Patterns of Exclusionary Discipline by School Typology, Ethnicity, and their Interaction

By Amity Noltemeyer, Miami University; and Caven S. Mcloughlin, Kent State University

ABSTRACT

Although exclusionary discipline has been linked to a variety of negative student outcomes, it continues to be utilized by schools. This study investigates two critical variables as they relate to exclusionary discipline: School typology (i.e., urban, rural, suburban) and student ethnicity. Using data from 326 Ohio school districts, a MANCOVA followed by univariate ANCOVAS was used to examine the main effects of ethnicity and school typology on exclusionary discipline rates as well as their interactive effects. Results indicate that when controlling for student poverty level: (a) African American students are disproportionally represented as recipients of exclusionary discipline; (b) major urban very-high-poverty schools utilize these practices most frequently; and (c) disciplinary disproportionality was most evident in major urban districts with very-high-poverty and was least evident in rural districts with a small student population and low poverty. Implications for research and practice are discussed.

INTRODUCTION

Exclusionary discipline describes suspension, expulsion, and other disciplinary actions leading to a student's removal from the typical educational setting. Although frequently used in schools in an attempt to punish or to promote appropriate behavior, exclusionary discipline can result in a number of unfavorable outcomes. For example, high exclusionary discipline rates are positively associated with academic failure (Gersch & Nolan, 1994; Rausch & Skiba, 2004; Safer, Heaton & Parker, 1981; The Civil Rights Project/Advancement Project, 2000), high school dropout (Costenbader & Markson, 1998; DeRidder, 1990; Ekstrom, Goertz, Pollack & Rock, 1986; Wehlage & Rutter, 1986;), involvement with the juvenile justice system (Chobot & Garibaldi, 1982; Florida State Department of Education, 1995; The Civil Rights Project/ Advancement Project, 2000), grade retention (Safer, 1986), and illegal substance use (Swartz & Wirtz, 1990).

Despite these findings, the use of exclusionary discipline in schools continues to rise. As a result, researchers have increasingly become interested in identifying school-level and student-level factors that may relate to exclusionary discipline use within schools. Interestingly, rates of exclusionary discipline have been found to vary widely based on these factors. For example, Imich (1994) found that a small number of schools accounted for a large proportion of school exclusions, and Skiba, Wu, Kohler, Chung and Simmons (2001) discovered that 1-in-6 of Indiana's school districts account for 50-75% of all exclusionary disciplinary actions. Such evidence of vast disparities in discipline practices highlights the need to identify school-level and student-level factors that may predict reliance on exclusionary discipline.

School Factors

Many school factors have been linked to rates of exclusionary discipline. Wu (1980) found that exclusionary discipline rates are more strongly influenced by school factors than by students' challenging behaviors. For example, exclusionary discipline rates have been linked to: administrator philosophy and beliefs (Christle, Nelson, & Jolivette, 2004; Mukuria, 2002; Wu, 1980), ambiance of the physical school setting (Christle et al., 2004), per pupil spending (Christle et al., 2004), district SES (Fowler & Walberg, 1991), and public-versus-private school status (Farmer, 1999). Other school factors have been demonstrated to have no significant relationship to exclusionary discipline rates (e.g., teacher to pupil ratio, Christle et al., 2004; school size, Fowler & Walberg, 1991, and Imich, 1994; and teacher experience, Christle et al., 2004).

In this study, school typology is the factor of paramount interest. School typology is a classification based on community and school characteristics. In Ohio, for example, schools are classified into nine typologies that were created to account for common demographic characteristics including population density, school size, geographic locale, and community income levels (See Table 1).

Several studies have aimed to explore the relationship between school typology and disciplinary practices. For example, data from the National Education Longitudinal Survey of 1988 revealed that 25% of 8th grade teachers in urban schools reported spending at least one hour per week maintaining order and discipline versus 13% of teachers in rural schools and 16% of teachers in suburban schools (Lippman, Burns, & McArthur, 1996). In addition, Brown and Payne (1992) investigated perceived changes in discipline issues from 1981 to 1991 by surveying 221 teachers on perceived changes in discipline issues. The researchers categorized the data by school typology. When asked whether the school discipline problems they encountered in 1991 were *better or worse* than they were in 1981, no signif-

Table 1

Descriptions of the School Typologies (Adapted from Ohio Department of Education, 2007)

School Typology Number	School Typology Description
0[a]	Districts that are extremely small and either geographically isolated (islands) or have special circumstances
1	Rural/agricultural — High poverty, low median income
2	Rural/agricultural — Small student population, low poverty, low to moderate median income
3	Rural/Small Town — Moderate to high median income
4	Urban — Low median income, high poverty
5	Major Urban — Very-high-poverty
6	Urban/Suburban — High median income
7	Urban/Suburban — Very high median income, very low poverty
8[a]	Joint Vocational School Districts

[a] These districts were eliminated from the analyses.

icant differences in responses emerged between groups. However, when asked whether they *spent more time on discipline* in their classrooms in 1991 than in 1981, urban teachers report they spend slightly or much more time on discipline with a higher frequency than their rural and suburban counterparts (67% versus 42% and 47%). Together, the results of these two studies imply that teachers in urban schools spend more time on discipline than do their suburban and rural counterparts.

In a similar study, Adams (1992) explored the use of disciplinary techniques as a function of school and community characteristics (e.g., school typology). Three hundred and sixty five Michigan school principals completed a survey designed to assess discipline procedures and school characteristics. Results suggested that schools in suburban and urban areas were more likely to use out-of-school suspension than were schools in small cities or rural farming areas. In addition, schools in suburban areas were more likely to use in-school-suspension as a disciplinary response, perhaps due to greater available resources. Finally, urban schools were more likely to use probation as a disciplinary strategy than were the other school typologies.

Other studies, however, have demonstrated greater consistency across school typologies with regard to their exclusionary discipline practices. For example, from a survey distributed to 200 secondary school administrators in Indiana, Green and Barnes (1993) examined whether or not rural, urban, suburban, and small city schools differed on: (a) What administrators consider major and minor misconduct from a list of 61 offenses, and (b) What actions administrators take when misconduct occurs. These researchers found that significant differences existed between school typologies on only two of the 61 offenses regarding which would be considered major and which minor. In addition, the researchers found similarities across school typologies regarding the actions taken when misconduct occurs. These results suggest school typology may have little influence on disciplinary beliefs and actions.

