

Student Resistance: How the Formal and Informal Organization of Classrooms Facilitate Everyday Forms of Student Defiance¹

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Critical and resistance theorists propose that race and class backgrounds influence everyday forms of student resistance in schools. This article argues that the microsocial process of student defiance is less characterized by individual traits of race and class than by the formal and informal organizational characteristics of social settings. Using unique data on resistance in multiple schools and classrooms, this article finds that defiant behaviors arise when instructional formats give students access to public discourse and when students have advantaged social network relations. Social opportunities of tasks, coupled with political opportunities of networks, enable students to consistently undermine and redirect classroom affairs. The results suggest that resistant behavior is more the result of organizational features of social networks and instruction than “alienation” factors, and is therefore rectifiable through classroom management.

INTRODUCTION

Student resistance to learning is a central, endemic problem of educational systems (Waller 1932; Coleman 1961; Stinchcombe 1964; Bidwell 1965;

¹ This research was funded by the National Science Foundation, the Spencer Foundation, and the generous support of the Institute for Educational Initiatives at the University of Notre Dame. I extend my thanks to the students and teachers of “River” and “Magnet” high schools for allowing me to observe and record the tribulations of their daily lives. I would also like to thank the *AJS* reviewers as well as Charles Bidwell, Ken Frank, Roger Gould, Maureen Hallinan, Susanna Loeb, Rick McFarland, John Padgett, Francisco Ramirez, and Kaz Uekawa for their helpful comments on earlier drafts of this work. Please direct all correspondence to Daniel McFarland, School of Education, Stanford University, Stanford, California 94305. E-mail: mcfarland@stanford.edu

Swidler 1979; Cusick 1973; Bowles and Gintis 1976; Willis 1977; Apple 1979; Giroux 1983; Davies 1995).² Classroom disruptions and defiance of teacher authority bring the instructional process to a grinding halt. As such, student resistance defies educational goals and the functioning of schools. The study of student resistance within classrooms gives educators a better understanding of the learning process that takes place within the technical core of the school. Classroom disruptions bring to light the tacit foundations upon which the instructional process rests. Moreover, rebellious behaviors of students reveal the social processes by which classroom order is constructed, maintained, and altered.

The study of the microsocial processes that generate resistant behaviors informs several domains of sociology that are concerned with topics of social conflict and change. The social processes generating student defiance in classrooms are similar to the social processes generating factory strikes (Burawoy 1979; Fantasia 1988), changes in worker productivity (Homan [1950] 1992; Burawoy 1979; Crozier 1964; Goffman 1961), collective protests (Gurr 1970; Gould 1995; Jasper and Nelkin 1992; McAdam 1982; Schwartz 1976; Tilly 1978), social movement recruitment (Snow et al. 1986; McCarthy and Zald 1977), and political change (Diani 1996; Tarrow [1993] 1998). Moreover, the study of student resistance can potentially describe wider sociological concerns of social reproduction and change. Classroom breaches incite ritual processes of redress and reintegration such that the social order is remade and learning routines carry on (McFarland 1999). In some instances, student challenges can alter the classroom situation for good. These moments of resistance, then, are windows into social processes that construct, maintain, and permanently alter social settings. Hence, the study of disruptive student behavior relates to topics in sociology that are well beyond the domains of classrooms and schools.

This article concerns student-initiated breaches of classroom academic affairs that are recognized by classroom participants. As such, this work concerns *everyday forms of active resistance* (Rubin 1996; McLaren 1986). Everyday forms of active resistance are combative claims (or counter) made in an effort to change the social situation of a classroom. These counterclaims are invariably recognized and almost always addressed by the teacher. They are seldom ignored like more passive forms of resistance (e.g., harmless jokes, whining, and private socializing). Moreover, such

² As a working definition, this article views resistance as a type of nonconformist behavior that publicly questions the legitimacy of the current classroom social order (i.e., intended breaches). This article focuses on disruptive behaviors that actively (as opposed to passively) galvanize definitions of academic situations and attempt to supplant them through appeals to a different normative or cognitive framework of interaction.

active forms of everyday resistance can potentially transform the classroom setting when they are repeatedly performed. Overt defiance can chip away at a teacher's authority and the legitimacy of tasks until all the official sanctions and controls at the teacher's discretion are depleted (i.e., detentions, suspensions, etc.). In many instances of student disruption, compromise is had between teacher and students, and the routines of work are adjusted to accommodate the resistant students. In some cases, the breaches are so diffused, frequent, and strong that classrooms are transformed against the teacher's will into a situation more akin to a volatile playground than a classroom learning environment. Hence, these active forms of everyday defiance have some similarity to the rebellious actions described in social movement theory and conflict sociology.

That said, most acts of student resistance are contained, and as such, they somewhat differ from the types of rebellion recounted in the wider sociological literature. Collective revolutions like those observed in social movements and prison riots do not occur in schools (Goldstone and Useem 1999). Teacher and student roles are not fully jettisoned, and ultimately, some level of decorum is present in every classroom or it cannot exist within the school.³ Individual students who cannot meet a "minimal level of decorum" are sometimes expelled, and teachers who cannot appear minimally competent can lose their job (whether by choice in the tenured case, or by firing in the nontenured case).⁴

Nevertheless, the social and physical isolation of classroom environments allows for a wide range of "classroom behavior" that in some instances would be seen as inappropriate by most external standards. Classrooms are socially isolated by the loosely coupled organizational structure

³ It is important to note that most high school classrooms are temporary groups where social relations and discontent cannot develop as fully as they would on the factory shop floor where the same persons are in daily contact for years on end. Class periods are typically 45–50 minutes, and students change courses at the end of the year or semester. Hence, students move on to new settings and classmates from period to period and from year to year. Over the course of a school year, many classrooms become more defiant and collective rebellions arise more frequently (e.g., undermining tasks for 10 minutes, or even several class periods). Were each class to last several years and to entail hours of continual contact as well as alienating experiences, something like a collective riot would arise more often.

⁴ Student expulsions and suspensions are readily understood, but teacher role-exits are less so. During my year of fieldwork at two high schools, I observed a nontenured teacher almost completely lose control of her classes. Hardly any work was done, and little discipline was practiced. Each day I observed her classes there was near total chaos. The teacher was visibly upset, frustrated, and at a loss at what to do. Eventually she quit her job in the middle of the second semester. I also observed a tenured faculty member get so frustrated with student defiance and lack of parental support that he retired several years ahead of schedule. Hence, teacher role-exits (or structural change) as a result of student defiance are not unheard of, just less common (Waller 1932).

of schools (Bidwell 1965; Meyer and Rowan 1978). Few principals monitor classrooms, and few teachers see one another teach. In addition, classrooms are physically isolated settings enclosed by four walls, a door, and only a narrow window through which to look inside. This level of isolation made it easy for a class to transgress most educators' definition of what a "legitimate" learning environment must minimally look like.

Active forms of everyday resistance are "less" than social revolutions because they are contained and do not destroy the school. However, they are "more" than everyday expressions of discontent that are developed in backstage arenas commonly observed in studies of peasant societies or subjugated groups (Scott 1985, 1990; Abu-Lughod 1990). "Hidden transcripts" and more passive forms of resistance commonly occur in schools, most often as private expressions of discontent, jokes, private mockery, and acts of deviance. Passive forms of everyday resistance do not transform the classroom situation (nor do they aim to), but they remain important because they spread discontent throughout a classroom setting. In many regards they are a precursor to, and sustain, the more active forms of everyday defiance described in this article. When a student disrupts class so as to challenge teacher authority or the legitimacy of tasks, he or she brings hidden transcripts into public view and are therefore more readily observed than more private and passive forms of everyday resistance described in studies of subjugated groups.

In this article, everyday acts of active resistance are found to have transformational potential, and if strong enough, they can alter the rules of tasks, make rigid role performances obsolete, bring different identities and values to play, and diminish the level of authority and value attributed to various roles the institution prescribes. While the school is never completely undermined, a classroom can be a place where little work gets done and social affairs reign to a far greater extent than is comfortable for many educators. Hence, active forms of everyday resistance are behaviors that lie somewhere between collective revolts (Goldstone and Useem 1999; Fantasia 1988; Gurr 1970; Tilly 1978; Gould 1995; Jasper and Nelkin 1992; McAdam 1982; Schwartz 1976) and everyday adaptations to a life of discontent (Rubin 1996; Abu-Lughod 1990; Scott 1985, 1990). The work presented here represents a bridge between these separate veins of research and reveals through the dimension of high school classrooms how everyday acts of defiance can alter organizational contexts and their social practices.

THEORIES OF STUDENT RESISTANCE

The prevailing explanation of student defiance is that of critical theorists and resistance theorists in education.⁵ Their rich ethnographic case studies describe how working-class youths (Bowles and Gintis 1976; Apple 1979; Giroux 1983; Willis 1977) and students of color (Ogbu 1987; Fordham and Ogbu 1986; Cumins 1989) are those most likely to resist educational efforts, dominate classroom settings, and practice cultural freedom. As such, classifications in wider society are described as proximate causes of student resistance. To a certain extent, this literature describes how student backgrounds translate into different family and school practices that, in turn, lead students to resist learning (Bernstein 1971; Bourdieu and Passeron 1977; Bourdieu 1980, 1984; Lareau 1987). However, remiss in these accounts are properties of classroom situations that help explain rebellious behavior *independent* of individual backgrounds and dispositions.

Perhaps the most famous sociological work on resistance to learning is Paul Willis's (1977) case study of working-class boys in England. He describes how working-class students actively rebel and reproduce their class position. As such, his account moves beyond deterministic conceptions of social reproduction to describe boys who rebel in spite of teachers' best efforts to educate them and increase their future life opportunities (p. 67). Willis's story characterizes the working-class "lads" as the most dominant individuals in the school who have greater cultural freedom than their conformist counterparts, the "ear'oles."

One of Willis's most underemphasized findings is that working-class boys are more nonconformist when they have well-defined peer groups that give voice to their working-class values (Willis 1977, pp. 23, 60–62, 123–24). Willis argues that the lads are capable of rebellion, cultural freedom, and dominance because their class background creates a private transcript of nonconformity that becomes public through the support of a cohesive peer group (p. 60). In contrast, middle-class students are described as passive and conformist (pp. 75–76). This claim about middle-class conformity, however, is not supported by case studies of middle-class students in the United States (Coleman 1961; Stinchcombe 1964; see Bidwell [1965] for review; Cusick 1973; Hammersley and Turner 1980; Davies 1995). This literature suggests that most adolescents are a disaffected class or subculture in relation to adults. Curricula frequently entail topics unrelated to students' current lives, and tasks often do not call

⁵ Many of these studies identify resistance as an outcome like dropping out of school. This article focuses on resistance as a behavior exhibited in interaction, not as role-exit or structural change per se, even though these can and often are the result of frequent collective acts of defiance.

upon active student participation. In such a context, it is argued that most any adolescent possessing a cohesive peer group will likely create problems for the teacher.

Critical theorists and resistance theorists in education imply that defiance and rebellion are actions of socially disaffected groups. However, their work is based on ethnographic case studies that do not fully take into account the classroom context as defined by instructional processes and social (resources) networks. That is, they do not elaborate on nor test whether formal and informal organization of classrooms affect student behavior in fashions that are partially independent of social background.

Critical theorists and resistance theorists focus on individuals as the level of analysis. Hence, they overemphasize the role individual backgrounds have in generating student resistance to learning and deemphasize the effects that social contexts and specific situations have on decisions to disrupt the class. This article views resistance as a behavior performed by an individual within a particular setting—one of many they may enter and exit during the day. Thus, the unit of analysis is a student within a classroom. Changing either the student or the classroom would change the decision to rebel. The individual and classroom are therefore regarded as higher-order constructs—students are constructs of multiple classroom situations, and classrooms are constructs of multiple individuals and the situations within them.

This article assumes that defiance is a strategy of action that a student chooses to adopt in a particular classroom setting when it is sensible to do so (Weick 1995). In order to understand the sensibility of such an act, it is important to describe the context in which it is to occur. March and Olsen write that social action is framed by various institutional arrangements that make certain behaviors more or less appropriate (1989, pp. 23–24). Thus, classroom situations guide student decisions about what to do next by making certain strategies of action salient. Both structure and agency are at work, where institutions (as broadly defined) narrow the range of salient choices. Hence, when students enter a class, they enter with a wide array of cultural tools and dispositions defined by their backgrounds (Swidler 1986), and the classroom situation will make some of these dispositions and strategies salient. However, not all action is reducible to dispositions of race, class, and gender. Certain tasks and social arrangements make resistance a sensible strategy regardless of one's background.

Organizational characteristics of classrooms define conditions under which overt acts of defiance are feasible strategies of action. As a *formal organization*, the classroom can be described as a setting wherein the teacher (a local actor) tries to mobilize sets of students through tasks (Jackson 1968). The teacher thus adjusts the *relevance of course topics*

and *access to public discourse* so as to increase or decrease the salience of, and opportunity for, student participation in tasks. Since defiance is never really an appropriate action, students react to the relevance of materials and social opportunities by discerning moments when explicit efforts to redirect action are *less inappropriate* than others. Students quickly find that there are more opportune moments to challenge teachers and tasks than others.

Teachers try to control the level of student participation so that the activities within a lesson get done (Hammersley 1974, 1976). Too much or too little student involvement can pose a danger to each task's completion, so the educator must control and motivate, or push and pull, their students along (Waller 1932; Bidwell 1965). Making course topics less relevant to students' everyday life lessens participation and sometimes redirects student attention to social affairs. Greater relevance attracts students and increases the flow of participation. Teachers can also use task structures to maintain greater or lesser control over interaction (Hallinan 1989; Stodolsky 1988; Bossert 1977; Metz 1978). Student-centered (or open) tasks, such as group work, discussion, and student presentations, give students greater access to public discourse and one another. In contrast, teacher-centered (or closed) tasks, such as lectures, recitation, and exams, give the teacher rigid control over access to discourse. Moreover, it is easier to monitor student behavior during teacher-centered tasks than during student-centered tasks.

During teacher-centered tasks, acts of open defiance are more observable, accentuated, and inappropriate, thereby incurring more severe sanctions from the teacher. During student-centered tasks, students are already speaking openly and it is a smaller step to open defiance. Moreover, the defiance is harder to observe since greater volumes of discourse occur. In fact, there are cases where the teacher is not even aware of the defiance, but the students are. For these reasons, the corresponding sanction to open defiance in student-centered tasks is less severe. Consequently, topics irrelevant to everyday student life and student-centered tasks create contexts wherein repeated acts of defiance are a more sensible strategy of action. Furthermore, within these formal contexts, rebellious actions are more likely to reoccur, thereby leading to greater change in the classroom situation.

However, even when prescribed tasks give students the opportunity to interact and more opportune moments to resist, only certain students will use the opportunity to do so. The *informal organization* of the classroom determines which students have the greatest political opportunities, or rights to discourse, that enable them to use the available social opportunities that task structures define. Social *network relations* and *positions* define who is most capable of taking advantage of social opportunities

created by task structures.⁶ Friendship relations tied to each actor serve as networks of local support. In well-defined friendship cliques, members are safe to interact amongst themselves and they are buffered from attacks made by nonmembers, because their group defends them (Giordano 1995; Eder and Enke 1991; Eder 1991). Somewhat distinct from clique support are positions of informal prestige. Students with informal prestige have rights and obligations to public discourse that extend across clique boundaries and reinforce the individual in public discourse witnessed by all class members (Freeman 1979).⁷ Hence, students with well-defined cliques or prestige in the class will be more likely to take advantage of the social opportunities that teachers create through task structures (due to their social resilience). Students that lack social network resources and rebel will encounter more grief than gain. For these students, teacher sanctions and peer ridicule go unchallenged and are likely to get affixed, thus lessening the social support a student can count on in future situations.⁸ Moreover, the student's lack of integration into the social network makes their disruptive behavior less likely to diffuse among classmates.

