Dismantling Separate but Equal, Military Installations and Military Dependent Education: Integration in the Heart of Segregation 1952-1967

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ABSTRACT

In 1948 President Harry S. Truman signed Executive Order 9981, which called for complete integration of the armed forces and created the President's Committee on Equality of Treatment and Opportunity in the Armed Forces. It wasn't until President Eisenhower's administration that attacks began on the issue of military children attending segregated schools. Since the education falls under state jurisdiction, as long as the schools serving military students were the responsibility of the local education agency (LEA), they were subject to state practices, including segregation. Using the language found in Public Laws 815 and 874, U.S. Commissioner of Education Earl J. McGrath created what were termed "Section 6" schools—schools located on military installations expressly to serve military connected children residing on federal property. In many cases, these Section 6 schools were the first integrated schools in their respective states. This paper will look at black/white dissimilarity and black isolation indices in the late 1980s and early 1990s to determine if the presence of these Section 6 schools had a lasting impact on school districts in the south. The data concludes that LEAs containing Section 6 schools (going forward known at DODEA Americas) and those receiving Impact Aid funds have lower black/white dissimilarity indices but have no impact on black isolation indices.

INTRODUCTION

The Civil Rights era was one of the most turbulent periods in U.S. history. While the government acknowledged that there were large discrepancies in the treatment of blacks in almost every aspect of life, the steps to correct these discrepancies were half-heartedly implemented and enforced. While the de jure discrimination was addressed by the passing of several civil rights laws, de facto discrimination remained. One of the largest examples of this phenomenon is in the desegregation of public schools in the United States. While the historic Brown v. Board of Education decision occurred in 1954, in 1965 more than 75% of schools in the deep south were still segregated (Johnson 2011).When looking at the rate of integration in

the south post-Brown v. Board, there appears to be a shock to the system around 1965. This shock coincides with the passage of the Elementary and Secondary Education Act (ESEA) that same year. The ESEA did two important things: it increased the amount of federal aid to education, and it presented school districts with the threat of withholding federal funds if they were not in compliance with Brown v. Board. In communities in close proximity to military installations, this threat was even more menacing. The loss of Impact Aid funds would be a significant loss to their operating budgets (see Table 1).

Table 1: Impact Aid Entitlements by State, 1963[1]

STATE	ELIGIBLE STUDENTS	NET ENTITLEMENT	CURRENT EXPENDITURES ON EDUCATION	NET ENTITLEMENT PERCENTAGE OF EXPENDITURES
Alabama	52,860	5,730,944	74,948,303	7.6
Florida	57,552	7,461,410	151,162,685	4.9
Georgia	61,754	6,480,516	121,727,481	5.3
Kentucky	15,098	1,518,114	55,967,641	2.7
Louisiana	10,822	1,366,134	35,348,803	3.8
Mississippi	10,377	1,534,061	21,926,665	6.9
North Carolina	23,433	3,040,653	40,454,180	7.5
South Carolina	34,904	4,139,245	56,194,319	7.3
Tennessee	28,125	2,845,468	60,595,915	4.6
Virginia	128,616	16,804,081	139,972,888	12

There is a rising literature to suggest that there is heterogeneity in social orders that was previously not understood. Work by Jhacova Williams showing heterogeneity in racial occupational gaps and voting behavior within Southern States can be found, and are clearly related to the establishment of local political regimes that overtly related to white supremacy and past incidents of public lynchings. Trevon Logan shows the presence of Blacks in the Reconstruction Southern counties had effects on racial literacy gaps and Black land ownership. This paper looks to see whether heterogeneity in levels of Southern school district segregation and education outcomes could reflect differences that might have shook the normal racial order. In particular, this paper shows that like Logan, there can be positive shocks

[1] Thirteenth Annual Report of the Commissioner of Education. "Administration of Public Laws 874 and 815"

to alter the racial hierarchy. Unlike Logan, who found the effects to be short-lived, I investigate whether these positive shocks could be longer lived.

Brief History of Integration in the Armed Forces

The United States Armed Forces currently operates more than 420 military installations in the 50 states. As of January 2019, DDESS operates 51 schools at 15 installations in the United States, Puerto Rico and Guam, serving 21,940 students (www.dodea.edu).
Commanders at military installations had established schools to educate the children of servicemembers as early as the 1800s: in 1821 Congress officially passed a law authorizing dependent schools to operate on military installations. Quite often, these installations were established in remote locations where students who resided on the base did not have access to the local school system (if one existed). Consequently, many military installations established schools on base to serve the needs of their servicemembers. These base schools were owned by the installation but primarily operated by the local community members or school districts and followed whatever laws and customs were in place at that time. Some installations offer a full K-12 education (Camp LeJuene, Quantico, Ft. Campbell and Ft. Knox) while others offer elementary or elementary and middle school.

