

The Signals Parents Send When They Choose Their Children's Schools

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How clear are the signals that parents send when they choose to leave a public school to take advantage of a voucher program? This study explores this question in the context of Milwaukee's Parental Choice Program from 1990 to 1995. Two broad findings are discussed. First, parents do not always send clear signals about their levels of satisfaction when they express an interest in removing their children from public schools. Second, these signals have important implications for the design of voucher programs or other quasi-markets for education, for inferences school officials might draw from parents' decisions, and for the way scholars study choice programs.

DURING THE 1990s and to the present day, advocates for market-based approaches to school reform have argued that public schools that lose parents to choice will be forced to improve their performance. In theory, at least, this process will not only benefit the students who take advantage of choices in an educational marketplace but will also help to lift public school boats more generally. As schools compete with one another, the public schools from which parents say they want to depart—their “sending institutions” (Coons, 1998)—can learn something from parents who have chosen to go elsewhere.

One way to see if this expectation about how quasi-markets for education might work is to probe the signals parents send when they choose their

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children's schools. In this article, I do just that and make two specific contributions to the literature on school choice. First, I will describe the rationales parents provide and the factors they weigh when they consider leaving public schools. This will begin to fill an important gap in the school choice literature; as Henig (1998) argues, "There is a need for much more research into the inner workings of parental choice . . . and assessments of whether the objective characteristics of choices that parents actually make are consistent with the rationales they provide" (p. 543). Furthermore, because policy theories of school choice place "great weight on the power of parental choices, empirical examination of the substance of those choices is fundamentally important" (Weiss, 1998, p. 529).

Second, many people in the choice debate stress that parents need quality information about schools if they are to choose well. Markets for education will work best, so the argument goes, when parents are informed about the choices that are available (Bridge, 1978; Chubb & Moe, 1990; Elmore, 1990; Fantini, 1973; Godwin, Kemerer, Martinez, & Ruderman 1998; Schneider, Teske, Roch, & Marschall, 1997). But what about the schools themselves? Ironically, the well-founded concern about information needs of parents implicitly takes as given that schools have adequate and reliable information about the marketplace as well. This is an untested and perhaps tenuous assumption, however, and one that could have important consequences in quasi-markets for education (Weiss, 1998).

As this article will show, the signals parents send with their educational choices can be ambiguous and difficult to interpret. In and of itself, this fact may not be very useful. Given the size and difficulties of managing shifts in regular enrollments, a rational school organization might not be especially concerned if a small number of students opted out when presented with a public voucher. Schools in the nation's inner cities, especially, experience far greater turnover from other factors, so these few cases would not matter a great deal. By that logic, conducting exit interviews with choice parents may not be worth the effort.

Although numerically accurate, this argument suffers for at least two reasons. First, it ignores the role marginal consumers can play in helping markets and quasi-markets to function (Schneider, Teske, Marschall, M., & Roch 1998; Teske, Schneider, Mintrom, & Best, 1993, 1995; but see also Lowery, 1998; Lowery, Lyons, & DeHoog, 1995). Turnover due to large numbers of families moving out of a school's attendance area, for example, would have a greater impact on overall school numbers but would likely be less of a concern than even a small portion of parents using a voucher to send their children elsewhere. The latter group's decision would seemingly, from the point

of view of school officials, be more germane to an assessment of the program that the school is offering. In Hirschman's (1970) terms, schools would be wise to pay more attention to these "alert" customers. The signals they send are perhaps more valuable and measurable compared with the random noise that emerges from shifts in student populations each year. Second, as managers in the private sector will attest, firms are generally paranoid about losing even a small number of clients. From a business perspective then, understanding what motivates even a relatively minor portion of customers to leave is needed not only to try to win them back, if possible, but also, and more important, to prevent others in the future from exercising the exit option due to perceived deficiencies the firm might be able to correct.

PARENT SIGNALS AND THE LITERATURE ON SCHOOL CHOICE

Although there is a growing body of research on school choice, much of it does not illuminate in much depth either the factors that parents weigh when they consider opting out of a public school or the signals those decisions might transmit to sending institutions. A quick review of the literature makes this point clear.

The extent to which school choice increases student achievement and parents' involvement in the education of their children has received much scholarly attention (Greene & Peterson, 1996; Greene, Peterson, & Du, 1999; Marschall, 1998; Rouse, 1998; Schneider, Teske, Marschall, Mintrom, & Roch, 1997; Witte, 1998, 2000). However, none of these studies directly relate these changes to the decisions parents make or the signals they send when they opt for a choice school.

Scholars have also compared the levels of satisfaction parents express with their sending institutions versus their choice schools. One of the most consistent findings across a range of settings is that parents who participate in choice programs report greater satisfaction with their choice schools (Levin, 1998; Peterson, 1998). Although the comparative differences are often large, there are at least three problems with relying on these measures to conclude that parent signals are necessarily clear.

First, although the differences are great and nearly always statistically significant, in many analyses, each satisfaction measure is often presented in isolation from the others (see Weinschrott & Kilgore, 1998, for an example). This is problematic because studying individual dimensions of parental satisfaction does not reveal how interactions between these measures might influence parents' decisions to leave schools. Even if significant differences exist

across a variety of dimensions of satisfaction, do parents care about all of them equally when they assign overall performance measures to schools? How important are these factors when controlled in the presence of others?

