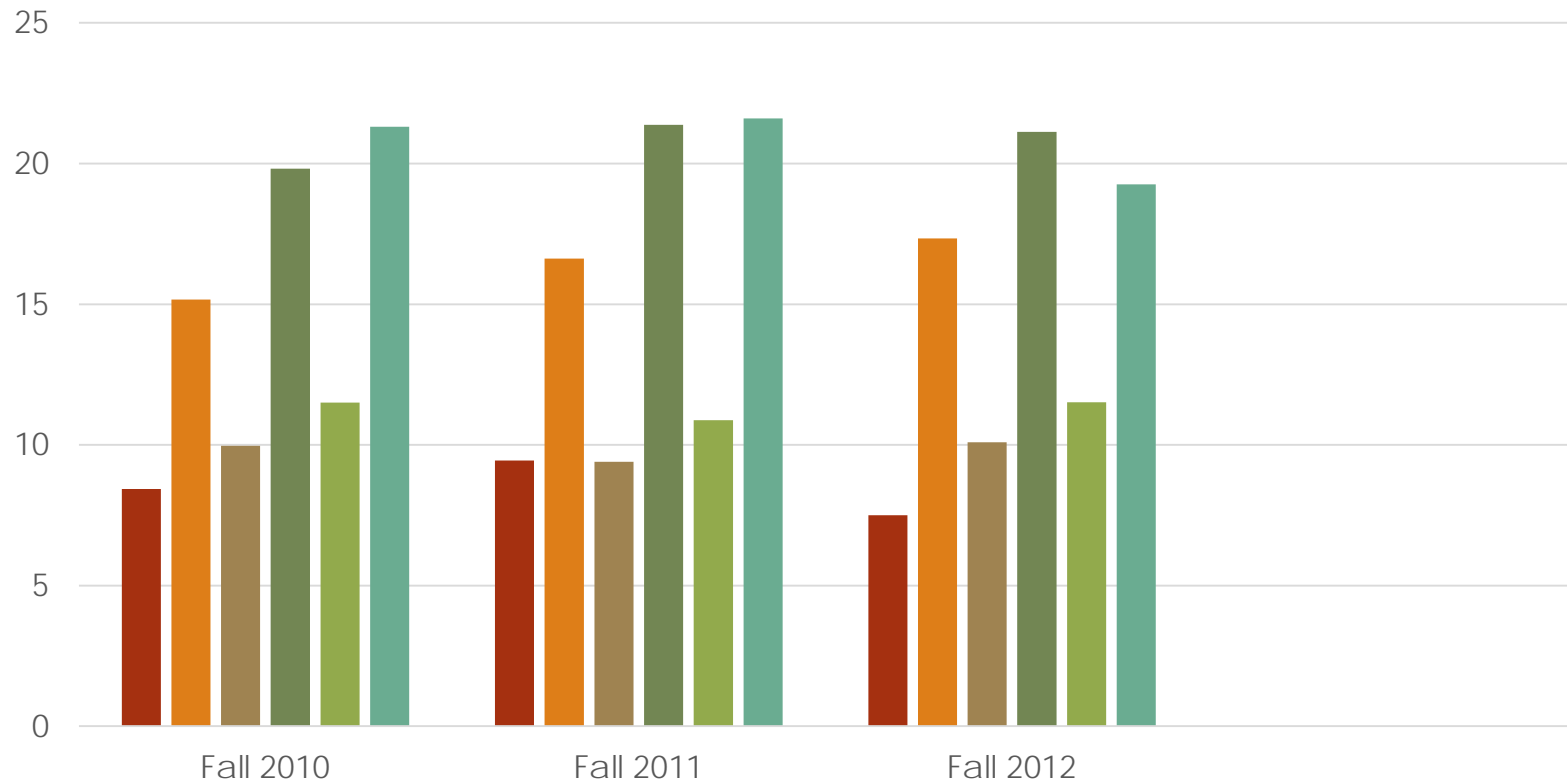
Ethnicity	Students Requiring Developmental Education			Students Not Requiring Developmental Education		
	<i>n</i> of institutions	M	SD	<i>n</i> of institutions	M	SD
Fall 2010						
Black	56	31.12	11.52	40	37.38	12.43
Hispanic	66	31.91	12.79	68	35.02	14.25
White	69	29.09	11.47	72	30.80	16.61
Fall 2011						
Black	64	28.10	11.70	50	33.91	11.79
Hispanic	70	32.10	11.25	71	33.31	13.30
White	72	27.88	10.76	72	29.58	16.09
Fall 2012						
Black	60	25.94	10.73	52	34.81	12.26
Hispanic	71	29.15	10.54	68	28.12	14.59
White	75	24.86	10.63	72	26.27	14.63