In 1948, President Harry S. Truman signed Executive Order 9981, which provided for the equal treatment of black servicemen in all branches of the armed forces and created the President's Committee on Equality of Treatment and Opportunity in the Armed Forces (MacGregor, 1981). The United States entrance into the Cold War and the subsequent increase in military forces put a strain on public school districts impacted by the presence of military installations. In 1950, Congress passed Public Laws 81-815 which provided funding for construction of schools due to military presence and 81-874, which provided Impact Aid for these impacted schools. P.L. 81-874 also had a provision for schools termed "Section 6" schools. These were schools located on federal property in areas where the local school system could or would not educate the students who lived on federal property for one (or more) of the following reasons: 1) state law prohibited integrated schools; 2) the local educational agency was unable to provide "suitable" education; or 3) state law prohibited using tax revenues to educate students residing on federal

property (which is tax-exempt). The base schools that had previously been operated by local agencies were now being operated by the federal government and quickly integrated. As of April 1953, twenty-one of the 63 schools that were on military installations were operating segregated schools: Maxwell and Craig Air Force Bases in Alabama; Pine Bluff Arsenal in Arkansas; Andrews Air Force Base, Naval Air Station Patuxent and Naval Powder Factory Indianhead in Maryland; MacDill, Eglin, Tyndall, and Patrick Air Force Bases as well as Naval Air Station Pensacola in Florida; Ft. Sill in Oklahoma; Forts Bliss, Hood, and Sam Houston, Randolph, Reese, Shepherd and Lackland Air Force Bases in Texas; and Ft. Belvoir and Langley Air Force Base in Virginia (MacGregor, 1981). On October 30,1954 Secretary of Defense Charles Erwin Wilson reported that the last segregated unit in the armed services was abolished. This came on the heels of the historic Brown v. Board of Education decision delivered on May 17,1954 declaring segregation in public schools as unconstitutional. However, Brown v. Board did not issue a deadline by which integration in the schools should be accomplished. An attempt to fix this problem was made in Brown v. Board II in 1955, in which the Supreme Court stated that this integration should be conducted "with all deliberate speed" (www.oyez.com). Still without a definite deadline, many of the southern states were slow to create and enact their desegregation plans (some even extended the required desegregation until the early 1970s). With little progress being made in school desegregation in the south, eight construction projects began in 1963 to provide on base schooling at the following locations: Ft. McClellan, Ft. Rucker, and Maxwell Air Force Base in Alabama; Ft. Stewart and Robbins Air Force Base in Georgia; England Air Force Base in Louisiana; and Ft. Jackson and Myrtle Beach Air Force Base in South Carolina.

The Civil Rights Act of 1964 gave all school districts an ultimatum: either prove that your schools are desegregated either by choice (HEW Form 441 or an official desegregation plan) or by force (a final order of the court ordering desegregation of the schools), or be ineligible to receive any federal funds. For the schools near military installations, this meant that if they chose to fight integration, they would lose the money allotted in P.L. 815 and P.L. 874. This potential loss of funds would be significant for most districts (for example, Beaufort County,

South Carolina stood to lose approximately $925,000 in the next school year[2]) and provided an impetus for the resistant regions to create and implement desegregation plans. While most of the domestic DOD schools have closed and/or been transferred to the jurisdiction of the LEA as "suitable", there remains 15 CONUS (continental United States) military installations that either offer DOD schools to families residing on the base or have special arrangements in place with the LEA to provide education to those families (see Table 2). The last DODEA Americas school to transfer to the LEA was at Robbins Air Force Base in Georgia, and that was due to the privatization of military housing in that area. There has not been a transfer due to improved LEA conditions since 1973. With the exception of Massachusetts and Virginia, the LEA's surrounding these military installations rank below average on the NAEP (National Assessment of Educational Progress) while DODEA schools, both overseas and domestic, rank high on the distribution (Goldman et.al, 2016).