Second, the before and after comparisons presented in the literature do not reveal the overall levels of dissatisfaction individual parents express because these studies usually take the population of program participants as the unit of analysis. These approaches cannot answer two key questions about parental motivations: Do responses to questions about satisfaction signal general levels of unhappiness (parents say they are dissatisfied across many different dimensions), or do they suggest parents have particular concerns that they weigh more heavily than others (parents are satisfied across most dimensions and are dissatisfied with one or two)? That would be important information for school leaders to have if they were going to use levels and amount of dissatisfaction to help them improve their programs. A related problem with studying parents in the aggregate is that this level of analysis cannot illuminate how parental evaluations might vary from school to school. This is a crucial piece of information for understanding how educational markets might function; in a competitive setting, individual schools rather than districts as a whole become the key suppliers.

Finally, before-and-after comparisons along different dimensions of satisfaction overstate the kind of information public school officials may have when trying to determine why parents have left. Consider the following scenario: Assume that all schools losing students to choice plans conduct some kind of exit interview to better understand why parents have opted out. Chances are that once these students and their parents depart, this might be the last time a school will see them. Absent systematic evaluations similar to those in cities such as Milwaukee, the District of Columbia, and Indianapolis (Peterson, Greene, Howell, & McCready, 1998; Weinschrott & Kilgore, 1998; Witte, 2000), school officials will probably not have access to these subsequent satisfaction measures, assuming they even exist at all. Thus, scholarly analyses and program evaluations that focus on before-and-after satisfaction measures presume a more robust information environment than individual school administrators would likely experience in cases where choice is adopted more broadly. And because implementation is a critical issue in evaluating any type of school choice plan (Archibald, 1998; Henig, 1994), scholars and policy makers should not overlook this information reality.

Two relatively recent studies have probed more deeply the decisions parents make and the signals they might send when they opt for choice schools. (Henig, 1990, conducted a similar study but in the context of transfers among

public magnet schools.) In the first piece, Schneider, Teske, et al. (1998) found systematic differences between what they call *average parents* and *marginal consumers*, parents who actively choose their children's schools. In a related article, these authors drew on the same data and studied parental decision making to see which school attributes parents of different racial and socioeconomic backgrounds seek when they select their children's schools. The assumption that motivates this study parallels the first: "With expanded choice, parents will seek to meet as many of their preferences as possible when selecting the schools their children will attend" (Schneider, Marschall, Teske, & Roch, 1998, p. 493).

The arguments in both of these articles are persuasive and developed more deeply in the authors' recent book (Schneider, Teske, & Marschall, 2000), but they only convey half the story about parental decision making. Showing that parents opt into schools that are high on the attributes that they value does not illuminate the evaluations those same parents made about schools they have left. In other words, if parents' choices send clear signals to markets or quasi-markets for schools, then we should observe two things. First, parents should be opting into schools that rate high on the attributes they value, a finding Schneider et al. demonstrate. Second, parents should be opting out of schools that rate low on these same attributes. It is the latter condition that the literature does not address.

This is an important gap when one considers the identification problem that studies of relative measures of satisfaction cannot avoid. Notwithstanding the finding that parents tend to be relatively more happy with their choice schools, what signals would they be transmitting if they rated their sending institutions as relatively worse but as still strong performers? For example, it is possible that parents could indicate they were "satisfied" with the program of instruction at their children's current public schools, opt out, and then report they are "very satisfied" along that same dimension with their choice school. Relatively speaking, parents are happier with the choice school, but what about the sending institutions? By the parents' own admission, it is clear they were not unhappy with the instructional program, but they opted out anyway. That might be a difficult signal for school officials to interpret, especially those who lack access to a subsequent satisfaction measure. And in theory, it is possible for parents to express satisfaction with all dimensions of schools' programs, opt out, and still be relatively more satisfied along these same dimensions at their children's choice schools. If that is the kind of signal that some parents send with their choices, what public school reforms should ensue? The value of probing this hypothetical becomes immediately obvious in light of the experience of Milwaukee and its Parental Choice Program.

THE MILWAUKEE PARENTAL CHOICE PROGRAM (MPCP)

The MPCP, which began in the fall of the 1990-1991 school year, originally was designed to provide low-income Milwaukee public school children the opportunity to opt out of the Milwaukee public school system and attend nonsectarian private schools. Students from families with income levels no greater than 1.75 times the poverty level who had been attending school in Milwaukee during the year prior to expressing interest in the program were eligible to apply. During the first 4 years of the MPCP, participation was capped at 1% of Milwaukee public school system students, which in real terms amounted to roughly 1,500 potential students overall; from 1990-1991 to 1994-1995, the number of participants grew from 341 to approximately 800. For students accepted into the program, the state of Wisconsin provided a cash grant to parents' private schools of choice equal to what the Milwaukee public school system would have received for the child. Private schools in Milwaukee were not obligated to participate in the program, and from the 1990-1991 to 1994-1995 school years, the total fluctuated between 6 and 12 (Rouse, 1998; Witte, 1998, 2000; Witte & Thorn, 1996). Revisions to the MPCP have since changed the parameters of the program dramatically, increasing the number of potential choice students and permitting religious schools to participate as well. The analysis presented in this article draws on data from the evaluation of the original program, which ran from 1990 to 1995.

