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SEGREGATION, INEQUALITY, DEMOGRAPHIC CHANGE, AND SCHOOL CONSOLIDATION

William England
University of Nebraska-Lincoln, wengland@hotmail.com

Edmund T. Hamann
University of Nebraska-Lincoln, ehamann2@unl.edu

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SEGREGATION, INEQUALITY, DEMOGRAPHIC CHANGE, AND SCHOOL CONSOLIDATION

A Micropolitan Case

William R. England and Edmund T. Hamann

Department of Teaching, Learning, and Teacher Education
118 Henzlik Hall
University of Nebraska-Lincoln
Lincoln, NE 68588-0355
ehamann2@unl.edu
wengland@hotmail.com

ABSTRACT—We describe a rural/micropolitan example of the intertwining of school consolidation and demographic change with exacerbated segregation and inequality. To do this we consider Dawson County, Nebraska, which hosts the state’s most Latino/a school district (Lexington) and which saw its number of schools decline from 37 to 19 during this century’s first decade, and the number of local school districts lessened from 18 to 5. In particular, we call attention to the irony that consolidation was pursued with an explicit call for more equality in schooling in Dawson County (Swidler 2013) and yet population concentrations and variation in expenditures seemed to have moved away from rather than toward that goal. This article also highlights the application of Geographic Information Systems (GIS) technology to the review and presentation of educational research.

Key Words: school consolidation, segregation, school equity, GIS, Latino/as, Dawson County (NE), Lexington (NE)

INTRODUCTION

Although the rural one-room schoolhouse that followed the expansion of Euro-American settlement is as iconic as the covered wagon and the sod house, for nearly a century, under varying logics, the United States has been in the process of ridding itself of rural, community-led schools. Since 1930 the number of closed schools and dissolved districts number well into the hundred thousands (Berry and West 2010). This nationwide consolidation effort has been advocated for in terms of democracy (Conant 1967), equity (Swidler 2013), efficiency (Conant 1967), specialization, and savings (Cubberley 1922). But often these justifications for school consolidation are undercut by what has actually been achieved in their pursuit. In our examination of one Nebraska county that was explicitly invoked as part of a circa 2005 equity-oriented argument for large-scale statewide school consolidation, our question is whether consolidation pursued in the name of racial and financial equity in fact moved in the direction of those goals.

In some places, some states have saved money through consolidation. However, this effect is not uniform, and it appears that many districts spend more per pupil after consolidation, as the example we will share illustrates. Concurrently a more troubling problem has emerged as a result of state efforts to reduce costs via consolidation: savings or no, consolidation may come at the expense of equal educational opportunities for students of color. Thus, the central question for this article is this: Where rural communities have been affected by large demographic shifts, often caused by the opening of a meatpacking plant (Stull 1995; Wortham et al. 2002), have they been doubly affected by efforts to reduce the cost of educating children right at a time when these districts need more resources, not less?

Kilkenny (2010) points out that research that pertains to rural areas can have a great deal of importance for public policy because the federal government spends $40 billion annually in rural counties, of which $14 billion is spent on nonfarm rural development programs. Add in the cost of education (primarily federal Title I monies directed at districts enrolling low-income students) and the figure grows even larger. A good deal of money is being spent trying to keep declining towns in rural areas from dying off by building roads and providing adequate water and waste management systems, housing, communications,
energy, and so on. Meanwhile we are closing schools that may function as important community centers (Dewey 1902) and forcing families to school their children in other communities, if not relocate all together. Forty billion dollars spent annually means that rural policies affect more than just rural residents, yet according to Kilkenny the challenges faced by rural communities receive only a small amount of attention from refereed journals.

The purpose of this article is to contribute a rural/micropolitan example of school consolidation and exacerbated inequality to the existing literature in an effort to illuminate rural education and community issues and to assist in the search for practicable solutions. To do this the article examines school segregation and inequality in Dawson County, Nebraska, as an intertwined consequence of demographic changes caused by the location of a meatpacking plant in Lexington, Nebraska (2010 population, 10,230), the Dawson County seat; and school consolidation efforts promoted at the state level and pursued, ironically, with an explicit call for more racial equality in schooling in Dawson County (Swidler 2013).