[2] Kelsey(2010)

TABLE 2. List of DODEA Americas locations and student information[3]

STATE	INSTALLATION	SYSTEM TYPE	# students	% of total military-connected students
Alabama	Maxwell AFB	K-8	346	15.6
	Fort Rucker	K-6	715	25.9
Georgia	Fort Benning	K-8	2754	25.4
	Fort Stewart	K-6	2071	15.2
Kentucky	Fort Knox	K-12	2102	44.8
Kentucky/Tennessee	Fort Campbell	K-12	4705	26
North Carolina	Fort Bragg	K-8	5085	18.2
	Camp LeJuene	K-12	3281	27
South Carolina	MCAS Beaufort	K-8	896	36.3
	Fort Jackson	K-6	675	16.4
Virginia	MCB Quantico	K-12	987	22.1
	NSWC Dahlgren	K-8	89	18.6
New York	West Point	K-8	915	71.9
Delaware	Dover AFB	Arrangements	550	34.7
Massachusetts	Hanscom AFB	Arrangements	740	missing

At the request of Congress, the federal government has commissioned multiple reports to assess the most pragmatic method of transferring the remaining DODEA Americas schools to the local education agencies. The first report dates back to 1986 and it was initiated through the Government Accountability Office (GAO), with subsequent studies being conducted in 1997, 1997, 2005, and 2016. In each case, while it costs the federal government millions of dollars to continue to operate the DODEA Americas schools (in FY 2014, over $900 millions dollars were spent on operations and management and construction on DODEA Americas schools), each report concluded that there was no impetus to change from the status quo. With this in mind, this paper investigates if there are lasting impacts of early desegregation of DODEA Americas schools on the segregation levels of local education agencies in the south.

[3] Rand Corporation 2016

LITERATURE REVIEW

In Plessy v. Ferguson, the Supreme Court determined that segregation by race was constitutional, as long as the facilities and services being offered to each race was equal. While the case itself was centered around a railroad trip, the Supreme Court ruling opened the door for any person or place to deny service or entry to blacks as long as there were other places or ways to enter the facility that were deemed "equal". This allowed schools to continue operating on a segregated basis. However, while they were indeed separate, the schools were not equal. In the deep south states, the per pupil expenditure for white students was almost three times as much as was spent for black students, and the monthly salary for black teachers was approximately 40% of the monthly salary for white teachers, the facilities were often in disrepair, and many students in the rural counties missed many days of school in order to work (aft.org). Brown v. Board of Education reversed the Plessy decision, and required that schools desegregate, but it was met with mass resistance, with some school districts opting to close rather than integrate (i.e. Prince Edward County, VA). There have been several studies that examine the impacts of school segregation on black and white student's outcomes.

Table 3: Impacts of desegregation

Guryan 2004	Decline in black drop-out rates in the 1970s
Johnson 2011	For every additional year of exposure to school desegregation order: • blacks' odds of graduating from high school increased by approximately 1 percentage point • blacks' educational attainment increased by approximately one tenth
Crain and Strauss 1985 Johnson 2011	• Increased black males' earnings • increased the odds of obtaining white collar employment • reduced the odds of poverty
Johnson 2011 Werner, Lutz and Ludwig 2009	• reduces arrests and incarceration of black males

As early as 1975, James Coleman et.al found that the majority of students still attended segregated schools, which prevented access to the same curricular and extracurricular activities in minority schools. The report also found that the average black student attended schools with teachers that were less qualified, leading to lower student achievement scores (Coleman 1975).

In an attempt to determine the cause of low-quality educational agencies near military installations, this paper will add to the literature by examining the role of military presence on black/white dissimilarity and black isolation indices in public elementary schools in the post-Brown era. The data suggests that school district level segregation varies by state and within state in the South, with districts closer to military installations having lower black/white dissimilarity indices than those further away.

DATA

Using the Common Core of Data found on the NCES website, I constructed two indices used to measure segregation: a black/white dissimilarity index and a black isolation. These are the two most commonly used measures of evenness (dissimilarity) and isolation. Since school districts are not required to report their data to NCES, I was unable to find a full set of data for all of the states in this study for one school year. Consequently, I used the earliest data I could find for each state: 1988—Florida, Kentucky, North Carolina, South Carolina, and Tennessee; 1989—Alabama and Mississippi; 1990—Louisiana; 1993—Virginia; and 1994—Georgia. This generated a total of 9,698 observations.

The black/white dissimilarity index measures the proportion of black students that would have to change schools in order to achieve identical racial proportions at each school in the district.

B/W diss = Σ |(black share of elementary school population – white share of elementary school population)|

The values fall between 0 and 1 with 0 being full integration and 1 being full segregation. Values falling above .60 are considered “highly segregated” (Massey & Denton 1989).

The black isolation index measures the extent to which black students are enrolled in schools with high proportions of other black students.

$$\text{Black.iso} = \Sigma\left(\frac{Black\ students\ in\ school\ x}{Black\ elementary\ students\ \ in\ district\ i} \text{ X } \frac{Blacks\ in\ school\ x}{Total\ students\ in\ elementary\ school\ in\ school\ x}\right)$$

As with the dissimilarity index, the values fall between 0 and 1 with 0 being full exposure to other race (in this case, white students) and 1 being no exposure to white students.

