

CONSUMER-ORIENTED SCHOOL RATING SYSTEMS AND THEIR IMPLICATIONS FOR EDUCATIONAL EQUITY



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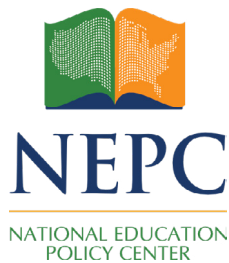
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I. Executive Summary

School ratings are a ubiquitous feature of the U.S. educational system. The fuel for these ratings is the scores generated by the 2001 No Child Left Behind (NCLB) federal legislation’s testing mandates—a requirement maintained in the 2015 Every School Succeeds Act (ESSA). In the years since, non-state organizations such as GreatSchools.org and Niche have drawn on states’ publicly available information, including standardized testing data, to create their own measures of school quality—known as consumer-oriented rating systems. These organizations say the purpose of their rating systems is to help families navigate increasingly complex school choice options, and they present their ratings as authoritative sources of information.

Most information about school rating systems comes from research on state-developed systems, but there is a growing evidence base about consumer-oriented systems. One consistent research finding is that schools’ ratings, or the measures that comprise school ratings, are associated with schools’ demographic characteristics, such as students’ race/ethnicity and socioeconomic status. The association between ratings and demographics is stronger for status metrics (or measures of a school’s performance at a specific moment in time) and weaker but still influential for growth metrics (or measures of a school’s performance over time). Status metrics tend to generate lower ratings for racially diverse schools, while growth metrics tend to generate higher ratings for them. School demographics also shape the way parents and other stakeholders respond to surveys or provide descriptive comments about schools.

Not surprisingly, school ratings shape how the general public and parents perceive schools, with negative scores or comments having a particularly strong influence. School ratings can also influence the work of school personnel and the value of houses in the neighborhoods surrounding schools.

Parents who consult school ratings often rely on status metrics and thus avoid racially diverse schools. This could change with expanded use of growth metrics, but that shift is unlikely to happen without policy intervention. The format and display of ratings can also influence perceptions.

The choices made by those running consumer-oriented rating systems are driven in large part by their status as private businesses. While users can conduct initial searches for free, some of the consumer-oriented rating system websites offer gateways into multiple fee-generating services. Further, by requiring users to provide personal information to use such advanced search features as school comparison tools, the websites enable non-state organizations to collect valuable information about families that can be sold to others.

Because parents and others see consumer-oriented rating systems as trusted sources of information, policymakers should understand the implications and outcomes associated with them. To the extent that the information they provide reflects schools' demographics rather than students' academic performance, consumer-oriented rating systems may also contribute to the acceleration or deepening of residential and school segregation, particularly in the wake of the pandemic and widening test score gaps.

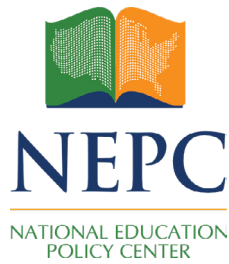
Recommendations

It is recommended that:

- State policymakers develop state accountability reporting systems into more viable alternatives to commercial, consumer-oriented rating systems by requiring that those state systems:
 - Include and highlight growth metrics.
 - Ensure that search tools are easy for non-experts to navigate.
 - Provide information in a format that is easy for non-experts to accurately interpret.
- Organizations that create and maintain consumer-oriented school rating systems take the following six steps to minimize potential harms:
 - Eliminate or de-emphasize status metrics on consumer-oriented websites and instead highlight growth metrics in school profiles as well as marketing materials.
 - List schools by growth metrics as the default ranking option.
 - Allow users to filter schools based on growth metrics and student body diversity.
 - Develop strategies to address possible biases in parent and stakeholder reviews, making it clear to the average user that only a small number of self-selected stakeholders provide reviews of schools. For example, consumer-oriented websites should collect and report demographic information about reviewers as well as the percentage of reviews received by year and school enrollment.
 - Make data and ratings publicly available in a spreadsheet or comma-separated val-

ues (.csv) format to facilitate independent analyses by third parties.

- Provide transparency in how the reported ratings are calculated and report the associations between their proprietary measures and students' race and class backgrounds.



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II. Introduction

School ratings are a ubiquitous feature of K-12 schooling in the United States. For over two decades, federal laws—No Child Left Behind (NCLB) and the Every School Succeeds Act (ESSA)—have required states to report public school performance on standardized measures.¹ As a result, information on school performance has become much more accessible to the public. Non-state organizations, such as GreatSchools and Niche, have also created their own “consumer-oriented” school rating systems,² that draw on public information.