Student Factors

There are several student factors associated with exclusionary discipline practices. For example, males have consistently been overrepresented as recipients of disciplinary actions (Mendez & Knoff, 2003; Skiba & Peterson, 2000; Skiba, Peterson, & Williams, 1997). In fact, research has suggested that the rate of disciplinary actions for male students is up to four times higher than for female students (Imich, 1994). Mendez & Knoff (2003) report more conservative estimates, with White males being more than twice as likely as White females to be suspended, and African American males being nearly twice as likely as African American females to be suspended.

Student socioeconomic status is another student factor that has been associated with exclusionary discipline rates. Students eligible to receive free lunch and those whose fathers do not have full-time employment are more likely to be the recipients of exclusionary discipline than are their peers (Wu, Pink, Crain & Moles, 1982).

Qualitative research has further suggested the impact of socioeconomic status on discipline. Brantlinger (1991) found that both low- and high-income students believed that low-income students were unfairly targeted and received more severe disciplinary consequences than their peers.

Additionally, student grade-level is related to discipline use. For example, Mendez and Knoff (2003) found that across all ethnicities suspension rates increased significantly from elementary to middle school, although they dropped off in high school. Specifically, 3.36% of elementary school students in their sample experienced at least one suspension, compared to 24.41% of middle school students and 18.46% of high school students. Arcia (2008) describes a similar pattern, with middle school students experiencing significantly higher rates of suspensions than elementary school students across demographic categories.

Of particular interest in this study, student ethnicity also predicts exclusionary discipline rates. African American students consistently have been overrepresented as recipients of exclusionary discipline. The first large-scale study to investigate national data on school discipline revealed that African American students were two-to-three times more likely to be suspended than White students across all-grade levels (Children's Defense Fund, 1975). African American students are also more likely to receive multiple suspensions and are less likely to receive milder alternatives when referred for a discipline infraction (Children's Defense Fund). This issue — referred to as disciplinary disproportionality — repeatedly has been studied over the past few decades with overrepresentation demonstrated across a wide variety of settings and populations (e.g., Constenbader & Markston, 1998; Garibaldi, 1992; Mendez & Knoff, 2003; Skiba et al., 1997; Skiba, Michael, Nardo & Peterson, 2002; The Civil Rights Project/Advancement Project, 2000; Thornton & Trent, 1988; Wallace, Goodkind, Wallace & Bachman, 2008; Wu et al., 1982).

Recent research suggests that disciplinary disproportionality is becoming more prevalent over time (e.g., Wallace et al., 2008), despite legislation (e.g., Individuals with Disabilities Education Improvement Act, 2004) requiring state and local educational agencies to enact policies to prevent disproportionality.[1] Although the exact causes of disproportionality may be debated, the overrepresentation of African American students in exclusionary discipline is not satisfactorily explained by an increased severity of problematic behaviors engaged in by African American students, statistical artifacts, or the confound of poverty (Skiba et al., 2002; Wallace et al., 2008). For example, related to each of these potential explanations, Wallace et al. (2008) found that: (a) The degree of ethnic differences in school discipline far exceed differences in actual substance use and weapons possession; (b) disproportionality persisted despite the use of two different methods for analyzing the data; and (c) differences in socioeconomic status had little impact on ethnic disproportionality.

Interaction of School Typology with Ethnicity

Despite initial research demonstrating the influence of both school typology and student ethnicity on exclusionary discipline practices, there has been relatively little investigation into the interaction of these two variables. One exception is a study conducted by Rausch and Skiba (2004). Using data collected from Indiana schools across four geographic locales, these researchers discovered that the discipline rate for African American students was higher than all other ethnicities in all four locales; however, *the highest rates were found in suburban schools where African American students were five times as likely to receive an out-of-school suspension than White students*. Similar results were found when considering expulsions, *with the expulsion incident rate for African American students highest in suburban schools*. More specifically, African Americans were 2.5 times as likely, and Hispanics 1.67 times as likely, to be expelled from suburban schools as White students.

RATIONALE

This evidence base demonstrates clearly that differences in the application of exclusionary discipline by school typology do exist and that exclusionary discipline is disproportionally applied to African American students. However, further research is warranted to replicate findings and extend them to recent data over a larger non-opportunity sample. At this time, only one known study examines whether school typologies differ in the degree to which they exhibit disciplinary disproportionality (i.e., Rausch and Skiba, 2004). Given the significant negative outcomes associated with exclusionary discipline practices, coupled with recent regulatory mandates to curb disproportionality in discipline, it is important to identify factors that are associated with disproportionality practices. These factors may not be directly causative in nature, but they will lead to a better understanding of disproportionality processes and aide efforts aimed at addressing the issue.

To this end, the purpose of this study was to answer three research questions based on state-wide data from the 2007-2008 school year: (1) Do significant differences exist in rates of exclusionary discipline between White and African American students when controlling for poverty? (2) Do significant differences exist in rates of exclusionary discipline between six school typologies when controlling for poverty? (3) Is there an interaction between ethnicity and school typology when controlling for poverty?

METHODS

Procedures

Data from Ohio were examined because the state is a bellwether reflecting national educational and political trends (Rubin, J., 1997). These data were accessed from the Ohio Department of Education (http://www.ode.state.oh.us) using the 'Power Users Report' tool. A spreadsheet of discipline incidents per 100 students during the 2007-2008 school year was created and disaggregated by school district, race, school typology, and discipline

Table 2

Abbreviated Definitions for the Three Types of Discipline Incidents (Adapted from Ohio Department of Education, 2006)

Type of Disciplinary Incident	Abbreviated Definition
Expulsion	The involuntary removal of a student from school by the superintendent.
Out of School Suspension	The denial of attendance at school for no more than 10 days.
Other Disciplinary Actions	Includes in-school suspension, emergency removal by district personnel, in-school alternative discipline class, and removal by a hearing officer.

type (i.e., suspensions, expulsions, and 'other' disciplinary actions). See Table 1 for a definition of each of the school typologies and Table 2 for specific definitions for each of the discipline types. These data were then sorted to remove: (a) Data on students from other ethnicities (e.g., Asian American); (b) Charter, vocational, and geographically isolated schools (e.g., small-census island communities); and (c) Districts with an "NC" in a data field, indicating a total district population of fewer than 10 students in one or both ethnicities under investigation who were excluded from school during the period under investigation. Finally, the data were exported to SPSS (v. 14) for analysis. It is important to note that these data reflect the number of disciplinary incidents per 100 students of each ethnicity at the *school district level*; data were not analyzed at the *individual student level*.