Therefore, this article argues that the formal and informal organization of classroom settings do more to make student resistance a sensible strat-

⁶ Relations and positions in friendship networks can form somewhat independently of background characteristics. Granted, race and class significantly determine with whom a student is a friend, but it generally does not determine the density of networks nor the prestige position of a student in the school or classroom. Regardless of race, class, or gender, network characteristics have the same effects on student behavior. In addition, background only slightly translates into school status, which in turn slightly translates into classroom status. Classrooms have different compositions of students that can make prestigious students of the school unpopular in a particular setting. As such, it is possible for a popular jock to be unpopular in his or her theatre class. In fact, a wide array of classroom compositions can generate networks and prestige positions that counter what is had in hallways, corridors, and public settings of the school. For example, a class can contain three cliques where a cheerleader clique and a thespian clique hate each other, thereby leaving them only with clique support. A third group of "Normals" may be the *least disliked* in the class and thereby hold the greatest prestige (Brown 1986, 1989; Canaan 1987).

⁷ Ronald Burt states that there are two approaches to egocentric networks: relational and positional (1980, p. 80). Relational networks are defined by the ties to and from an ego. Hence, the density of an ego's network characterizes the cohesiveness of his or her peer group. In contrast, an egocentric position is defined by all the relations in a classroom. Hence, the prestige or popularity of an individual student is defined by the number of friendship selections he or she receives from all other students in the class. The difference is between the effects of ego's peer group and the effects of ego's social standing in the class (both will be used in this article). Both afford support, but prestige affords greater rights to public discourse.

⁸ Donna Eder's discussion of the structure of gossip is similar to the process of labeling in classrooms (Eder and Enke 1991). When an actor's reputation is not defended, then a reputational claim can stick (whether it be a claim about inappropriateness, teasing, sanction effort, etc.).

egy of action than a student's background of race and class.⁹ By taking into account the instructional process and the nature of peer networks within classrooms, I find that societal categories do little to make classroom disruption a sensible strategy of action. While societal memberships do translate into classroom practices and networks, classroom practices and networks have significant additional effects that outweigh those of background characteristics (whether direct, indirect, or total effects). In other words, this work suggests that both Willis's lads and ear'oles are only able to rebel when teachers give them social opportunities to interact and when they have informal prestige and social support from their classmates. Instead of finding that minorities and lower-income students rebel in class, I find instructional processes and social (network) resources enable students to disrupt and resist classroom affairs. Consequently, rebelliousness is more a product of the classroom situation and the achievement of students than their social and cultural backgrounds.

This study makes several advances over prior research on student resistance. First, this study uses both ethnographic accounts and detailed information on student behaviors within two high schools and 36 different classrooms. As such, this work moves beyond critical theorists' and resistance theorists' accounts of students in several small groups, to span multiple schools and classrooms, as well as many of the cliques within them. Second, this article develops a statistical model that tests whether formal and informal classroom characteristics or student background characteristics are more significantly associated with the high incidence of resistant behavior. Third, this article not only identifies those factors that are *associated with resistant behavior*, but it identifies those factors *that cause increases in resistant behavior* over the course of the year. That is, rather than just identifying who defies tasks, there is an effort to identify the factors leading students to become more disruptive over time. Fourth, this work identifies and describes social processes by which individual acts of resistance can spread throughout a classroom, creating classroom rebellions. Hence, there is an effort to explain the transitions from macro-to-micro and from micro-to-macro levels of social phenomena.

REBELLION IN A CLASSROOM

In order to flesh out the characteristics of school life that are pertinent to the study of student resistance, it is helpful to relate the story of a

⁹ In certain regards, this article draws on the ideas of external and internal systems that George Homan describes (1992). Similar notions of groups have been expressed by various authors such as Chester Barnard (i.e. "formal" and "informal organization" [1939]) and Nohria ("prescribed" and "emergent networks" [1992]).

particularly rebellious classroom that was observed during the 1996–97 school year.¹⁰ The class was called “Honors Algebra 2,” and it took place in an inner-city magnet school. The story of Algebra 2 gives real-world examples of what I mean by everyday forms of active resistance in schools, and it vividly portrays one of this article’s primary concerns—how some classes can collectively defy the teacher’s effort at control.

Algebra 2 was a small class of around 15 students from tenth- and eleventh-grade levels and had a slightly disproportionate number of racial minorities in comparison with other classes of the school.¹¹ Some of the students were barely achieving the school’s minimal grade requirements for attendance, and many expressed only mild interest in the abstract topic of math (both verbally and on surveys). In addition, few were willing to work very hard to get an “A” in the class. In addition to being disinterested, Algebra 2 had a strong social structure of dense ties and several well-defined cliques that would combat the teacher’s every effort (see fig. 1, first semester). The first clique (clique A) consisted of five tenth-grade white students who were the better students in the class (not significantly so, however). The clique really had two cores—one male triad and one female dyad. A second clique (clique B) consisted of five tenth-grade African-American females and one tenth-grade white female. This group was not only the largest and most densely interconnected in the class, it was the most socially vocal in the class. A third clique (clique C) consisted of two white females and two African-American males. All were in the eleventh-grade except one attractive tenth-grade girl who was the focus of the boys’ attention. These students were some of the more physically attractive and popular members of the class who played “cool.” Cliques A and B held clique C in high regard. However, the black males were more likely to reciprocate friendships with the black females than the white students at the beginning of the year. Therefore, from the start of the school year, Algebra 2 was composed of unmotivated students with a dense social network characterized by several cliques that was led by the loose coalition of cliques B and C (i.e., black females and a mixed clique of popular students).

Given the students’ lack of interest and well-defined relations, Ellis, the teacher, faced an uphill battle from the start. Ellis was aware of their lack of interest and openly expressed his expectation that the students

¹⁰ All names used in this article are pseudonyms. The example of Algebra 2 class was one of the many classes I observed that year, and it represents one of the most extreme cases I witnessed. The data set of classrooms used in this study are presented and described in the section following this one.

¹¹ Seven of the 15 students (45%) had ethnic minority backgrounds—10% more than usual.

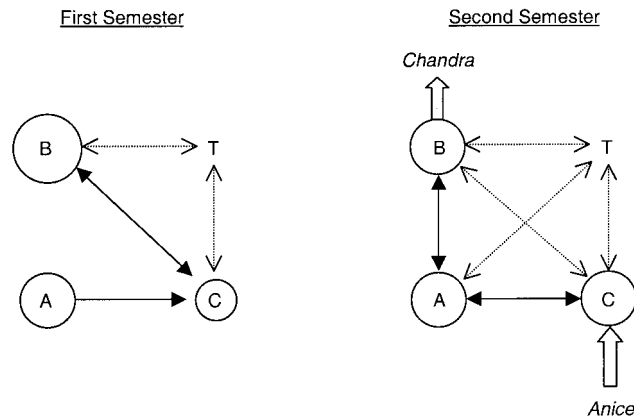


FIG. 1.—These cliques were identified through sociometric surveys and the use of the KliquesFinder program (Frank 1998). Cliques were identified as being different from random assignments at $P < .001$. Circles designate cliques with dense ties (i.e., density is greater than overall matrix density). The size of each circle reflects the number of members. Relations between cliques reflect marginally dense ties of positively or negatively expressed sentiment (i.e., data from observation and surveys). Ties of positive sentiment are solid arrows, while ties of negative sentiment or conflict are dotted arrows. T = the teacher, Ellis; A = white students; B = black females; and C = older mix.

would be resistant (interview): “When I see them at them at the tenth grade, you see the people that barely got through algebra 1, barely got through geometry, and if they had the choice, would not take a math class. So, right away, we start off with, uhm [changes his voice, to sound like a student], ‘I don’t care. I don’t want to do this. I hate you.’” However, Ellis had certain experiences and abilities that suggested he might have some success. He was one of the few African-American male teachers at the school (even more rare was that he taught math), and he had a bachelor’s degree in math. His ethnicity and educational background seemed to suggest he could relate to the students and easily convey the materials. Furthermore, he had progressive teaching goals in mind. He wanted students to think for themselves and to collaborate. He wanted them to understand the material and derive mathematical formulas, not just practice drills. To accomplish these goals, Ellis used group work and seat work activities that called upon students to collaborate and learn from one another.

However, Ellis did not make any effort to relate the materials to the students’ personal lives, thereby never interesting the students in the subject matter. In an interview, a male from clique C described math in Ellis’s class as unrelated to the real world (student 129351): “Math is a hard subject to make it fun, I think. It’s just . . . you know, you got to

come up with different ways . . . more projects . . . more ‘show-how’ math that deals with like, everyday life. Just don’t say it does.” A student from clique B mentioned the material was abstract and that Ellis avoided their questions and did not relate the material in a more sensible fashion (student 150618):

If we had a question, he would say, “Read the book. It’s in the book.” But like I just said, the book . . . when they give an explanation they would use words that I had no idea what they meant so I would look them up and when I looked them up they had other words that I had no idea what they meant. So I was spending half my life reading a dictionary if it was up to him. He wasn’t that willing to help, he would just be like: “Do your homework.” And he would sit there and if you had a question he wouldn’t . . . he would just say, “Well, it’s in the book.”

Moreover, Ellis’s use of student-centered tasks served to bring the latent qualities of the social structure and the expression of nonacademic interests to light. As soon as he asked the class to form collaborative work-groups, students moved across the room to sit with their friends and socialize. During these lessons, students only intermittently did the assigned work. In spite of the teacher’s best intentions, the student-centered activities enabled students to engage their friends and quickly develop ways to “beat the system,” circumventing the work demands of tasks. Students learned that a class taught by another teacher did the same homework problems and was ahead of them by a few weeks. Rather than complete the work themselves, they simply obtained and copied the homework from the other class. Some students even handed in the homework they had obtained by simply erasing the former author’s name and substituting their own (interviews 126075, 129351). Hence, most class days began with frantic students trying to copy answers off their neighbor’s homework.

As the semester progressed, cliques B and C grew more sociable, and they began to tease and mock the teacher openly. Only the white clique (A) was mildly engaged and completed their homework, but they always carried on animated personal conversations as they did so. Hence, students self-organized into friendship groups and quickly defined academic work as an occasion for social affairs. This, in turn, enabled students to deviate from tasks, collude on cheating, and to passively resist the teacher through jokes and complaints.

Ellis tried to maintain control of the class by allocating low grades and detentions to problematic students. However, the use of grades as a sanction made students disregard them as illegitimate evaluations of their performance (Cusick 1973). Grades were tools of domination and ignored. In fact, in my field observations, I witnessed students openly joking about

how low their grades were. Similarly, detentions did little to stem the flow of social activity and disruptive behaviors. Instead, it led students to complain about the teacher outside of class to peers, parents, teachers, counselors, and even to the assistant principals to whom they were sent for disciplinary reasons in Algebra 2 class. Students repeatedly stated in interviews that when they went to the assistant principal's office they simply discussed how badly the class was conducted. The principal reportedly never gave any of them a detention nor suspended them, but rather empathized with the student. This certainly was not the case for other classes, and such leniency may be due to the fact that several parents had vigorously complained about Mr. Ellis on multiple occasions. Hence, Ellis struggled to keep control primarily through the use of his official position rather than making topics relevant and altering the structure of tasks. As a result, with every new sanction he applied, the weight of his official authority and control over the class diminished.

When second semester rolled around, a prominent member of the black female clique flunked out of the school and left (Chandra). In addition, another black female transferred in (Anice). However, rather than associate with the black female clique, Anice chose to join the mixed clique (see fig. 1, second semester). The black females interpreted this as a snobbish act and started to gossip about her and eventually even insult her. The mixed clique defended the newcomer and argued with the black females. What resulted was a severing of ties across cliques B and C, and the coalition that led social antics and rebellious acts during first semester was no more. At this point, both the black females and the mixed group retrenched within their cliques and started to form closer ties with the white students in clique A.

One would expect the breakup of the dominant coalition to be a good event, enabling Ellis to reclaim control. Instead, the breakup of the dominant coalition led to the emergence of two loci of social antics and rebellion. Each loci of social activity adopted a slightly different way of resisting tasks and the teacher's authority. At the front of the room was the black female clique (B) that disrupted class and undermined the teacher by flirting with him and ritually teasing him when things did not go their way. As such, they acted as if they befriended him but constantly undermined his authority by reducing his efforts at control to jest. At the back of the room was the new coalition consisting of cliques A and C (the white boys, in particular, bridged over to the black boys). As the white students increased in stature, they became less academically motivated and more socially disruptive. When the teacher confronted students in cliques A and C, they reacted differently. The white students publicly complied (but privately resisted), while the mixed clique openly defied and challenged the teacher. The mixed clique would challenge the

teacher's ability to instruct, and they would ignore his threats and sanctions as illegitimate.

One day, the teacher asked one of the African-American boys of clique C to be quiet, and the boy shouted back "You be quiet!! Nobody understands you or wants to listen to you!" (field notes) His clique-mates (C) supported such behavior by constantly mocking the teacher's competence and openly refusing to do their work when the teacher did not explain problems adequately. At one point, the teacher even tried to send both boys of clique C down to the office, but they refused, stating only 10 minutes of class time were left. At such a moment both clique (the girls) and coalitional support (white boys) would come to play, redefining the situation in jokes and laughter. In the end, the two boys of clique C defied the teacher and never went to the office (field notes). In interviews, students mentioned other instances when such serious moments of open defiance occurred (students 150618, 129351). The mixed group therefore shifted between viewing the teacher as a joke to viewing him with scorn. Consequently, the breakup of the dominant coalition served to include all students in disruptive behavior. The creation of two loci of action included the previously more peripheral clique into the heart of more disruptive classroom antics.

Ellis made some effort to control matters and started to use more teacher-centered instructional formats, but he still relied heavily on seat work and group work. When he did lecture, students simply ignored him and chatted at their tables. When he tried to sanction them, they would translate his attempts into jokes and dismiss them. Often, Ellis and the students would argue without end. A couple months into second semester the teacher realized that low grades, detentions, and suspensions no longer worked. Students had repeatedly complained about him to the principal, counselors, and other teachers. The entire situation did little service to the pupils and only served to make him look incompetent. Ellis even tried to adopt sarcasm and forms of ritual teasing that adolescents' use in social encounters (Eder 1991). However, this had terrible results. When the teacher tried to tease a student, the entire clique replied. Each member had an insult of their own, and they built on the prior claims of their friends. The teacher was not only outnumbered, he was socially outmaneuvered (field notes). With each effort at control, whether lecture, sanctions, sarcasm, or teasing, he found his authority further and further undermined—and no longer by one student, but by several at a time who acted in collaboration.

What started as a potentially difficult situation manifested as a worse and worse situation as the year progressed. One resistant act after the other occurred, thereby undermining the teacher's control and establishing sociable affairs as the primary doing of the students. During second se-

mester, the students engaged in sociable affairs at twice the rate they did in tasks; they threw a textbook out the third-floor window; they had a snowball fight in class; several of them defied the teacher's requests that they go to the principal's office (on multiple occasions); they repeatedly argued with the teacher; they openly ridiculed him on several occasions (for being overweight, for his speech, his eating habits, etc.); and they openly expressed dislike for him, the tasks, and the course material (and this is only a short list of what occurred on the 15 or so days I observed this class). Toward the end of the second semester, Ellis increasingly withdrew from his students and let them have their way—he left them alone and let them socialize in their groups. Ellis expected less, demanded little, and ended up simply helping the one or two students who sought his advice.

The case study of Algebra 2 is an example of how a classroom can move from a setting with passively resistant youth to one characterized by sustained defiance and even moments of outright collective rebellion. However, few classes get as bad as Algebra 2. In fact, I observed many of the same students behaving well in their other classes. Hence, it is difficult to argue that student rebellion arose from background dispositions alone. Many other factors specific to the setting aligned together to create a context ripe for resistance. Some students were far more rebellious than others, so there were differences within the classroom that encouraged some students to defy academic affairs more often. However, by the middle of second semester, individual acts of resistance were collectively reinforced by peer support, and collaborative acts of defiance increasingly occurred. Nonetheless, the rebelliousness of the students had its limits—the outside world never thought the class so bad as to close school, fire the teacher, or expel all the students. Then again, this may be more the result of the outside world never coming in to watch the class. Even though several neighboring teachers complained that Ellis's classes were out of control, to the outside world they still resembled classrooms—many students still attended and sat at their desks, and the teacher stood at the front of the room as if he was teaching math.