Patterns of segregation can emerge irrespective of school consolidation, but in Dawson County, the statewide school consolidation effort seems to have limited school choices and exacerbated segregation primarily in the Lexington micropolitan area, the only micropolitan community in the county and one of three urban clusters. (The U.S. Census defines micropolitan areas as places with 10,000–49,999 people; whereas urban clusters have a minimum population of 2,500 and a maximum of 49,999.) Lexington and Dawson County emerged as settings for possible school segregation because of the demography-transforming power of a new meatpacking plant, which opened in 1988. The demographic change precipitated by the plant opening occurring concurrent with consolidation drew fairly stark racial and ethnic boundaries in Dawson County. In the face of school closures more established (overwhelmingly white) Dawson County residents had to choose between sending their children to school in the new Latino/a diaspora (Hamann and Harklau 2010; Wortham et al. 2002) or sending them to school in one of the remaining primarily white towns outside of Lexington. It appears that most non-Hispanic white residents in Dawson County’s closed school districts chose the latter. In making such a choice they not only kept their children from one of Nebraska’s first majority-Latino/a school districts, but—more defensibly—they also sent their children to districts that spent more on schooling (per capita) than the Lexington district did.

Separately scholars have long devoted substantive attention to school consolidation (Andrews et al. 2002; Barker and Gump 1964; Streifel et al. 1991; Walberg and Fowler 1987) and to meatpacking (Azzam and Anderson 1996; Broadway 1990, 2007; Gouveia and Stull 1997; Paul 2001; Stull et al. 1992). However, few have looked at combination of the economic and geographic processes compelling meatpacking companies to (re)locate to rural counties and the ostensibly unrelated pattern of states and school districts to consolidating schools. By focusing on demographic change and school consolidation together, this article offers a new lens for understanding school consolidation, segregation, and inequality in the so-called flyover country of the United States (Hamann and Reeves 2012).

In 2000 Lexington Public Schools spent $7587 per student (in 2010 adjusted dollars), while the remaining four largest Dawson County districts spent $8778 (also in 2010 dollars). Lexington’s expenditures were the equivalent of 86.4% of the remaining non–single school district averages. By 2010 Lexington’s expenditures per student had grown to $8893, but the district had lost ground comparatively. In 2010 the remaining four districts averaged $11,143 of spending per student, so Lexington’s spending matched only 79.8% of the average of the rest. Worse, in 2000 Lexington enrolled 49.3% of all Dawson County students (2461 of 4996); by 2010 Lexington had 54.6% of the county’s total enrollment (2915 of 5334). So as spending discrepancies got worse they also affected more students, both in sum and proportionally.

**BACKGROUND**

A brief discussion of the underlying theoretical characteristics of cities may be helpful in understanding some of the specific ways in which the location of a meatpacking plant in Lexington might precipitate segregation and the emergence or exacerbation of inequality in a place like Dawson County. This is true directly because there are a few ways that Lexington is like a city (it has the largest concentration of employment in a wide radius), but also because if we consider how cities change we concur-rently get a view of the converse, of how smaller places are shaped by the changes in cities. Two such underlying characteristics are the environment of a city and the economic support structures of a city.

**Environment**

In 1945 Harris and Ullman pointed out the paradox of cities. They argued that the existence of cities, especially...
ones with growing populations, reveals the superiority of urban techniques in exploiting the environment. Cities attract people and entice them to stay because they provide opportunities to live relatively easily and comfortably. Paradoxically a city's success in providing such opportunities often attracts large numbers of in-migrants, and a city's success often comes at the expense of some of its current inhabitants. For example, newcomers reacting to economic opportunities may strain a city's infrastructure, which may in turn limit access to opportunities; and markets may favor one industry (or firm) over others, causing some firms to boom and others to bust, thus creating income inequality for a city's residents. As a consequence a city is often both a site of success and a problematic environment for its inhabitants. Hackenberg (1995), in his attention to industry's externalization of indirect costs, has successfully attached this win-loss dynamic for established residents to rural new Latino/a diaspora communities.