Table 4: Summary statistics

Variable (elementary in district)	Min	Max	Mean
Total students	173	253720	30572
Total black students	0	1698	158.3
Total white students	0	2311	328.9
B/W dissimilarity	0	.9614	.3883
Black isolation	0	1	.3940

RESULTS

This paper focused on two outcomes: the black/white dissimilarity index and the black isolation index. The model is as follows:

$$Y_{ij} = \alpha_{ij} + \beta_1 X_{1ij} + \beta_2 X_{1ij}^2 + \beta_3 X_{3ij} + \beta_4 X_{4ij} + \beta_5 X_{5ij} + \beta_6 X_{ij} + \beta_7 Z_{ij} + \mu_{ij}$$

where
Y_{ij} = the outcome (b/w dissimilarity or black isolation index) in the district i in the state j
X_{1ij} = the white(black) share of the elementary school population in district i in state j
X^2_{1ij} = the squared term for the white(black) share of the elementary school population in district i in state j
X_{3ij} = class indicator (impact aid for regression 3) (0-1 varies per regression)
X_{4ij} = current court order indicator in district i in state j
X_{5ij} = district ever had a court order indicator in district i in state j
X_{6ij} = length of time since court order was lifted
Z_{ij} = state fixed effects
μ_{ij} = error term

In order to paint a more complete picture of the impact of proximity to military installations on school desegregation, I ran six regressions for each outcome variable, one using the white share of the elementary school population and one using the black share of the elementary school population. Additionally, I introduced the current court order and ever court order variables independently and together to see if the coefficients changed. I will analyze the results of each regression below.

Regression 1a: Districts with DOD school vs those without DOD schools Dep. Var: B/W Dissim	Model 1	Model2	Model 3	Model 4	Model 5	Model 6
Intercept	0.4858 ***	0.4109 ***	0.3678 ***	0.4834 ***	0.3894 ***	0.3577 ***
	0.0089	*0.0375*	*0.0387*	*0.0091*	*0.0375*	*0.0388*
white share	-0.9924 ***	-1.007 ***	-0.9936 ***			
	0.031	*0.031*	*0.031*			
white share squared	0.5482 ***	0.561 ***	0.552 ***			
	0.0294	*0.0294*	*0.0294*			
black share				-0.9039 ***	-0.9192 ***	-0.0095 ***
				0.0316	*0.0313*	*0.0315*
black share squared				0.4623 ***	0.4772 ***	0.466 ***
				0.0299	*0.0297*	*0.0299*
Class Indicator	-0.0526 **	-0.0525 ***	-0.0539 **	-0.0505 **	-0.0512 **	-0.0519 **
	0.0158	*0.0159*	*0.0158*	*0.0158*	*0.0158*	*0.0158*
Current court order	0.039 ***		0.0424 ***	0.0272 **		0.0308 **
	0.0093		*0.00939*	*0.0095*		*0.0095*
Ever court order		0.0986 **	0.118 **		0.1119 ***	0.1255 **
		0.0374	*0.03757*		*0.0374*	*0.0376*
Year since co lifted	0.0006 *	0.0000517	*0.000554* *	*0.0006* **	*0.0003*	*0.0006* **
	0.0003	*0.00023*	*0.000252*	*0.0003*	*0.0002*	*0.0002*
Fixed effects		*Y*	*Y*	*Y*	*Y*	*Y*
R squared	0.4833	0.482	0.4844	0.4677	0.4678	0.469

This regression looks at the local education agencies (LEA) that contain DODEA Americas schools versus those that do not in each state. The coefficients for white share and black share are negative and highly significant and the coefficients for the white share squared and the black share squared are negative and highly significant. This implies that increases in the white share and the black share of the elementary school population leads to decrease in the b/w dissimilarity index, which means an increase in integration. However, the squared values indicate that these effects do not last. The class indicator variable equals 1 if there is a DODEA Americas school in the LEA and 0 otherwise. The coefficient is negative and significant,

indicating that the presence of a DODEA Americas school has a positive impact on integration in the LEA. LEA's having a current court order for desegregation is positive and significant in all models. The ever having a court order variable is positive in and significant in all models as well. A variable capturing the effect of the length of time since a court order was lifted has an impact on the dissimilarity index was added, and the results were mixed. When introduced into the model with the current court order or with both current court order and ever court order, the length of time since the court order was lifted is positive and significant. However, when introduced with the ever court order variable only it is not significant. This would imply that the longer the length of time since a court order has been lifted, the higher the level of dissimilarity.