Inferential Statistics Results

Persistence Rates

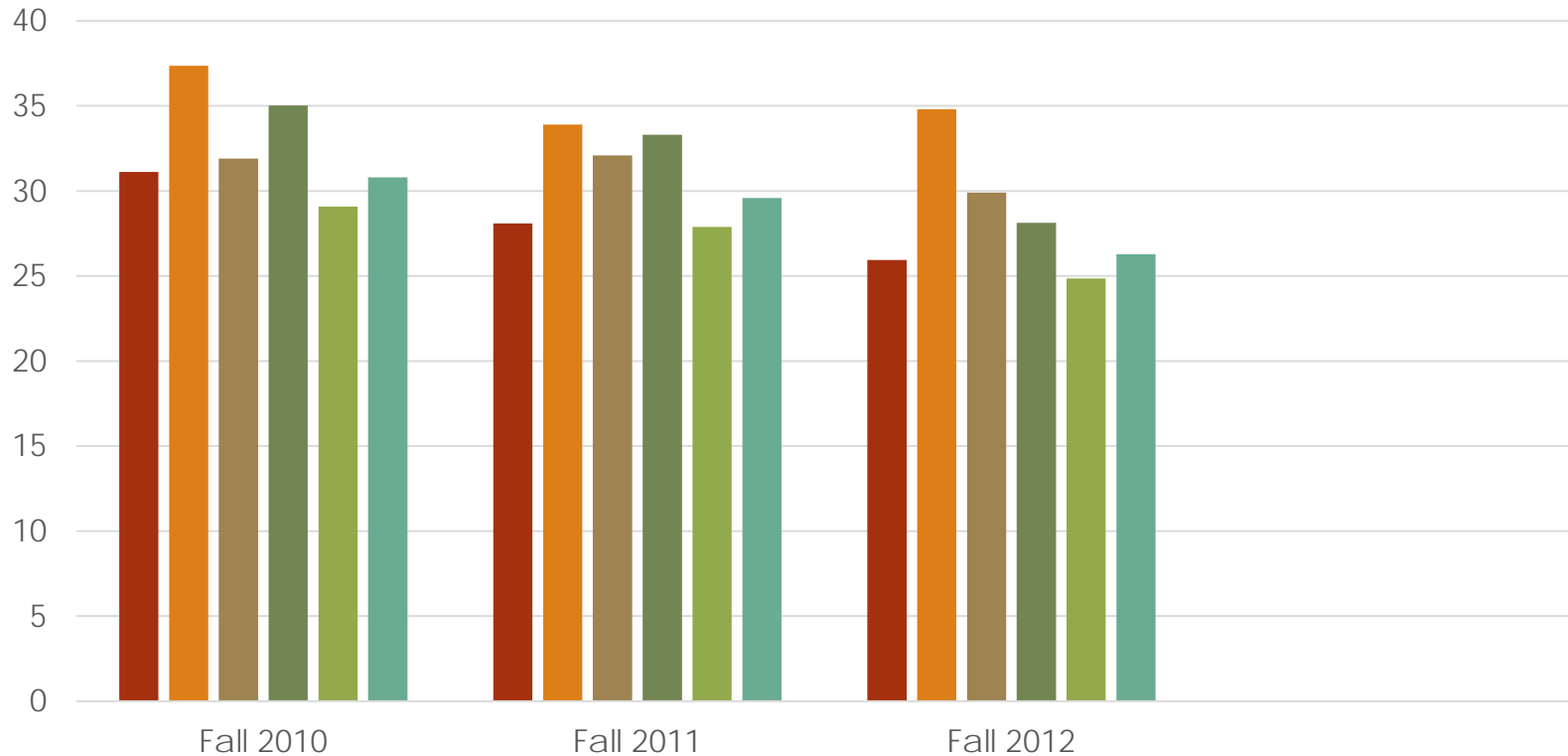
Ethnicity	Statistical Significance	partial η^2	Effect Size	Higher Persistence Rate
Fall 2010				
Black	Yes	.06	Moderate	DE Not Required
Hispanic	No	-	-	DE Not Required
White	No	-	-	DE Not Required
Fall 2011				
Black	Yes	.01	Small	DE Not Required
Hispanic	No	-	-	DE Not Required
White	No	-	-	DE Not Required
Fall 2012				
Black	Yes	.13	Moderate	DE Not Required
Hispanic	No	-	-	DE Required
White	No	-	-	DE Not Required