Data on the proportion of economically disadvantaged students in each school district were also acquired using the Power Users Report tool and were integrated into the existing SPSS database. Economically disadvantaged students are defined as those who meet one or more of four criteria. Specifically, 'economically disadvantaged students' include those who: (a) Qualify for free or reduced priced lunch (the family must be at or below 130% of the federal poverty level to qualify for free lunch and at or below 185% to qualify for reduced price lunch); (b) Reside in a household where another member qualifies for free or reduced price lunch; (c) Receive public assistance or live in a household where the guardians receive public assistance; or (d) Meet the family income guidelines to qualify for Title I Services (Ohio Department of Education, 2006).

Sample

Although both school typology and disciplinary data were available for 595 school districts, only 326 districts were included in the final sample due to an insufficient sample of either White or African American students in the 2007-2008 school year in the remaining school districts (i.e., the excluded schools had an "NC" in a data field as described above in the Methods section). Thus, the final sample represented all districts with more than 10 students in one or both ethnicities under investigation who were excluded from school at some time during the academic year (approximately 55% of all school districts in the state).

Given the manner in which the data was provided, an exact number of students attending the sample schools was not readily available. However, it is estimated that the data reflected the average daily enrollment of approximately 1,300,000 students. This estimate was derived by identifying the percentage of Ohio schools represented in the sample for each typology and then identifying the same percentage of the total average daily enrollment for that typology. It is important to note that the actual number of students attending the sample schools – although perhaps interesting – is not important to know for the current analysis since the dependent variable is reported in terms of *disciplinary incidents per 100 students* attending the district.

Analysis

Researchers have proposed that studies that fail to control for SES are likely to have confounded results due to the strong correlation between disproportionality and SES (e.g., MacMillan & Reschly, 1998). As a result, the proportion of economically disadvantaged students in the district was used as a covariate for all analyses. A covariate is a continuous variable known to affect the dependent measures whose effects are not of interest (Grimm & Yarnold, 1995).

To answer the first two research questions, a MANCOVA followed by univariate ANCOVAS was used to determine whether significant differences exist in rates of exclusionary discipline between (a) White and African American students, and (b) six school typologies, when controlling for poverty. To answer the final research question, a MANCOVA followed by univariate ANOVAS was conducted and the interaction between ethnicity and school typology was examined to determine whether disciplinary disproportionality differed significantly based on school typology when controlling for poverty.

There are several assumptions of MANCOVA that are worthy of mention.

First, the sample size in each cell should be greater than the number of dependent variables (Tabachnick & Fidell, 1996). This assumption was unquestionably met, as the smallest sample size in any cell for any of the analyses was 28 and there were only three dependent variables. In addition, the assumption of independence was deemed tenable in this study given no evidence that observations are dependent on one another. Also clearly satisfied was the assumption that the design utilizes categorical independent variables and continuous dependent variables.

MANCOVA also assumes linear relationships between all dependent variables. Pearson correlations between all dependent variables pairs and dependent variable-covariate pairs suggested statistically significant linear relationships, thereby verifying the tenability of this assumption. However, unacceptably high levels of multicollinearity – which can be problematic for MANCOVA – were not present. All correlations were modest and none were close to exceeding the recommended .80 cutoff for multicollinearity.

Multivariate normality is another assumption of MANCOVA that should be considered. Because normality on each variable is a necessary (but not sufficient) condition for multivariate normality, the Kolmogorov-Smirnoff test was used to detect violations in normality for the three dependent variables. Results from these tests suggested that each of the distributions did significantly differ from a normal distribution. Follow-up analysis of histograms and descriptive statistics suggested the presence of positively skewed distributions. Although this indicates a violation of multivariate normality, MANCOVA has been shown to be robust to violations of this assumption in certain cases. For example, a sample size of 20 in the smallest cell of the design generally ensures robustness even in the face of normality violations (Tabachnick and Fidell, 1996). This requirement was fulfilled in the current study, as the smallest cell in any analysis had a sample size of 28. Having a sample size per cell that is greater than the number of dependent variables also helps improve robustness. As previously described, this was also clearly satisfied.

Another set of assumptions is referred to as homogeneity of variance and covariance matrices. Levene's test of equality of variances was significant for expulsions, F (13, 638) = 5.556, p= .000, suspensions, F (13, 638) = 17.487, p= .000, and other disciplinary actions, F (13, 638) = 16.887, p= .000. This suggests a violation of the homogeneity of variance assumption; however, it is important to consider that the Levene test is quite sensitive to large sample sizes and non-normality. Box's M test was used to assess the homogeneity of covariance matrices assumption. This test should be interpreted with caution because it is highly sensitive to violations of multivariate normality, particularly with large sample sizes. In this study, Box's M test was significant, F (78, 64674.022) =1754.987, p= .000.

Because of these violations regarding the variance and covariance matrices, Pillai's criteria for statistical inference was used. Although more powerful criteria exist, Pillai's is regarded as the most robust (Olson, 1979). Specifically, it is the criterion of choice when there are unequal cell sizes and/or the assumptions of homogeneity of variances and homogeneity of covariances are violated. Even when using Pillai's criteria, however, it is important to consider that the F statistic may be

Table 3

Multivariate Tests Using Pillai's Trace

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power(a)
Intercept	.039	8.512(b)	3.000	635.000	.000	.039	25.536	.994
% Economically Disadvantaged	.055	12.261(b)	3.000	635.000	.000	.055	36.782	1.000
Ethnicity	.166	42.189(b)	3.000	635.000	.000	.166	126.567	1.000
Typology	.119	4.384	18.000	1911.000	.000	.040	78.909	1.000
Ethnicity * Typology	.053	1.906	18.000	1911.000	.012	.018	34.307	.976

a Computed using alpha = .05

b Exact statistic

c The statistic is an upper bound on F that yields a lower bound on the significance level.