State accountability systems are intended to promote school improvement, but families are the primary audience for consumer-oriented rating systems. Most consumer-oriented rating systems explicitly state that their services are aimed at providing high-quality information to help families find schools that best fit their children’s needs.³ GreatSchools alone also frames its ratings as a resource for stakeholders who want to “diminish inequities in education.”⁴

Despite the assertion that the main goal of consumer-oriented ratings is to serve families, and while users can conduct initial searches at no cost, some of their websites are also a gateway into fee-generating services. By requiring users to register and provide personal information to use advanced search features such as school comparison tools, consumer-oriented ratings websites allow other organizations access to useful marketing information about families and their school preferences. Registered users can provide reviews of not only public but also private schools.

It is important to understand that the organizations creating consumer-rating systems control the indicators of school quality reflected in their ratings.⁵ In overemphasizing metrics that largely reflect the demographic characteristics of schools rather than students’ aca-

ademic performance, the systems often embed a potential bias that underrepresents schools' contributions to student learning. Such bias may also contribute to greater residential and school segregation, particularly in the wake of the pandemic and the widening of test score gaps, with increased segregation affecting housing markets as well.

Because consumer-oriented school rating systems have proliferated and are increasingly viewed as trusted sources of information, policymakers should work to ensure that the information they provide is, in fact, reliable. This brief surveys the landscape of consumer-oriented rating systems, fleshes out some of the points made above, and offers policy recommendations.

III. Review of the Literature

Types and Formats of Metrics Used in Rating Systems⁶

Consumer-oriented rating systems vary widely in the measures they include. The main types, which mirror those provided in state-mandated rating systems,⁷ include:

Summary scores: Averages of school-level metrics across grades and content areas.

Status metrics: School-level measures of performance on state assessments at a single point in time, reported by grade, content, or subject area, and as summary metrics across grades and content areas.⁸

Growth metrics: School-level measures calculated from state assessment data aimed at capturing change in academic performance over time, growth (or progress) metrics range from simple to more complex measures.⁹

Community ratings: Ratings on a scale of one to five stars calculated from reviews by stakeholders (parents, students, and community members, for example), who may also provide descriptive comments.

Diversity or equity metrics: A broad category including the percentages of enrolled students by race/ethnicity and free/reduced-price lunch status, measures of the academic performance of historically underserved subgroups of students, and other indicators as discipline statistics, attendance statistics, and more complex measures of segregation.¹⁰

Status and growth metrics can be reported in one or more of the following formats:

Numeric ratings: Schools are assigned a number in one or more areas on a scale with a clearly defined endpoint, such as a scale from one to ten. Other numeric ratings rank similar schools within defined geographic areas; for example, a school might be rated #240 among all elementary schools in Arizona, but #4 among all elementary schools in Tempe. To produce such rankings, sponsoring organizations perform an additional conversion of ratings calculated more directly from status or growth metrics.

Proficiency metrics: These reflect the percentage of students who reached specific benchmarks (proficiency on state assessments, for example), reported by content area or grade, or as an average of proficiency metrics for all tested grades and content areas.

Letter grades: Numeric ratings derived from a single measure or a combination of measures are converted into letter grades that range from A to F.

Descriptive ratings: Descriptive ratings are assigned by comparing a metric or rating to benchmarks for each category (above average, average, and below average, for example).

Organizations and Their Consumer-Oriented School Rating Systems

The Organizations

Table 1 summarizes features of the five most well-known consumer-oriented national rating systems: GreatSchools, Niche, U.S. News & World Report, SchoolDigger, and Public School Review. While some provide information about private schools, there is no publicly available information about private schools' academic performance that organizations could use to calculate ratings. However, Niche provides private school letter grades based on schools' self-reported data and data collected from users.¹¹

Table 1: Features of Major National School Rating Systems

Feature	Great-Schools	Niche	US News	School-Digger	Public School Review
Filter and sorting options					
Public vs. private	X	X	X	X	
Charter	X	X	X		X
Virtual schools		X			X
Grade level	X	X	X	X	X
Location (city, zip code, address)	X	X		X	X
School name	X	X	X	X	
Ratings	X	X	X	X	
Equity or diversity	X	X			
Student demographics				X	
Status metrics by subgroup	X				
Map	X	X	X	X	X
Graphs or Charts	X		X	X	X
Icons	X	X			X
Rating scale					
1 to 10	X				X
Letter grade		X			