Average Graduation Rates by Ethnicity and Developmental Education Status



■ Black-REquiring DE ■ Black-Not Requiring DE ■ Hispanic-REquiring DE
■ Hispanic-Not Requiring DE ■ White-REquiring DE ■ White-Not Requiring DE

Average Persistence Rates by Ethnicity and Developmental Education Status



- Black-Not Requiring DE
- Black-Requiring DE
- Hispanic-Not Requiring DE
- Hispanic-Requiring DE
- White-Not Requiring DE
- White-Requiring DE



Conclusion

Texas Community Colleges

- ▶ Results for graduation rates in Texas community college were statistically significant, with moderate to large effect sizes, indicating that developmental status contributed to the graduation rate regardless of ethnic membership
- ▶ When evaluating persistence rates at Texas community colleges, developmental status has an impact on the persistence rates of Black students, but not on the persistence rates of either Hispanic or White students



Chapter 3- Texas Public Universities

► Intro

- In 2007, an estimated \$1 billion was spent nationally on developmental education (Barnett, 2007)
- Radford, Pearson, Ho, Chambers, and Ferlazzo (2012) established that students who enrolled in developmental education in a 4-year institution were 4 percentage points more likely to drop out of school than their counterparts who did not enroll in developmental education.
- Some administrators at 4-year institutions assert they should not be responsible for offering developmental coursework (Breneman & Haarlow, 1998).
- Furthermore, Tinto (2002) noted that students who entered a 4-year institution had a much higher chance of completing a bachelor's degree than those students who entered 2-year institutions and transferred.

Review of Literature

Role of Developmental Education at the University

College Readiness
(Barnes & Slate, 2013;
Soliday, 2002; Tierney &
Garcia, 2011)

Early Intervention and
University Offerings
(Attewell, Lavin,
Domina, & Levey, 2006;
Parker, 2007; Pascarella
& Terenzini, 1991; 2005)

Developmental Education Studies

Dissertations or Theses
(e.g.; Blocklin, 2008;
DeLeon, 2012; Eggert,
2009; Harris, 2008; Thorn,
2006; Young, 2008)

Focus on a single
subject (e.g.; Burdman,
2013; Duranczyk, n.d.;
Duranczyk & Higbee,
2006; Lesik, 2007; Wright,
Wright, & Lamb, 2002)



Variables

➤ Independent Variable(s)

- Ethnicity
 - Black, Hispanic, and White
- Developmental Status
 - Requiring vs not requiring developmental education

➤ Dependent Variable(s)

- 6-year Graduation Rates
- 6-year Persistence Rates



Method

- ▶ **Participants**
 - ▶ All publicly-funded Texas public universities
 - ▶ First-time full-time degree seeking students included
- ▶ **Instrumentation**
 - ▶ Data downloaded from THECB Developmental Education Accountability Measures Data website
 - ▶ Inferential and descriptive statistics used
- ▶ **Data Analysis**
 - ▶ ANOVA used
 - ▶ Alpha level of .05
 - ▶ Effect sizes **partial eta squared, η^2**