d Design: Intercept+ED0607+Ethnicity+Typology+Ethnicity * Typology

Table 4

Tests of Between-Subjects Effects

Source	DV	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power(a)
Corrected Model	Expu	65.280(b)	14	4.663	5.640	.000	.110	78.956	1.000
	Susp	58310.267(c)	14	4165.019	21.340	.000	.319	298.757	1.000
	Other	67373.420(d)	14	4812.387	10.205	.000	.183	142.867	1.000
Intercept	Expu	.704	1	.704	.851	.357	.001	.851	.151
	Susp	4433.719	1	4433.719	22.717	.000	.034	22.717	.997
	Other	4797.823	1	4797.823	10.174	.001	.016	10.174	.890
% Economically Disadv.	Expu	7.624	1	7.624	9.221	.002	.014	9.221	.858
	Susp	6015.250	1	6015.250	30.820	.000	.046	30.820	1.000
	Other	6362.290	1	6362.290	13.491	.000	.021	13.491	.956
Ethnicity	Expu	12.564	1	12.564	15.196	.000	.023	15.196	.973
	Susp	22404.644	1	22404.644	114.792	.000	.153	114.792	1.000
	Other	21775.269	1	21775.269	46.175	.000	.068	46.175	1.000
Typology	Expu	26.383	6	4.397	5.318	.000	.048	31.910	.996
	Susp	10677.994	6	1779.666	9.118	.000	.079	54.710	1.000
	Other	17008.587	6	2834.765	6.011	.000	.054	36.067	.999
Ethnicity * Typology	Expu	8.421	6	1.404	1.698	.119	.016	10.186	.648
	Susp	5023.185	6	837.197	4.289	.000	.039	25.737	.982
	Other	6307.997	6	1051.333	2.229	.039	.021	13.376	.787
Error	Expu	526.668	637	.827					
	Susp	124327.163	637	195.176					
	Other	300397.502	637	471.582					
Total	Expu	657.350	652						
	Susp	325723.960	652						
	Other	530643.660	652						
Corrected Total	Expu	591.948	651						
	Susp	182637.430	651						
	Other	367770.922	651						

a Computed using alpha = .05
b R Squared = .110 (Adjusted R Squared = .091)
c R Squared = .319 (Adjusted R Squared = .304)
d R Squared = .183 (Adjusted R Squared = .165)

too liberal due to violations in these assumptions. However, the larger the number of dependent variables and the larger the discrepancy in cell sizes, the greater the potential for distorted alpha levels. In this study there are only three dependent variables and the discrepancy in cell size is 1:6. Another way to address these violations is to use a more conservative alpha level for determining significance (Tabachnick & Fidell, 1996). Consequently, an alpha level of .01 was selected for this study rather than the traditional level of .05.

RESULTS

See Table 3 for a summary of MANCOVA results and Table 4 for a summary of ANCOVA results.

A MANCOVA on the district-level data revealed differences in the use of exclusionary discipline based on the six school types. Univariate ANCOVAS revealed this difference was significant when considering each of suspensions, expulsions, and other disciplinary actions,. Overall, school typology accounted for 4.0% of the variability in exclusionary discipline. Pairwise comparisons revealed that the mean num-

Table 5

Mean Number of Disciplinary Actions per 100 Students by Ethnicity

Disciplinary Action	African American	White
Suspensions per 100 students	22.571	8.477
Expulsions per 100 students	0.539	0.205
Other disciplinary actions per 100 students	23.005	9.110

ber of expulsions per 100 students for school typology Five ('**Major Urban—Very-high-poverty**'; M= 1.058) was significantly greater than that for every other school typology. In addition, the mean number of expulsions for school typologies six (**Urban/Suburban—High median income***; M*= .430) and seven (**Urban/Suburban—Very high median income, very low poverty***; M*= .411) was significantly greater than that for school typology 2 (Rural/agricultural; *M*= .060). Regarding suspensions, the mean was again significantly greater for school typology 5 (*M*= 28.769) than each of the other typologies. It was also significantly greater in typology 6 (*M*= 17.835) than in typologies 1 (*M*= 10.911), 2 (*M*= 8.734), and 4 (*M*= 13.604) and greater in typologies 3 (*M*= 14.389), 4 (*M*= 13.604), and 7 (*M*= 14.424) than in typology 2 (*M*= 8.734). Finally, the mean number of other disciplinary actions per 100 students was significantly greater for typologies 5 (*M*= 30.410) and 6 (*M*= 21.115) than typologies 1 (*M*= 10.809), 2 (*M*= 8.796), 3 (*M*= 12.099), 4 (*M*= 14.084), and 7 (*M*= 15.091).

A MANCOVA also revealed significant differences in the use of exclusionary discipline based on ethnicity. These differences were also deemed to be significant for suspensions, expulsions, and other disciplinary actions. Specifically, the average rate of each of these forms of exclusionary discipline was double-to-triple the rate for African American students as it was for White students (see Table 5). Ethnicity was found to account for 16.6% of the variability in disciplinary actions.

A MANCOVA revealed a significant interaction between ethnicity and school typology when considering exclusionary discipline. Follow-up ANCOVAS revealed this interaction was significant when considering suspensions and other disciplinary actions, but not when considering expulsions. Examination of plots of the marginal means for suspensions (see Figure 1), expulsions (see Figure 2), and other disciplinary actions (see Figure 3) suggests that disproportionality is most pronounced in school typology 5 ('**Major Urban—Very-high-poverty')** across all three discipline types. In addition, school typology 2 (Rural/agricultural— Low poverty, low to moderate median income) appears to have the most limited amount of disproportionality across all three disciplinary types, with a trend opposite to disproportionality emerging in expulsions.

DISCUSSION

Although exclusionary discipline has been linked to a variety of negative student outcomes, it continues to be utilized. Interestingly, exclusionary discipline rates vary based on a variety of school-level and student-level factors. School typology and ethnicity—two of these factors—were explored in this investigation. Specifically, data from all Ohio school districts during the 2007-2008 school year was used to examine whether: (a) Significant differences exist in rates of exclusionary discipline between White and African American students when controlling for poverty; (b) Significant differences exist in rates of exclusionary discipline between six school typologies when controlling for poverty; and (c) An interaction exists between ethnicity and school typology when controlling for poverty.