In Lexington, as expected, there are people living in relative ease and comfort as well as those struggling in much poorer conditions. But the implications of this paradox for Lexington (and cities in general) are not limited to income inequality. For example, without concerted effort, equality of schooling outcomes may be difficult or impossible to achieve because lower incomes have been associated with lower educational attainment (Battin-Pearson et al. 2000; Jimerson et al. 2000; Rumberger 1995). (As an important caveat, noting an association between poverty and low school achievement describes a macro-association; it does not obscure that there are compelling individual examples of transcending poverty for school success and, more importantly, schools with high poverty enrollments and high achievement [Edmonds 1979; Kearney et al. 2012; Lucas et al. 1990; Reeves 2004].) In brief, then, the environment of the city itself (even the metropolitan city) affects the equality of schooling outcomes.

**Economic Structure**

Cities both attract and repel industries. This paradox is useful in understanding why a meatpacking firm formerly doing business in Chicago, Omaha, or Kansas City might suddenly find Denison, Iowa, Lexington, Nebraska, or Garden City, Kansas, a more attractive site for enterprise. Utilizing a portion of Vernon's (1966) product life cycle theory, Kaplan et al. (2008) suggested a three-phase model to help us understand the location and relocation of urban manufacturing to nonmetropolitan areas. From this perspective the cycle of a particular firm begins in a large urban center with an initial phase, during which new products and methods of production are being developed and improved upon. In this phase urban economies provide lower costs due to established infrastructure, access to a skilled workforce, necessary consumer and service support, and large transportation networks. Broadway (2007) pointed out that during the 19th century, livestock were shipped long distances, primarily by rail, to stockyards in places such as Omaha and Chicago, where they were slaughtered by relatively skilled workers in multiple-story factories and prepared for shipment to the East in nearby packinghouses. Initially, this system was enormously successful and by the end of the 19th century, several meatpacking firms had entered the second phase of the product cycle, the growth phase.

Azzam and Anderson (1996) argued that by 1920, despite enormous profitability, an oligopoly in meatpacking had emerged consisting of “the Big Five”—Armour, Cudahy, Morris, Swift, and Wilson. This is consistent with the product cycle model which suggests that when an industry is highly profitable and experiences rapid growth in general, often there will be a handful of firms that emerge as sole-competitors which severely limit competition. Meatpacking long has been and remains a highly consolidated industry that still attracts policy attention from Washington, DC. (Consider the current immigration policy debate’s invocation of jobs “Americans don’t want.”) This second phase is also characterized by a decrease in the reliance on urban infrastructure and labor. So firms may seek to take advantage of the space and lower land values in nonurban areas in order to build larger facilities and increase production. For meatpacking, the movement away from urban areas was preceded by a need for advances in refrigeration technology and an improvement in highways and roads in nonurban areas (Azzam and Anderson 1996). Both of these technological advances came to be, and by 1960 the “IBP revolution” (Broadway 2007, 562) was transforming meatpacking from an urban to a nonmetropolitan endeavor.

The third phase enumerated by Kaplan et al. (2008) is the mature phase, wherein after a period of large growth and profitability a firm plateaus to normal profits and reduced growth. Capital is highly important in this phase, and lowering the cost of production is paramount to maintaining profits. According to Broadway (2007), in 1960 a series of innovations revolutionized meatpacking. These innovations included locating plants in cattle-producing regions rather than in cities at the end of a rail line, such as Omaha or Chicago; eliminating stockyard middlemen by purchasing cattle directly from producers; and restructur-
ing facilities into a single-story disassembly-line format, which “deskilled” labor and allowed firms to justify the reduction of wages.

In Dawson County, by the time meatpacking came to Lexington the town had already experienced more than a decade of growth (1970 population, 5654; 1980 population, 7040) as a result of a Sperry–New Holland (SNH) combine manufacturing plant opening in 1970 and the statewide completion of Interstate 80 (with its five Dawson County exits) in 1974. So Lexington already had the requisite infrastructure in place when combine building ended in 1986 and meatpacking began in 1988. Thus, since 1970 Lexington has been a manufacturing town, and as goes the market, so goes the town. This is clear in the census-captured population decline from 7040 in 1980 to 6601 by 1990, after SNH left town and with the packing plant’s relevance not yet felt. But 10 years later Lexington’s population had increased 34% and most of the newcomers were young Latino/as. The point is that Lexington’s vitality relies on basic manufacturing labor and, since 1988, increasingly on Latino/a laborers.