But is Algebra 2 an idiosyncratic example? Can we generalize about rebellious behavior from just one example? Rebellious behavior can be observed in other schools, classrooms, subjects, and ability levels. Are the factors leading students to resist in other schools and classrooms the same as those described in the example here? In my work, I have observed over 36 separate classrooms across two separate schools and had many occasions to witness students challenge their teachers, rebel from authority, and constantly disrupt tasks. Rather than rely on a single ethnographic example, this study acquired data that can be used to identify factors leading students to adopt disruptive behaviors in high school class-

rooms more generally. To identify the cause of everyday forms of active resistance in high school classrooms, a formal model is developed that takes into account student backgrounds and general social locations in the school, as well as factors endogenous to the classroom setting. In the next section, I introduce the formal study conducted to develop such an empirical model.

DESIGN OF STUDY—SETTINGS AND DATA

Two schools are the setting of this study: River High and Magnet High. River High is a traditional tracked high school located in a small mid-western town, “River Town” (17,500 residents), around 100 miles from a large metropolitan area. The high school has around 1,600 enrolled students (10% get lunch assistance) and serves a community population of around 25,000 residents spanning 10 square miles. Most students are from River Town, but a third come from significantly smaller towns and outlying rural areas. Almost all the residents are white, with only 3% of the population being of other racial descent.¹²

Since River High’s student body is so ethnically homogeneous, minority students are well assimilated. The more salient identity distinction concerns class background (relative to the region) and place of residence. Many River Town students and faculty regard students from the outlying regions and small towns as provincial and regard themselves as more cosmopolitan. This status distinction is somewhat solidified by feeder patterns into the high school. Within River Town, students attend the same large middle schools, while other residents of the region are spread out across multiple smaller middle schools. Upon entering River High, the rural residents stand at a social disadvantage in terms of familiar others (Schiller 1999). Hence, they begin the year with less developed and less extensive social networks to buffer them from “hick” attributions.

Magnet High is very different from River High. Magnet High is an elite magnet school located in a dilapidated neighborhood of a large mid-western city over 500 miles from River Town. Magnet High serves a student population of around 900 enrolled students from grades 8–12 (25%

¹² In certain regards, River High resembles early studies of high school social systems, such as Waller (1932), Hollingshead (1949), and Gordon (1957). Its primary distinctions pertain to place of residence and class backgrounds, while the formal organization of the school resembles a traditionally tracked high school.

get lunch assistance).¹³ The student body is racially and economically heterogeneous and is based in from all over the city. The population is 50% white, 35% African-American, 10% Hispanic, and 5% Asian. Magnet High admits students on the basis of test scores. Hence, while its population may be economically and racially diverse, it is homogeneous in terms of academic ability.

Students and faculty at Magnet distinguish one another according to race and wealth. In general, all the students are very diligent, but minority students mildly distance themselves from the school for a couple of reasons. First, most of the teachers and administrators are white and older, such that cultural distance is greater between young minority students and older white adults who teach them (Cumins 1989). Second, African-Americans are a numerical minority in the school, while they are a numerical majority in the district. Therefore, they may feel threatened by the middle-class white culture of the school.

Another reason race is a salient characteristic at Magnet is because of residential segregation. Whites often live on the outskirts of the city, while blacks and Hispanics live in the urban center. Moreover, these groups dress and talk in slightly different manners, such that blacks and Hispanics are identified as more "ghetto." To the casual observer, these differences may be very minute. After all, in the world outside Magnet High, all of these students are considered "nerds" by peers in their neighborhoods. However, within the local world of Magnet, racial distinctions remain salient.

While Magnet High and River High represent very distinct learning environments, they nonetheless have surprising similarities in terms of student and teacher behaviors. Student resistance and rebellion is observed in both settings, across grade levels, tracks, and student backgrounds. Classroom rebelliousness is not just something specific to the most impoverished inner-city schools, but it is a problem endemic to most of the classrooms I observed.

Several sources of data were obtained for the formal modeling of student resistance at these schools: *classroom observations*, *surveys*, *school records*, and *interviews*. At each school, I focused my classroom observations on tenth- and twelfth-grade core subjects (e.g., English, math, history, and science). I also tried to span different ability levels when offered. I selected core subjects for observation because they were more readily comparable

¹³ Magnet High is an arts and science magnet. All students are college bound, and the curriculum allows students to take advanced IB classes in the eleventh and twelfth grades. To give some comparison, an IB class is considered more difficult than an AP or honors class. Students completing an IB sequence enter college with upward of two years of credit.

across schools. In contrast, elective coursework have different titles and curricular contents, making across-school comparisons more difficult. Moreover, in a policy climate that stresses standards in core subjects, I thought it important to understand the learning process that takes place within the “canon” of American high schools. Classes in tenth and twelfth grades were observed for more pragmatic reasons. It was apparent that a single researcher could not observe the entire population of students at these schools, and tenth- and twelfth-grade students had been the focus of prior study (Bidwell et al. 1992; National Center for Education Statistics 1995).

In all, 36 classes were the focus of my observation. Of these, 11 were semester courses and were observed for only an average of five class periods (these are denoted by brackets “< >” below). The remaining 25 classes were observed for at least 12 class periods over the course of the year.¹⁴ This focal set of 36 classes entailed a sample of around 753 students that were observed during first semester. Of this first-semester sample, 25 classrooms persisted into second semester. Second-semester classes consisted of around 484 students, 467 of which were present in the classrooms both first and second semester. Hence, the data consists of two cross-sectional samples (first and second semesters), and a subsample of them that is longitudinal.¹⁵

*River High.*¹⁶

Math 10—Algebra B (m917), Geometry (m668), Geometry* (m851), Trigonometry* (m666)

Math 12—Precalculus (m628), Precalculus* (m629), Calculus* (m823)

Science 10—Chemistry (s692, s726), Chemistry* (s763), Astronomy (<s783>)

Science 12—Biology II* (s641), Physics* (s697)

English 10—Speech (<e901>), Composition (<e674>)

¹⁴ The visits to these 36 classes were distributed evenly across semesters of the school year—two consecutive days of observation were conducted every few weeks. I did not observe after late April because special events frequently occurred and the pupils acted differently in anticipation of summer.

¹⁵ I performed a Heckman sample selection test to see if the samples were significantly different from one another. The probit model found the smaller second-semester sample and longitudinal sample to be composed of more Magnet students and more honors students than the first-semester sample. However, I found no significant effect of the Inverse Mills Ratio on any outcome variable used in the results section (at $P < .05$ level).

¹⁶ Each citation refers to a set of field notes on a particular classroom. Citations have an abbreviation that refers to the subject: m = math, s = science, e = English, h = history. Accelerated classes are labeled with asterisks. All courses at Magnet are honors classes, but IB courses are considered to be higher-ability-level classes.

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English 12—Advanced Composition* (<e508>), Creative Writing (<e741>)

History 10–12—Sociology (<h554>), Psychology (<h772>)

Magnet High:

Math 10—Algebra II (m182), Trigonometry Pre-lb* (m173)

Math 12—Discrete Mathematics lb (m077), Calculus Ibh* (m145)

Science 10—Biology (s121, s051) Chemistry/Physics Pre-lb* (s082)

Science 12—Biology Ibh* (s056), Anatomy (<s123>)

English 10—English (e155, e237)

English 12—English (e116), English AP (e251)

History 10—Government (<h064>), Sociology (<h015>), Psychology (<h246>)

History 12—U.S. History II Ibh* (h243)

Classroom observations recorded episodes of conflict and specifically recorded student-initiated attempts to challenge or undermine teachers and tasks. Instead of videotapes, a shorthand method of coding overt acts of resistance was utilized with a great deal of accuracy in the more controlled classroom environments. In more open classrooms, acts of defiance were more simultaneous and less sequential. This made full enumeration difficult, even though patterns of conflict were recorded accurately. I tried to compensate for this discrepancy by estimating the proportion of exchanges I had recorded for that segment. Later, I adjusted the rate of defiance accordingly (more is said about coding resistance below).

There are several reasons to regard these observational data as accurate and reliable. First, the method of recording acts of defiance was piloted in two prior studies. Second, the data used for formal quantitative analyses in this article are drawn from observations of focal classes and easily observable disruptive events. These focal classes were selected from a pool of 165 classrooms that I observed for two days each in the first couple months of school. Hence, the method of observation had been applied to over 250 class periods by the time it was focused on a limited subset of classes. By that time not only was I very experienced, I was familiar with the focal classes I was to observe. This familiarity only grew as I continued to observe these classes over the school year.

Surveys.—Two different types of surveys were administered to the students during the school year, and one was administered to the teachers. The first student survey was classroom-specific and was administered to students in the 36 focal classrooms (95% response rate). In the survey, students were asked to write how interesting they found the teacher, subject, and instructional methods. In addition, the survey entailed a sociometric form that asked students to nominate classmates they hung around with as friends. This classroom survey was administered in November of first semester and again in April of second semester.

The second survey was not focused on the particular classroom setting but asked students about their lives in general. This form asked students to describe their family and their parents' occupations. In addition, it entailed a sociometric form that asked students to list the friends they hung around with outside of class and on weekends. As such, it acquired information on the student's social gang, whereas classroom sociometric surveys asked about one's group, specific to the classroom setting.¹⁷ The friends nominated on general and setting-specific forms are correlated (0.29) but not multicollinear. Many of the friends listed in class are not friends the student hangs out with outside of school. The gang was therefore quite different from the "fair-weather" friends that many students had in class (McFarland 1999, chap. 14). This survey was administered once in April 1997.

Teachers of the focal classes were also given questionnaires. These surveys asked teachers to evaluate each of their students. Teachers were asked to report how often each student was on task, what ability or capacity to learn they believed each student to have, and the grade they expected each student to obtain at the end of the semester. Teacher surveys of this nature were administered in November 1996 and April 1997, a month prior to the end of each semester.

School records.—I also used school records for an array of information. Course schedules and transcripts list student courses, grades, grade levels, and even names of guardians and addresses useful for identifying family types and census block-tracks (both were checked for reliability with survey information). Yearbooks were used for reliable information on students voluntary associations in clubs and sports. In addition, yearbook

¹⁷ "Popularity in school" was only measured in second semester. Nevertheless, I have used this variable in both models predicting counts of resistance in first semester and second semester. Using the variable as I have *assumes* that a student's second semester "popularity in school" is representative of their popularity in school during first semester as well. This assumption of general status stability does introduce a level of error into the first-semester models. However, the extent of error is probably minimal given the variable retains a nonsignificant effect in second-semester *and* first-semester models. We can infer some degree of stability in school popularity from the stability in classroom social standing across semesters (i.e., correlated at 0.60). Other analyses suggest that popularity in school should be more stable across semesters than social standing in classrooms (McFarland 1999, chap. 14). We can infer this because classroom-specific relations (from which "social standing in the class" is derived) are found to be less stable, more unistranded, and akin to weak ties than the friends students say they hang out with inside and outside of school (from which "popularity in school" is derived). In addition, it has been shown that hang-out friendships have a significantly longer history than classroom-specific friendships students identify (McFarland 1999, chap. 14). Hence, we can assume that there is a greater level of stability in the measure of "popularity in school" than in the stability of "social standing in the classroom."

pictures gave reliable information on race and gender (coupled with observation and school records).

Interviews.—In late April through May of 1997, I interviewed 27 teachers and over 100 students from the focal settings I had observed all school year.¹⁸ Teacher and student interviews were conducted to acquire participants' descriptions of the classroom situation and explanations for the behavior of various actors within them. In addition, I used interviews to check my observations and the responses that participants gave on their surveys. Hence, a triangulation of data sources was used to check the information gleaned from various instruments and to develop a rich description of classroom situations.

Regardless of such data triangulation, it is fair to question whether my population of two schools and 36 classrooms is representative of high schools, high school classrooms, and adolescents more generally. To some extent, this question is rhetorically valid, but the fact that similar patterns of behavior and similar social mechanisms were at work across two very different high schools and multiple classroom settings is suggestive of more general social phenomena. Nevertheless, such fine-grained information about social processes and classroom resistance is not acquired by current national surveys. There is a trade-off in empirical focus—as the sample size increases, instruments become more streamlined and do not capture the nuances of social behaviors within particular settings. Focused studies like this give up a degree of generality so as to flesh out social mechanisms and microprocesses that structure social order. Even so, this study is still relatively extensive in that it spans many participants and social settings, as well as many class periods and sequences of interaction. Hence, it is an attempt to get fine-grained information on a relatively large sample of small group settings.

Method

In this article, student behavior is coded as an everyday form of active resistance when the pupil initiates a vocalization or gesture that is meant as a negative expression of discontent, challenge, or refusal, and it is aimed

¹⁸ Interviews were done in the music department's practice room at River and the library conference room at Magnet. I scheduled between five and six interviews a day lasting from 30 to 45 minutes each. The format of these interviews was somewhat closed, in that I developed a profile of the student and a discussion plan the night before. While it was a grueling schedule, I generally had breaks of 10–15 minutes between interviews and took the lunch period off (hour and a half). Many interviews with teachers and a few students were done before or after school due to schedule constraints. More student interviews were performed at River to compensate for its larger size.

at undermining either the task or the teacher (Metz 1978). Invariably, these acts are public (not private collusions) and are recognized by the participants as a profane communication (Becker 1963, chap. 10). Recognition often comes in the form of a verbal response or sanction (from either the teacher or another student), but it can also be recognized by a nonverbal gesture, such as a “hush,” a glare, or simply the knowing look of classmates. Most often these active forms of everyday resistance took the form of challenges, rebellions, or open refusals. But sometimes they took the form of serious complaints or personal ridicule (i.e., insults). Typically, complaints and jokes are considered passive forms of resistance that are not aimed at transformation (Scott 1990; Rubin 1996), but the more profane the complaint or joke becomes, the more it resembles an attack akin to forms of active resistance. Here, a degree of interpretation is required. If a student’s joke about a teacher or the task stops class and is recognized as profane, it is considered an active form of resistance. Almost always, this is verbally confirmed by the outrage of the teacher. In order for a breach to be considered an act of resistance, the *intent* of the act must be recognized as oppositional and as profane with regard to the classroom moral order (Metz 1978, chap. 6).¹⁹ Thus, acts of resistance are observed as intentional, publicly displayed forms of student-initiated profanations of classroom academic affairs—whether in the form of refusal, challenge, insult, personal ridicule, or loud complaint—all are rec-

¹⁹ Unintentional disruptions, whining, and ironic jokes are not considered active forms of resistance. While teachers may sanction these acts, the *student’s intent* must be regarded as oppositional or profane. This “profaneness” is confirmed by the audience’s verbal or nonverbal response (or recognition) to the act. Whining may be a normal occurrence in many honors classes, but it is not considered a breach and is frequently ignored. However, resistance, as measured here, is not defined by the response of a sanction, for this may be used to correct gaffs and sociable behaviors. My field notes record many jokes that are responded to with sanctions, but they are not recorded as active forms of resistance because they did not exhibit ill intentions. Resistance is defined by the recognition that an act was intended as an attack or opposition to the ongoing academic affairs—whether aimed at the task (e.g., a profane complaint—“This lab sucks!” [s763]) or the teacher (e.g., a profane joke in the middle of lecture—“Were you a washed up drunk?” [m182]). Jokes and complaints therefore become active forms of resistance when they are recognized as obscene. Now there may be instances where a student’s action is publicly considered to have oppositional intent even when the author disagrees. In the few instances where I feared this might occur, the “wrongly” accused student spoke up challenging the teacher’s sanction and commenced an argument (or frame dispute; Goffman 1974). Hence, the student ultimately did initiate an actively resistant exchange because he or she did not accept the teacher’s use of authority and definition of the situation.

ognized by the class as a breach, and most are redressed by the teacher or some other academically oriented participant of the class.²⁰

Such defiant acts can be easily witnessed since they are public problems, or spikes in social experience, which are collectively felt and publicly recognized or addressed in the setting. Inappropriate turns of talk and jokes seldom disrupted class, but challenges and acts of open defiance always did. Hence, the code for resistant actions overwhelmingly concerns *active* forms of everyday resistance (as being an observable breach publicly recognized as having negative intent) and only includes occasional instances where serious forms of passive resistance breach tasks (e.g., open mockery, improper jokes, and unpleasant complaints). In no instance did I observe a student strike a teacher. The most serious breach entailed students openly telling a teacher off and refusing his demands (m182; e689). While those tense moments were volatile, they failed to escalate into physical attacks. As such, the forms of resistance I tabulated fell short of violent behaviors but exceeded the more common forms of passive resistance and unintentional gaffs.