Regression 1b: Districts with DOD school vs those without DOD schools						
Dep. var: Black isolati	Model 1	Model2	Model 3	Model 4	Model 5	Model 6
Intercept	0.5144 ***	0.2905 ***	0.4146 ***	0.3698 ***	0.2399 ***	0.3683 ***
	0.0127	*0.0539*	*0.0551*	*0.0085*	*0.0534*	*0.0546*
white share	-0.5634 ***	-0.5269 ***	-0.5645 ***			
	0.0442	*0.0444*	*0.0442*			
white share squared	0.4344 ***	0.4115 ***	0.4376 ***			
	0.0419	*0.0422*	*0.0419*			
black share				0.0885 ***	0.0072	-0.0505 ***
				0.0263	*0.0445*	*0.0445*
black share squared				-0.0796 ***	-0.1088 *	-0.0633 ***
				0.0251	*0.0423*	*0.0421*
Class Indicator	0.0027	-0.0026	0.0015	0.034	0.0192	0.0221
	0.0225	*0.0227*	*0.0225*	*0.0203*	*0.0225*	*0.0223*
Current court order	-0.0125 ***		-0.122 ***	0.0384 ***		-0.1249 ***
	0.0133		*0.0133*	*0.006*		*0.0134*
Ever court order		0.1115 **	0.0996		0.1406 **	0.0851
		0.0537	*0.0535*		*0.0532*	*0.053*
Years since co lifted	0.0015 ***	0.0029 ***	0.0015 ***	-0.0783 ***	0.0034 ***	0.002 ***
	0.0003	*0.0003*	*0.0003*	*0.0122*	*0.0003*	*0.0003*
Fixed effects	Y	Y	Y	Y	Y	Y
R squared	0.2048	0.1894	0.2053	0.338	0.168	0.1849

The black isolation index presents quite different results than the dissimilarity index. The white share and black share variable are both highly significant, as are the squared values of these variables in the first three models, where the isolation indices are calculated with the white share of the student population as the base. The values of these coefficients are interesting in

and of themselves. The coefficients of these variables are logical (a lower share of white students leads to higher levels of black isolation and vice versa). The white share value in Model 1 is .5144 and the squared value is -.5634. It appears that the effect of the white share of the elementary school population is almost completely negated by the squared value. While the dissimilarity index regressions show similar impacts whether using the white share of the student population or the black share of the student population, this trend does not hold for the isolation index in the Regression 1 model. The longer amount of time since the lifting of the court order have positive and significant effects on the black isolation index in all models except Model 4.

Regression 2a: Districts with DOD school vs adjacent districts Dep. Var: B/W Dissin	Model 1	Model2	Model 3	Model 4	Model 5	Model 6
Intercept	0.4331 ***	0.6536 ***	0.6368 ***	0.428 ***	0.6965 ***	0.6809 ***
	0.0241	*0.1484*	*0.1503*	*0.0249*	*0.1477*	*0.1498*
white share	-0.6988 ***	-0.697 ***	-0.693 ***			
	0.0944	*0.0942*	*0.0944*			
white share squared	0.263 **	0.2635 **	0.2586 **			
	0.0887	*0.0883*	*0.0886*			
black share				-0.6566 ***	-0.6647 ***	-0.6568 ***
				0.0988	*0.0977*	*0.0986*
black share squared				0.2084 *	0.2182 *	0.2098 *
				0.0921	*0.0909*	*0.0919*
Class Indicator	-0.0242	-0.0204	-0.026	-0.0205	-0.0185	-0.0232
	0.0221	*0.0207*	*0.0221*	*0.0219*	*0.0206*	*0.0219*
Current court order	0.0259		0.0222	0.0241		0.0194
	0.0361		*0.03007*	*0.0306*		*0.0303*
Ever court order		-0.2143	-0.205		-0.2615	-0.2531
		0.1486	*0.1492*		*0.1472*	*0.1478*
Year since co lifted	0.0732	-0.0019 *	-0.0015	-0.0013	-0.0017	-0.0013
	0.0155	*0.0009*	*0.0011*	*0.0011*	*0.0009*	*0.0011*
Fixed effects	Y	Y	Y	Y	Y	Y
R squared	0.4946	0.4962	0.408	0.5018	0.5047	0.3872

This regression looks to see if there are differences in dissimilarity and isolation indices in LEAs that have DODEA Americas schools and those LEAs adjacent to them, regardless if they receive Impact Aid funds. The white share and black share variables behave as they did in Regression 1, as do the squared values of those variables. It is worth noting that the all other regressors (with the exception of the time since court order lifted coefficient in Model 2 are not significant,

which indicates that the dissimilarity index for LEAs with DOD schools are not significantly different that those LEA's adjacent to them.