To quantify just how dependent Lexington is on manufacturing, Table 1 utilizes the location quotient (LQ) method (Hartshorn et al. 1992) to compare the manufacturing employment structure of Lexington to that of the United States. The LQ uses the portions of employment in a given sector for a local/regional area and compares that to a reference region (usually the United States as a whole). The LQ value is a ratio—percentage employed locally in a given sector / the reference region’s percent employment in the same sector—thus, when the local area’s employment resembles that of the reference region, the LQ-value should be close to one. In this case the LQ-value is five times more than would be expected if Lexington’s basic employment was similar to that of the United States as a whole. Reliance on manufacturing in Lexington is clear. Furthermore, since Lexington is home to roughly half of Dawson County’s population, as manufacturing goes, so Lexington goes, and so goes Dawson County.

**DEMOGRAPHIC CHANGE:**
**IMPORTING A LABOR FORCE**

According to the 1980 census Dawson County had a population of 22,304 (97% white). Of that population only 0.7% was foreign born. By 1990 with the impact of the packing plant just beginning to be felt but overshadowed by the loss of the combine facility, Dawson’s population had decreased 10.6% to 19,940 and was still mainly white (96%). So while the Dawson County’s racial/ethnic population structure had not changed much, white out-migration was already underway. By 2000 the Dawson County population had increased by 22% to 24,365, but it was now only 75% white. This population total remained stable through the 2010 census, but was increasingly foreign born (18.8%). Indeed the foreign-born population in Dawson County had increased 3038% since 1990. In essence much of the labor force (and, thus, a large portion of the overall population) was imported to accommodate the demands of the meatpacking industry’s movement to a rural county. Dawson County is just one case of many in the Great Plains wherein white out-migration was mitigated by the introduction of private firms reliant on immigrant labor to rural areas (Broadway and Stull 2006; Broadway 2007; Kilkeneny 2010).

Although “foreign-born” is hardly a synonym for “undocumented,” it follows that practically all of the undocumented population is foreign born. More importantly for our purposes, it also follows that less of the foreign-born population are fully naturalized citizens—nationally about 80% of those who arrived before 1980 are, but overall only 43% are, with citizenship less likely the more recent the arrival (Grieco et al. 2012). There are historic tie-ins between small schools, place, and democracy (Swidler 2000; Theobald 1997); and just as Dawson County was facing pressure for consolidation a growing portion of adults lacked suffrage, with a sub-portion of those even less engaged and anxious to “stay in the shadows” (Chavez 1997).

To contextualize this demographic transformation further, in 1990 the state of Nebraska had a Latino/a presence of a little over 36,000 people (2.3%)—1.8% of whom lived in Dawson. By 2000 the statewide Latino/a presence had risen to 94,425 (5.5%)—6.5% of whom lived in Dawson. That same year Dawson County was home to just 1.4% of Nebraska’s total population. Although Dawson’s proportion of Nebraska’s Latino/as nosed down again (to 4.6%) by 2010, this is misleading. Dawson’s net Latino/a population grew from 663 in 1990 to 6,178 in 2000 and to 7,746 in 2010. It was just that in the first decade of the 21st century the rest of Nebraska was also becoming more Latino/a, partially in response to the same dynamics that brought Latino/as to Lexington.

As in other meatpacking towns (such as Hyrum, Utah, Cactus, Texas, Grand Island, Nebraska, Greeley, Colorado, Worthington, Minnesota, Marshalltown, Iowa, and Postville, Iowa [Hamann and Reeves 2012]), Latino/a newcomer populations began arriving in Dawson County shortly after a new plant opened its doors. In the 20-year period between 1990 and 2010 Dawson’s Latino/a population increased by 1068% and almost all of the county’s
newcomers ended up in Lexington. As a result, Lexington became Nebraska’s most Latino/a school district (76.8%) and home to one of two dual-language education programs in the state. Meatpacking not only transforms a micropolitan community, it also transforms its schools.