Part of this state-mandated evaluation of the MPCP included a variety of parent surveys; one will be most relevant here. This survey, known as "Wave 1 Choice," involved parents who applied to participate in the voucher program. Included in the Wave 1 Choice survey was a battery of questions that asked parents to evaluate various aspects of the choice program and their children's current schools. These surveys were conducted every year with each new batch of applicants from 1990 to 1994; for purposes of this analysis, I have stacked the respondents into one data set.

At the outset, it is important to note two important facts about these data. First, although I have and will continue to use the term *parents*, in some cases, child guardians rather than parents per se completed the Wave 1 Choice surveys. Second, not all of the parents who completed the Wave 1 Choice surveys actually participated in the program. In each year, there were more applicants than seats available, some students were not accepted if their parents did not meet the program's income requirement, and in a small number of cases, parents chose not to enroll their children although they had been accepted (Witte, 2000). Because this analysis is concerned with the

relationship between parent attitudes and public schools in Milwaukee (not the private schools their children might have eventually attended), this second feature of the data does not undermine the analysis that follows. By applying to participate in the program, parents expressed an interest in leaving public schools. How this interest translates into signals the public schools might receive is the key point of this article.

In theory, signals from parents who send their children elsewhere help to foster competitive pressures, which can lead to school improvement. This is the classic mechanism of "exit" that Hirschman (1970) described and for which one choice advocate argued: "Competition makes you better. If you have a totally free marketplace in anything, and you don't compete, you go broke. If you do compete, you prosper" (Steinberg, 1998, p. A27). As this article will show, however, when one studies the absolute measures of satisfaction reported on the Wave 1 Choice surveys, it is not obvious that Milwaukee parents who expressed an interest in opting out of the public schools transmitted clear signals to their sending institutions.

STUDYING THE CHOICES PARENTS MAKE AND THE SIGNALS THEY SEND

In what follows, I will analyze the Wave 1 Choice surveys in three ways. First, I will report the levels of dissatisfaction individual parents express across the following eight different dimensions: (a) teacher performance, (b) principal performance, (c) school discipline, (d) program of instruction, (e) textbooks, (f) amount the child learned, (g) opportunities for parental involvement, and (h) school location. Assuming that parents express an interest in opting out when they are dissatisfied with how their children's school performs, one would expect overall levels of dissatisfaction to be high. However, it would not be surprising if dissatisfaction varied substantially across parents. Some may be quite satisfied on a variety of measures, but because they are dissatisfied on one key item, they might express interest in the voucher program. Conversely, for some parents, it may be that the public schools are indeed the total failures critics often assert (Booth, 1998; Dao, 1997), suggesting that overall dissatisfaction would be high in those cases.

Second, I will explore how these satisfaction measures behave in the presence of each other and additional factors by modeling the relationship between various dimensions of satisfaction and overall evaluations of school performance. In this model, the dependent variable is the overall grade the parents gave to their children's sending institutions, an ordinal variable measured on a 5-point scale (A, B, C, D, and F), with A coded as 4 and 0 as F. The

predictor variables fall into the following four main categories: (a) the eight satisfaction measures listed previously, all coded on 4-point scales from 1 (*most dissatisfied*) to 4 (*most satisfied*); (b) the educational aspirations parents have for their children, a 5-point measure coded from 1 (*finish some high school*) to 5 (*go on to graduate or professional school*); (c) characteristics about the child including race (a dichotomous variable coded 1 = Black) and a measure of the child's grade average as reported by the parent respondent, coded on the same A to F scale as the overall school evaluation measure; and (d) as controls, a set of dummy variables indicating whether the parent survey came from the fall of 1991, 1992, 1993, or 1994, which makes 1990 the omitted category in the model.

Given the nature of the dependent variable, ordered probit is an appropriate method of estimation (Long, 1997), which accounts for the ordinal nature of the overall school grade measure. This statistical approach allows me to explore the satisfaction measures simultaneously to see which contribute most substantially to parents' overall evaluations of their children's schools. If parents are grading their sending institutions based on the items in the battery of satisfaction questions, then one would expect parameters that are both positive and significant, as greater satisfaction should predict higher overall grades from parents. Similarly, one would expect higher parent aspirations and children who bring home good grades to positively improve parents' evaluations.

Third, I will aggregate the satisfaction data by sending institution to see if cohorts of parents are transmitting clear and consistent signals to schools they have expressed interest in leaving. To make the presentation and discussion more tractable, for this part of the analysis, I have limited the sample to those schools that had at least 10 parents apply to the choice program during the 1990-1991 to 1994-1995 school years. Evaluating these school cohorts will allow me to see if parents are like-minded in their assessments.

WHEN PARENTS CHOOSE, WHAT KINDS OF SIGNALS DO THEY SEND?