Descriptive Statistics Results

Graduation Rates

Ethnicity	Students Requiring Developmental Education			Students Not Requiring Developmental Education		
	<i>n</i> of institutions	M	SD	<i>n</i> of institutions	M	SD
Fall 2010						
Black	22	30.78	15.04	23	49.65	14.71
Hispanic	25	29.86	13.59	30	50.25	13.74
White	25	35.63	14.72	29	56.85	15.23
Fall 2011						
Black	23	31.44	14.26	24	47.01	13.47
Hispanic	26	31.97	11.98	30	56.07	9.94
White	24	40.04	14.76	28	57.60	13.14
Fall 2012						
Black	24	30.25	13.35	25	48.92	15.38
Hispanic	26	36.93	14.11	30	51.10	12.67
White	26	40.79	12.06	28	57.70	14.52

Inferential Statistics Results

Graduation Rates

Ethnicity	Statistical Significance	partial η^2	Effect Size	Higher Graduation Rate
Fall 2010				
Black	Yes	.30	Large	DE Not Required
Hispanic	Yes	.36	Large	DE Not Required
White	Yes	.34	Large	DE Not Required
Fall 2011				
Black	Yes	.25	Large	DE Not Required
Hispanic	Yes	.56	Very Large	DE Not Required
White	Yes	.29	Large	DE Not Required
Fall 2012				
Black	Yes	.30	Large	DE Not Required
Hispanic	Yes	.23	Large	DE Not Required
White	Yes	.30	Large	DE Not Required

Descriptive Statistics Results

Persistence Rates

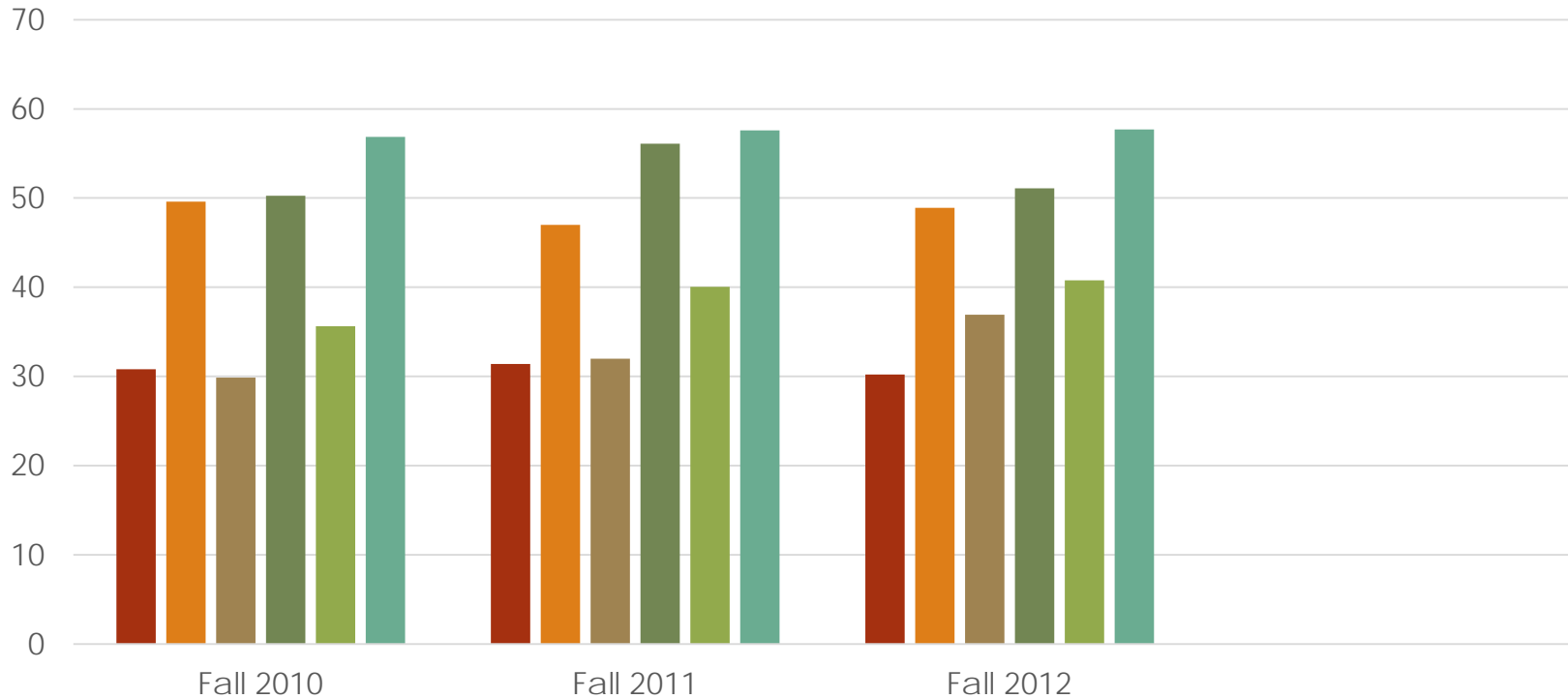
Ethnicity	Students Requiring Developmental Education			Students Not Requiring Developmental Education		
	<i>n</i> of institutions	M	SD	<i>n</i> of institutions	M	SD
Fall 2010						
Black	22	16.10	7.12	23	14.19	7.75
Hispanic	25	18.97	5.37	30	17.01	6.99
White	25	16.11	7.93	29	12.08	4.61
Fall 2011						
Black	23	17.25	6.51	24	14.90	5.89
Hispanic	26	16.68	7.32	30	13.84	5.52
White	24	14.36	4.94	28	12.24	5.73
Fall 2012						
Black	24	15.06	6.54	25	14.03	6.03
Hispanic	26	19.49	7.74	30	16.11	5.08
White	26	11.30	5.72	28	11.39	5.79