1 to 5 stars	X			X	X
Descriptive rating	X		X		
Ranking					
Within U.S.		X	X		
Within state	X	X	X	X	X
Within district			X		
Within city		X		X	
Summary scores	X	X	X	X	X
Academic performance ratings					
Status	X	X	X	X	X
Growth or progress	X				
Proficiency rating	X	X	X	X	X
Equity or diversity	X	X			X
Subgroups	X				
Other categories	X	X			
Adjustments for student demographics			X		
Student demographics					
Race/ethnicity	X	X	X	X	X
Gender		X	X		X
Free and reduced lunch	X	X		X	X
Special education					
Gifted		X			
Other information					
Number of students	X	X	X	X	X
Programs offered	X	X		X	X
Teachers	X	X	X	X	X
Student-teacher ratio	X	X	X	X	X
Discipline	X				
Attendance	X				
Culture		X			
Safety		X			
Expenditures				X	
Allows comparison	X	X		X	X
Collects user information	X	X		X	X
Allows reviews	X	X		X	X
Sponsored listings	X	X			
Homes for sale	X	X			X
School advertisements	X	X	X	X	X

All five rating systems allow users to filter school lists. Only Public School Review does not provide private school listings (although it has an affiliated private school site), and

SchoolDigger has no filter for charter schools. Users can sort schools by a diversity or equity metric in GreatSchools and Niche, and they can map schools by student subgroups in SchoolDigger. GreatSchools also allows offers filtering by the status metrics of racial/ethnic subgroups. All five systems generate school maps, and most provide charts and graphs of status metrics or demographic data. GreatSchools, Niche, and Public School Review use eye-catching icons to display information.

The five sites vary considerably in the geographic scope of rated schools. All five provide state rankings, but Niche and U.S. News & World Report also provide rankings within multiple geographic areas, such as within school districts or cities.

All five provide status metrics for public schools based on summaries of students' performance on state tests. GreatSchools is the only system that also reports growth metrics. U.S. News & World Report ranks schools based on a combination of schools' status metrics and predicted status metrics that control for students' socioeconomic backgrounds¹²; for high school rankings, it incorporates a broader set of indicators.¹³

While all five provide enrollment, demographic information, student-teacher ratios, and other information about teachers, they vary in other information provided. GreatSchools, Niche, and Public School Review also provide diversity or equity metrics.¹⁴

Systems vary as well in terms of stakeholder input. GreatSchools, Niche, SchoolDigger, and Public School Review allow registered users to review schools by awarding up to five stars and provide descriptive comments; U.S. News & World Report allows no user reviews. Niche allows users to rate specific school features, such as academics and safety. When reviews appear, they often span multiple academic years. For example, some reviews on GreatSchools are more than 10 years old.

Despite assertions that they exist to help families, several commercial features appear across systems. All five websites allow paid advertisements from K-12 public or private schools, and some also support pop-up ads from other sectors. GreatSchools, Niche, and Public School Review allow schools to “claim” their school profiles and update some elements of them. GreatSchools' summary ratings appear in Zillow home listings.¹⁵ Schools ranked in the top 30% of the U.S. News & World Report rankings can license badges to use in print and digital marketing, and they can purchase other products such as banners and plaques advertising their status as a highly ranked school.¹⁶ Public School Review also sells mailing lists of schools by state and provides a free school data widget for real estate sites or blogs.¹⁷

A Critical Look Behind the Ratings

These organizations convert publicly available performance and demographic information about schools into metrics that they market as reliable sources of information about school quality.¹⁸ They use complex statistical techniques to standardize and transform public data from its original forms into their preferred—and proprietary—measures. However, quantification both simplifies and obscures.¹⁹ While these systems may appear scientific and objective to the lay observer, in fact ratings entrepreneurs make many hidden calculations and decisions that shape final ratings.

Like Facebook and Google, these consumer-oriented systems are a form of platform capitalism—that is, they recruit users to their platforms to help promote their own and others’ business interests. They must be used cautiously, since they are designed in part to sell advertising possibilities to stakeholders, and to collect information from users that can be marketed to others.²⁰ Data is the central commodity of these platforms; the internet has enabled them to collect information on schools’ performance and from stakeholders on a national scale. These platforms also reflect a broader cultural shift toward quantification.²¹ People in modern societies have become used to “operating in an everyday world of numbers” and to rating many aspects of daily life, such as restaurant and hotel visits and Amazon purchases.²² Numbers are typically perceived as authoritative—but thoughtful assessment of how they are generated is rare.