Part 1 of Table 1 reports the overall levels of dissatisfaction as measured by the number of items (out of a possible total of eight) on which parents said they were dissatisfied or very dissatisfied. The relatively large number at zero conveys a somewhat peculiar result: 28% of parents who applied to the choice program did not report any degree of dissatisfaction across any of the eight satisfaction measures in the survey. Put another way, 179 parents said that they were satisfied or very satisfied across all of the measures to which they responded. The table does, however, indicate that there was a good

Table 1
Parent Dissatisfaction With Child's Sending Institution

	Number of Parents	Percentage of Parents
Part 1: Item count ^a		
0	179	27.7
1	110	17.0
2	82	12.7
3	76	11.7
4	67	10.4
5	51	7.9
6	39	6.0
7	30	4.6
8	13	2.0
Part 2: Item percentage ^b		
0 to 20	283	43.7
21 to 40	140	21.6
41 to 60	81	12.5
61 to 80	87	13.4
81 to 100	56	8.7

Note. Total $N = 647$.

a. The number of parents in each cell was calculated by collapsing each of the eight 4-point satisfaction measures into 2-point scales coded as 0 for *satisfied* or *very satisfied* and 1 for *dissatisfied* or *very dissatisfied*. The number of dissatisfied or very dissatisfied responses were then summed across all eight questions, creating the range from 0 (the parent offered no "dissatisfied" or "very dissatisfied" responses) to 8 (the parent was either dissatisfied or very dissatisfied across all eight measures).

b. The number of parents in each cell of this portion of the table was calculated by taking the percentage of satisfaction items to which parents responded they were "dissatisfied" or "very dissatisfied." For example, a parent would be coded as 75% if she replied to all eight items and was "dissatisfied" or "very dissatisfied" on six of them. A parent who responded to four items and was dissatisfied on one would be coded as 25%.

number of parents who were on balance dissatisfied; 133 (21%) parents expressed dissatisfaction on at least five of the eight dimensions. Overall, however, the results illustrate that the number of parents expressing interest in vouchers because they considered their children's sending institution to be a total failure is relatively small.

This result may hide the fact that a single important factor can drive a parent out. Because not every parent responded to all eight questions regarding satisfaction, although a prompt in the survey encouraged them to do so, looking at the simple count of dissatisfied or very dissatisfied responses may be misleading. For example, a parent who replied that he was dissatisfied with the quality of teaching in the school but satisfied with the principal's performance and failed to respond to the other questions would have been coded 1

in Part 1. There would be no way to distinguish this parent from another who expressed dissatisfaction with school discipline but was satisfied on the other seven measures. Perhaps a better way to gauge overall dissatisfaction then is to investigate the proportion of valid responses on which parents said they were dissatisfied or very dissatisfied. I report these results in Part 2 of Table 1. They are similar to those in Part 1, with the largest number in the least dissatisfied category, 0% to 20%, followed by a generally declining pattern as the percentage of overall dissatisfaction increases.

The overall level of dissatisfaction is a useful first look at the signals that parents send when they choose their children's schools. Breaking overall satisfaction into the eight dimensions I mentioned earlier and evaluating them in the context of other variables and each other is one way to see which factors drive the overall grades parents assign to the their children's Milwaukee public schools.

Table 2 reports the results from the ordered probit estimation predicting this overall grade measure. A number of interesting findings emerge. Because the satisfaction variables are all scaled the same way, it is possible to evaluate their relative impacts by simply comparing the size of the parameter estimates on each one. Relative to the other satisfaction measures, the program of instruction variable has the greatest statistical and substantive weight, almost 1.5 times the size of the coefficient on principal performance and roughly double the other statistically significant satisfaction measures in the model.

One way to see the influence of the satisfaction measures is to use the results in the ordered probit model to generate predicted probabilities associated with each category of the dependent variable. Holding other measures in the model at their means (the race variable at 1 = Black and the four dummy variables for 1991 through 1994 at 0), by varying the satisfaction score on program of instruction from 1 (*very dissatisfied*) to 4 (*very satisfied*), one can see the probability of an average parent assigning a particular grade at each level of satisfaction. Figure 1 presents these calculations. The probability of a parent assigning a B grade increases from .05 to .37 as satisfaction with the program of instruction measure increases from very dissatisfied to very satisfied. One sees a parallel decrease in the probability of offering a D grade; as satisfaction increases, the probability declines from .38 to .07. Substantively, these shifts are quite significant. However, given that program of instruction is such a broad concept, it is difficult to ascertain what it actually meant to the parents who completed the survey. Because teaching and textbooks were included as specific items in the satisfaction battery, one might conclude that for the program of instruction in question, parents most directly considered general school characteristics such as course offerings, special programs

Table 2
Ordered Probit Model Predicting Letter Grades Parents Gave to Their Children's Sending Institution