A GEOGRAPHIC FRAMEWORK FOR INEQUALITY

Where a person is born makes a difference with regard to what socioeconomic opportunities they are likely to navigate. Spiegelberg (1961) suggested that the phrase “accident of birth,” most closely associated with John Stuart Mill, can be thought of as the sum of those natural and social factors and circumstances that tend either to limit or advantage a person based upon where and to whom they are born. Per this framework where a person is born and to what family influences her life, including where she will go to school. Where a child’s parents move and when can likewise affect what a child receives educationally and to what consequence. Because not all schools and school districts produce equal educational outcomes, where one attends school matters (Borman and Dowling 2010; Brown v. Board of Education [347 US 483 (1954)]; Kozol 1991). For example, some schools are highly successful in sending students to college, others are “dropout factories” (Orfield 2009) in which 60% or fewer complete high school. Also relevant to our case, some schools close in the face of consolidation while others absorb newly dislocated learners.

Where to attend school is not a decision that most children are responsible for making. Even in cases in which school choice complicates this idea, where one’s schooling occurs is still tied to where one lives. So where a child goes to school is also an accident of birth. School-related factors such as the quality of curricula, access to resources and technology, student/teacher ratio, and funding can vary slightly or greatly across administrative boundaries, within districts themselves, and among cities, states, and nations. In Nebraska the average per-pupil expenditure across all districts was $10,472 for the 2010–11 academic year, and for Dawson County it was $10,693 on average. But in the Sumner-Eddyville-Miller (SEM) school district in northeast Dawson County (85% white) the expenditure per pupil was $14,371, in Gothenburg (93% white) it was $9,753, and for Lexington (15% white) it was $8,893. Four-year graduation rates that year were 85% for Sumner-Eddyville-Miller (SEM), 94% for Gothenburg, and 80% for Lexington (Nebraska Department of Education 2012).

Maps 1 and 2 depict school-funding patterns in Nebraska School Districts in 2000 versus 2010. Three important points emerge. First, the majority of the districts with the lowest expenditures per pupil tend to exist in the most populated areas of the state (that is, along the I-80 corridor: Omaha, Lincoln, Grand Island, Hastings, Kearney, Lexington, and North Platte). Second, consolidation appears to have had mixed results in terms of savings. Many districts were spending less per pupil in 2010 than they would have had they not consolidated. This makes sense per the logic of economies of scale (Andrews et al. 2002) for school consolidation: centralizing facilities and bureaucracy to reduce costs should result in a reduction of costs for larger districts. But there were some districts that were spending more post-consolidation than they were previously. For example, McPherson and Keya Paha Counties both traded a mix of several relatively inexpensive smaller districts for one larger, more expensive one. Third, the major meatpacking counties in Nebraska (Colfax, Dawson, Dodge, Hall, Lincoln, and Madison) all supported among the lowest per-pupil expenditures.

This last point is problematic vis-à-vis an economies of scale logic for consolidation based on raw numbers. Worse, the low funding is contrary to the extra needs of the students and families in the districts that experience dramatic demographic shifts. In 2000, counting the 13 districts that were later closed by consolidation, an average of $11,814 (2010 dollars) was spent per Dawson County student. After reducing the number of Dawson County school districts from 18 to 5 between 2000 and 2010, $10,694 was the school district average of per-student spending in Dawson County. So in one view, $1,120

---

**TABLE 1. LEXINGTON AS A MANUFACTURING TOWN**

<table>
<thead>
<tr>
<th></th>
<th>Lexington</th>
<th>United States</th>
<th>Location quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Manufacturing</td>
<td>42.44</td>
<td>8.29</td>
<td>5.11</td>
</tr>
<tr>
<td>Total manufacturing</td>
<td>2052 (+/- 307)</td>
<td>11,528,000</td>
<td></td>
</tr>
<tr>
<td>Total employed</td>
<td>4835 (+/- 284)</td>
<td>139,070,000</td>
<td></td>
</tr>
</tbody>
</table>

Data compiled from Bureau of Labor Statistics and the American Community Survey.
was saved per pupil through consolidation—although this number is illusive, as the number of students for whom savings were realized was quite small since the closed schools and districts were quite small (numbering from just 4 to 43 students each in 2000). Moreover, the student body in Lexington changed dramatically in ways that recommended additional expenditures to accommodate students and families (there was a need for the district to pay for more after-school programs, bilingual services, expanding free and reduced lunch programs, and so on). So consolidation-related expenditure cuts exacerbated the inequality between districts in per-pupil expenditures. Just as Lexington needed more, it received comparatively less.