Great Schools and similar organizations describe the methods they use to rate schools on their websites, but their formulas and methodological details vary. They often allude to—but do not explain—their statistical techniques.²³ This means that both the ratings themselves and the user searches that generate lists of schools depend on algorithms that are not transparent. Similarly, because private companies control the ratings they report, users cannot download them in an easily accessible format or obtain it through public records requests. Accessing ratings beyond a small sample of schools requires a level of technical skills that makes it virtually impossible without the organization’s cooperation.²⁴ As a result, outside researchers have no way of knowing exactly how ratings are derived.

Consumer-oriented rating systems are also undemocratic. In addition to obscuring exactly how school quality is calculated, they do not allow schools to confirm or to challenge their ratings.²⁵ And, while GreatSchools claims its ratings can be used to advance equity for underserved students, it doesn’t make clear how.

What the Research Says

Most of what we know about school rating systems comes from analyses of state-mandated rating systems, although a research base on consumer-oriented rating systems is growing.²⁶ Taken together, these bodies of research provide insight into how valid consumer-oriented ratings are for their purported goal of helping families identify desirable schools for their children. That is, research has shed light on the extent to which metrics in consumer-oriented school rating systems allow users to make reasonable inferences about the quality of schools.²⁷ Other research offers insight into how various features may shape families’ perceptions and the unintended consequences these rating systems may promote.

Do Ratings Reflect School Quality or Other Factors?

One consistent research finding is that schools’ demographic characteristics are associated with ratings employing status and growth metrics and also with community ratings based on survey data.²⁸ The relationship between school demographics and growth metrics is not trivial, but the relationship between school demographics and status metrics is much stronger.²⁹

Some research suggests that school ratings differ when based on status metrics or growth metrics. For example, based on the SchoolDigger ratings of a group of socioeconomically advantaged New Jersey high schools, one study illustrated how status metrics penalize racially diverse schools in rankings.³⁰ When status metrics were used to rank schools by the academic performance of the entire student body, socioeconomically advantaged and racially diverse schools tended to be ranked lower than socioeconomically advantaged schools serving a predominantly White student body, most of which served too few Black students to comprise a subgroup. However, if status metrics for Black student subgroups in schools with much more diverse enrollment were used instead of the status metrics for all students, those schools would have earned better ratings than the SchoolDigger-assigned ratings.

Another study analyzed the relationship between GreatSchools' summary and growth ratings of elementary and middle schools and the schools' demographics in eight metropolitan areas.³¹ Ratings were presented on a scale from a low of one to a high of ten; the summary ratings combined status, growth, and equity metrics.³² One analysis focused on four metropolitan areas (Denver, Detroit, Indianapolis, and New York/Newark) for which GreatSchools drew upon state-calculated growth metrics to calculate its proprietary rankings.³³ When researchers compared the summary rankings to rankings based on growth metrics, they found that results varied substantially. In three of these areas, fewer schools with low populations of low-income, Black, and Hispanic students³⁴ would be ranked seven or higher (in Detroit there was no change). Conversely, more schools with high populations³⁵ of low income, Black, and Hispanic students would rank at seven or higher. In 2020, GreatSchools revised its summary metrics to give more weight to growth and equity metrics.³⁶

Some research suggests that school ratings differ when based on status metrics or growth metrics.

Ratings of school communities are sometimes based on stakeholders' reviews of such school features as climate and safety, collected via Likert-scale items on surveys. But these metrics, too, may be associated with school characteristics and can also be skewed by response bias. One study³⁷ examined data from a Milwaukee Public Schools (MPS) climate survey that was administered to parents, students, and teachers and then used to calculate an average school climate rating. While the survey was voluntary and response rates varied, it was administered to all teachers, students, and parents. Smaller schools and elementary schools tended to receive higher ratings, while schools that served larger percentages of special education students tended to receive lower ratings. Moreover, rankings may reflect the opinions of non-representative respondents. For example, GreatSchools and Niche exert little care in surveying stakeholders; community ratings are derived from a self-selected group of parents and students who create accounts and voluntarily respond to surveys. Many such ratings are based on a small subset of reviewers whose responses span multiple years—evident only if a user looks at the reviews themselves, not just the ratings.³⁸

How school climate measures are constructed is also an important consideration. In general, for complex constructs such as school safety and learning environment, best practice in survey research is to use multiple survey questions for each area and combine them into a summary metric.³⁹ For example, the MPS school climate survey contained 40 items across four areas (academic rigor, school safety, learning environment, and governance) that were

combined into metrics for each area. In contrast, the dominant practice on consumer-oriented websites that solicit reviews is to ask users to respond to a single question about their overall experience at the school.