<i>Independent Variable</i>	<i>Parameter</i>	<i>SE</i>	<i>z Value</i>	<i>p Value</i>
Discipline	.23	.10	2.37	.02
Teacher performance	.15	.09	1.71	.09
Principal performance	.33	.09	3.58	.00
Program of instruction	.47	.12	4.05	.00
Textbooks	.02	.11	.20	.84
How much child learned	.05	.10	.55	.58
Opportunities for parental involvement	.26	.10	2.52	.01
Location	.08	.06	1.23	.22
Child is Black	-.31	.15	-2.00	.05
Child's grade average	.42	.07	5.66	.00
Parent's educational expectations for child	.08	.07	1.17	.24
Cut points				
Threshold 1	3.39	.49		
Threshold 2	4.59	.51		
Threshold 3	6.28	.55		
Threshold 4	7.84	.59		
Log likelihood	-370.04			
Model chi-square	328.88 ($p < .001$)			
N	361			

Note. The dependent variable is the letter grade that parents gave to their children's sending institutions; it is an ordinal measure that ranges from 0 to 4 (F to A). The estimation was run in Stata v6.0.

(i.e., special education), and curricular issues such as the availability of honors or special needs classes. This conjecture is consistent with many of the items that Van Dunk (1998) identified in open-ended discussions with parents about school programs.

Using the same method and substituting discipline for the program of instruction measure reveals a similar but less dramatic effect. As satisfaction increases, the probability of assigning a B grade increases from .11 to .29, whereas the probability of a D grade declines from .27 to .11. This is an important result given that one of the most common criticisms of urban public schools is that they have lost control of their student bodies. Although the results provided here do show that discipline is a statistically and substantively significant factor driving the overall grades parents assigned to sending institutions, it certainly does not dominate the other satisfaction measures but falls somewhere in the middle of the group.

Based on the results in Table 2, there are two important dogs that failed to hunt. In assigning an overall grade to their children's sending institutions, the

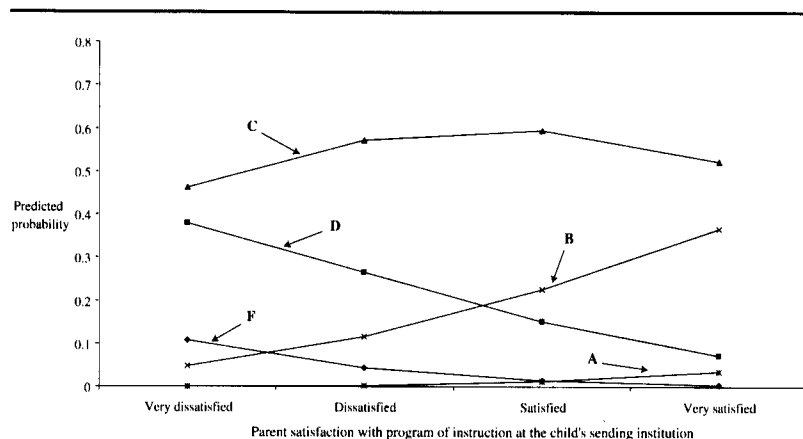


Figure 1 Effect of Parent Satisfaction With Program of Instruction on Overall Grade Given to the Child's Sending Institution

Note. Predicted probabilities for each overall grade level were computed by holding all measures in the ordered probit model (see Table 2) at their means, the race variable at 1 (child is Black), and the annual dummies (1991 through 1994) at 0 and then varying the satisfaction on program of instruction measure from *very dissatisfied* to *very satisfied*.

impact of parents' future educational expectations and the satisfaction measure for how much children learned were statistically indistinguishable from zero. Also notice the parameter on the measure of the children's grade average was positive and statistically significant. Collectively, these results may suggest that in evaluating their children's schools, parents are inclined to take the short-term view. The importance of grades (a relatively immediate measure of student academic success) and insignificance of longer term conceptions of achievement (how much children are learning and possibilities for the future) suggest these parents place a strong emphasis on short-term performance. Computing additional predicted probabilities, as in Figure 1, demonstrates the important role that children's average grades play in overall evaluations parents give to their children's schools. The substantive effect is similar to the program of instruction measure; as children's grade averages increase from F to A, the probability that parents assigned the sending institution a B grade increases from .03 to .40.

Finally, what do parent signals look like at the individual school level? Table 3 reports the mean dissatisfaction scores across the eight satisfaction measures for schools with at least 10 students whose parents applied to the MPCP during the period from 1990-1991 to 1994-1995. The value in each cell represents the proportion of parents reporting some level of

dissatisfaction for the particular measure. For example, 63% of the parents responding were either dissatisfied or very dissatisfied with discipline at School 235; the overall measure of dissatisfaction at this school is .37, meaning that on average, parents were dissatisfied or very dissatisfied on 37% of the measures to which they responded. At least three important conclusions emerge from Table 3.

First, by and large, parents do not report that schools are the total failures some critics have asserted. A quick scan of the table reveals a number of schools with very low dissatisfaction scores, some as low as zero on particular measures. Whereas some schools are consistently poor scorers across all dimensions—with the exception of its score of .20 on location, School 319 being the most obvious—in sum, it appears all schools do at least a few things reasonably well.