Inferential Statistics Results

Persistence Rates

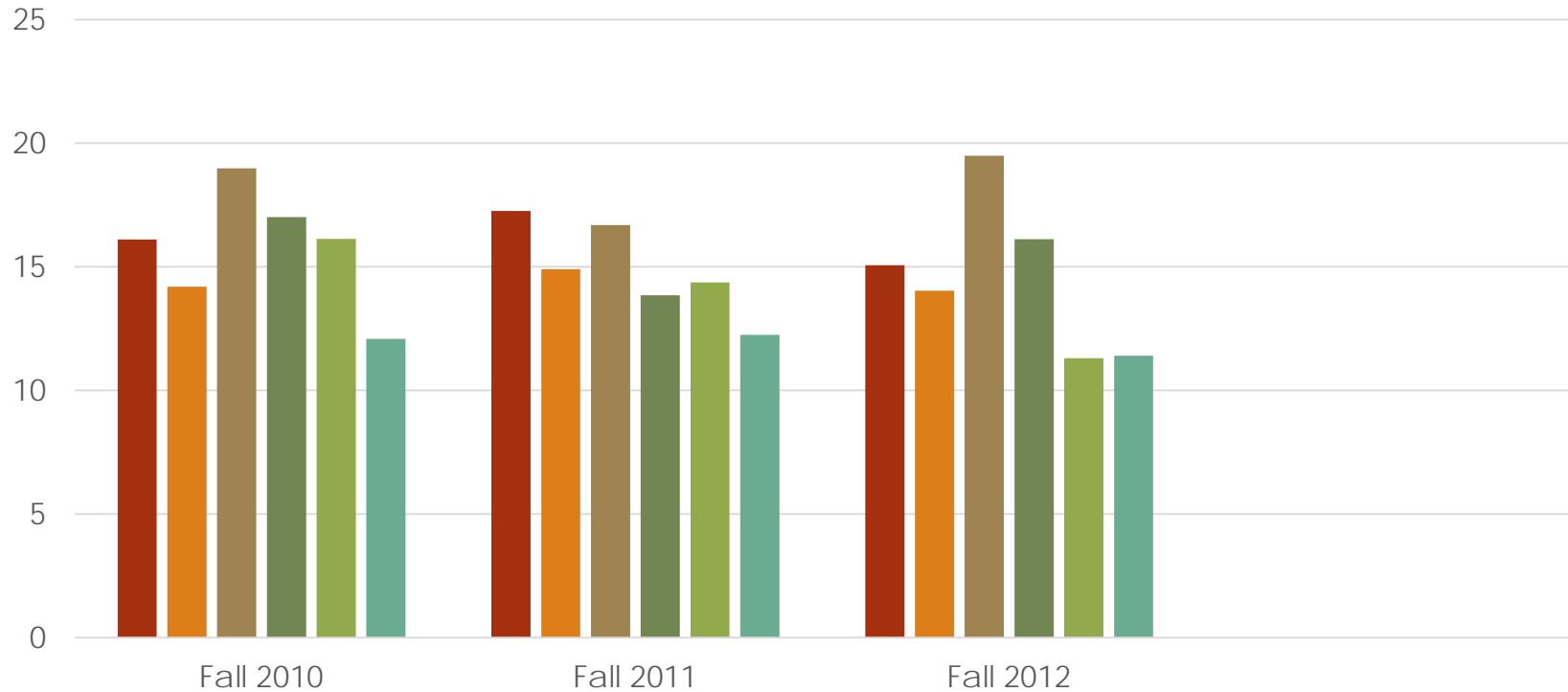
Ethnicity	Statistical Significance	partial η^2	Effect Size	Higher Persistence Rate
Fall 2010				
Black	No	-	-	DE Required
Hispanic	No	-	-	DE Required
White	Yes	.02	Moderate	DE Required
Fall 2011				
Black	No	-	-	DE Required
Hispanic	No	-	-	DE Required
White	No	-	-	DE Required
Fall 2012				
Black	No	-	-	DE Required
Hispanic	No	-	-	DE Required
White	No	-	-	DE Not Required