Results indicate that significant differences do exist between the school typologies regarding exclusionary discipline rates when controlling for poverty. Most notably, major urban, very-high-poverty school districts consistently demonstrated higher mean disciplinary actions per 100 students than any other school typologies. In contrast, rural/agricultural districts with small student populations and low poverty consistently demonstrated the fewest mean disciplinary actions per 100 students. These general findings are consistent with prior research, however, they also contribute a new perspective. *Whereas previous investigations and their results may have been confounded by poverty, these results suggest there is something above and beyond poverty that explains disciplinary differences between school types.*

The data also revealed disciplinary disproportionality. Specifically, the mean rate of each type of exclusionary discipline for African American students was two-to-three times the rate for White students. This is not surprising given support for this premise over the decades; however, our research confirms that disproportionality in discipline continues to exist in the face of provisions aimed to curb it (IDEIA, 2004). This factor could be due to intensified requirements for schools to be accountable for student academic outcomes (e.g., NCLB, 2001), which in turn may increase the likelihood that school officials exclude students from school who do not conform to the teacher's perception of 'typical' behav-

ior (which itself is likely based on his or her own cultural experience) or who are failing to reach academic targets.

When interpreting these two sets of results, it is important to remember that researchers have found that disciplinary disproportionality is not sufficiently explained by an increased severity of problematic behaviors engaged in by African American students. Instead, African American students are more likely to receive harsher consequences for the same types of discipline infractions (Children's Defense Fund, 1975; Skiba et al., 2002). In addition, although poverty does contribute to disproportionality, a strong ethnicity effect remains even after controlling for poverty (e.g., Skiba et al., 2002). Consequently, it appears that additional mechanisms are contributing to disproportionality. Although these mechanisms are still debated, they may include bias, cultural incongruence or cross-cultural miscommunication between teachers and students, and student perceptions of unfairness in discipline. It is likely that the causative factors are complex and multi-dimensional.

Finally, an interaction between school typology and ethnicity was found, with disciplinary disproportionality rates differing by school typology. *Specifically, disproportionality was most noticeable in major urban, very-high-poverty school districts across all three disciplinary types.* It was least noticeable in rural/agricultural schools with small student populations and low poverty; in fact, there were actually more expulsions per 100 White students than there were per 100 African American students in these latter schools types. The finding that major urban, very-high-poverty schools have the greatest disproportionality in discipline is inconsistent with findings from Rausch and Skiba (2004). One might assume that holding poverty constant would result in no significant differences between urban and other schools; however, this was clearly not the case. Nonetheless, this finding is perhaps unsurprising considering previous research demonstrating that schools that have the highest rates of suspensions also have the highest rates of disproportionality (Skiba et al., 2000). In addition, urban schools may be more

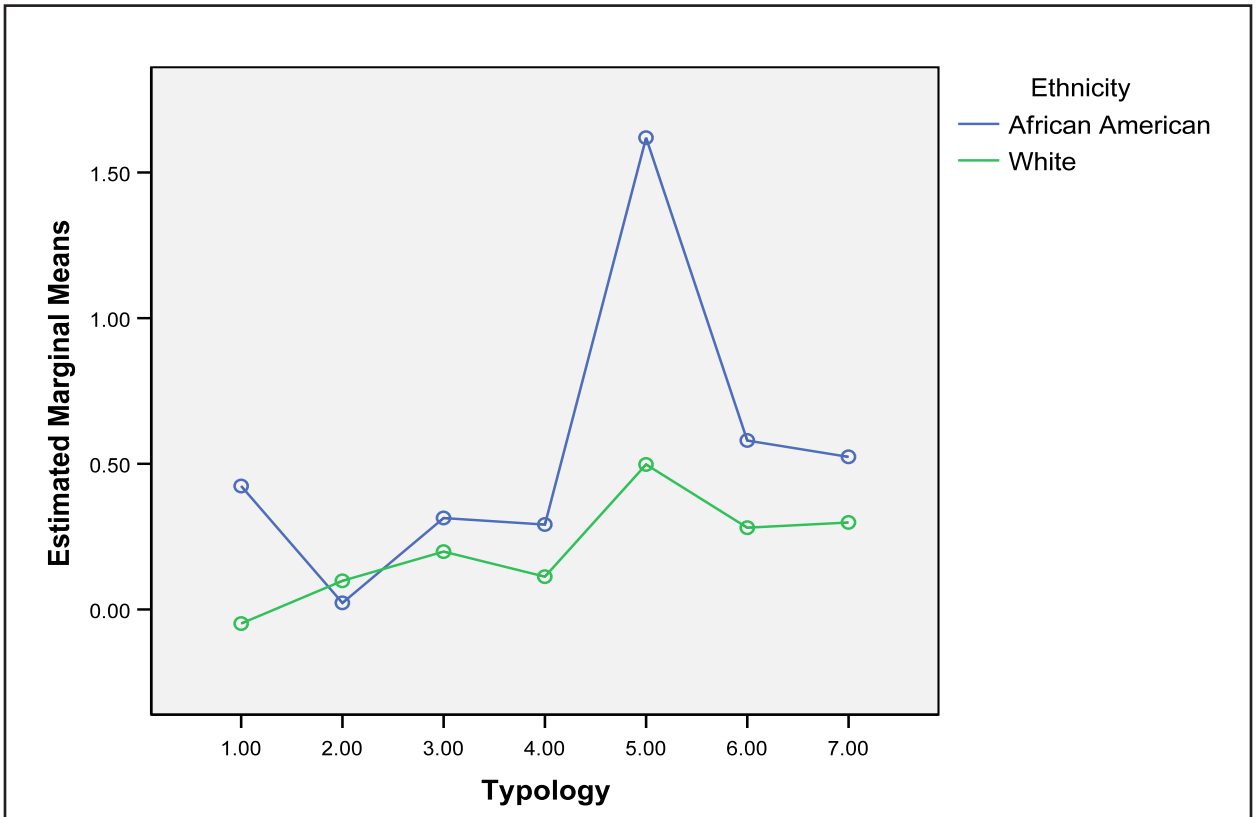

Figure 1. Mean Number of Expulsions per 100 students by School Typology and Ethnicity