I measure resistance for each semester as the number of student-initiated breaches that are publicly recognized as having negative or oppositional intent—active forms of everyday resistance.²¹ Note that this measure makes the unit of analysis a student within a classroom, not the student's behavior across classrooms. Also note that this measure is a count of acts and that it is highly skewed. Only a small number of students consistently disrupt the schooling process, and of those that do, they do so at a skewed rate.

A Poisson regression has the advantage of being precisely tailored to the discrete and highly overskewed distribution of this variable. The Poisson regression assumes the dependent variable has a Poisson distribution

²⁰ Certain implications follow from our definition of resistant behavior. Since the behavior is identified by its being public, student-initiated, and recognized by the classroom audience as profane, there is a degree of labeling that occurs (Becker 1963). One might expect this measure to bias results such that boys and minorities are found more resistant because they are often targets of teacher sanctions. However, it is not a negative sanction that determines whether an action is resistant or not. Hence, stereotyped expectations of others will be less salient to this definition of resistance because it relies on student-initiated actions rather than sanction responses. In order to determine if unfair targeting arises, one needs to test whether boys and minorities are more often targets of sanctions net of the resistant acts they initiate. Clearly resistant actions and received sanctions will be associated, and controlling for one to predict the other will greatly reduce the amount of variance left to explain. Nevertheless, I performed some preliminary tests in this regard and found some indication of boys being such targets (not minorities).

²¹ For the remainder of the article, I will interchange my usage of the terms "resistance," "disruption," "breaches," and "defiance." All are meant with everyday forms of active resistance in mind.

that is defined as follows (Allison 1999, p. 218). Let y_{ij} be the number of resistant acts a student i performs in a class j per semester. This variable can have only nonnegative integer values, and we assume the probability that y_{ij} is equal to some number of r defiant events is given by

$$\text{prob}(y_{ij} = r) = (\lambda^r e^{-\lambda}) / (r!), \quad r = 0, 1, 2, \dots, \quad (1)$$

where λ is the expected value (mean) of y and $r! = r(r-1)(r-2) \dots (1)$. Although y can only take on integer values, λ can be any positive number. An unusual property of the Poisson distribution is that the mean and variance are equal:

$$E(y_{ij}) = \text{var}(y_{ij}) = \lambda \quad (2)$$

A Poisson regression model specifies how the parameter λ depends on the explanatory variables. We write λ_{ij} with a subscript ij to allow the parameter to vary across individuals in classrooms ($i = 1, \dots, n$ individuals and $j = 1, \dots, n$ classrooms). Since λ cannot be less than 0, the standard procedure is to let λ be a loglinear function of the x variables, ensuring that λ will be greater than 0 for any values of the x 's of the β 's (Allison 1999, p. 218).

$$\log \lambda_{ij} = \beta_{0j} + \beta_1 x_{ij1} + \beta_2 x_{ij2} + \dots + \beta_{kj} x_{ijk}. \quad (3)$$

However, classrooms were observed for varying lengths of time making it necessary to standardize the counts of disruptive acts. In normal OLS analysis, we would simply divide the count by the length of time observed, but that does not work for Poisson regression because the division by time implies the resultant variable no longer has a Poisson distribution (Allison 1999, p. 228). Hence, time is incorporated into the model. If t_{ij} is the length of the observation interval for the individual i in classroom j , the number of events (y_{ij}) that occur during that interval is assumed to have a Poisson distribution

$$\text{prob}(y_{ij} = r) = [(\lambda_{ij} t_{ij}^r e^{-\lambda_{ij} t_{ij}}) / (r!)], \quad r = 0, 1, 2, \dots \quad (4)$$

This implies that the expected value of y_{ij} is $\lambda_{ij} t_{ij}$. We continue to assume equation (3), where the logarithm of λ is a linear function of the x 's.

$$\begin{aligned} \log E(y_{ij}) &= \log(\lambda_{ij} t_{ij}) = \log(t_{ij}) + \log(\lambda_{ij}) \\ &= \log(t_{ij}) + \beta_{0j} + \beta_1 x_{ij1} + \beta_2 x_{ij2} + \dots + \beta_{kj} X_{ijk}. \end{aligned} \quad (5)$$

This equation says that the logarithm of the observation time should be on the right-hand side of the equation, with a coefficient of 1.0.²²

Nearly Hierarchical Data Structure

The substantive question of this research is whether student, classroom, or situational characteristics are associated with and cause heightened occurrences of classroom resistance. Moreover, the structure of the data is such that resistant acts are nested within students and classrooms and are therefore not independent. Hence, the standard Poisson regression above assumes that regression coefficients are fixed between groups and that error terms are not correlated. As such, the regression model is still inadequate for the complex sampling design where students are nested within classrooms (Goldstein 1995; Bryk and Raudenbush 1992; Raudenbush 1993; Allison 1999). In order to achieve unbiased parameter estimates, a multilevel Poisson regression is developed using SAS statistical software (Singer 1998; Littell et al. 1996, p. 453).

The structure of classroom behaviors is not perfectly hierarchical, however. It consists of students in classes, and students may take more than one class. This data structure is nearly hierarchical in that students are constructs of their experiences and classrooms are constructs of student experiences. Figure 2 helps explain the nearly hierarchical nature of the data (S refers to a student, C refers to a classroom). Note that students take more than one class, and classes have more than one student within them. If this was a study of elementary school classrooms, the data would be hierarchical—every classroom disruption would belong to one student, and every student would belong to one classroom. This article focuses on the student/classroom level and the classroom level since there are few observations within students.²³

²² Overdispersion is a potential problem for Poisson regression, and I use models that take it into account (Allison 1999, p. 223). In eq. (2), we state that the variance equals the mean, but often the variance is much higher than that. Overdispersion does not bias coefficients, but it does lead to underestimates of standard errors and overestimates χ^2 statistics. SAS statistical software corrects the standard errors and significance tests (see Allison 1999, p. 223).

²³ It is important to note that behaviors are nested within students and classrooms. Hence, there are really two level 2s—classrooms and students—within which student behavior is nested. More suitable for this data structure is a crossed random-effects model (Raudenbush 1993), but certain data limitations prevent such analysis here. In short, most students were observed in only one classroom, while some were viewed in upwards of four separate settings. As such, there are not enough observations of behavior within students to successfully run such a crossed random-effects model. I did develop a couple of tests to assess whether my two-level model using classrooms as level 2 was better than typical OLS or a two-level model with students as level 2. First, I ran all three types of regression and compared results. In comparison, I found

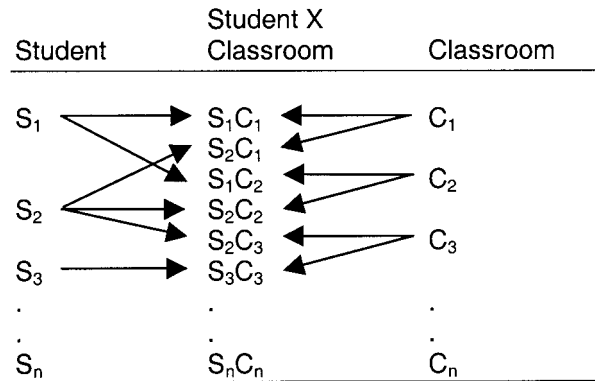


FIG. 2.—Near hierarchical data structure.

I employ a two-level modeling framework that incorporates the random effects of classrooms at the second level (see Frank 1998). A two-level model overcomes aggregation bias and misestimation of standard errors common to traditional OLS analysis. Thus, multilevel Poisson regression helps me accurately discern classroom-level and student-level effects on counts of resistant behavior.

I report estimates of the effects of classroom characteristics on the student’s number of disruptive acts, controlling for a number of independent variables. For these estimates, I specified a two-level, random intercept model where level 2 consists of classrooms and level 1 consists of students:

$$\log E(y_{ij}) = \log(\lambda_{ij}t_{ij}) = \log(t_{ij} + \beta_{0j} + \beta_1 X_{ij1} + \beta_2 X_{ij2} + \dots + \beta_{kj} X_{ijk}). \quad (6)$$

$$\beta_{0j} = \gamma + \gamma_{01}(\text{classroom characteristic}) + \dots + \gamma_{0k}. \quad (7)$$

The difference is that instead of treating β_{0j} as representing a set of fixed

coefficients and significance tests to only change when classroom characteristics are introduced as level 2 variables. That is, there were too few observations within students to make the student level useful in these analyses. Since multiple students were within classrooms, the classroom level proved to have significant effects and procured different results when taken into account. Second, I ran a sample selection test because I wanted to know if I had biased my sample by not omitting repeated observations of students. Hence, I compared the sample of repeatedly observed students with the sample of students observed only once. I found no significant effect of the inverse Mills ratio on classroom disruption ($P < .05$ level).

constants, we assume that each β_{0j} is a random variable with a specified probability distribution.²⁴

Measures

Given this multilevel Poisson model, what variables—characteristics of students and classrooms—facilitate or constrain disruptive classroom behavior? When students enter a classroom, they carry with them quite a bit of cultural baggage. In particular, they enter classrooms with an array of diffuse status characteristics and social identities acquired in and across various domains of school life (Cohen and Lotan 1997). Diffuse status characteristics are measured by students' racial backgrounds (minority for Magnet High), urban-rural residence (for River High), gender (female), maturity level (or grade level, 8–12), family structure (traditional or other), family's highest occupational status, and physical attractiveness (see app. table A1, for variable construction).²⁵

Diffuse status characteristics partly translate into status characteristics

²⁴ The SAS GLIMMIX procedure was used to generate these models. The syntax is as follows:

```
ltime = log (time);  
%include 'GLIMMIX';  
%glimmix(data = dataname,  
stmts = % str(class classrm;  
model resist =  $x_1x_2x_3 \dots x_n$ /solution;  
random intercept/subject = classrm);  
error = Poisson, link = log, offset = ltime);  
run;
```

²⁵ Appendix table A2 lists descriptive statistics, and table A3 lists correlations for longitudinal data. Physical attractiveness is considered a diffuse status characteristic by expectation states theorists (Webster and Driskell 1983). In this study, physical attractiveness was measured by the observer on a four-point scale. In an effort to assess the reliability of my observations, I asked 15 students and professors of differing genders and ages to evaluate the attractiveness of 42 different students in a yearbook. The average correlation of evaluations was 0.60, but with me, the average correlation was 0.68. This correlation represents a restriction of range on the variance of the investigator because if all pictures were rated, a higher correlation would have been observed. A Spearman-Brown prophecy was applied, and it was determined that if ratings had been made for all pictures in the yearbook, my rating would have been at least 0.85 with the other raters. The reliability is not ideal (0.90), but the respondents had not seen the students in person so that they could not discern height, curves, etc. from pictures. Some readers may be unconvinced of this variable's reliability. I left it in the model because physical attractiveness is such an important facet of student life. However, I did check to see if results changed when the variable was omitted. The only significant change is that popularity in the school is significant in the results of model 1 (see table 2) because attractiveness contributes to popularity. Parent occupational status approaches significance probably because family status translates into attractiveness via clothes, haircuts, beauty aids, etc.

held across settings of the school (Berger, Cohen, and Zelditch 1972; Berger, Rosenholtz, and Zelditch 1980; Ridgeway 1981; Ridgeway and Berger 1986; Ridgeway and Diekema 1989). However, in certain regards, organizational habitus is distinct from societal habitus so that social locations in the school and society are not simple reflections of one another (McDonough 1997; Fine 1987, p. 125; Hollingshead 1949, p. 816). Two general forms of status are had within high schools: academic and social. Academic status is defined by formal GPA rankings, while social status is defined more informally by a student's general popularity in the school. Most students in the schools of this study are aware of one another's general academic standing. At River High and Magnet High, the top half of every grade level had their cumulative GPA and class ranking posted on the registrar's door. At Magnet, the honor roll was published in the school newspaper each quarter; while at River, the newspaper listed students who performed in other academic endeavors (National Honor Society acceptance, as well as competitions in debate, speech, music, etc.). In addition, it was common to observe students openly speak of their GPA after exams or in discussions of schoolwork. Since this status characteristic is relatively visible, it leads one to expect students with high GPAs to identify more with academic work, therefore making them less likely to rebel.²⁶

General academic standing is one characteristic that should reduce rebelliousness, but general social standing among peers may have a different effect altogether. Certain students enter classrooms as "big men on campus" or as "homecoming queens" that are highly regarded by peers in the school (see table A1, "standing in school"). Popular individuals are often cited in the education literature as being recognizable individuals and groups that have greater self-esteem and willingness to challenge teachers (Gordon 1957; Coleman 1961; Cusick 1973; Kinney 1993). However, just because someone has high academic and social status in the school, it does not mean they will also be high-status individuals within a particular classroom setting (Cohen and Lotan 1997). An "A" student may perform well below his peers in a particular classroom, and a very popular girl may find herself in a setting without any friends. It is possible that local status contradicts and even eclipses types of status held more generally in the school at large. For example, a classroom may be composed of 20 thespians and one popular cheerleader. In such a setting, the cheerleader may not only be friendless, but disliked.

²⁶ I also checked the effect of curricular track, sports involvement, and other activity involvement. Only track placement proved to have a slightly significant relation with classroom disruption. Since the variable was correlated with GPA (honors students getting better grades), it was omitted from the article in the interest of parsimony.

Therefore, some effort is made to measure classroom definitions of status as distinct from definitions of status held in broader contexts of the community and school (e.g., diffuse and general school standing). Local academic standing is defined as the competence teachers perceive a student to have relative to his or her classmates, and social standing is defined as the relative number of friendship nominations a student receives from classmates (see “standing in class,” app. table A1). Students who have high local standing should have greater legitimacy as participants in public discourse (Cohen and Lotan 1997). By mean-centering local status within classrooms, and school status within schools, I test which type of status (and context) is most associated with classroom disruption.²⁷ It is an empirical question as to whether social standing in the school or the classroom is the salient status characteristic that encourages students to breach classroom affairs. Likewise, it is an empirical question as to whether the student’s performance in specific situations or across them inhibits the likelihood of resistance.

Status is something attributed to an individual, but classroom settings also entail transindividual phenomena that affect student outcomes and which cannot be reduced to an individual attribute—such as classroom and clique characteristics. Classroom characteristics are classroom-level phenomena that have *uniform effects* on learning experiences. Of central importance is *the form and content of work*, or the curriculum of each classroom (Simmel 1971, introduction). The form of a curriculum is defined by its task structure or the instructional format a teacher consistently uses (Stodolsky 1988; Doyle 1986; Bossert 1977). Teachers vary in their consistency of instructional methods, but over time they tend to adopt either teacher-centered formats or student-centered formats (Hallinan 1989). Increased use of teacher-centered formats creates a more controlled classroom environment that is closely monitored by the teacher and should inhibit overt acts of defiance (McNeil 1986; Cumins 1989).²⁸ The content

²⁷ It is important to note that measures of general school standing and measures of local classroom standing are constructed from different data sources. Local academic standing is a measure constructed from survey items concerned with teacher conceptions of the “ideal student,” while general academic standing is a measure constructed from semester GPAs (actual grades recorded a month later). Local social standing is a measure constructed from a classroom-specific survey asking students to list the class friends, while general social standing is a measure constructed from another survey asking students to list friends they hang out with outside of school.