Average Graduation Rates by Ethnicity and Developmental Education Status



■ Black-Requiring DE ■ Black-Not Requiring DE ■ Hispanic-Requiring DE
■ Hispanic-Not Requiring DE ■ White-Requiring DE ■ White-Not Requiring DE

Average Persistence Rates by Ethnicity and Developmental Education Status



■ Black-Requiring DE

■ Black-Not Requiring DE

■ Hispanic-Requiring DE

■ Hispanic-Not Requiring DE

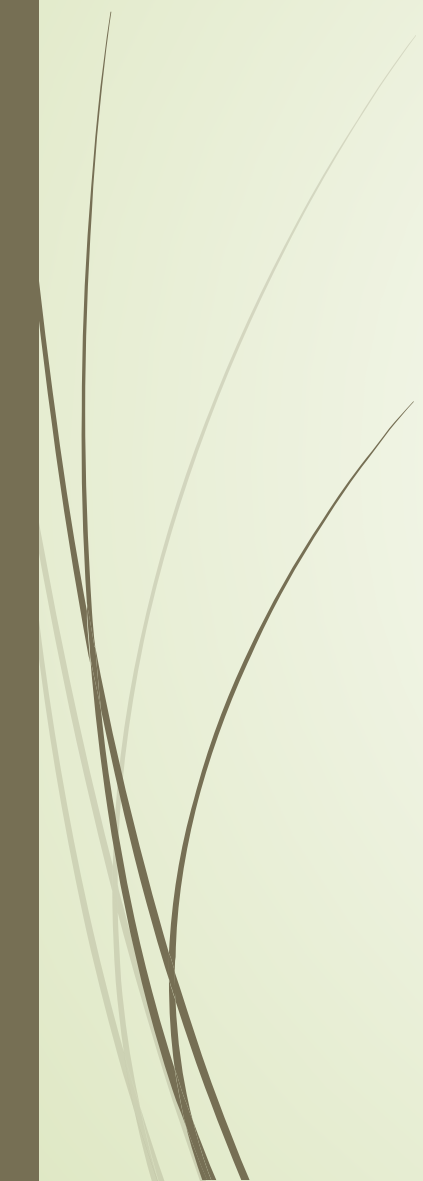
■ White-Requiring DE

■ White-Not Requiring DE



Conclusion

Texas Public Universities

- ▶ In the study of Texas public universities, graduation rates for students who required developmental education were much lower than graduation rates for students who did not require developmental education
 - ▶ When referring to persistence rates of students at Texas public universities, students who required developmental education persisted at higher rates than students who did not require developmental education
- 



Questions/Comments

**Thank you
for your time.**