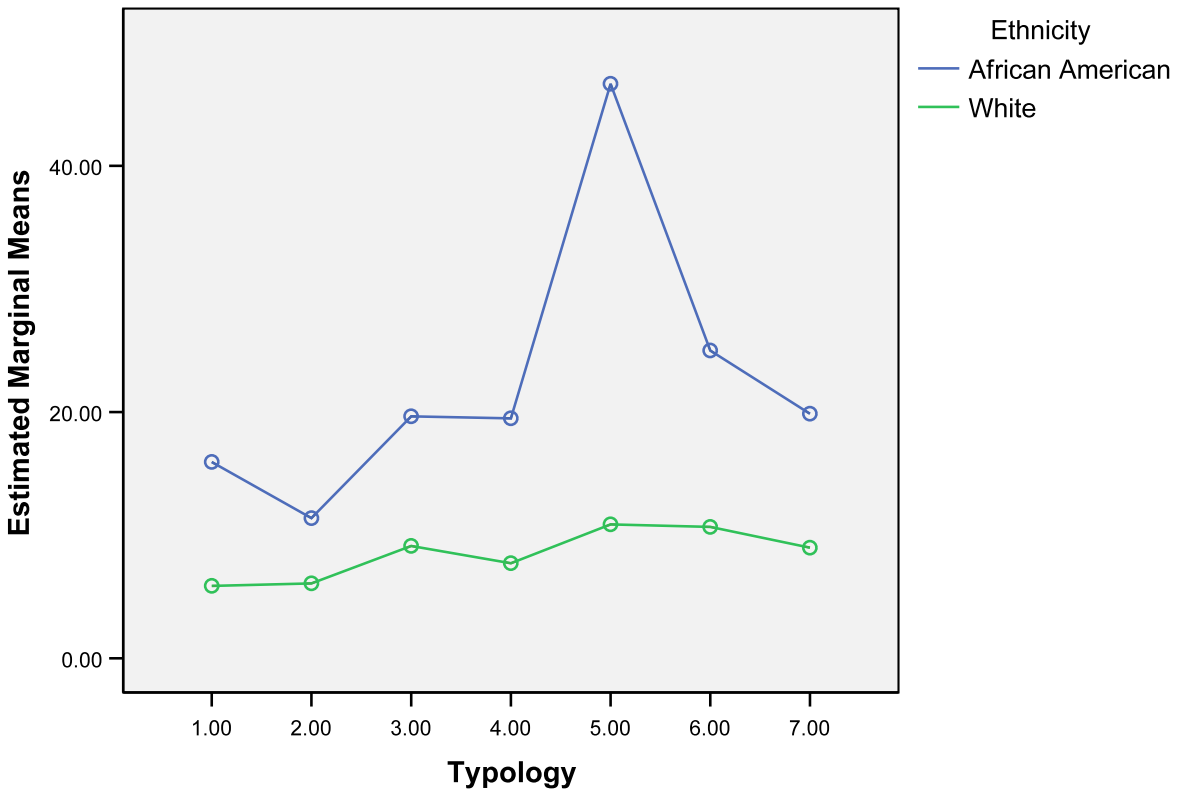

Figure 2. Mean Number of Suspensions per 100 students by School Typology and Ethnicity

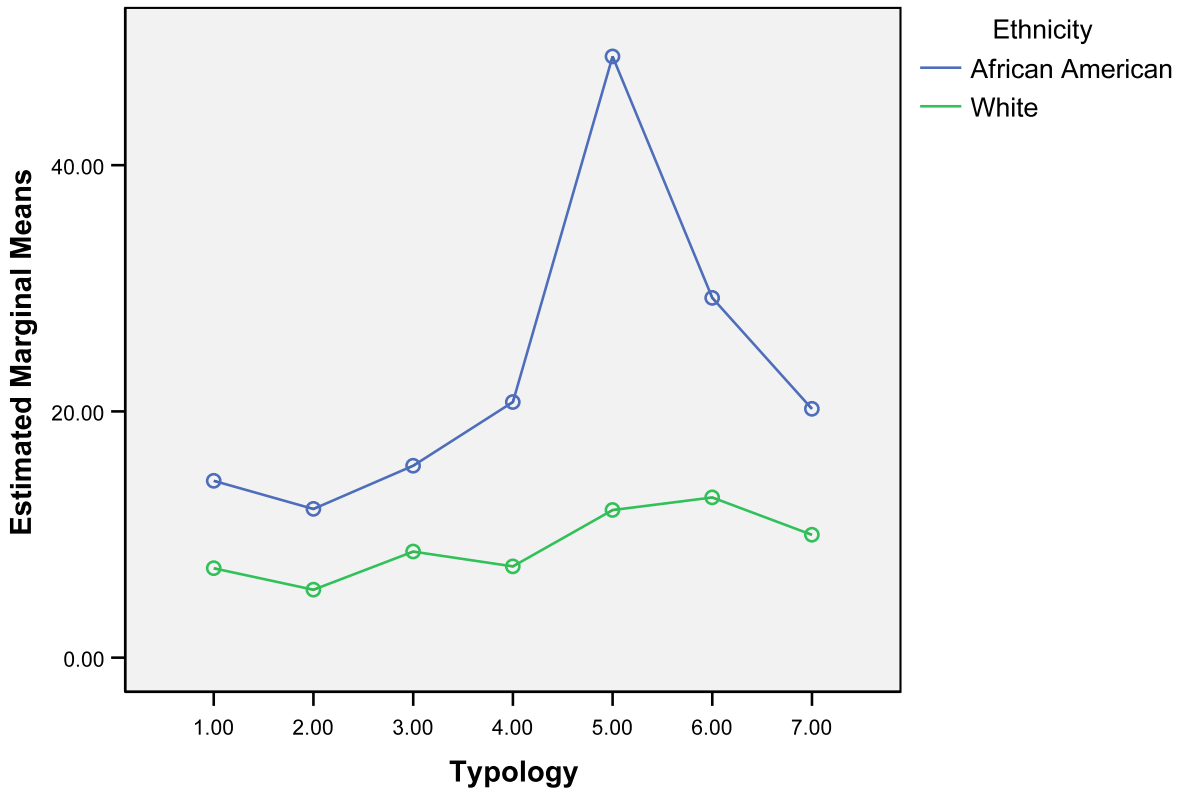

Figure 3. Mean Number of Other Disciplinary Actions per 100 students by School Typology and Ethnicity

likely to contend with factors less prevalent in other settings, including crime, substance abuse, and more limited resources. However, the presence of these contextual factors should not reinforce stereotypical notions that there is something unchangeable about urban schools that results in increased disproportionality. There are exceptions to the disciplinary findings just discussed. For example, some urban schools have used a Positive Behavior Support framework to substantially reduce the number of disciplinary referrals over time (e.g., Bohanon et al., 2006).