Second, in some cases, the overall signals appear to be less clear. Two schools in particular, 077 and 232, have very low overall levels of dissatisfaction, .14 and .18, respectively. In School 232, for example, if a principal was basing reform decisions on the results reported here, he or she would be hard pressed to determine where to start given that location is something difficult if not impossible to change and that the other measures all fluctuate around .10 or .20. In fact, going just by these results, it may not be too far of a stretch to suggest that School 232 might be considered a model school. Compare this result to School 077, which has a better score on overall dissatisfaction, .14 versus .18 for 232, but does appear to be receiving targeted concerns from parents about discipline, how much children are learning, and the principal's performance. At School 077 then, parents appear to be sending more consistent signals about needed improvements.

Third, the extreme within-measure variation suggests that analyses focusing on districtwide levels of parental satisfaction to make inferences about public school performance may be misleading. The range of scores within each measure is often quite large: .70 on program of instruction, .60 on discipline, and .50 on both teacher performance and opportunities for parental involvement. Despite this variation, it is difficult to draw firm conclusions about the effect of objective school-level characteristics on the satisfaction levels parents express. In results from another analysis not reported here, I found no significant differences between the schools in Table 3 on characteristics including total enrollment, teacher experience and level of training, and attendance rate. Comparing the best and worst performers on overall dissatisfaction, Schools 077 and 319, respectively, reveal only minor differences on these four measures.

The overall results presented in Table 3 are especially important given the market model that voucher programs assume. With expanded choice,

Table 3

Proportion of Choice-Applied Parents Dissatisfied or Very Dissatisfied With Various Features of Their Sending Institution

Proportion of parents dissatisfied or very dissatisfied with	Sending Institution									Row mean
	077	093	232	235	238	319	322	356	380	
Teacher performance	.00	.42	.10	.41	.18	.50	.20	.40	.29	.28
Principal performance	.30	.42	.20	.56	.36	.40	.38	.30	.41	.37
Discipline	.30	.50 ^a	.10	.63	.55	.70	.50	.70	.47	.49
Program of instruction	.00	.58	.20	.54 ^b	.55	.70	.13	.10	.60	.38
Textbooks	.00	.25	.10	.15 ^b	.55	.50	.17 ^c	.22	.15 ^b	.23
How much child learned	.40	.50	.22	.63	.64	.60	.67	.30	.53	.50
Location	.10	.25	.30	.06	.27	.20	.22	.00	.06	.16
Opportunities for parental involvement	.00	.33	.20	.06	.27	.50	.38	.00	.31	.23
Overall level of dissatisfaction	.14	.40	.18	.37	.42	.51	.29	.25	.36	.32
Cell <i>N</i> within column ^d	10	12	9 or 10	16 or 17	11	10	8, 9, or 10	9 or 10	15, 16, or 17	

a. Cell *N* = 10.

b. Cell *N* = 13.

c. Cell *N* = 6.

d. Because not every parent responded to all eight of the satisfaction measures in the Wave 1 Choice survey, within each column, the *N* may vary across cells. For example, the value in each cell in the column for School 077 was generated from 10 respondents. However, at School 232, there were some parents who did not respond to all eight satisfaction questions; thus, 9 or 10 indicates that within the 232 column, the proportions in each cell were generated from either 9 or 10 respondents.

competition between individual schools is what supposedly will drive parents out of some places and into others. If it is the individual school that matters, then that unit of analysis, rather than the school district as a whole, deserves more attention. Table 3 underscores this point quite powerfully.

Finally, in survey questions tapping levels of school satisfaction, scholars generally have assumed parent responses convey information about distinct dimensions such as quality of school textbooks, teacher performance, and school discipline. To meet this literature on its own terms, to this point, I have also relied mainly on this approach. However, to explore the implicit

assumption that these responses are indeed independent, I performed a principal components analysis on the eight satisfaction measures included in the Wave 1 Choice surveys. The results (not reported here but available upon request) suggest that one underlying dimension appears to dominate; seven of the satisfaction measures, all but school location, load quite highly on a single component. The unrotated loadings for these questions range from .70 to .84, and the eigenvalue for this component is 4.28, explaining 53% of the variance.

This result begs an obvious question: What is this underlying dimension? One interpretation is that it may represent a parent's overall evaluation of her child's sending institution. Milwaukee parents may be drawing on some global sense of how they think their children's schools are doing to inform their responses about the specific satisfaction questions included in the Wave 1 Choice survey. If that is the case, then one would expect the grade each parent assigned to his or her child's sending institution, the dependent variable in the ordered probit analysis presented in Table 2, to correlate with each individual's factor score. This is indeed the case: The Pearson correlation coefficient for these two measures is .74 ($p < .01$, two-tailed test).

One substantive interpretation of these results is that questions about parent satisfaction may provide less information about the particulars of school programs than school choice scholars and program evaluators have previously suggested. Still, that is not to say that the kinds of commonly used measures of parent satisfaction provide no valuable independent information. Survey items, such as those included in the satisfaction battery for the Wave 1 Choice instrument, can measure distinct characteristics and still be correlated, which in statistical terms would suggest an underlying dimension. Certainly, the results presented elsewhere in this study illustrate important differences between the predictive capacities of satisfaction questions as they are now frequently asked.

