

Stigma of a Label: Educational Expectations for High School Students Labeled with Learning Disabilities

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Abstract

Poorer outcomes for youth labeled with learning disabilities (LDs) are often attributed to the student's own deficiencies or cumulative disadvantage; but the more troubling possibility is that special education placement limits rather than expands these students' opportunities. Labeling theory partially attributes the poorer outcomes of labeled persons to stigma related to labels. This study uses data on approximately 11,740 adolescents and their schools from the Education Longitudinal Survey of 2002 to determine if stigma influences teachers' and parents' educational expectations for students labeled with LDs and labeled adolescents' expectations for themselves. Supporting the predictions of labeling theory, teachers and parents are more likely to perceive disabilities in, and hold lower educational expectations for labeled adolescents than for similarly achieving and behaving adolescents not labeled with disabilities. The negative effect of being labeled with LDs on adolescents' educational expectations is partially mechanized through parents' and particularly teachers' lower expectations.

Keywords

adolescence, disability, labeling theory, mental health, parents, stigma, teachers

Youth labeled with learning disabilities (LDs) constituted the largest proportion (nearly half) of the special education population in 2003 (Spellings, Knudsen, and Guard 2007) and continue to experience markedly poorer educational and occupational outcomes than their peers not labeled with disabilities, including lower expectations of completing college (Wagner et al. 2007). Although such disparities are commonly attributed to stigma and stratification for other status groups, disparities for youth labeled with LDs are more often dismissed as inevitable. Attributing these students' poorer outcomes to their own deficiencies is problematic because of their academic potential and the subjectivity and variability of LD diagnostic methods (Bradley, Danielson, and Doolittle 2007). The *Diagnostic and Statistical Manual of Mental Disorders* includes reading (dyslexia), math (dyscalculia), writing (dysgraphia), and language disorders within

its definition of LDs (American Psychiatric Association 2000), but diagnostic models more broadly define achievement levels lower than expected given a student's IQ as indicative of an LD (Fletcher, Denton, and Francis 2005). Youth diagnosed with mental retardation, attention-deficit/hyperactivity disorder, Down syndrome, or autism qualify for special education services under federal disability categories distinct from the LD category (National Dissemination Center for Children with Disabilities

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2012; Office of Special Education and Rehabilitative Services 2012). With average or high IQs, placement into special education should enable students with LDs to reach their learning potential.

Although LDs lie at the crux of two central life domains, health and education, they are largely absent from both the sociology of health and education literatures (Barnes and Oliver 1993). In addition to misperceptions of the meaning of the LD label, research on students labeled with disabilities has been limited by data and methodological issues. Most studies on youth labeled with LDs have used aggregate (state or school district) level data, very small sample sizes, or data without unlabeled peers as a base of comparison (Morgan et al. 2010). Comparing students on the basis of qualities that led to their LD diagnoses may be problematic because of the inconsistency and lack of clarity in diagnostic criteria (Fletcher et al. 2005). Two recent studies used student-level data with a wide range of measures to show that labeled students' outcomes are poorer even than those of otherwise similar youth not labeled with disabilities (Morgan et al. 2010; Shifrer, Callahan, and Muller 2013), but the role of stigma has not been empirically established.

This study draws on conceptualizations of stigma from medical sociologists to locate the social processes related to the LD label that contribute to lower educational expectations for labeled adolescents (teachers', parents', and adolescents' own). This study asks the following questions: (1) Does the school LD designation function as a label and produce negative stereotypes? and (2) Do teachers or parents have more power to enable the school LD designation to stigmatize?

The present study uses data on adolescents and their parents, teachers, and schools from a large national data set, the Education Longitudinal Study of 2002 (ELS). (Although this study's analytic sample is large and diverse, findings cannot be generalized to the national level because of the exclusion of students whose schools did not report their disability status.) ELS's broad set of measures enables the comparison of labeled and unlabeled adolescents who should be expected to complete similar levels of education on the basis of their social backgrounds, academic achievement levels, and attitudes and behaviors. Indirect measures of stigma, such as educational expectations, may diminish the risk for social desirability bias (Link et al. 2004). Because of the need for studies on stigma that use large longitudinal data sets (Jorm and Reavley 2013), and focus on youth

(Pescosolido 2007), this study contributes to the sociology of health literature. This study also builds on themes prevalent in the disability and sociology of education literatures, and will inform policy focused on mitigating stigma related to special education labels.

BACKGROUND

A college degree provides enduring benefits for labor, health, and family outcomes; teachers' and parents' educational expectations shape adolescents' own expectations and their preparation for college admission (Dobbs and Arnold 2009; Morgan 2005). Research shows that childhood behavioral and emotional problems affect adolescent outcomes primarily via educational failures along the way (McLeod and Kaiser 2004), demonstrating the importance of controlling for early high school achievement to capture stigmatizing processes during adolescence. Teachers and parents might hold lower educational expectations for youth labeled with LDs because of their cumulative social and academic disadvantage, and more negative academic attitudes and behaviors (Lackaye and Margalit 2006; Shifrer, Muller, and Callahan 2011). By focusing on disparities in educational expectations that persist net of these factors, this study narrows in on whether stigma seems to contribute to teachers' and parents' lower educational expectations for adolescents labeled with LDs.