Additional information collected for community ratings can also add bias, depending on who responds and whether they provide comments. Both GreatSchools and Niche allow parents, students, and other stakeholders to rate schools on a scale of one to five stars and to write descriptive comments. A linguistic content analysis of parents' comments on the GreatSchools website found that schools receiving reviews tended to be larger, urban, in areas with an above-average percentage of college-educated residents, and with fewer students receiving free or reduced lunch.⁴⁰ This suggests that reviewers tend to be the more privileged constituents of public schools. The issues parents raised in descriptive comments were only weakly associated with growth metrics, but were strongly associated with status metrics and school demographic characteristics. For example, schools with lower status metrics were likely to have comments suggesting that parents were turning to private schools for their children's education, while schools with higher status metrics had comments praising the schools' academics. Similarly, parents' comments about schools serving fewer students receiving free or reduced lunch tended to reference Parent Teachers Associations (PTAs) and communication with staff, reflecting the perspectives of parents able to actively engage with their children's schools. Social influence can also bias online user ratings.⁴¹ Marketing research suggests that when something is rated positively, new raters will also rate it positively, biasing scores upward. (Raters also tend to respond to a negative rating by attempting to correct if they feel it is undeserved.)

How Do School Ratings Shape Public Perceptions of Schools?

Another issue to consider when assessing consumer-oriented rating systems is how users perceive them and how families use them.⁴² Perceptions of schools are influenced not only by the ratings themselves and their sources, but also by their type and presentation.

Several studies used experimental survey designs to assess how the general public views different sources and types of ratings. In one study, researchers surveyed a nationally representative group of adults who were randomly assigned to groups, asking one group if they would trust state school rankings and the other if they would trust school ratings from "an independent non-profit organization."⁴³ The group asked about state ratings reported significantly less trust than the group asked about the independent ratings. Participants also ranked a set of four schools as options for a child they knew well, based on the schools' ratings for status, growth, and school climate. Schools were presented as having either two high ratings and one low rating, or one high rating and two medium ratings. Participants ranked schools with a low rating in any one area the lowest, and they prioritized high status ratings over high growth ratings.⁴⁴ Finally, participants assigned letter grades to two schools after seeing the schools' GreatSchools ratings along with either positive or negative parent reviews. Participants graded the schools with negative parent reviews substantially lower than those with positive parent reviews, suggesting that specific types of parent feedback may outweigh measures of academic performance.⁴⁵

In a follow-up study, researchers asked a smaller sample of participants⁴⁶ to evaluate two hypothetical schools based on: comments accompanying parent reviews; comments from expert state government observers; parents' ratings; or numeric state-mandated ratings. The pairs of schools were rated using different combinations of information where one school was better on one source than the other.⁴⁷ The participants also rated the relative importance of each source of information. In general, the state-mandated school ratings had less influence on participants' evaluations than parents' perceptions, although the expert comments were somewhat influential. Negative parent comments had a particularly strong influence on how participants assessed schools.

The type of metrics used in rating systems also shapes perceptions. Some researchers assessed the relative influence of different indicators: numeric ratings, proficiency ratings, descriptive ratings, and letter grades.⁴⁸ A nationally representative sample of adults was asked to evaluate three schools—one above-average, one average, and one below-average; each school's rating was initially presented to participants in a different format. In general, participants seeing letter grades assigned their highest and lowest assessments to the above- and below-average schools. But those seeing numeric and percentile ratings assessed the above-average school lower and the average school higher. The results suggest ratings reported in numbers are harder for the lay observer to interpret, and the more familiar letter grades are easier to interpret.

The amount and organization of information may also shape parents' perceptions. One study tested how a sample of low-income parents responded to five design features: format (numbers only, numbers plus icons, or numbers plus graphs); inclusion or omission of district averages as benchmarks for school performance; inclusion or omission of parent reviews; the amount of information (low, high, or disclosure by clicking a link); and, the default sort order of schools (distance or academic performance).⁴⁹ The participants viewed a standard set of information (on academic performance, safety, and resources) about a set of 16 schools in a hypothetical school district, presented in one of 72 configurations of design features. After parents reviewed information on a website, they ranked their top three schools. Researchers found rankings to be influenced by how much information was included, which information was prioritized, what the default sort order was, and whether icons were used to display information. Researchers concluded that school rating system web designers should pay particular attention to which information appears and how it is presented, and consider how design decisions might shape families' choices in practice rather than in hypothetical scenarios.