IMPLICATIONS FOR RESEARCHERS AND POLICY MAKERS

Before discussing some broader implications of the article's findings, I should note three caveats to the analyses previously presented. First, it is important to recognize that schools receive a variety of signals from sources other than parents. These sources include local school boards, teachers and administrators in other schools, state- and national-level politicians, and the media. A more comprehensive model of how individual schools respond to signals would recognize this complicated information environment. This article's focus on signals coming from parents—arguably the group that

market-based advocates say matters most—should be taken as one attempt to explore an important element of this environment, not a comprehensive accounting of the signals schools receive. Second, from a technical standpoint, listwise deletion is particularly “evil” (King, Honaker, Joseph, & Scheve, 1998) in the ordered probit model presented in Table 3. The regrettable consequence of using conventional statistical techniques to estimate models that include all of the satisfaction measures as well as other variables that have missing data is that many respondents get dropped from the analysis. Fortunately, however, other sections of the article were immune to this possible problem. Finally, given that no single Milwaukee public school represented in the survey had overwhelming numbers of parents apply to the voucher program, the analysis presented in Table 3 is perhaps most significant for the method it suggests. In more than a few cases at each school, slight changes in parent responses presumably could have altered the results in one direction or another. The across-school and within-measure variation is consistent enough, however, that I am confident that a few parents are not driving the overall results.

Despite these qualifications, this study suggests three broad conclusions. The first is that the signals parents send when they express interest in school vouchers can be quite mixed. As the ordered probit model in Table 2 demonstrates, parents who applied to Milwaukee’s program did appear to stress some concerns—primarily the quality of a school’s program of instruction—in their overall evaluations of their children’s sending institutions. At the district level then, this is something that school officials can consider when planning for future reforms. Parent signals are less clear, however, when the unit of analysis becomes individual parents or individual schools and not the district as a whole. During the first 5 years of the MPCP, many Milwaukee parents who did not report any level of dissatisfaction across a variety of important school dimensions nonetheless expressed interest in the voucher program. When aggregated at the individual school level, it appears that dissatisfaction is relatively low in some cases, and as I argued in the previous section, one might wonder if at least one of the schools under study here could be considered a model. This is an important finding given the assumptions about how quasi-markets for education might work if employed on a broader scale. It also raises an obvious question: If many parents are reporting they are satisfied with their children’s Milwaukee public schools, why are they applying to the voucher program? Understanding what motivates this choice process is critical and begs for future research to flesh it out in greater detail. For now, at least two explanations of this apparently counterintuitive behavior (at least from the perspective of microeconomics) seem plausible.

As anyone who has studied or spent significant time around schools knows, parents consider a wide array of issues when they decide what kinds of schools might be right for their children. These can range from the characteristics that many school choice advocates hope they will consider—that the school provides a superior academic program—to others that are more idiosyncratic. A parent may love a school’s curriculum and facilities, but if her child is consistently having trouble with the school’s counselors or security staff, for example, she may begin looking elsewhere for a better match. Even experiences that have little or nothing to do with the school’s program or personnel can play a role, such as a parent who sees his daughter come home upset at the taunts she receives from other students on the bus or playground. Relatively straightforward questions about school programs and personnel designed to measure parent satisfaction may have trouble identifying these kinds of considerations (for example, see Salisbury, Branson, Altrache, Funk, & Broetzmann, 1997).

This is important because it illustrates the general problem of how consumer signals generated in quasi-markets for complex goods and services, such as education, may be difficult to interpret (Lowery, 1998). The extent to which principals in choice and other school settings actually use or respond to the complex information contained in parent surveys is an interesting issue that this article does not address. This is important to consider, however, especially given the growing popularity of market models that consider parents and students as school customers and the “accountability” bandwagon that school reformers at national, state, and local levels have jumped aboard in recent years.

Believing that private schools are somehow, by their very nature, better than their public counterparts may also motivate a parent to consider a voucher program. For the past two decades, especially, a rhetoric of failure has hounded the nation’s public schools and other public sector programs and institutions more generally. Even if some of the Milwaukee parents who eventually decided to participate in the MPCP during its first 5 years may have been reasonably satisfied with the performance of their children’s public schools, if attending a private school meant things could be even better, why not try for a voucher? That logic suggests that the rhetoric of failure may be overblown and that a parent’s decision to leave a school may not necessarily be a signal of displeasure or disgust but rather a curiosity about trying something new.

On the other side of that coin, however, is the possibility that parents simply may not have adequate benchmarks to make good judgments about their children’s schools. That is not to say that parents are stupid. It does mean,

however, that without having direct experiences with a range of different education providers, parents may report they are satisfied with their children's schools when that may not be the case in the presence of additional information. If parents were more aware of the conditions in other schools, which would provide a basis for comparison, they might not give their children's current schools such good marks. Evidence from a related context suggests parents do not tend to shop around systematically when they choose their children's schools (Henig, Moser, Holyoke, & Lacireno-Paquet, 1999). Lacking familiarity with what occurs in other schools might make it difficult for parents to offer an accurate assessment of how satisfied they are with their present situation. Unfortunately, no study to date has attempted to probe how parents update their judgments of their children's prior public schools in light of their new experiences in choice schools. One way to do this would be to ask parents to provide retrospective evaluations of sending institutions after their children have spent a year or some other measure of time in a choice school.