Regression 2b: Districts with DOD school vs adjacent districts						
Dep. var: Black isolat	Model 1	Model2	Model 3	Model 4	Model 5	Model 6
Intercept	0.527 ***	0.8937 ***	1.024 ***	0.4129 ***	0.8276 ***	0.9497 ***
	0.0337	*0.2104*	*0.2093*	*0.0355*	*0.2123*	*0.2125*
white share	-0.6566 ***	-0.6115 ***	-0.6424 ***			
	0.132	*0.1335*	*0.1314*			
white share squared	0.4396 ***	0.3909 **	0.4289 ***			
	0.1241	*0.1253*	*0.1235*			
black share				-0.0144	0.0463	-0.015
				0.1407	*0.1405*	*0.1398*
black share squared				-0.1857	-0.2487	-0.128
				0.1312	*0.1307*	*0.1304*
Class Indicator	0.0215	-0.0268	0.01717	0.0575	0.0152	0.0519
	0.0309	*0.0293*	*0.0308*	*0.0312*	*0.0296*	*0.031*
Current court order	-0.1643 ***		-0.1732 ***	-0.1428 **		-0.1528 ***
	0.0429		*0.0428*	*0.0437*		*0.0436*
Ever court order		-0.4273 *	-0.5 *		-0.4715 *	-0.5371 *
		0.2107	*0.2079*		*0.2115*	*0.2097*
Year since co lifted	0.0013	0.0048 ***	0.0014	0.0028	0.0059 ***	0.0028
	0.0015	*0.0013*	*0.0015*	*0.0016*	*0.0013*	*0.0015*
Fixed effects	Y	Y	Y	Y	Y	Y
R squared	0.315	0.2985	0.3225	0.3002	0.2911	0.3091

The black isolation index results are similar to what was found in Regression 1: white share is negative and significant and white share squared is positive and significant. However, as with the calculation of the isolation index in Regression 1, using the black share of the student population produce quite different effects—neither the black share nor the black share squared are statistically significant. While in the Regression 1 the coefficients of the squared values almost completely offset the non-squared values, the white share squared coefficients, while significant, only partially offset the effect of increases in the white share of the student population. Also, as in Regression 1, the class indicator variable is not significant in the black isolation index outcome.

Regression 4a: Districts that receive Impact Aid vs who do not						
Dep. Var: B/W Dissim	Model 1	Model2	Model 3	Model 4	Model 5	Model 6
Intercept	0.4849 ***	0.4084 ***	0.3653 ***	0.4814 ***	0.3881 ***	0.3562 ***
	0.0091	*0.0377*	*0.0388*	*0.0092*	*0.0375*	*0.0388*
white share	-0.9925 ***	-1.007 ***	-0.9938 ***			
	0.0317	*0.0316*	*0.0317*			
white share squared	0.5524 ***	0.0565 ***	0.5563 ***			
	0.0298	*0.0298*	*0.0298*			
black share				-0.8982 ***	-0.9139 ***	-0.8994 ***
				0.032	*0.0317*	*0.032*
black share squared				0.4586 ***	0.4737 ***	0.4623 ***
				0.0301	*0.0299*	*0.0301*
Impact Aid	0.0056	0.00515	0.0054	0.0133	0.0126	0.013
	0.0089	*0.01749*	*0.0088*	*0.0088*	*0.0088*	*0.0088*
Class Indicator	-0.0574 **	-0.05705 **	-0.0587	-0.0614 ***	-0.0616	-0.0627
	0.0174	*0.01749*	*0.0174*	*0.0174*	*0.0174*	*0.0174*
Current court order	0.0388 ***		0.0422 ***	0.0273 **		0.0309 **
	0.0093		*0.0094*	*0.0095*		*0.0095*
Ever court order		0.01 **	0.1195 **		0.1113 **	0.1251 ***
		0.0375	*0.0377*		*0.0374*	*0.0376*
Years since co lifted	0.0005 *	0.000035	0.0005 *	0.0006 **	0.0002	0.0006 **
	0.0002	*0.00022*	*0.0002*	*0.0002*	*0.0002*	*0.0002*
Fixed effects	Y	Y	Y	Y	Y	Y
R squared	0.4789	0.4776	0.48	0.4686	0.4686	0.4699

Regression 3 looks at those LEAs that receive Impact Aid versus those that do not. As in the previous regressions, the white share and black share variables present as negative and significant and their squared values present as positive and significant. The coefficient for current court order is positive and significant in all models. The ever court order variable is also positive and significant, but only when introduced jointly with either current court order or years since court order lifted variables. In addition to using the class indicator variable, I created a variable that indicates whether the LEA receives Impact Aid funds. This variable is not statistically significant in all models, this would imply that, regardless of whether a LEA receives Impact Aid funds or not, having a DODEA Americas school in the area lowers the dissimilarity index, thereby increasing integration. It is also interesting to note that in the models that introduce current court order, ever court order and years since court order was lifted, the coefficient on class indicator becomes insignificant, which would appear to imply that those factors have a bigger impact on dissimilarity indices—the higher R-squared factor also supports this statement.