The current investigation has several limitations. The study relies on existing records and the degree to which the data was collected and recorded with fidelity is unknown. Although specific definitions for each type of disciplinary action exist, there are likely inconsistencies across districts in the application of such action. Also, because of the diversity of variables that comprise the school typology distinction (e.g., school size, population density, income, geographic locale), the relative contribution of each of these variables to the results is so far unknown. Additionally, the data were reported at the school district level rather than the student level, precluding the inclusion of additional variables (e.g., gender, student grade-level) and the use of more sophisticated analysis techniques. A failure to meet all the statistical assumptions of MANCOVA is also potentially limiting. However, a more robust test and a more stringent criterion for significance were used to minimize the impact of these violations. Finally, it is important to remember that the study examined disproportionality only as it applies to African American student populations. Therefore, the findings cannot be generalized to other populations (e.g., Latino students) without further research.

The results of this current investigation are important. Given the established negative outcomes and instructional time lost to exclusionary discipline, it is critical to identify factors that may be related to increased or decreased usage of these practices. Although the results support previous findings that urban schools are more likely to use exclusionary discipline and that African American students are disproportionally represented as recipients of exclusionary discipline, they challenge previous research suggesting that suburban schools are more likely to exhibit significant disproportionality in exclusionary discipline. In light of our findings, several recommendations for schools appear warranted. We suggest that schools conduct an audit to determine the frequency and types of exclusionary discipline used for different student populations. In addition, our results suggest that some districts — most notably urban high poverty school districts — may need to consider alternative disciplinary practices, a recommendation also suggested by Brown and Payne (1992). Our results further suggest that disproportionality in discipline should not be an issue addressed at the aggregate level. While the state of Ohio evidences significant disproportionality; our results clearly suggest that some school typologies do not follow this trend, or follow the trend to a significantly lesser degree. We recommend that policies and programs to reduce disproportionality be considered at the building-level.

Several avenues for future research are warranted. Further research is needed to identify the unique contribution of each defining characteristic of Typology 5 (**Major Urban; very-high-poverty**) that make it more likely to utilize exclusionary discipline and disproportionally apply exclusionary discipline to African American students. Because there is likely variation within Typology 5, it would seem appropriate to study a random sample of urban high poverty districts to identify alterable protective factors that may decrease reliance on exclusionary discipline. These factors could then be targeted for intervention in a sample of urban schools with high reliance on exclusionary discipline and/or high disproportionality in discipline and the effects could be examined. Further research is also needed to determine the degree to which overall differences in exclusionary discipline rates explain differences in disciplinary disproportionality, and the degree to which differences in discipline rates among the school typologies can be explained by the ethnic composition of the student population. Finally, it is important to explore other variables that are related to disproportionality using student-level data (i.e., number of disciplinary incidents per student rather than per 100 students). Access to student-level data would allow for the inclusion of more student-level variables (e.g., gender, grade-level) and sophisticated analytic techniques (e.g., Hierarchical Linear Modeling; Raudenbush & Bryk, 2002).

This study demonstrates that even after controlling for poverty, African American students are disproportionally represented as recipients of exclusionary discipline and that this occurs most frequently in major-urban, very-high-poverty schools. These data provide powerful evidence that the spirit of *equal access to education* is absent in a large sample of schools from a bellwether state. When children are removed from the educational setting, even for their seriously disruptive behavior, then they are unable to access the very forces that might prepare them to be more productive citizens.

Amity Noltemeyer, Ed.S., NCSP, is a doctoral candidate in school psychology at Kent State University, Ohio. She is employed as a school psychologist at Trumbull County Educational Service Center in Ohio. Amity's research interests include systems-level educational change initiatives and disproportionality in special education.

Caven S. Mcloughlin, PhD, is Professor of School Psychology at KSU. His publication interests have four themes: Exploring the importance of 'wellness' on children's health and happiness; exploring the power of NCLB regulations in changing the shape-and-feel of public education; providing parents and teachers with accessible information about contemporary forces in social policy affecting public education; and evaluating home-schooling & charter schools.

ENDNOTES

[1] The policies articulated by the Individuals with Disabilities Education Improvement Act (2004) refer to racial/ethnic disproportionality in special education, primarily focusing on avoiding the inappropriate overidentification of minority students for special education services. However, discipline is also specifically addressed for these students in the regulations. For example, "States have a separate obligation, under 20 U.S.C. 1418(d) and 34 CFR §300.646, to collect and examine data to determine whether significant disproportionality based on race and ethnicity is occurring in the State and LEAs of the State with respect to... the incidence, duration, and type of disciplinary actions, including suspensions and expulsions. Where significant disproportionality is occurring, the State must provide for the review, and, if appropriate, revision of policies, procedures, and practices used in identification, placement, or discipline to ensure that they comply with the requirements of IDEA; require the LEA to publicly report on the revision of policies, practices, and procedures; and require the LEA to reserve 15 percent of its Part B funds to provide comprehensive coordinated early intervening services to serve children in the LEA, particularly, but not exclusively, children in those groups that were significantly over-identified."

REFERENCES

Adams, A. T. (1992). *Public High Schools: The Uses of Rehabilitative and Punitive Forms of Discipline: A Final Report*. Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED354633).

Arcia, E. (2007). A comparison of elementary/k-8 and middle schools' suspension rates. *Urban Education, 42* (5), 456-469.

Bohanon, H., Fenning, P., Carney, K.L., Minnis-Kim, M.J., Anderson-Harriss, S., Moroz, K.B., et al. (2006). Schoolwide application of positive behavior support in an urban high school: A case study. *Journal of Positive Behavior Interventions, 3,* 131-145.

Brown, W. E., & Payne, T. (1992). Teachers' views of discipline changes from 1981 to 1991. *Education, 112* (4), 534-537.

Children's Defense Fund. (1975). *School suspensions: Are they helping children?* Cambridge: MA: Washington Research Project.

Chobot, R. B., & Garibaldi, A. (1982). In-school alternatives to suspension: A description of ten school district programs. *Urban Review, 14* (4), 317-336.

Christle, C., Nelson, C. M., & Jolivette, K. (2004). School characteristics related to the use of suspension. *Education and Treatment of Children, 27* (4), 509-526.