As Table 2 demonstrates, over the last 10 years Lexington has seen the largest increase in student enrollment and the smallest increase in per-pupil expenditures, all while trying to accommodate the needs of a student body that has gone from majority white and native English speaking to majority Latino/a with a more complex first language profile.

These facts help to further illustrate that some children may be more advantaged than others by simple virtue of their geographical situation. Furthermore, a growing number of researchers are finding that out-of-school factors contribute as much or more to success or failure as school-related ones. For example, Rothstein (2004) and Anyon (2005) have argued that community-based reforms such as raising the minimum wage, providing affordable and stable housing, expanding access to healthcare and transportation, and endeavoring to keep unemployment rates low are all factors that might positively affect the dropout rates in a given area. Thus, a child’s family and neighborhood, as well as the school that he or she attends, are all at play in determining the type of education he or she will receive. This means that research regarding equal access to educational opportunities is well served by attending to the geographical and economic processes that underlie educational inequalities.

**SEGREGATION AND SCHOOL CONSOLIDATION**

Concomitant with the arrival of high numbers of Latino/as in Dawson County was a statewide school consolidation effort that reduced the number of school districts there from 23 in 1990 to 18 in 2000 and 5 in 2010. The number of schools likewise decreased in that time from 37 to 17. This means that the emergence of the new Latino/a diaspora in Dawson County coincided with a nearly 50% decrease in the number of its schools. In Dawson three urban clusters exist (Gothenburg, Cozad, and Lexington), and between 1990 and 2010 all schools outside of these
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TABLE 2. THE FIVE DAWSON COUNTY SCHOOL DISTRICTS, 2000–10

<table>
<thead>
<tr>
<th>Remaining school districts</th>
<th>Percent enrollment increase, 2000–10</th>
<th>Percent per-pupil expenditure, 2000-10</th>
<th>Discrepancy from average per-pupil increase (these districts), 2000–10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexington</td>
<td>15.8%</td>
<td>17%</td>
<td>-8%</td>
</tr>
<tr>
<td>Cozad</td>
<td>0.31%</td>
<td>-6%</td>
<td></td>
</tr>
<tr>
<td>Gothenburg</td>
<td>11.15%</td>
<td>23%</td>
<td>-2%</td>
</tr>
<tr>
<td>Overton</td>
<td>5.3%</td>
<td>25%</td>
<td>0%</td>
</tr>
<tr>
<td>Sumner-Eddyville-Miller</td>
<td>-1.9%</td>
<td>37%</td>
<td>+12%</td>
</tr>
</tbody>
</table>

Data compiled from the Nebraska Department of Education (all relevant figures in 2010 dollars).

urban clusters closed—with the exception of two schools in Sumner and two in Overton (visible in the far right, or east, of Maps 3 and 4). Essentially the closing of almost all rural schools in Dawson County required that the majority of children in the county attend school in one of the three comparatively urban clusters. Such concentration came with myriad consequences.

Maps 3 and 4 display the pattern of school consolidation in Dawson from 2000 to 2010 and the enrollment demographics of each open public school. Lexington absorbed almost all the growth in Latino enrollments, a change echoed in census data. For example, Johnson Lake, Nebraska, a lake community 7 miles southwest of Lexington, grew by 56% from 1990 to 2000, but remained 98% white. This indicates the potentiality that a portion of the white community from Lexington moved away from the city to the Johnson Lake area as more Latino/as arrived in Lexington, a point corroborated by some Johnson Lake residents’ public opposition to state school consolidation efforts in the mid-2000s (Swidler 2013).

To further illuminate the demographic changes captured in Maps 3 and 4, indices of dissimilarity were calculated for Dawson County by census block group. The dissimilarity index has become the standard indicator of racial and ethnic segregation between two groups within a given area (Frey and Myers 2005). The dissimilarity index can range from 0% to 100%, and it can be interpreted in this case as the percent of all the white residents or all of the Latino/a residents in Dawson who would need to move between blocks groups to achieve an equal dispersion. The formula used to calculate the dissimilarity index was

\[
D = \frac{1}{2} \sum_{i=1}^{n} \left| \frac{w_i}{W} - \frac{h_i}{H} \right|
\]

where \( D \) = the dissimilarity index; \( w_i \) = number of whites in a given block group; \( h_i \) = number of Latino/as in a given block group; \( W \) = total number of whites in Dawson; \( H \) = total number of Latino/as in Dawson.