Regression 4b: Districts that receive Impact Aid vs who do not including class indicator						
Dep. var: Black isolati	Model 1	Model2	Model 3	Model 4	Model 5	Model 6
Intercept	0.5189 *** *0.0129*	0.293 *** *0.0539*	0.4174 *** *0.0551*	0.4568 *** *0.013*	0.2422 *** *0.0534*	0.3711 *** *0.0546*
white share	-0.5804 *** *0.045*	-0.5431 *** *0.0453*	-0.5816 *** *0.045*			
white share squared	0.4486 *** *0.0423*	0.4253 *** *0.0426*	0.4519 *** *0.0423*			
black share				-0.0608 *0.0451*	-0.0026 *0.0451*	-0.0616 *0.0451*
black share squared				-0.0578 *0.0425*	-0.1016 * *0.0426*	-0.0553 *0.0425*
Impact Aid	-0.0266 * *0.0126*	-0.0259 * *0.0127*	-0.0268 * *0.0126*	-0.0163 *0.0125*	-0.0148 *0.0126*	-0.0165 *0.0125*
Class Indicator	0.0243 *0.0247*	0.0183 *0.025*	0.0232 *0.0247*	0.0364 *0.0245*	0.03112 *0.0248*	0.0355 *0.0245*
Current court order	-0.125 *** *0.0133*		-0.1221 *** *0.0133*	-0.1277 *** *0.0134*		-0.1253 *** *0.0134*
Ever court order		0.1572 ** *0.0537*	0.1014 *0.0535*		0.1412 ** *0.0532*	0.0856 *0.053*
Years since co lifted	0.0015 *** *0.0003*	0.0029 *** *0.0003*	0.0015 *0.0003*	0.002 *** *0.0003*	0.0034 *** *0.0003*	0.002 *** *0.0003*
Fixed effects	Y	Y	Y	Y	Y	Y
R squared	0.2048	0.1893	0.2053	0.1848	0.1681	0.1851

The white share, black share, white share squared and black share squared variables presented in the same manner as they did in previous black isolation index regressions—mixed results. The Impact Aid variable was only significant in the models that use the white share of the student population in the calculation. The current court order variable is negative and significant in each model. The ever court order variables are positive and significant only when introduced with the years since court order lifted, which may indicate a decaying effect of the court order.

DISCUSSION

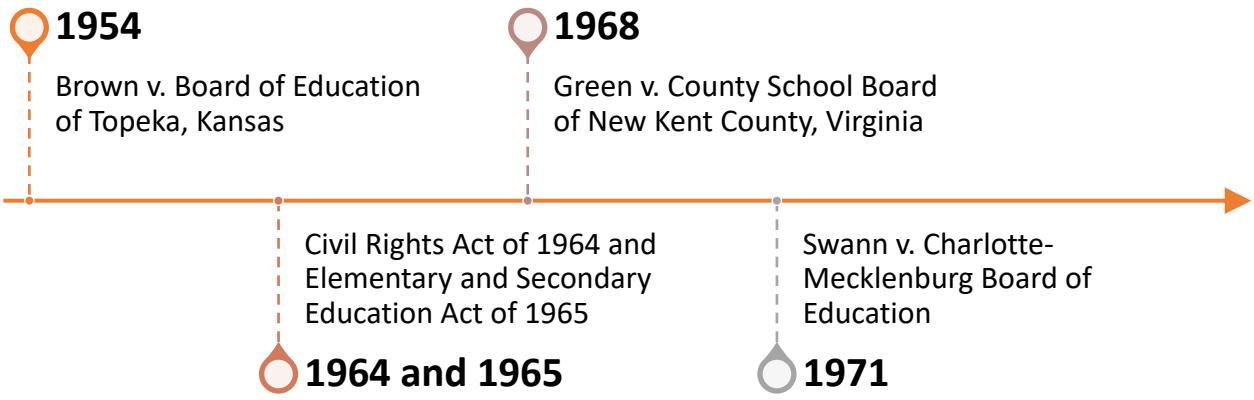
Two different measures of segregation were used in this study. This was done not because one is better than the other, but because they both speak to underlying causes of segregation levels. The dissimilarity index deals with unevenness, without accounting for the overall racial composition of the area. The isolation index accounts for the racial composition but not the