²⁸ The variable for teacher-centered formats was rendered a year-long proportion of class time a teacher devoted to this style of instruction. Since a few classes were observed only four days in first semester, the percentage of time specific to first semester was an inaccurate reflection of the type of instruction the teacher typically performed. An average over the year was considered more appropriate since it often spanned 12 days of observation. This construction of the variable makes it difficult to assess the

of curriculum can also vary in the way teachers relate the subject matter to students' daily lives (Bidwell and Friedkin 1988). In general, the education literature finds that mathematics subjects are more abstract and alienating subjects for most students (Boaler 1997; Stodolsky 1988).²⁹ One infers from this that math classes will more likely be locales of resistant behavior because students find the curricular content boring (see "classroom characteristics" in app. table A1).³⁰

Characteristics of cliques or friendship networks emerge within the classroom setting and have *differential effects* on students. Above, I already spoke of social standing as a status characteristic, but it is also a network position that others define for the student. As such, it may be considered a network position that confers on the actor some degree of power and control. However, other network characteristics capture a more collective, or clique-level mechanism. Students develop ties in classrooms that congeal and form stable clique structures (Hallinan 1980). Students who are members of well-defined cliques have loci of social support. These dense, reciprocated networks serve to reinforce the student and buffer them from personal attacks, thereby enhancing their ability to repeatedly rebel in class (i.e., they are defended). However, it is not just the cohesiveness of a group that facilitates conflict behavior, it is the behavior of this reference group. For members, cliques serve as positive reference groups whose behaviors an adolescent will mimic and adopt over time (Merton 1968). Hence, if an adolescent's friends disrupt class, then he or she will follow suit in future interactions (see "network characteristics" in app. table A1). In this manner, the clique not only buffers the student, it acts as a conduit through which defiant behaviors spread throughout the

social mechanisms leading teachers to alter their instructional formats over time. Nevertheless, there is evidence that teachers adapt their pedagogy to students. Field conversations and interviews reflect this (i.e., Algebra 2's story), as does much of the literature in the sociology of education (Lortie 1975; Metz 1978).

²⁹ Content can also refer to the cognitive complexity of the ideas presented (Stodolsky 1988), where complex tasks require greater engagement. The cognitive demand of tasks was not fully explored by this study and therefore remains a viable causal factor of student defiance.

³⁰ By performing a two-level model, I am controlling for the effects of the classroom level on disruption, even though I may not have tested for every classroom-level variable. Hence, the two-level model is ultimately more accurate than regular OLS. Measures of model fitness confirm this as well. Given my limited sample of classrooms (36 to 25), I could only simultaneously use a couple classroom-level variables in the predictive models. However, this study tested a couple of additional classroom-level variables to see if they also had a significant effect on student rebellion in class: class size and honors labeling. Only math subjects and closed instructional formats had consistent significant effects.

classroom.³¹ Consequently, multilevel Poisson models not only identify those diffuse statuses and school statuses that affect classroom resistance, but they identify those situation-specific statuses, instructional formats, and network characteristics that affect classroom resistance.

RESULTS

Four tables of results are presented in this article. Table 1 presents results that describe the amount of variance in counts of breaches that is explained by classrooms. Results in table 2 identify *what types of persons and contexts are repeatedly defiant* during first semester. Results in table 3 identify *what types of persons and contexts are repeatedly defiant* during second semester. Results in table 4 identify *the mechanisms causing increased defiance* over the course of the school year (using lagged first-semester variables to predict second-semester counts of resistant behavior [Heise 1970]). The way to interpret the results is to view the models in table 2 as describing variable starting points, in table 3 as describing variable end points, and in table 4 as describing variable slopes. Table 5 describes the effects of interaction terms. These results reveal *how the formal organization of tasks alters the effect of informal status and networks on increased student resistance*.

We begin by ascertaining the classroom level as distinct from individual properties for the models of resistance for semester and longitudinal samples. The first semester sample consists of 753 students and 36 classrooms, the second consists of 484 students and 25 classrooms, and the longitudinal sample consists of 467 students and 25 classrooms.³² By partitioning the variance within and between classrooms, we are able to demonstrate the proportion of variance in defiant behaviors that is attributable to individual or context characteristics. In addition, we are able to demonstrate the amount of variance that our individual- and classroom-level variables explain (Sampson, Morenoff, and Earls 1999, pp. 641–42). The variance decomposition is illustrated in table 1 for both an unconditional model

³¹ This variable is used only in the longitudinal models because of autocorrelation concerns. The use of “mean of friends” as a cross-sectional control provides biased parameter estimates and significance levels (Friedkin 1990; Erbing and Young 1979).

³² The longitudinal sample consists of 20 fewer students than the second-semester sample because some students enter these classes from outside (like Anice in the example of Algebra 2). Sample selection tests found that none of these samples were statistically different with regard to the dependent variable (see n. 14). Moreover, the same models were run with only 467 students in all three samples without any change in signs or results. The larger samples are more desirable because they more accurately reflect the classroom’s semester situations and because small sample sizes slightly affect significance levels (esp. at the classroom level).

TABLE 1
DECOMPOSITION OF VARIANCE FOR COUNTS OF STUDENT RESISTANCE

VARIANCE COMPONENTS	UNCONDITIONAL MODEL		SECOND SEMESTER NET OF FIRST*
	First Semester	Second Semester	
Count disruption:			
Classroom-level variance τ_{00} ...	.84	.82	.57
Individual-level variance σ^2	1.88	4.08	3.50
Intraclass correlation [†] ρ .....	.31	.17	.14

NOTE.—First semester has 753 students in 36 classrooms; second semester has 484 students in 25 classrooms; and the longitudinal data set consists of 467 students who are present in both semesters of the 25 focal classes.

* “Second semester net of first” indicates variance after controlling for first-semester rate of disruption (growth).

[†] Intraclass correlation (ρ) is the proportion of the total variance occurring between classrooms. $\rho = \tau_{00}/(\tau_{00} + \sigma^2)$.

of first- and second-semester counts of student-initiated conflicts (i.e., Poisson transformed counts). Intraclass correlations reveal the proportion of total variance explained between classrooms.³³ In every model, the variance (first semester, second semester, and increase across them) is substantially attributed to classroom-level variation. Anywhere between 31% and 14% of the total variation in student defiance can be attributed thus. The first column suggests that 31% of the variance in first-semester counts of disruption is between classes, with the remainder attributable to random error and individual-level variation. The third column suggests that after controlling for past rates of resistant behavior, 14% of the second-semester counts of defiance are between classes. This percentage is substantial and reinforces the use of multilevel regression.³⁴

Sustained Defiance during First Semester

We now turn to the multilevel results in multivariate analyses. Table 2 presents results of multilevel Poisson regression of resistance during first semester. The substantive question for the models in this table is, *Who or what is associated with student-initiated acts of classroom disruption?* Variables are introduced into the model with a particular order in mind.

³³ One way to think about the sources of variation in increased rates of participation is to estimate the intraclass correlation, ρ . This is equivalent to expressing the variance-covariance matrix in correlation form. I estimate ρ for disruption of the third column, which tells us the proportion of the total variance occurs between classes as: $\rho = \tau_{00}/(\tau_{00} + \sigma^2) = .57/(.57 + 3.50) = .14$.

³⁴ I ran these models using OLS Poisson regressions (GENMOD SAS procedure), and they did not fit the data as well as multilevel Poisson models.

TABLE 2
 CROSS-SECTIONAL FIRST-SEMESTER MODELS: MULTILEVEL COEFFICIENTS FROM THE POISSON REGRESSION OF FIRST-SEMESTER
 RESISTANCE ON SELECTED PREDICTORS EXOGENOUS AND ENDOGENOUS TO CLASSROOMS

INDEPENDENT VARIABLES	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5	
	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE
Intercept .....	...***	.48	...***	.56	...***	.69	...***	.72	...***	.71
Background variables:										
Magnet minority ^a .....	.16*	.20	.13	.21	.12	.21	.14	.21	.13	.21
River town ^a	-.15	.37	-.19	.37	-.23	.35	-.24	.35	-.21	.34
River rural ^a	-.36*	.45	-.40*	.45	-.44**	.43	-.43**	.43	-.42*	.43
Female gender	-.08	.15	-.08	.15	-.07	.16	-.09	.15	-.11	.15
Lower grade level .....	.01	.23	.03	.23	.03	.22	-.03	.22	-.06	.22
Nonnuclear family .....	.08	.17	.05	.17	.04	.17	.00	.17	.00	.17
Highest parent occupational status ...	.11	.10	.13	.10	.13	.10	.09	.10	.08	.10
Missing occupational status .....	.13	.17	.09	.17	.08	.17	.07	.17	.06	.17
Physical attractiveness ^b .....	.18*	.10	.18*	.10	.18*	.10	.05	.10	.04	.10
Standing in school: ^b										
GPA			-.18*	.11	-.17*	.11	-.15	.13	-.13	.13

Popularity in school	-.02	.04	-.01	.04	-.15	.05	-.16	.05
Classroom characteristics ($N = 36$): ^c								
Teacher-centered instruction			-.41*	.72	-.40*	.73	-.42**	.71
Mathematics subject .....			.11	.36	.09	.36	.07	.35
Standing in class: ^d								
Academic standing in class .....					.00	.15	-.02	.15
Social standing in class .....					.41***	.03	.44***	.04
Network characteristics in class:								
Density of ego's network .....							.22**	.31
%variance explained:								
Classroom level (%)	4	5		24		24		26
Student level (%)	6	7		7		10		11

^a Magnet majority is the baseline comparison group for regional variables.

^b These variables are mean-centered within each school.

^c Classroom characteristics are level 2 variables with $N = 36$.

^d These variables are mean-centered within each classroom.

+ $P < .10$, for classroom effects.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

TABLE 3
 CROSS-SECTIONAL SECOND-SEMESTER MODELS: MULTILEVEL COEFFICIENTS FROM THE POISSON REGRESSION OF SECOND-SEMESTER
 RESISTANCE ON SELECTED PREDICTORS EXOGENOUS AND ENDOGENOUS TO CLASSROOMS

INDEPENDENT VARIABLES	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5	
	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE
Intercept .....	. . .***	.33	. . .***	.32	. . .***	.63	. . .***	.63	. . .***	.67
Background variables:										
Magnet minority ^a .....	.13	.18	.14	.18	.14	.18	.10	.18	.11	.18
River town ^a	-.02	.42	-.02	.41	-.02	.40	-.02	.40	-.02	.40
River rural ^a .....	.05	.46	.05	.46	.04	.44	.00	.44	.05	.44
Female gender	-.34***	.14	-.32***	.14	-.32***	.14	-.32***	.14	-.32***	.14
Lower grade level	-.03	.21	-.02	.22	-.01	.21	-.02	.21	-.04	.21
Nonnuclear family .....	.17*	.15	.17*	.15	.16*	.15	.17*	.15	.20**	.15
Highest parent occupational status ...	.13	.08	.16*	.08	.16*	.08	.20**	.08	.21**	.08
Missing occupational status	-.02	.21	-.04	.21	-.04	.21	.00	.21	.03	.21
Physical attractiveness ^b .....	.33***	.10	.33***	.11	.33***	.11	.30***	.11	.30***	.11
Standing in school: ^b										
GPA			-.14	.11	-.13	.11	-.07	.12	-.08	.12

Popularity in school .....	.04	.04	.04	.04	-.04	.04	-.07	.04
Classroom characteristics ($N = 35$): ^c								
Teacher-centered instruction			-.37*	.96	-.38*	.97	-.31 ⁺	.96
Mathematics subject .....			.35 ⁺	.37	.35 ⁺	.38	.29	.37
Standing in class: ^d								
Academic standing in class					-.12	.14	-.11	.14
Social standing in class .....					.34***	.03	.42***	.03
Network characteristics in class:								
Density of ego's network .....							.30***	.40
Variance explained:								
Classroom level (%)	0	0		24		24		24
Student level (%)	16	17		17		22		25

^a Magnet majority is the baseline comparison group for regional variables.

^b These variables are mean-centered within each school.

^c Classroom characteristics are level 2 variables with $N = 25$.

^d These variables are mean-centered within each classroom.

⁺ $P < .10$, for classroom effects.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

TABLE 4
 LONGITUDINAL MODELS: MULTILEVEL COEFFICIENTS FROM THE POISSON REGRESSION OF SECOND-SEMESTER RESISTANCE ON
 SELECTED LAGGED PREDICTORS EXOGENOUS AND ENDOGENOUS TO CLASSROOMS

LAGGED FIRST SEMESTER VARIABLES	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5	
	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE
Intercept .....	. . .***	.28	. . .***	.27	. . .***	.53	. . .***	.54	. . .***	.52
Rate of disruption .....	.23***	.19	.25***	.19	.25***	.19	.24***	.19	.22***	.19
Background variables:										
Magnet minority ^a .....	.07	.18	.04	.18	.04	.18	.00	.18	-.06	.19
River town ^a	-.13	.36	-.17	.34	-.17	.34	-.16	.35	-.18	.33
River rural ^a	-.01	.40	-.03	.38	-.04	.38	-.06	.39	-.06	.37
Female gender	-.24***	.14	-.22**	.14	-.21**	.14	-.24***	.14	-.26***	.14
Lower grade level .....	.05	.20	.11	.20	.12	.20	.05	.20	.03	.20
Nonnuclear family .....	.16*	.15	.13	.15	.12	.15	.11	.15	.11	.15
Highest parent occupational status ^b ...	.09	.08	.13	.08	.14	.08	.14	.08	.15*	.08
Missing occupational status	-.03	.21	-.07	.21	-.07	.21	-.03	.21	-.04	.21
Physical attractiveness ^b .....	.28***	.10	.29***	.10	.29***	.10	.22**	.10	.25**	.10
Standing in school: ^b										
GPA			-.26**	.12	-.25**	.12	-.22*	.13	-.22*	.13

Popularity in school	-.07	.04	-.06	.04	-.08	.04	-.09	.04
Classroom characteristics ($N = 25$): ^c								
Teacher-centered instruction			-.12	.81	-.22	.83	-.20	.80
Mathematics subject .....			.28 ⁺	.32	.27 ⁺	.32	.25 ⁺	.31
Standing in class: ^d								
Academic standing in class					-.06	.13	-.06	.14
Social standing in class .....					.31***	.03	.29***	.03
Network characteristics in class:								
Density of ego's network .....							.04	.32
Friends' disruptiveness .....							.11*	1.39
%variance explained:								
Classroom level (%)	3	21		29		29		32
Student level (%)	9	12		13		18		19

^a Magnet majority is the baseline comparison group for regional variables.

^b These variables are mean-centered within each school.

^c Classroom characteristics are level 2 variables with $N = 25$.

^d These variables are mean-centered within each classroom.

⁺ $P < .10$, for classroom effects.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

TABLE 5
 INTERACTION MODELS: HOW TEACHER-CENTERED INSTRUCTION ALTERS THE EFFECTS
 OF STATUS AND NETWORKS

INDEPENDENT VARIABLES	MAIN EFFECTS BEFORE INTERACTIONS		SOCIAL STANDING		ACADEMIC STANDING		EGO'S NETWORK	
	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE	<i>b</i> *	SE
Main effects:								
Teacher-centered instruction	-.20	.80	-.22	.79	-.20	.80	.14	1.00
Academic standing in class	-.06	.14	-.05	.14	-.26	.38	-.03	.13
Social standing in class .....	.29***	.03	-.07	.09	.28***	.03	.30***	.03
Density of ego's network .....	.04	.32	.04	.32	.04	.32	.77***	.95
Interaction terms:								
Instruction × social standing .....			.39 ⁺	.14				
Instruction × academic standing .....					.23	.60		
Instruction × density ...							.88**	1.57

NOTE.—The coefficients listed under the column “main effects before interactions” are directly from model 5 to table 4. “Interaction terms” are the coefficients that result from adding each interaction term to model 5 of table 4.

- ⁺ *P* < .10, for classroom effects.
- * *P* < .05.
- ** *P* < .01.
- *** *P* < .001.

The initial models introduce variables exogenous to the classroom setting, such as diffusely held statuses commonly found in wider society and the student's general standing in the school. These exogenous variables describe some of the cultural tools a student brings to a particular classroom setting (Swidler 1986). Three additional models introduce variables endogenous to the classroom setting, such as instructional form and content, the relative standing students have in each class, and the network resources and social support therein.

In order to interpret the fitness of each model, I have listed at the bottom of each table the amount of variance that the identified variables explain at both the individual and classroom level. Looking at the first model of table 2, we see that as a group of variables, background characteristics (or diffuse status) explain around 6% of the variance between students.