Costenbader, V., & Markson, S. (1998). School suspension: A study with secondary school students. *Journal of School Psychology, 36* (1), 59-82.

DeRidder, L. M. (1990). The impact of school suspensions and expulsions on dropping out. *Educational Horizons, 68*, 153-157.

Ekstrom, R. B., Goertz, M. E., Pollack, J. M., & Rock, D. A. (1986). Who drops out of high school and why?: Findings from a national study. *Teachers College Record, 87*, 357-73.

Farmer, G. L. (1999). Disciplinary practices and perceptions of school safety. *Journal of Social Service Research, 26* (1), 1-38.

Florida State Department of Education. (1995). *Florida School Discipline Study: 1994 Juvenile Justice Reform Act*. Tallahassee, FL: Florida State Department of Education. (ERIC Document Reproduction Service, No. ED384981).

Fowler, W. J., & Walberg, H.J. (1991). School size, characteristics, and outcomes. *Education Evaluation and Policy Analysis, 13* (2), 189-202.

Garibaldi, A.M. (1992). Educating and motivating African American males to succeed. *The Journal of Negro Education, 61,* 4-11.

Gersch, I., & Nolan, A. (1994). Exclusions: What the children think. *Educational Psychology in Practice, 10,* 35-45.

Green, J., & Barnes, D. (1993). *Discipline in Secondary Schools: How Administrators Deal with Student Misconduct*. (ERIC Document Reproduction Service, No. ED357507).

Grimm, L. G., & Yarnold, P. R. (Eds.). (1995). *Reading and Understanding Multivariate Statistics*. Washington, DC: American Psychological Association.

Imich, A. J. (1994). Exclusions from school: Current trends and issues. *Educational Research, 36* (1), 3-11.

Individuals with Disabilities Education Improvement Act. (IDEIA; 2004).

Lippman, L., Burns, S., & McArthur, E. (1996). *Urban Schools: The Challenge of Location and Poverty*. Retrieved from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=96184.

MacMillan, D. L., & Reschly, D. J. (1998). Overrepresentation of minority students: The case for greater specificity or reconsideration of the variables examined. *The Journal of Special Education, 32* (1), 15-24.

Mendez, L. M. R., & Knoff, H.M. (2003). Who gets suspended from school and why: A demographic analysis of schools and disciplinary infractions in a large school district. *Education and Treatment of Children, 26* (1), 30-51.Mukuria, G. (2002). Disciplinary challenges: How do principals address this dilemma? *Urban Education, 37*(3), 432-452.

No Child Left Behind Act of 2001, Public Law 107-110.Ohio Department of Education. (2006). *Education Management Information System*. Retrieved September 13, 2008 from http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=1281&ContentID=13175&Content=50927.

Ohio Department of Education. (2007). *Typology of Ohio School Districts*. Retrieved December 30, 2008 from http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ ODEDetail.aspx?page=3&TopicRelationID=390&ContentID=12833&Content=56119.

Olson, C.L. (1979). Practical considerations in choosing a MANCOVA test statistic: A rejoinder to Stevens. *Psychological Bulletin, 86,* 1350-1352.

Raudenbush, S.W., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and Data Analysis Methods* (2nd ed.). Thousand Oaks, CA: Sage.

Rausch, M. K., & Skiba, R. (2004). Disproportionality in School Discipline among Minority Students in Indiana: Description and Analysis. Children Left Behind Policy Briefs. Supplementary Analysis 2-A. Bloomington, IN: Center for Evaluation and Education Policy. (ERIC Document Reproduction Service No. ED488897).

Rubin, J. (1997). Ohio, Louisiana, Delaware are top bellwether states. *Campaigns and Elections, 18* (1), 10.

Safer, D., Heaton, R., & Parker, F. (1981). A behavioral program for disruptive junior high students: Results and follow-up. *Journal of Abnormal Child Psychology, 9,* 483-494.

Skiba, R.J., Wu, T.C., Kohler, K., Chung, C.G., & Simmons, A.B. (2001). Disproportionality and discipline among Indiana's students with disabilities: A status report. Retrieved December 10, 2008 from http://www.indiana.edu/~safeschl/minor.html.

Skiba, R. J., & Peterson, R. L. (2000). School discipline at a crossroads: From zero tolerance to early response. *Exceptional Children, 66*, 335–346.

Skiba, R., Peterson, R. L., & Williams, T. (1997). Office referrals and suspension: Disciplinary intervention in middle schools. *Education and Treatment of Children, 20*(3), 295–315.

Skiba, R. J., Michael, R. S., Nardo, A. C., & Peterson, R. L. (2002). The color of discipline: Sources of racial and gender disproportionality in administration of school punishment. *The Urban Review, 34*, 317–342.

Stevens, J.P. (2002). *Applies Multivariate Statistics for the Social Sciences* (4th ed.). Mahwah, N.J.: Lawrence Erlbaum Associates.

Swartz, R., & Wirtz, P. (1990). Potential substance abuse: Detection among adolescent patients. *Clinical Pediatrics, 29,* 38-43.

Tabachnick, B.G., & Fidell, L.S., (1996). *Using Multivariate Statistics* (3rd ed.). New York, NY: Harper Collins College Publishers.

The Civil Rights Project/Advancement Project. (2000, June 15-16). *Opportunities Suspended: The Devastating Consequences of Zero Tolerance and School Discipline*. Report from a national summit on zero tolerance. Washington, DC: Author.

Thornton, C. H., & Trent, W. (1988). School desegregation and suspension in East Baton Rouge Parish: A preliminary report. *Journal of Negro Education, 57,* 482-501.

Wallace, J. M., Goodkind, S., Wallace, C. M., & Bachman, J. G. (2008). Racial, ethnic, and gender differences in school discipline among U.S. high school students: 1991-2005. *The Negro Educational Review, 59*, 47-62.

Wehlage, G. G., & Rutter, R. A. (1986). Dropping out: How much do schools contribute to the problem? *Teachers College Record, 87*, 374-392

Wu, S. (1980). *The foundations of student suspension* (Research/Technical). Washington, DC: National Institute of Education.

Wu, S. C., Pink, W. T., Crain, R. L., & Moles, O. (1982). Student suspension: A critical reappraisal. *The Urban Review, 14,* 245-303.