evenness. If one believes that the previously mentioned effects of school segregation are due to equalizing the school environment, then the dissimilarity index is the appropriate tool. The results of this study indicate that being in close proximity to a military installation, whether they have a DODEA Americas school or not, has a negative correlation with the b/w dissimilarity index, which in turn means that segregation is lessened. If one believes that being exposed to other races is the catalyst to improvements in black student outcomes, then the isolation index is the appropriate tool. What the results of this study show is that proximity to military installations lessen the segregation in those schools and has no significant impact on the isolation of black students. The fact that being in proximity to military installations does not significantly impact the black isolation index may have more to do with residential segregation and changing racial populations in the area. What is clear is that there is something about district near military installations that make them different than districts that are not, based on the dissimilarity index. Could it be money (Impact Aid)? Could it be competition (from DODEA Americas schools when present)? Based on the reports commissioned by the Department of Defense, what is known is that, with the exception of Virginia and Massachusetts, schools that provide (or would provide in the absence of DODEA Americas schools) education to military students perform below state averages.

CONCLUSION/FUTURE WORK

This study is the first step to unpacking the cause of what makes the districts near military installations different. While the DOD has commissioned many reports looking into the transfer of the DOD schools in the CONUS to the local education agency, these reports focus on the impact to the military-connected students. Future work will look into the impact on school performance during the Civil Rights era as shocks (court cases) occur. This is relevant today because many districts are beginning to have the court orders closed and reverting back to neighborhood schools (i.e. Charlotte-Mecklenberg schools) which some scholars believe will begin the re-segregation of public schools. In order to quantify school quality, the following outcomes will be used: per pupil expenditure, student/teacher ratio, average teacher salary, and high school graduation rates. This data is found in the state level Biennial Survey of

Education reports located at the Library of Congress. Using the difference-in-difference method of causal inference, I will look at these outcomes from 1955-1975 for districts receiving Impact Aid funds and those containing DODEA Americas schools using federal legislation as shocks to the system.



Future work will also look to determine if the catalyst toward integration provided by the DODEA Americas schools is long-lasting by answering the following questions: 1) Are black/white test score gaps smaller in districts that contain DODEA Americas schools; 2) are high school completion gaps smaller in districts that contain DODEA Americas schools; and 3) are charter schools a possible solution?

REFERENCES

Coleman, J., Kelly, S., and Moore, J. (1975). Trends in school segregation, 1968-73. The Urban Institute. Retrieved May 2019 https://files.eric.ed.gov/fulltext/ED117252.pdf.

Crain, R. and Strauss, J. (1985). School desegregation and black occupational attainment. Center for Social Organization of Schools, The John Hopkins University. Retrieved June 2019 https://files.eric.ed.gov/fulltext/ED260170.pdf.

Department of Defense Education Activity. https://www.dodea.edu

Forest, Benjamin (2005). Measures of Segregation and Isolation. https://www.dartmouth.edu/~segregation/indicesof

Goldman, Charles et.al. (2016). Options for Educating Students Attending Department of Defense Schools in the United States. The RAND Corporation

Guryan, J. (2001). Desegregation and black dropout rates. NBER Working Paper No. 8345, National Bureau of Economic Research, Cambridge, MA

Kelsey, Anne (2010). At their own deliberate speed: the desegregation of the public schools in Beaufort County, South Carolina. *All Theses.* https://tigerprints.clemson.edu/all_theses/856

Logan, T. (2018). Do Black politicians matter? NBER Working Paper No. 24190, National Bureau of Economic Research, Cambridge, MA

Johnson, R. (2011). Long-run impacts of school desegregation and school quality on adult attainment. NBER Working Paper No. 16664, National Bureau of Economic Research, Cambridge, MA

Johnson, R. (2013). The grandchildren of Brown: the long legacy of school desegregation. https://gspp.berkeley.edu/assets/uploads/research/pdf/RJabstract_BrownDeseg_Grandkids.pdf. Retrieved October 2019.

MacGregor, M.J. (1981). Integration of the armed forces: 1940-1965. Washington, DC., Center of Military History

Massey, D. and Denton, N. (1988). The dimensions of residential segregation. Social Forces 67

National Association of Federally Impacted Schools. Impact Aid Payments Overview: Section 7003—Basic Support. 2018

U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. Common Core of Data (CCD). Retrieved 2019.

Weiner, D., Lutz, B., and Ludwig, J. (2009). The effects of school desegregation on crime. NBER Working Paper No. 15380, National Bureau of Economic Research, Cambridge, MA

Williams, J. (2018). Historical lynching and the contemporary voting behavior of blacks. Retrieved August 2019 www.semanticscholar.org.