Looking at the effects of the background characteristics of this first model, we find only a couple have significant effects. In order to interpret and compare coefficients in the models, I standardized the independent

variables, thereby making the coefficients comparable. Thus, $b_i^* = B_i$ multiplied by the standard deviation of X_i (where X_i is listed in table A2 of the appendix).³⁵ The coefficients in the first column of table 2 express the change in $\log(y)$ per standard deviation in X_i . If we calculate $100(e^{b^*} - 1)$, we get the %change in the expected number of breaches for a standard deviation shift in X_i . For instance, the variable for “physical attractiveness” has a significant effect on disruption. We can translate its b^* coefficient of 0.18 to say the following: a standard deviation increase in physical attractiveness (SD = .79 ~ from “somewhat” to “very” attractive) leads to a 20% increased likelihood of defiant behavior (20% = $\exp(.18) - 1$). Also significant is the negative effect of residing in rural areas outside River Town. In fact, both rural and urban students of River High are less likely to rebel than Magnet students. In contrast, Magnet minority students are found to resist more than their white peers. Magnet minority students are 17% more likely to resist teachers than other students. This result suggests that, at least at Magnet, the ideas of critical theorists are still relevant.

Of the *nonsignificant* coefficients, several have signs that one would expect—boys, older students, and those from broken families are more likely to disrupt class. Somewhat counterintuitive is the positive sign of occupational status, which suggests that those from wealthier backgrounds are more likely to rebel early in the year.³⁶ All of these background effects arose as hypothesized (sign wise), but with weaker effects than expected.

Model 2 introduces school-specific status variables (some of the cultural “baggage” a student brings into class) but does not explain a significantly greater amount of variance. GPA rank in each school has a significant

³⁵ See Haynie for description of this transformation process (2001, p. 1040). Unstandardized coefficients may be calculated by reversing this process. Simply divide the b^* by the variable’s corresponding standard deviation listed in table A2 in the appendix. Unstandardized results may also be obtained from the author on request.

³⁶ Much of the education literature suggests that occupational status has universal effects that do not require mean-centering the variable. When I remove mean-centering of this variable, I acquire the same results across each sample and model. If anything, the removal of mean-centering from the occupational status measure tends to weaken its statistical significance rather than improve its fit to the data. Given such a choice, I favor stacking the cards in favor of background characteristics so as to provide a more rigorous test of my argument. In addition, I have theoretical reasons for retaining the variable as is—occupational status and class background have frog-pond effects (Davis 1966). The fact that the mean-centered variable has more significant relations to outcomes than its noncentered version suggests that the effects of occupational standing are specific to each community and school rather than more universally significant for this sample of schools. Therefore, for both practical and theoretical reasons, I retain the mean-centered variable of highest occupational status in all the models.

effect. Simply put, good students are 16% less likely to cause trouble in class. A one standard deviation increase in a student's GPA ($SD = .75 \sim \frac{3}{4}$ grade-point, or from a C to B) makes them 16% less likely to disrupt class. Notably, the introduction of GPA dampens the significant effect of minority racial status.

Model 3 introduces classroom-level variables, but only teacher-centered instructional formats have a significant association with the likelihood of student resistance.³⁷ Closed instructional formats explain around 19% of the variance at the classroom level. The coefficient indicates that a one standard deviation increase in the use of closed formats of instruction (i.e., from 58% to 70% of an observed class period) dampens the likelihood of student defiance by 34% ($-34\% = \exp(-.41) - 1$). Hence, instructional formats are highly associated with the likelihood to resist. Math classrooms on the other hand are no more likely to be a problematic setting than the English or science classroom during first semester.

Model 4 introduces local status characteristics into the model. Here, the variance explained at the student level increases by 3% and represents a better-fitting model. In particular, the prestige of a student within the class is highly associated with the incidence of student breaches. As students gain a standard deviation in popularity ($SD = 2.21$ or two more friends), they are 51% more likely to disrupt class ($51\% = \exp(.43) - 1$).³⁸ Academic standing in the classroom has no relevance to students decisions to breach classroom affairs in the first semester.

In model 5, network density is introduced. Noticeably, an additional 2% of the variance between classrooms is explained as is an additional 1% of the variance within classrooms. The network density measure captures classroom-level differences and suggests that different types of peer group effects may be arising in high school classrooms. In River High and Magnet High, I find that the density of one's friendship network (how well defined the clique is) is associated with high levels of resistant efforts on the part of individuals. One standard deviation gain in network density (SD of $.25 \sim 25\%$ increase in interconnectedness) is associated with

³⁷ Since my sample at level 2 is so limited ($N = 36$), I take the liberty of describing effects that approach significance as relevant ($P < .10$ and sometimes $P < .20$). In particular, I do so when the standardized coefficient is large. Further support for this is found when I use the variable for teacher-centered instruction without the variable for math as a control. Then it readily reaches statistical significance. In addition, level 2 variable effects are even larger and more significant in OLS models.

³⁸ Elsewhere, I tested whether statuses had interaction effects ($GPA \times$ local academic standing and popularity in the school \times local popularity in the classroom) and found no significant effects for first semester. This suggests that really only local social standing has a strong, significant relation to disruptive behavior (in comparison with other status variables).

a 25% increase in the likelihood of disruptive behavior. Hence, well-defined cliques are associated with disruptive behavior.

Shifts in standard errors and standardized coefficients reveal that the introduction of classroom social standing (see model 4) and network characteristics (see model 5) mediate the effects of other variables. Notably, the standardized coefficient for “physical attractiveness” drops by 0.13, and the coefficient for “popularity in the school” drops by 0.14 when “social standing in the class” is introduced. Elsewhere, in other path models, I find that physical attractiveness and global popularity in the school partly translates into social standing within the class, albeit social standing in the class greatly eclipses the total effects of these antecedent variables.

The shift in the effect of “popularity in school” is less straightforward and requires some explanation. Popularity in the school, net of popularity in the class, has a nearly significant negative effect in models 4 and 5 ($P < .10$). The negative coefficient for “popularity in school” shows the effect of being popular in the school but not in the class. These students are “fish out of water,” so to speak, and have a lot to lose if they enter public discourse and breach classroom affairs. Hence, avoiding classroom conflicts is a sensible strategy for the popular students who are unpopular in a particular class.

In general, the multilevel Poisson regressions for first-semester counts of everyday acts of active resistance reveal that background characteristics only partly guide students’ decisions to rebel in class. The key social mechanisms associated with student resistance pertain to the social opportunities defined by instructional formats and the social resources afforded by the student’s social standing in the class and the support of their egocentric networks.

Sustained Defiance during Second Semester

During second semester, students become even more disruptive and oppositional to teachers and tasks, almost tripling the rate of resistant incidents (see app. table A2). As the school year progresses, students become more familiar with one another, the teacher, and the classroom norms. At the same time, their interest in the subject matter and achieved grades decline. Schooling is a punishing experience that adolescents grow weary of as spring arrives (Bidwell and Friedkin 1988). Students grow familiar and comfortable with their teachers and become less afraid of severe sanctions. They know what actions will go too far, but they nonetheless constantly try to expand the boundaries of appropriate behavior and often successfully do so. Hence, there is a heightened level of social activity during second semester, and students increasingly breach tasks as they

tire of schoolwork. However, there are some classes and some students that act out more than others.

Table 3 presents cross-sectional results for second-semester classes. In the second semester, background characteristics prove to be rather strong predictors of student defiance. Around 16% of the variance within classrooms is attributable to background variables. In particular, we find that males, students of broken homes, and physically attractive individuals are more likely initiators of classroom disruptions. Approaching a significant relation ($P < .10$) is the effect of Magnet minority students who are more likely to breach tasks than are their white counterparts at either school. All of these effects are as we might expect from the literature on diffuse statuses and critical theory of education.

However, characteristics of classrooms and factors endogenous to them still carry great sway over students' decisions to rebel. Looking at model 3, we find that classroom-level variables are significantly associated with the likelihood of student defiance. Instructional formats and subject matter explain 24% of the variance at the classroom level. Moreover, a one standard deviation increase in the use of closed instructional formats (from 60% to 80% of class time) can dampen resistance by 31–27% ($-31\% = \exp(-.37) - 1$ to $-27\% = \exp(-.31) - 1$). In addition, second-semester results show that math classes are associated with 42%–34% more resistant behaviors. In comparison with the first semester, this suggests that students increasingly dislike math topics (net of instructional format) and respond more to instructional formats.

Local statuses and network resources in the classroom also explain a great deal about student resistance. Looking at model 4, we find that students of high social standing are much more likely to cause them (approx. 40%–50%), and there is mild evidence ($P < .15$) that students of high academic standing in the class are less likely to create problems for the teacher (approx. 10%). In model 5, results indicate that students with dense classroom friendship cliques are also more inclined to rebel (approx. 35%)—net of their social standing. Hence, success as a student leads young people to align more with the educational goals, but peer status and network support have additive effects that coax students to oppose academic affairs. Such resources buffer students from recrimination and empower them in the classroom context.

In general, the variables in the second-semester models explain more of the variance in resistant behavior. This most likely occurs because of the greater level of variance in behavior to be explained. Whereas resistance was somewhat stifled early in the year, it is now more open. However, the fact remains that social opportunities generated by task structures set conditions for disruptive behavior, and the social resources of peer

status and network support empower students to take advantage of such opportunities when they open.

Causes of Increased Defiant Behavior

Table 4 presents multilevel Poisson regression models that predict second-semester disruptive behaviors using lagged first-semester variables as predictors. In particular, we control for the rate of first-semester disruptive behavior. Hence, these models identify the mechanisms associated with increased student defiance over the school year. Before background variables are introduced, I find that a one standard deviation increase in the rate of first-semester resistance (from 0.08 acts per hour to 0.35 acts per hour) translates into a 32% greater likelihood of defying teachers and tasks in second semester ($32\% = \exp(.28) - 1$).

Upon entering background variables into the model, around 9% of the variance at the individual level is explained, as is 3% between classrooms. However, not all background variables in model 1 are significant. Gender and physical attractiveness have the greatest effect on increasing disruptive behavior. Females are 21% ($-21\% = \exp(-.24) - 1$) less likely than males to become rebellious as the year progresses. The effect of gender holds steady across all models and is not moderated by any variables. It is interesting that boys were only slightly more likely to breach classes early in the year (generally a nonsignificant association) and that they grow significantly more disruptive as the year progresses. Research has consistently found boys to be more dominant and more aggressive (Stinchcombe 1964; Berger et al. 1980; Ridgeway and Diekema 1989; Patterson Reid, and Dishion 1992; Davies 1995; Fine 1987). My impression from many hours of fieldwork is that boys' increasing disruptiveness reflects their effort to gain control of social situations over time. At the beginning of the school year, the classroom environment is an uncertain terrain where both sexes work on developing social ties of local support. When they learn the terrain, the boys seem intent on garnering greater control over the situation. Girls seem to adopt different strategies of control that are less overt than the active breaches boys adopt (Mickelson 1989). This type of gendered behavior is consistent with Patterson's finding that adults socialize gender-specific behaviors in youth (Patterson 1992, p. 80).³⁹

Physical attractiveness has a comparable effect to that of gender. A standard deviation increase in attractiveness ($SD = .77 \sim$ shift from somewhat attractive = 3, somewhat unattractive = 2, see table A2, semester

³⁹ In order to deconstruct this result and support Patterson's finds, future research needs to ascertain whether the similarity or difference in teacher-student genders affects disruptive behavior.

2), is associated with a 32% increase in the likelihood of greater rebelliousness ($32\% = \exp(.28) - 1$). Hence, attractive students not only start the year more resistant, they increasingly challenge tasks and teacher authority as the year progresses.

Looking at model 2, we see that the introduction of school-status characteristics significantly improves the fit of the Poisson model, explaining 21% of the variance between classes but only an additional 3% of the variance within classes. A good GPA in first semester causes a student to resist his teacher less as the school year progresses. This suggests that students with generally better academic standing have higher punishment thresholds (Bidwell and Friedkin 1988). As the school year plods on, good students can handle the workload and sustain a level of commitment, while less successful students start to complain and break the rules at a higher rate. Hence, a one standard deviation shift in first semester GPA (around one grade point) leads to a 23% decline in student disruptiveness ($-23\% = \exp(-.26) - 1$).

In model 3, classroom characteristics are found to have substantial effects on increased student resistance. Around 8% of the variance between classrooms is explained by the form and content of classroom instructional practices. Student-centered tasks and mathematics subject matter increases the likelihood of increased defiance. A one standard deviation increase in teacher-centered instruction (i.e., around 20% more class time) translates into a 19% decrease in acts of student defiance ($-19\% = \exp(-.21) - 1$). While this result is nonsignificant ($P < .20$), it may be substantial for a small sample of 25 classrooms. The greater significance of this variable in cross-sectional results suggests that behavior responds more immediately to task structures and that the "lock-in" effect that first-semester tasks have on resistant behavior is only mildly present. Nevertheless, this result suggests that teachers can dampen student resistance by centralizing control and diminishing student access to the floor.

The content of instruction can also alter the growth of disruptive behaviors ($P < .10$). Math classes do not start out significantly more or less resistant, but they become increasingly disruptive at a faster rate than other classes as the year progresses. Math classes increase the likelihood of increased resistance by 32% in comparison with classes in science, English, and history ($32\% = \exp(.28) - 1$). The math classes in this study taught abstract topics and seldom related the material to students' lives. Hence, the positive effect of math on disruption can be attributed to students' increasing disenchantment with the subject matter over the course of the year.

Looking to model 4, we see that social standing in the class explains an additional 5% of the variance within classrooms (from 13% to 18%).

A one standard deviation increase in social standing within the class (an additional 2.21 friends) increases the likelihood of heightened resistance by 36% ($36\% = \exp(.31) - 1$).⁴⁰ With the inclusion of social standing as a variable, neither classroom-level variable is greatly altered. This suggests that statuses have effects independent of the instructional practice.

Notably, one variable approaches significance in models 4 and 5. Students of parents with high occupational statuses tend to disrupt class more over the course of the year—again, slightly ($b^* = .13-.14$). This finding is also found in second-semester cross-sectional results and may seem somewhat counterintuitive. My reading of the result is that students with high-status parents may believe themselves of higher status than their teachers, thereby challenging teacher authority more often (Cusick 1973; Gordon 1957).

Model 5 introduces network characteristics. In the cross-sectional models of first and second semester (tables 2 and 3), we could only use network density as a control because the mean of friends' disruptive behavior has problems of autocorrelation in cross-sectional models (Friedkin 1990). Here, in the longitudinal models, we can use the lagged variable without fear of biased results. Notably, first-semester network density does not retain a significant causal effect on increased resistant behavior during the second semester. Like task structures, network support appears to have a more immediate relation or association to resistance. However, the mean of friends' first-semester resistance has a significant relation to increased rebelliousness over the school year. The mean of friends explains an additional 3% of the variance between classrooms and 1% within them—and net of all other controls. Network characteristics span classroom and individual levels because they capture clique characteristics possessed by subsets of students within each class. Net a student's prior disruptive behavior, the mean of her friends' past disruptive behavior

⁴⁰ Elsewhere, I tested whether the interaction of statuses have significant effects on the increase in disruptive behavior ($GPA \times$ local academic standing, and popularity in the school \times local popularity in the classroom). What I found was that GPA rank in the school remained significant while the main effect of local academic rank and the interaction term of $GPA \times$ local academic standing only approached significance. These results suggest that general academic standing in the school has salience in the local setting, even if the student is failing a particular class. Hence, an A student who performs less well in a specific case is likely to become less disruptive as the year progresses. Those who are A students and doing well in a particular class are also less disruptive as the year progresses. Generally poor students doing well in a particular class are no more or less likely to disrupt class than if they were doing poorly in the local setting. This is an interesting finding. In practice, academic status is measured in standardized form—GPA—and therefore can be more readily translated across (and into) specific settings. Social standing is not standardized—popularity has relative meaning so that local social standing is what really matters when it comes to taking defiant stands in class.