The article's second broad conclusion is that in evaluating their children's schools, parents appear to weigh the grades children bring home more heavily than they do satisfaction with what their children have learned. This suggests a possible negative outcome if market-like reforms in education are adopted on a broader scale. Faced with a declining enrollment and pressure to demonstrate short-term success, a desperate school might just start giving students higher grades to pacify parents. This is a critically important implementation issue to consider, especially given other findings that show how school performance is the most important factor parents weigh when they decide whether to opt out of public school systems (Moe, 2000). For many of these parents, the grades their children bring home are important proxies for overall school performance. Thus, if Milwaukee Mayor John Norquist is right that "public sector schools will respond to private sector competition with an aggressive effort to maintain their clientele" (Peterson, 1998, p. 28), one should not rule out the possibility that part of this aggressive response could involve grade inflation. Hopefully it will not and instead focus on institutional changes designed to improve student performance that some authors have found in prior research (for example, Meier, Polinard, & Wrinkle, 2000). But faced with increasing pressures to prevent parents from opting out, inflating grades would certainly be a relatively quick, albeit politically risky and educationally bankrupt, move to make. Certainly, there is anecdotal evidence to suggest that other kinds of academic dishonesty, such as unfair coaching for standardized tests or outright cheating, already occur in districts under pressure to produce high scores (for example, Hartocollis, 2000). And generally speaking, although the rise of organizational report cards that

include measures such as consumer satisfaction can be catalysts for organizational improvement, superficial responses that do not improve substantive outcomes are perhaps not uncommon in organizations that "focus obsessively on rankings rather than what the rankings are supposed to represent" (Gormley & Weimer, 1999, p. 14).

The third and final broad conclusion is that designs of future voucher or choice programs should not overlook the information needs of schools as well as parents. The signals parents send with their educational choices can be ambiguous and difficult to interpret. At the very least then, all schools—whether in choice settings or not—should be encouraged to conduct exit interviews with parents who have decided to send their children elsewhere. Presently, these kinds of evaluations are likely to occur in experimental or relatively new choice programs, which have been subject to systematic evaluation by outside researchers. If these programs become more widespread, however, assessments of parent attitudes will likely fall on individual schools themselves. A concrete policy recommendation that emerges from this analysis would be for district offices to ensure that site-based administrators have the training needed to solicit and act on parent feedback in systematic ways, paying particular attention to parents who make purposeful moves away from a particular school to take advantage of opportunities elsewhere.

Some may argue that school officials should be able to make these kinds of judgments already and that principals and teachers probably have a pretty good idea about what is driving out some parents. Having a general feel for what parents like and dislike, however, is different than leveraging information that departing parents provide to improve school programs. If education reformers are serious about helping large public systems migrate to more competitive arrangements, they should work to guarantee schools have the resources, capacity, and technology to conduct the "market research" necessary to find out what is driving consumer (read: parent) decisions. In short, both parents and school officials have information needs that any well-crafted choice program should not ignore.

Overall, the approach and results of this analysis suggest a final important insight for scholars and policy makers who are interested in studying the dynamics of school choice. In terms of relative measures of parental satisfaction, nobody denies that when studied in the aggregate, choice schools outperform sending institutions. However, that finding reveals very little about what parents are thinking when they leave public schools. As one author writing in a different context has suggested, "Bridges cannot be studied from one bank of the river only" (McCormick, 1986, p. 60). In the realm of education policy then, it is important to consider where parents are coming from as well

as where they might be going. Failing to do so may be a recipe for misunderstanding the true dynamics of parental decision making and quasi-markets for education.

APPENDIX

Table A1
Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	SD
Satisfaction with sending institution					
Teacher performance	631	1	4	2.88	0.95
Principal performance	612	1	4	2.83	0.93
Discipline	626	1	4	2.59	0.94
Program of instruction	608	1	4	2.78	0.86
Textbooks	567	1	4	2.92	0.74
Amount child learned	633	1	4	2.57	1.02
Opportunities for parent involvement	614	1	4	2.92	0.82
Location of the school	634	1	4	2.89	1.00
Other individual-level measures					
Child's race is Black	855	0	1	0.75	0.43
Average grade child received last year	450	0	4	2.28	1.00
Overall grade parent gave the sending institution	634	0	4	2.19	1.15
Parent educational expectations for child	836	1	5	4.23	0.91

Note. These measures come from the Wave 1 Choice surveys. Question wordings of the particular survey items are reported in the article's appendix. The original data and survey instruments are available for download on the World Wide Web from the Milwaukee Parental Choice Program Data Archive (Data and Program Library Service, 2000).

The relevant Wave 1 Choice survey questions are presented here. Answer scales are described in the text of the article.

Satisfaction measures: "How satisfied were you with the following [teacher performance, principal performance, and so forth] in last year's school?"

Average grade child received: "What was the average grade your child received last year?"

Grade parent gave to the child's sending institution: "What overall grade would you give to your child's school last year?"

Educational expectations: "How far do you expect your child to go in school?"

Child's race: "Child's racial identity. (Please check all that apply.)"

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