The data indicate that Dawson County had lower D-index values—that is, less residential segregation—for 1990 and 2000 than for 2010 (Fig. 1). Frey and Myers (2005) find that among all the major metropolitan areas in the United States, a D-index score of over 50% is relatively high. For Dawson County, which is rural and has a relatively small population, the correspondence to Frey and Myers’s finding is not exactly one to one. Nonetheless, it is obvious that by this measure of segregation Dawson County appears to be more segregated now than it was 20 years ago. Maps 5, 6, and 7 show the patterns of segregation and help to visualize the emergence of the Latino/a population in Lexington and Dawson County. The larger dots represent block groups that contribute the most to the segregation in Dawson County, and the darker tones indicate increases in percent Latino/a. In sum, as the Lexington population was changing dramatically from majority white to majority Latino/a, and as school consolidation was co-occurring, Dawson County was also becoming more racially segregated. In the midst of these already difficult changes, school funding in Lexington
Dawson County School Demographics: 2000

Explanation: The height of the bins represents the relative enrollment of the Dawson County schools. Race/ethnicity has been color-coded to demonstrate concentrations of certain kinds of students attending schools in specific urban/rural areas. These data in combination with corresponding 2000 school map reveal that Lexington has increased its share of Latin@ and the white students have decreased in number.

Author: William R. England
Sources: Basemap from ESRI (Open Street Map), Nebraska Dept. of Education

Dawson County School Demographics: 2010

Explanation: The height of the bins represents the relative enrollment of the Dawson County schools. Race/ethnicity has been color-coded to demonstrate concentrations of certain kinds of students attending schools in specific urban/rural areas. These data in combination with corresponding 2010 school map reveal that Lexington has increased its share of Latin@ and the white students have decreased in number.

Author: William R. England
Sources: Basemap from ESRI (Open Street Map), Nebraska Dept. of Education
Dawson County Demographics: 1990

An index of dissimilarity was calculated for Dawson county. Using the equation:
\[
D = \frac{1}{2} \sum \left( \frac{w_i}{W} + \frac{l_i}{L} \right)
\]

The D-Index is as a measure of segregation and in this case, D = 52.42, which means that 52% of white residents, or Latin@ residents would need to move to new neighborhoods for the distribution to be equal.

Where:
- \(w_i\) = total white pop for the ith block group
- \(W\) = total white pop for Dawson County
- \(l_i\) = total Latin@ pop for the ith block group
- \(L\) = total Latin@ pop for Dawson County

Author: William R. England; Source: ESRI (Open Street Map); US Census and ACS
Dawson County Demographics: 2010

![Map of Dawson County Demographics: 2010](image)

**Block Groups**

**D-Values**

<table>
<thead>
<tr>
<th>D-Value</th>
<th>0.25 - 0.63</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.64 - 1.85</td>
<td></td>
</tr>
<tr>
<td>1.86 - 2.80</td>
<td></td>
</tr>
<tr>
<td>2.81 - 4.80</td>
<td></td>
</tr>
<tr>
<td>4.81 - 11.43</td>
<td></td>
</tr>
</tbody>
</table>

An index of dissimilarity was calculated for Dawson county. Using the equation:

\[ D = \sqrt{\frac{1}{2} \sum_{i} \left( \frac{w_i}{W} + \frac{L_i}{L} \right) - 1} \]

Where:

- \( w_i \) = total white pop for the ith block group
- \( W \) = total white pop for Dawson County
- \( L_i \) = total Latin@ pop for the ith block group
- \( L \) = total Latin@ pop for Dawson County

The D-index is as a measure of segregation and in this case, \( D = 0.25 \), which means that 62% of white residents, or Latin@ residents, would need to move to new neighborhoods for the distribution to be equal.