(the networks central behavioral tendency) increases the likelihood that she will rebel. A one standard deviation increase in friends' resistance, increases the likelihood they will defy the classroom norms second semester by 12% ($12\% = \exp(.11) - 1$). While this effect is small, it reveals a process by which resistance diffuses and is imitated over time. The diffusion of disruptive behaviors occurs through the network of friends that an ego views as a reference group. As such, the diffusion process identified here explains how individual acts of disruption can spread throughout a population over time. In essence, this finding suggests that Algebra 2 class is not an idiosyncratic example, and that diffusion of resistant behavior through friendships is a general social process observable in many classroom settings.⁴¹

As in the cross-sectional analyses, the general finding for these longitudinal models reveals that, net of past disruptive behavior, characteristics within the school and classroom account for a great deal of the variance in resistant behavior. Background characteristics are found to explain an additional 9% of the variance at the individual level than past behavior alone. However, the variables of models 2–5 explain 29% of the variance between classes and an additional 10% within them. In both the cross-sectional models of first semester and the growth models of second semester, organizational statuses, formats of instruction, and students' friendship networks enhance the explanatory power of student disruptiveness by nearly twofold from background characteristics alone (and that is additional variance, not variance shared or explained in common).

How Activities Alter the Salience of Statuses and Network Relations

In the opening sections of this article, it was argued that the formal organization of work sets conditions for informal networks, altering their effect on decisions to rebel. This section tests directly whether the formal organization of work interacts with network variables, thereby having a compounding effect on classroom disruptions. In particular, this section tests whether teacher-centered tasks alter the effects status and network variables have on student defiance.

The particular concern of this section regards how the form and content of instruction (of teacher-centered tasks and mathematics) alters the causal effect local statuses and network variables have on student resistance (i.e., academic standing, social standing, and network density). Analyses find

⁴¹ I also find the sum of friends' disruptiveness affects ego's disruptiveness. The sum is less of a reference-group process because the clique (as a mean) is not entailed in the measure. It captures the effect of information flow more than reference groups. Thus, while significant, I omit it from the results.

that only the formal properties of instruction significantly interact with local statuses and network density. These results are presented in table 5. In an effort to simplify results, I omitted variables that are of peripheral interest.

Results in table 5 indicate that the interaction of teacher-centered instruction with first-semester social standing or network density has a significant effect on the growth in disruptive behavior (i.e., longitudinal models). Teacher-centered formats amplify the effects of social standing and, in certain regards, account for the salience of this status characteristic. Results show that during teacher-centered tasks students with high social standing are more likely to be the locus of resistance than in more open classrooms.⁴² A similar but nonsignificant relation is found for academic standing in the class. In contrast, density appears to have dampened effects on resistance in closed classrooms and greater effects on resistance in open instructional settings.

Interpretation of interaction terms from table results can be difficult and even misleading. Therefore, it is often recommended that interactions be plotted (Keppel 1982). The plots I present illustrate how the slope of network effects (on disruption) change with different kinds of instructional formats.⁴³ Hence, in figure 3, the x -axis represents values of social standing in the class during first semester. I vary this value from one standard deviation below the semester mean to one standard deviation above the semester mean. The y -axis represents the likelihood of disruption (in the form of $\exp(b^*) - 1$, or %likelihood). The lines in the figure illustrate how the slope of social standing changes from more teacher-centered formats (+1 SD), to typical formats (mean), to more student-centered formats.⁴⁴

In general, teacher-centered formats mildly reduce the likelihood of disruption, while student-centered formats afford youth more opportunities to resist. However, looking at figure 3, we see further nuances. The curves shift in slope and suggest the following: classrooms that rely heavily on student-centered formats remove the locus of disputes away from popular individuals, while classrooms that rely heavily on teacher-centered

⁴² In other models where I altered the definition of closed instructional formats to omit examination segments, both academic standing and density interaction terms retained significance at the $P < .10$ level. The same plots (figs. 1-3) resulted as well.

⁴³ This procedure is common (e.g., see Keppel 1982, pp. 192-202, 252-78).

⁴⁴ Each line is calculated as follows:

1. mean instruction -1 SD = $\exp [b_1^*(\text{instruction} = -1 \text{ SD}) + b_2^*(\text{social standing varied}) + b_3^*(\text{social standing varied})(\text{instruction} = -1 \text{ SD})] - 1$
2. mean instructional format = $\exp [b_1^*(\text{instruction} = \text{mean}) + b_2^*(\text{social standing varied}) + b_3^*(\text{social standing varied})(\text{instruction} = \text{mean})] - 1$
3. mean instructional + 1 SD = $\exp [b_1^*(\text{instruction} = +1 \text{ SD}) + b_2^*(\text{social standing varied}) + b_3^*(\text{social standing varied})(\text{instruction} = +1 \text{ SD})] + 1$.

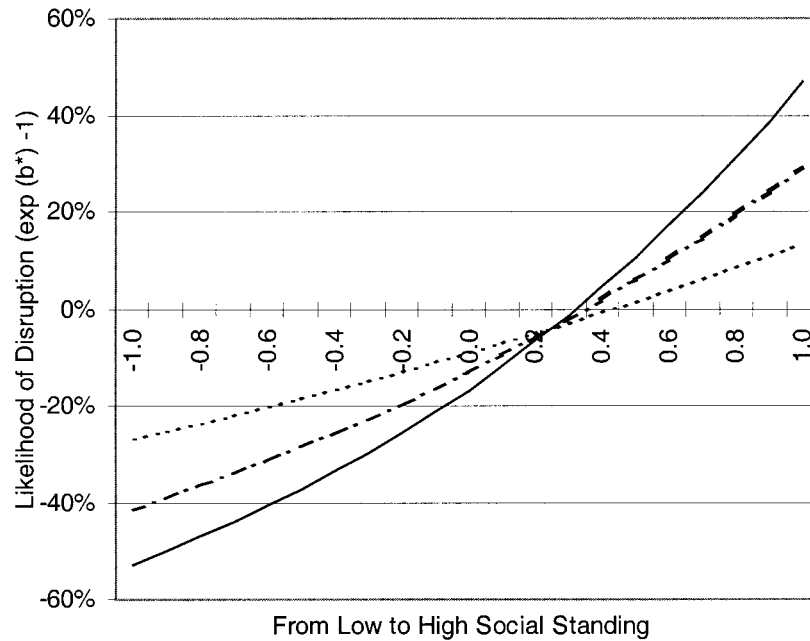


FIG. 3.—Instructional formats alter the effect of social standing on disruption. Dotted line = little use of teacher-centered tasks (-1 SD); broken line = average use of teacher-centered tasks; solid line = much use of teacher-centered tasks (+1 SD).

formats make popular students the locus of resistance.⁴⁵ At either extreme of social standing (i.e., -1 to 1 SDs on the *x*-axis), we see that the change in the effect of status on likelihood of disruption shifts by around + or -40%.

The plot of the nonsignificant result for academic standing is represented in figure 4. While the result is only suggestive, it reveals a second possible fashion in which contexts may alter the effects of status. In general, the most academically successful students are less likely to cause problems for teachers, and the plot suggests this occurs regardless of the instructional format a teacher uses. In contrast, students who struggle academically are more responsive to the task structures a teacher uses. Open task structures are likely to give the poor students greater opportunities to voice their discontent, albeit these results are only suggestive of such a behavioral pattern.

⁴⁵ The lines in several of these figures noticeably intersect at the same point. However, this is not reason for suspicion but rather an indication that the interaction term is significant. Simple algebra reveals where the intersection point will be. Fig. 4 shows that the lines do not intersect when the interaction term is nonsignificant.

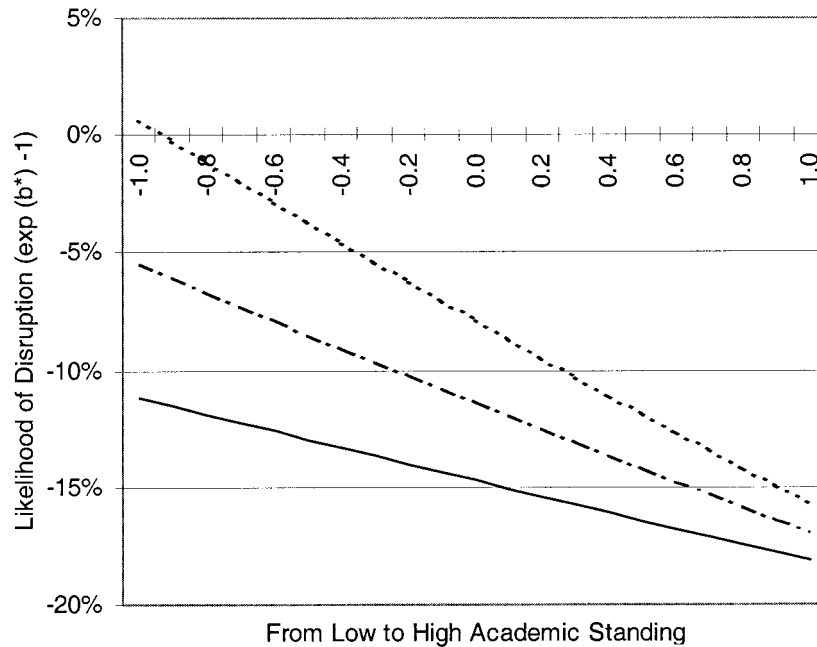


FIG. 4.—Instructional formats alter the effect of academic standing on disruption. Dotted line = little use of teacher-centered tasks (-1 SD); broken line = average use of teacher-centered tasks; solid line = much use of teacher-centered tasks ($+1$ SD).

In figure 5, the interaction of instruction and density is plotted. There, we see that the effects of sparse friendship networks are not altered by task structures, but the effects of dense friendship networks are altered. Notably, classes more reliant on student-centered formats (-1 SD) amplify the effect of dense networks, while controlled classes dampen them. A one standard deviation increase or decrease in the use of teacher-centered instruction (e.g., lectures, recitations) alters the effect of dense networks on disruption by around $+10\%$. Hence, open task structures facilitate dense networks to voice discontent as the school year progresses. Taking the results from figures 3 and 5, I establish a rather intuitive result: when teachers centralize tasks, students of high social standing are the locus of resistance (status is salient and networks dampened); when teachers decentralize tasks, friendship networks are the locus of resistance (networks are salient and status dampened). Hence, shifts in instructional formats will alter the basis from which resistant behaviors arise.

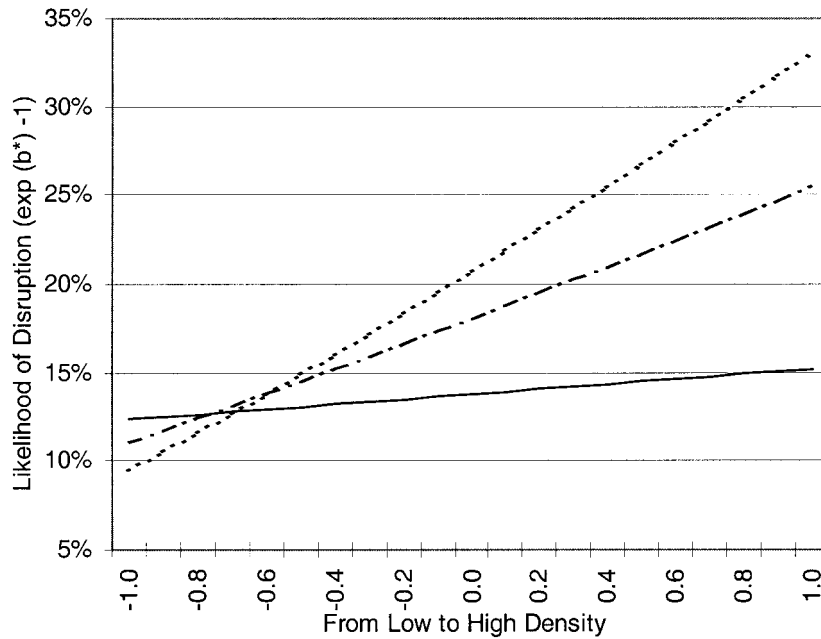


FIG. 5.—Instructional formats alter the effect of network density on disruption. Dotted line = little use of teacher-centered tasks (-1 SD); broken line = average use of teacher-centered tasks; solid line = much use of teacher-centered tasks (+1 SD).

DISCUSSION

Results from multilevel Poisson models reveal that local school and classroom characteristics are key social mechanisms that cause student resistance. Alienation factors of race and class backgrounds have weak effects on classroom rebellion (Davies 1995; Ainsworth-Darnell and Downey 1998). However, other diffuse statuses do matter, such as gender and physical attractiveness. Results indicate that boys grow more defiant as the year progresses (Erikson 1950; Robbins and Martin 1993; Gottfredson and Hirschi 1990).⁴⁶ One possible explanation for this gender difference was observed during fieldwork—boys appear more concerned with controlling social situations around themselves, and they adopt aggressive face work more readily than do girls (Goffman 1967). This suggests that boys view aggressive behavior to be more of an appropriate strategy of

⁴⁶ Why boys are more disruptive is a matter of debate. Psychoanalysis points to masculine aggression (Erikson 1950), and evolutionary psychologists view it as a selection trait (Daly 1988). I am inclined to believe that male aggression is partly a learned behavior and considered more “appropriate” to boys than girls. Gerald Patterson’s work in this regard is rather compelling (Patterson et al. 1992).

action than do girls. Similarly, physically attractive students adopt active forms of resistant behaviors. However, attractive students are observed to be more adept at negotiating less harsh sanctions by translating arguments by joking, flirting, and making friendly gestures. Hence, attractive boys and girls are able to breach activities and then successfully win over their angered teachers. Therefore, gender is a diffuse status that defines resistance as an appropriate behavior for boys, while attractiveness is a resource that can be used to buffer oneself from more serious forms of teacher redress.

Some diffuse status characteristics mildly translate into GPA rank within the school. Female students, those from traditional families, and of successful parents, are all more likely to get higher grades. And high academic standing in the school significantly diminishes a student's likelihood of resistance. However, the effect of academic standing in the school cannot be wholly attributed to diffuse status characteristics and therefore has some independent explanatory merit. Nonetheless, standing in the school and diffuse statuses are exogenous to the classroom context. They are what students bring to the social situation—but they are of secondary causal importance to the characteristics endogenous to the classroom situation.

The main story conveyed by the formal models of this article is that classroom social networks and instructional formats explain a great deal more about everyday acts of defiance than background characteristics alone. Students with dense friendship networks, rebellious friends, and prominence in the classroom friendship network are more likely to disrupt class tasks and enter disputes with the teacher. Dense networks buffer young people in conflicts and provide them with social support. Rebellious friends act as a reference group, to whose behavior the student is pressured to conform. Social prominence in classroom friendship networks affords the student support beyond his or her own clique and attributes status value to their actions. Network resources and network pressures within the classroom greatly affect student decisions to rebel, and they do so relatively independent of student background characteristics. While it is true that class background and physical attractiveness are associated with student popularity in the classroom, their indirect effect does not account for the large total effects of networks, peer pressure, and social status.⁴⁷ Hence, social network resources have effects on student disruption and

⁴⁷ I allude to the results from other path models that were run but not presented in this article. For example, I find that popularity in school has a significant positive relation to popularity in the class, but it is surprisingly not as strong as one would expect—a standardized coefficient of only 0.23.

its growth that are mostly independent of the effects of background characteristics.

Instructional form and content also affects student decisions to rebel, albeit less strongly and often more indirectly than characteristics of social networks. The content of math instruction is often conveyed in abstract terms, and heavy reliance on textbooks makes instruction rather routine. As a result, students become increasingly disinterested as the year progresses, and math classes become sites of heightened student resistance over time. In contrast, the format of classroom instruction serves to open and close the floodgates of interaction. When students are alienated from the subject and teacher, student-centered tasks enable young people to express and spread their discontent. In such circumstances, teacher-centered formats of instruction can dampen the social opportunities students have to challenge tasks and teacher authority.

Instructional formats also alter the effects of informal networks on classroom disruption. As tasks become more teacher-centered, overall disruptiveness diminishes and locally popular individuals become the brunt of resistant efforts. In student-centered tasks, overall disruptiveness increases and social standing becomes less salient since it is easier to participate and easier to breach classroom affairs without harsh sanction. Student-centered tasks, however, also amplify the positive effect of dense networks on student resistance. The latent potential of dense networks is enabled by the social opportunities open task structures afford them. Consequently, the models presented in this article illustrate that task structures can alter the effect that networks have on student decisions to breach classroom affairs.