How Do Rating Systems Shape Parents' Choices in the Real World?

Some studies use inferences based on analyses of families' rank-ordered lists of school choices to draw conclusions about their preferences.⁵⁰ More relevant here are experimental studies that attempt to assess the relative influence of different sources of information on families' actual enrollment decisions.

In one early study, researchers looked at whether families used a school's status metrics or the likelihood of a child actually being assigned there when making a choice, focusing on a

district that requires parents to choose schools in a lottery system⁵¹—but in which admission to the school assigned by home location would be guaranteed.⁵² One group of parents received a ranked list of schools' status metrics; another group received no status metrics but instead information about the odds of admission because many schools were at enrollment capacity. Parents who reviewed status metrics were more likely to choose higher scoring schools than the schools where admission was guaranteed, particularly when the higher scoring school was nearby.

Another experimental study in a different district that also requires parents to rank their school choices⁵³ examined whether growth metrics influenced families.⁵⁴ The researchers sent some families with students entering pre-K, kindergarten, and Grade 9 information about schools' growth metrics and distance from their homes via mail, email, and text messages. A control group received no additional information about schools other than the application portal. The results suggested that families receiving growth metrics were more likely to choose a high-growth high school, while distance information increased the likelihood that kindergarten families would choose a school within their designated geographic zones. Families of students with disabilities were also more likely to choose high-growth schools. While these findings align with those of other studies that suggest families' preferences differ by school level and students' academic needs, they also highlight how different types of information can shape families' choices as well.⁵⁵

Another experimental study explored how growth scores influenced participants' school choices.⁵⁶ Researchers administered a survey to a self-selected sample of adult participants,⁵⁷ asking them to imagine they were moving to five metropolitan areas and needed to choose a school district for an elementary school-aged child. Participants chose among five of the largest school districts in each area. Divided into four groups, participants received either: a) a status metric; b) a growth metric; c) status and growth metrics; or d) no testing data.⁵⁸ All four groups also received demographic information for districts. The results suggested that when choices included a high-growth but relatively less advantaged district, participants provided with growth metrics were more likely to choose a less White and affluent school district than the other participants.

The findings suggest that families' access and responsiveness to different sources of information is shaped by socioeconomic status and language.

In addition to the amount, type, and format of information in rating systems, the relative availability and prominence of state-mandated and consumer-oriented rating systems may also be influential. In one Canadian open enrollment system, a study examined families' decisions in relation to the timing of the release of state-mandated and consumer-oriented school ratings.⁵⁹ In 2001, the Ministry of Education began publicly issuing school ratings based on status metrics; in 2002, it instituted a new policy that allowed enrollment in schools other than assigned local public schools if there were open seats. In 2003, a think tank released its own widely publicized school ratings, also based on status metrics. Researchers found that families living in low-income neighborhoods were more likely to change schools after the initial release of state-mandated ratings, while families whose home language was other than English were more likely to change schools after the consumer-oriented school ratings were issued and promoted by the media. The findings suggest that families' access and

responsiveness to different sources of information is shaped by socioeconomic status and language. The researchers concluded that it was likely that the release of state-mandated ratings provided low-income families access to novel information about schools that higher income families already had access to. The consumer-oriented ratings may have had more traction with families that spoke a language other than English at home because media publicity reduced barriers in access to information.

What Are Some Unintended Consequences of Rating Systems?

In addition to shaping families' choices, rankings influence teachers' and school administrators' preferences and practices, and they affect the dynamics of housing markets.

The potential for rating systems in general to affect school personnel's behavior is demonstrated in how they respond to ratings based on state assessments. Some studies suggest that both teachers and school and district administrators alter their practices based on their schools' metrics in state-mandated systems. For example, teachers have engaged in educational triage by focusing resources and interventions on "bubble kids," students who score slightly below the passing score on a high-stakes assessment.⁶⁰ There is also evidence that school leaders at the lowest-performing schools shift instructional practices in ways that can improve student achievement,⁶¹ and that district administrators strategically allocate funds based on schools' state-mandated performance ratings.⁶² However, a key difference between state-mandated and consumer-oriented rating systems is that the former include sanctions for low-performing schools. Still, consumer-oriented ratings may begin to influence school personnel, given that many users indicate greater trust in consumer-oriented systems.