Author: William England. Sources: ESRI (Open Street Map), US Census and ACS

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Dawson County Demographics: 2000

![Map of Dawson County Demographics: 2000](image)

**Block Groups**

**D-Values**

<table>
<thead>
<tr>
<th>D-Value</th>
<th>0.43 - 0.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.61 - 1.63</td>
<td></td>
</tr>
<tr>
<td>1.64 - 2.74</td>
<td></td>
</tr>
<tr>
<td>2.75 - 4.63</td>
<td></td>
</tr>
<tr>
<td>4.64 - 10.19</td>
<td></td>
</tr>
</tbody>
</table>

An index of dissimilarity was calculated for Dawson county. Using the equation:

\[ D = \sqrt{\frac{1}{2} \sum_{i} \left( \frac{w_i}{W} + \frac{L_i}{L} \right) - 1} \]

Where:

- \( w_i \) = total white pop for the ith block group
- \( W \) = total white pop for Dawson County
- \( L_i \) = total Latin@ pop for the ith block group
- \( L \) = total Latin@ pop for Dawson County

The D-index is as a measure of segregation and in this case, \( D = 0.61 \), which means that 52% of white residents, or Latin@ residents, would need to move to new neighborhoods for the distribution to be equal.

Author: William England. Sources: ESRI (Open Street Map), US Census and ACS
Public Schools was not keeping pace with the rest of the county or the state.

CONCLUSION

The state of Nebraska provides allowances for districts with students in poverty and with so-called limited English proficiency in the school funding formula. This feature of Nebraska school finance is presumably meant to benefit school districts with students who have diverse needs under a rationale of equity. But just as Lexington’s population of families and students with diverse educational needs was growing, their resources (relative to the rest of the county and the state) were not. As education policy expert Linda Darling-Hammond (2010) points out, in education, spending matters. Unfortunately many states are only required to supply a “minimally adequate” education. Worse, school districts with large numbers of minority and low-income students frequently enjoy even less funding and less resources in general in comparison to districts made up of mostly white, middle-class students. There are only a handful of states wherein lawsuits have not been filed challenging public school funding, and the bulk of the school finance lawsuits emanate from districts comprising minorities and poor students (Darling-Hammond 2010).

Through a lens of demographic change and school consolidation we can see these patterns of inequality emerge in Nebraska as well. That children in Lexington Public Schools were getting relatively less, right at a time when they needed more, undermines the rationale of equity that supposedly guides the state’s financing policies. The obvious policy implication for Lexington (and communities like it) is for the state to ensure that the resources available to the district match the unique educational needs of the community. This may require reconsideration of the funding formula, perhaps by requiring the state to distinguish demographically transforming districts from more demographically stable ones, and to have separate funding mechanisms for each.

Dawson County clearly indexes a particular case. But the geographic and economic processes contributing to segregation and inequality in Dawson are also similar to many other places in the Great Plains where historically majority white counties are seeing (or have seen) recent Latino/a diasporas emerge. Although this analysis does not include Finney County, Kansas, Buena Vista County, Iowa, Nobles County, Minnesota, or the dozens of other flyover country meatpacking counties that have been transformed by growing Latino/a populations, this analysis could be meaningful to those places as well. In that sense our analysis of Dawson County is relevant to the Great Plains writ large because Dawson County shares with them the prospects and challenges that develop vis-à-vis large influxes of newcomers. Thus, the larger hope is that our analysis of Dawson County offers a compelling lens through which we can consider school segregation, consolidation, and inequality in the Great Plains. Visualizing segregation and unequal educational opportunity is not always easy. Moreover, rural districts might insist (and rightly so) that they are different from large urban places. Large urban problems (and their solutions) may seem similar to those faced by smaller settlements, when in fact these problems are quite distinct. Nevertheless, if it is our goal to challenge policies that segregate and stratify educational outcomes, it behooves us to examine all geographies (rural, urban, and suburban) where this occurs and to figure out ways to communicate such information. This can be complicated when other changes, such as the common phenomenon of school consolidation, co-occur and are rationalized as vehicles of efficiency or improvement, but actually end up compounding segregation and inequality and complicating the solutions to these problems. An important first step toward a solution is to allow readers to see the geo-spatial distribution of population changes over time, racial isolation, school expenditures, graduation rates, and more. These are proposed as key tools for making sense of common but complicated phenomena and arguing for different policies and outcomes.

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