In sum, the results presented here reveal that local characteristics of schools and classrooms have important independent effects on student resistance that are at least comparable to total effects of student background characteristics. Throughout the school year, open task structures create social opportunities, and social network resources (of support and prestige) afford students the political rights to make explicit efforts at redirecting class. In certain cases, the formal organization of instruction can alter the effects that informal networks have on student defiance. Both formal and informal characteristics of the classroom context enable students to repeatedly defy teachers and redirect classroom situations in novel ways.

CONCLUSION

In the schools and classrooms studied here, the arguments of critical theorists (Willis 1977; McLaren 1986) and resistance theorists (Ogbu 1987;

Fordham and Ogbu 1986) did not find much empirical support. This lack of empirical support is surprising given the identity distinctions salient at each school. In general, the formal and informal organization of classrooms greatly influences students' decisions to defy their teachers. Class and race backgrounds at both schools have little impact on classroom disruption. Only the dispositions of males and physically attractive students are significantly associated with youth rebelliousness (Stinchcombe 1964; Patterson et al. 1992). In general, the total effects of background characteristics are matched by the net effect of network relations and positions and the form and content of instruction. Results indicate that most any student will breach tasks and attempt to control the classroom situation if they are afforded social opportunities and have the necessary political resources at their discretion.

In the end, the surprise result is that disadvantaged students can really only sustain their resistant efforts when they are given the social opportunity to do so and when they have enough social resources to take advantage of such an opportunity. In observation, I witnessed unpopular students disrupt class at great costs. Students who chose the wrong moment and who lacked support came to tragic ends—they were expelled, failed, and were socially rejected. Rather than practicing dominance and cultural freedom in the school, these students had to go outside the school grounds to practice their “cultural freedom.” Furthermore, advantaged students are not the passive conformists that critical theorists depict (Hammersley and Turner 1980). Many acquire rights and privileges to discourse and have greater power to define social situations for themselves. Privileged students resist authority and defy teachers in an effort to carve out niches of even greater autonomy through negotiation (Hagan 1991).

These observations and empirical results point toward a different conceptualization of student resistance—one that theories of social interaction might make. All social actors seek to gain autonomy and control over their immediate social surroundings (Goffman 1959, 1961, 1967, 1974, 1983; Mead 1934). By virtue of being a social actor, there is a desire to exhibit a positive impression of one's self to others and to have opportunities where one can do this expression freely without fear of ridicule and sanction. Since every student is subordinated in the school, they all seek to acquire greater autonomy. Hence, the struggle for identity and control is endemic to every classroom (White 1992). Teachers struggle to manage their classrooms and accomplish educational goals (Hammersley 1974, 1976), while adolescents struggle to acquire greater personal autonomy in a system that rigidly defines their behavior (Woods 1978; Goffman 1961; McLaren 1986).

Classrooms, like many work settings, entail formal and informal organizational characteristics (Homans 1992; Barnard 1939). These formal

and informal organizational aspects form the social context in which actors work, interact, and make sense of social happenings. The nature of this social context greatly defines what strategies of action are sensible for the actor to take. Actors who do not have social network resources and choose the wrong situation in which to rebel will find the costs to such action high and their effort to alter the setting short-lived. In certain regards, the most disadvantaged students who rebel in the least appropriate moments are the most likely to come to tragic ends. In contrast, actors who have social-network resources and choose the right situations in which to rebel will find they can sustain their effort to change the situation. This sustained effort ultimately leads to some form of change, whether it results in negotiation or in collective defiance.

Since student resistance is not just an outcome of societal inequities, my results indicate that teachers can do quite a lot to manage it. Teachers can use teacher-centered tasks to minimize student opportunities at voicing resistance. Such centralization limits the disruptive behavior of all but the most popular students in the class. Moreover, it prevents dense cliques from expressing their discontent in collective fashion. Teachers can also offset resistant behavior by making the subject more relevant to students' personal lives. This provides students with greater reason to sustain academic affairs already underway. Hence, teachers can stave off active forms of everyday resistance by making course contents relevant to students' lives and by adjusting task structures so as to manage the floor of public discourse. In this way, the teacher maintains both the motivation and control of their adolescent charges (Waller 1932).

This article does not argue that teacher-centered tasks are better formats of instruction. In reality, teacher-centered tasks dampen involvement and diminish student interest (Cumins 1989; Metz 1978, p. 123). However, student-centered tasks also have costs—they diminish classroom control and create opportunities for students to breach and undermine class lessons. Hence, rather than claim one format of instruction better than others, this article has simply sought to show the relationship that various formats and contents of instruction have to defiant student behavior. Other work suggests that some compromise between open and closed formats works best when it comes to motivating and controlling the behavior of students (McFarland 1999; Bidwell 1965; Waller 1932).

However, this work also finds that teachers will always be confronted with prestigious, well-connected students who dominate the class and challenge authority. Therefore, certain steps must be taken to not only offset differences in social standing, but to break up cliques of students that collude to undermine classroom affairs. Elizabeth Cohen's work has been explicitly concerned with the problems of unequal status and suggests various solutions (Cohen and Lotan 1997; Cohen 1986). In particular, she

suggests teachers utilize group work where students rotate different leadership roles. In this manner, roles constantly shift, and one person never dominates interactions. Regardless, even this work does not remove status effects altogether (Cohen and Lotan 1997, chap. 5).⁴⁸ In certain regards, the teacher will have to co-opt dominant students and use them to encourage others into academic participation. In my observations, I found that teachers who stifled elite students made the class less interesting for everyone else because no one stepped in to fill the void in task discourse.

Even if status differences are diminished, student collusion will still occur within friendship cliques. Therefore, classrooms and other work groups need more than status treatments—they need *relational treatments*. Teachers already use their own version of relational treatments when they move students apart from one another in the classroom. In certain instances, this is a successful strategy for managing problematic relations that have already formed. However, some steps may be taken to engineer the development of informal relations in classroom settings. As I see it, the aim is to facilitate the formation of informal relations concerned with academic affairs and to prevent students from developing well-defined cliques focused on social affairs. In order to have this happen, students must not be allowed to select their own group assignments or they will select prior friendships or self-similar others. If they select prior friendships or like others, then the contents of those relations will be salient to the group's dynamics. That means contents established outside the classroom setting and prior to its existence will be salient in their interactions. By randomizing group assignment, the new experiences had in the classroom become a basis for new ties—task interactions become a basis of friendship, not football. Coupling this assignment process with status treatments should, in theory, result in desired group behaviors: students should participate equally in collaborative groups focused on the completion of tasks. Should strong cliques arise, the teacher can rotate group memberships after each project so that relations do not lock-in to form a cohesive subgroup.

⁴⁸ It is important to note that much of Cohen's work focuses on elementary and middle-school students and collapses academic and social status together because they are more aligned (Cohen and Lotan 1997). In contrast, my work on high school classrooms finds these forms of status are often negatively associated and difficult to collapse. Hence, I leave these status characteristics distinct. Cohen's work suggests that elementary students are less resistant than middle-school students. While there is little discussion of why this difference persists, one can infer that the shift has something to do with batch processing that begins in middle school. Students are treated more as objects than subjects, thus alienating them from work (Goffman 1961). I believe the work performed in this article identifies mechanisms that would generate student resistance in elementary and secondary school classrooms. However, future research should bridge studies of elementary and secondary schools.

Regardless of such hypothetical treatment, future work needs to study the life cycles of classroom settings and how they affect student's perceptions of when rebellion is a feasible strategy of action. Most classrooms eventually converge on an agreed-upon normative framework that laminates classroom affairs such that the definition of appropriate behavior differs from classroom to classroom. The work in this article models classroom resistance, but the actions that violently galvanize one class may have a lesser effect on another. Future work needs to assess how formal and informal organizational characteristics of classrooms overlay one another and define the normative order of schooling. Classrooms with dense networks and weak teachers may consistently have different norms of appropriate behavior from those with sparse networks and strong teachers. In addition, future work needs to analyze how different coalitions of control form within classrooms, much like that described in the case study of Algebra 2, above. Certain sets of students dominate discourse and form coalitions with the teacher or other student cliques. These coalitions, or regimes, become the locus of culture creation (Fine 1987) and norm definition in classrooms. Finally, future research needs to explore the forms of everyday resistance and how they arise in a dynamic, interrelated fashion. Resistance is more than a discrete act as characterized here. It entails a process of crescendo and decline or a process of deconstruction and reconstruction. In this manner, a deeper understanding of the link between minor forms of everyday resistance and collective rebellion will form.

APPENDIX

TABLE A1
LIST OF VARIABLES AND THEIR CONSTRUCTION

Variables	
Background variables:	
Magnet minority students	1 = African-American or Hispanic Magnet students, 0 = white or Asian Magnet students
River town students	1 = River town students, 0 = white or Asian students at Magnet
River region students	1 = River region students ("hicks"), 0 = white or Asian students at Magnet
Female gender	1 = female, 0 = male
Lower grade level	1 = grades 8–10, 0 = grades 11–12
Nontraditional family	0 = traditional biological parents at home, 1 = all other families
Parents' highest occupation status ...	Highest occupational status of parents (coding similar to NELS 88): 1 = unemployed, 2 = laborer, 3 = semiprofessional, 4 = professional; variable school mean-centered
Missing parents occupation status ...	1 = missing data on highest occupational status, 0 = not missing
Physical attractiveness	Physical attractiveness: 1 = very unattractive to 4 = very attractive; variable school mean-centered
Standing in school:	
GPA rank in school	GPA for all semester courses taken during the 1996–97 school year: A+ = 4.33, A = 4, A– = 3.67, etc. to D– = .67 and F = 0; variable school mean-centered
Popularity rank in school	Number of selections a student receives as friend others hang out with; variable school mean-centered
Classroom characteristics:	
Teacher centered format	The percentage of total observation time in which a class was taught by a teacher using transmittal activities like lecture or recitation
Math subject	1 = math, 0 = English, history, or science
Standing in class:	
Academic standing in class	An average of the teacher reports about the student's ability (capacity to learn, very high = 4 to very low = 1), time on-task (4 = always, 3 = often, 2 = sometimes, 1 = never), and expected grade (A = 4, B = 3, C = 2, D = 1, and F = 0); variable classroom mean-centered

TABLE A1 (Continued)

Variables	
Social standing in class	Number of selections a student receives from other classmates as a friend; designation of friend is weighted: best friend = 2, friend = 1, none = 0; variable classroom mean-centered
Network characteristics in class:	
Density of ego's network	Undirected egocentric density = for all actors connected to and from ego, the number of friendship ties ego holds is divided by the number of pairs; friendship ties are weighted: best friend = 2, friend = 1, none = 0
Friends' disruption semester 1	Mean of friends' disruption = the average rate of outwardly directed first-semester disruptions (number per hour) performed by ego's friends; closer friends have more salient behaviors (weighted): friend = 1, best friend = 2
Behavior:	
Ego's disruption semester 1	The rate at which a student outwardly disrupts class during first semester (observed acts per hour)
Count of disruption	The observed number of disruptive acts that a student performs during first semester (not standardized by time)
Control variable:	
Time observed	Number of minutes each student was observed in a specific classroom during each semester. This variable was log-transformed and used as an offset variable (Allison 1999).

TABLE A2
DESCRIPTIVE STATISTICS OF INDEPENDENT AND DEVELOPMENT VARIABLES

VARIABLES	SEMESTER 1				SEMESTER 2			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Background variables:								
Magnet minority .....	.17	.38	.00	1.00	.21	.41	.00	1.00
River town .....	.40	.49	.00	1.00	.33	.47	.00	1.00
River rural .....	.14	.35	.00	1.00	.11	.32	.00	1.00
Female gender .....	.57	.50	.00	1.00	.57	.50	.00	1.00
Lower grade level .....	.53	.50	.00	1.00	.54	.50	.00	1.00
Nonnuclear family .....	.29	.45	.00	1.00	.31	.46	.00	1.00
Highest parent occupational status* ....	.00	.82	-2.09	.95	.00	.91	-2.15	.96
Missing occupational status [†]30	.46	.00	1.00	.14	.34	.00	1.00
Physical attractiveness* ...	-.03	.79	-1.85	1.73	.00	.77	-1.84	1.77
Standing in school: [†]								
GPA rank in school .....	.03	.75	-2.70	1.16	.01	.75	-2.66	1.00
Popularity rank in school .....	.19	1.82	-2.06	7.94	.20	1.83	-2.32	7.68
Classroom characteristics: [‡]								
Teacher-centered instruction .....	.58	.22	.06	.90	.61	.20	.17	.88
Mathematics subject .....	.28	.45	.00	1.00	.39	.49	.00	1.00
Standing in class: [§]								
Academic standing in class .....	.00	.55	-2.88	1.80	.00	.50	-1.60	1.40
Social standing in class ...	.06	2.21	-4.55	7.53	.00	2.67	-7.46	7.56
Network characteristics:								
Density of ego's network .....	.31	.25	.00	1.00	.44	.19	.00	1.00
Friends' disruptiveness (semester 1) .....	.02	.04	.00	.43	.02	.04	.00	.31
Resistant behavior in class:								
Rate of resistance .....	.09	.28	.00	2.80	.26	.66	.00	4.39
Resistant acts .....	.45	1.15	.00	9.00	1.69	3.73	.00	28.00
Time observed:								
Time|| .....	150.67	35.78	38.00	215.00	322.79	91.08	.00	460.00

NOTE.—For semester 1, $N = 753$; for semester 2, $N = 484$.

* These variables are mean-centered within each school.

[†] This variable is used as a control but is omitted from results because it never reaches significance.

[‡] Classroom characteristics are level two variables with N of 36 first semester and N of 25 second semester.

[§] These variables are mean-centered within each classroom.

^{||} An average class period lasts 40–45 minutes.

TABLE A3
CORRELATION OF VARIABLES IN LONGITUDINAL MODEL

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. Resistant acts (sem2)																				
2. Rate of resistance (sem1) . . . . .		.35																		
3. Magnet minority . . . . .	.14	.15																		
4. River town	-.07	-.03	-.36																	
5. River rural	-.03	-.08	-.19	-.25																
6. Female gender	-.12	-.03	.07	-.06	-.04															
7. Lower grade level . . . . .	.05	-.07	-.09	-.03	.07	-.06														
8. Nonnuclear family . . . . .	.15	.09	.13	-.07	-.03	.07	.03													
9. Highest parent occupational status* . . . . .	.07	.05	-.03	.04	-.04	.00	-.07	-.12												
10. Missing occupational status [†]	-.01	.06	.17	-.09	-.04	-.07	-.02	-.09	.01											
11. Physical attrac- tiveness* . . . . .	.14	.12	.07	.08	-.11	.08	-.04	-.03	.22	-.02										
12. GPA rank in school (sem1)*	-.14	-.07	-.10	.05	-.04	.14	.09	-.15	.17	-.14	.06									

13. Popularity rank																			
in school*	-.07	.04	-.09	-.01	-.07	.06	-.03	-.07	-.03	-.13	.14	.21							
14. Teacher-centered																			
instruction [†]	-.11	-.14	-.18	.25	.03	.04	.03	-.11	.00	-.11	.00	.24	.10						
15. Mathematics																			
subject [‡]	.15	-.04	-.08	.12	.15	-.09	.03	.08	-.03	-.05	-.06	-.06	-.10	.03					
16. Academic standing																			
in class (sem1) [§]	-.08	.01	-.09	.06	-.08	.10	.01	.03	.05	-.05	.05	.41	.15	.00	.00				
17. Social standing																			
in class (sem1) [§]	.15	.13	.00	.01	-.02	.07	.05	-.02	.03	-.07	.23	.04	.29	.00	.00	.07			
18. Density of ego's																			
network (sem1)	-.02	.02	-.05	.05	.01	.04	-.02	-.06	.07	.04	.04	.00	.03	.05	-.02	.13	.04		
19. Friends' disruptiveness																			
(sem1)	.32	.31	.22	-.12	-.09	.06	-.04	.05	.01	.05	.03	-.08	-.03	-.17	.02	-.06	.17	.02	...

NOTE.— $N = 467$.

* These variables are mean-centered within each school.

[†] This variable is used as a control but is omitted from results because it never reaches significance.

[‡] Classroom characteristics are level two variables with N of 25.

[§] These variables are mean-centered within each classroom.

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