In terms of housing markets, research on both state-mandated and consumer-oriented systems provide evidence that both may be associated with home values and patterns of residential segregation. A meta-analysis of correlational studies found that schools' test scores were strongly related to housing prices, although the results varied depending on the control variables included in the analyses.⁶³ In general, the association was lower in studies with a greater number of control variables. Most studies find that the relationship between growth metrics and housing prices is weak. In one study, researchers concluded that when buying houses, parents are more likely to infer school quality from the demographics of schools than from growth metrics.⁶⁴ In another, researchers examined the relationship between status metrics and housing prices and found that when home values are increasing, instability in status metrics over time is associated with declining prices.⁶⁵

Stronger tests of the relationships between school ratings and housing markets are possible in areas where houses are similar but ratings vary; home values also appear to be influenced by when ratings become available. For example, a study of Florida's state-mandated rating system and housing markets found that houses located in the attendance zones of schools graded B rather than an A, or C rather than B, had substantially lower market values than otherwise similar properties.⁶⁶ Other researchers used the staggered rollout of GreatSchools's ratings based on status metrics to analyze the relationship between school performance and other indicators within a zip code: Zillow home prices, household income, and racial and ethnic composition of households.⁶⁷ As school ratings became increasingly

available, the gap in housing values in zip code areas with schools rated above average increased over those in areas with schools rated average—by one percent in the first year, and two percent the third year. Such differences can amount to thousands of dollars for individual homeowners, given that the average home price was just under \$218,000. Researchers also found that after the introduction of GreatSchools ratings, zip code areas with higher school ratings showed increasing percentages of high-income households and White, Asian American, and college-educated residents while the percentage of Hispanic residents decreased. Conversely, the shares of high-income households and White, Asian American, and college-educated residents declined in zip codes with below average school ratings.

Finally, there is also some evidence that home sellers used ratings for marketing after NCLB made them readily available. Home sellers whose assigned schools had higher metrics were more likely to disclose school ratings in online real estate listings.⁶⁸

IV. Recent Developments

Until September 2022, consumer-oriented rating systems relied on 2018-19 school year data because the COVID-19 pandemic disrupted testing. In 2019-20, all 50 states received waivers for accountability requirements under ESSA, making testing optional.⁶⁹ In 2020-21, states were again required to administer state assessments, but most states requested and received waivers⁷⁰ In granting them, the U.S. Department of Education encouraged state education agencies to “consider other steps within your purview to reduce the stakes of assessments [by] excluding their use [in] . . . local school ratings.”⁷¹

But in 2021-22, most states resumed testing requirements, with results beginning to appear in fall 2022. As school-level results are publicly released, consumer-oriented rating organizations will have access to data allowing them to update their ratings. In October 2022, for example, SchoolDigger reported rankings for Arizona public schools based on 2021-22 state assessments, accessible on a COVID-19 tab for each school.

These new metrics and the rankings derived from them will reflect the pandemic’s effects on schools. Studies to date suggest that students attending high-poverty schools and students attending schools serving a majority of students of color were more likely to score lower on reading and math assessments than their peers attending low-poverty, majority-White schools.⁷² These declines in conventional measures of student performance will shape the state-mandated and consumer-oriented school ratings beginning to appear. Because few rating systems capture the uneven impact of the pandemic across schools and communities, COVID-related gaps in status metrics will both reflect and mask differences in access to educational opportunities.

V. Discussion and Analysis

Under the guise of connecting parents and schools, consumer-oriented rating systems are reinforcing a data-driven hierarchy among schools based on proprietary indicators that developers promote as valid and objective measures of school quality. Consumer-oriented

ratings websites clearly shape users' perceptions and choices of schools. However, ratings can differ substantially across metrics. For example, a school with a comparatively high rating based on a status metric might score lower on a rating derived from a growth metric. But growth metrics and the ratings derived from them provide a more accurate picture of schools' academic performance because they are less strongly associated with the characteristics of schools and their students. Consumer-oriented rating systems relying solely on status metrics conflate school quality with student and school characteristics because status metrics tend to advantage schools with more resources and fewer historically underserved students. While GreatSchools provides caveats about its ratings, such statements seem to acknowledge tension between its stated goal of promoting equity and the possibility that its ratings might reinforce inequities in resources or access.⁷³

The lack of transparency in how metrics and ratings are calculated obscures how many measures are shaped by students' race and class.

Growth measures have several advantages over status metrics. In addition to being less closely associated with student demographics, parents and others do view them as relevant information. Moreover, when available, growth metrics influence families' school choice decisions and may encourage increasing diversity.

Racially diverse schools tend to be ranked higher on ratings derived from growth measures, so that parents prioritizing good academic performance may be more open to choosing high-growth schools serving relatively high percentages of poor and historically underserved students. Given that school ratings are among the factors shaping housing markets and by extension the composition of neighborhoods and schools, consumer-oriented school rating systems focusing on status rather than growth metrics may contribute to the acceleration or deepening of residential and school segregation, particularly in the wake of the pandemic and widening status gaps.

The lack of transparency in how metrics and ratings are calculated obscures how many measures are shaped by students' race and class. Yet ratings appear objective to most lay users and affect schools' status and reputations. Some users consider consumer-oriented ratings more authoritative than state-mandated ratings. Given that both draw upon the same state assessment data, it is necessary to better understand why users seem to have less trust in state-mandated rankings. It is also necessary to know more about how parents search for and use multiple sources of information within and across state-mandated and consumer-oriented systems, and how they might vary in the information they prioritize in their searches.

Community ratings based on parent and other stakeholder reviews are also shaped by student demographics and other characteristics of schools. Therefore, they should be interpreted cautiously. Such reviews are more common for privileged public schools than for schools with fewer resources. In addition, to the extent that ratings incorporate or provide "consumer" reviews, they contribute to an audit culture that allows anyone the opportunity to rate schools and other aspects of daily life. While providing constituents an opportunity to review their schools may seem democratic, only the characteristics of schools reviewed allow for inferences about reviewers. Little is known about the people who create user accounts and review schools, how representative they are of the schools' constituents, or the perspec-

tives of the constituents whose voices are absent. This raises questions about the validity of school reviews. How can the validity of such reviews be assessed?

This is a particularly large gap in knowledge about school ratings because reviews by parents and other stakeholders, and in particular their descriptive reviews, strongly influence other parents' perceptions and choices of schools.⁷⁴ Negative reviews are particularly influential, compared to positive reviews.⁷⁵ And although these reviews weigh heavily in users' perceptions, the reviewers are self-selected and possibly themselves influenced by other reviews. Often it is not obvious that they represent a very small number of people.

While we know that teachers and administrators respond to state-mandated rating systems, it is not clear to what extent they pay attention and react to consumer-oriented ratings. Nor do we know whether and how consumer-oriented systems may have influenced how state departments of education provide information to students and families. There is also little research on ratings entrepreneurship⁷⁶ or on what motivates the production of consumer-oriented school rating systems. Similarly, we know little about how ratings entrepreneurs decide how to rank schools, what drives their design choices, how much money their sites are generating, and how they have used the personal information supplied by registered users.

VI. Recommendations

It is recommended that:

- State policymakers develop state accountability reporting systems into more viable alternatives to commercial, consumer-oriented rating systems by requiring that those state systems:
 - Include and highlight growth metrics.
 - Ensure that search tools are easy for non-experts to navigate.
 - Provide information in a format that is easy for non-experts to accurately interpret.
- Organizations that create and maintain consumer-oriented school rating systems take the following six steps to minimize potential harms:
 - Eliminate or de-emphasize status metrics on consumer-oriented websites and instead highlight growth metrics in school profiles as well as marketing materials.
 - List schools by growth metrics as the default ranking option.
 - Allow users to filter schools based on growth metrics and student body diversity.
 - Develop strategies to address possible biases in parent and stakeholder reviews, making it clear to the average user that only a small number of self-selected stakeholders provide reviews of schools. For example, consumer-oriented websites should collect and report demographic information about reviewers as well as the percentage of reviews received by year and school enrollment.

- Make data and ratings publicly available in a spreadsheet or comma-separated values (.csv) format to facilitate independent analyses by third parties.
- Provide transparency in how the reported ratings are calculated and report the associations between their proprietary measures and students' race and class backgrounds.

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- Turnbull et al. (2018) also find that the effect of status metrics on home prices generally declines and is not significant once the percentage of free and reduced-price lunch students is added to their models. While they interpret this finding as indicating that home buyers are more responsive to peers rather than "the ability to teach students" (p. 180), it is more likely that the strong association between aggregate test scores and school demographic characteristics are driving this result.
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The Hasan and Kumar study (2019) is distinctive because it uses a nationwide sample of schools rather than schools in a single district or state, and the home values assigned by Zillow rather than the prices of the subset of houses that were sold within the period under analysis.

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