The LD Label

Stigma describes prejudicial attitudes toward and negative treatment of people with characteristics deemed dangerous, undesirable, or unworthy (Major and O'Brien 2005; Thornicroft et al. 2007). Stigma is often linked to distinction or deviance (Goffman 1963), but not all distinctions result in stigma (Link et al. 2004). Youth with LDs are deviant in that they are sometimes perceived as lazy or stupid, just as the mentally ill were perceived as possessed or sinful (Aneshensel and Phelan 1999), and distinctive because of their nonnormative response to educational instruction (Bradley et al. 2007). Stigma has particularly been linked to formally labeled distinctions; labeling theory posits that labels produce stigma by altering others' perceptions and legitimizing stratification (Mehan, Hertweck, and Meihls 1986). Labeling theory ultimately predicts that labeled persons will per-

ceive themselves and behave in accordance with the symbols of the label and others' altered perceptions of them and so fulfill the prophecies of the label (Scheff 1966).

Link and Phelan (2001) more explicitly defined stigma as existing when powerful entities allow elements of labeling, stereotyping, separating, status loss, and discrimination to occur. They cited poorer outcomes in important life domains as evidence for the presence of status loss and discrimination. Previous research has established that poorer outcomes continue to define the trajectories of students labeled with LDs (Morgan et al. 2010; Shifrer et al. 2013) and has also documented the separation of students labeled with LDs. Nearly a decade after school racial segregation was (at least formally) disbanded under the guise of "separate is never equal," students with disabilities were still educated in separate schools, and then eventually within separate classrooms in mainstream schools (Idol 2006). After an increasing emphasis on inclusion, many students, particularly those with more mild disabilities (e.g., LDs vs. mental retardation), now receive special education accommodations and services within the same classrooms as their nondisabled peers (Spellings et al. 2007). Despite these changes, the institutionalized separation and isolation of these students remains a concern.

The labeling element of stigma describes the acceptance of categories as objectively important differences and the oversimplification of criteria for the category (Link and Phelan 2001). Disabilities are broadly characterized as social constructions (Bury 2000), and the LD label may be more vulnerable to criticisms of relativity than other disabilities. Students are referred for evaluation for LDs on the basis of socially rooted and subjective characteristics (e.g., academic achievement, behaviors) and diagnosed on the basis of inconsistent criteria (Fletcher et al. 2005). The disproportionate labeling of language minorities is particularly indicative of problematic diagnostic processes (Shifrer et al. 2011). Federal regulations prohibit the assignment of an LD label to a student whose learning difficulties arise from "cultural factors," "economic disadvantage," or "limited English proficiency" (Spellings et al. 2007), but it remains unclear whether diagnostic methods make these distinctions transparent or if there even are valid distinctions (Fletcher et al. 2005).

Hypothesis 1: If the school designation of an LD functions as a label (i.e., symbolizes

objective differences despite subjective criteria), teachers and parents will be more likely to perceive disability in adolescents with the designation, regardless of academic record, attitudes, and behaviors.

Negative Stereotypes

Students' access to learning opportunities partially depends on their perceived potential (Dudley-Marling 2004). Phelan, Link, and Dovidio (2008) differentiated between stigmas that keep people down, out, or away. The LD label may keep youth out or maintain order in the distribution of educational and occupational goods. All low achievers experience more stratification, but labeling theory predicts that students labeled with LDs will experience more stratification because of the symbols of the label. The linking of negative stereotypes to labeled differences is the second element of stigma (Link and Phelan 2001). In vignettes and videos, educators perceived children with special education labels more negatively than unlabeled similarly behaving children (Allday et al. 2011; Ohan et al. 2011). Counter to expectations that medicalization, the increasing prevalence of defining variation in a population as a medical problem (Conrad 2000), would reduce stigma by transferring culpability from behaviors to biology (Martin et al. 2007), biological attributions for mental health disorders instead seem to increase the perceived immutability of the condition (Pescosolido and Martin 2007). For instance, others might perceive the average low achiever as able to improve his or her outcomes with increased effort but youth labeled with LDs as biologically unable to change their outcomes (Woodcock and Jiang 2013). People lack knowledge on other mental disorders (Thorncroft et al. 2007), and negative stereotypes may also result from misperceptions of the LD label's meaning.

Hypothesis 2: If the school LD label produces negative stereotypes, teachers and parents will hold lower educational expectations for labeled adolescents than they do for unlabeled adolescents with similar academic records, attitudes, and behaviors.

Hypothesis 3: Labeling theory predicts that labeled adolescents' lower educational expectations for themselves will be partially attributable to teachers' and parents' lower expectations for them.

Gove (1970), a prominent critic of labeling theory, argued that perceptions of the mentally ill were attributable to their behaviors rather than to labels. LDs are sometimes accompanied by distinctive mannerisms (Elksnin and Elksnin 2004), but academic achievement levels are the primary criterion across all LD diagnostic models (Bradley et al. 2007; Fletcher et al. 2005). Many youth with LDs do not exhibit notable mannerisms (Coughlin 1997), and academic achievement levels are stronger predictors than behaviors of placement into special education (Hibel, Farkas, and Morgan 2010). Although these facts suggest that labeled students' behaviors will not be a major contributor to others' perceptions of them, this study compares adolescents (as per their own and their teachers' reports) with similar levels of academic self-efficacy, as well as comparable motivations for learning, modes of relating to others, and academic and social behaviors. Moreover, this study uses a sophisticated decomposition method to establish direct links between the LD label, measured correlates of the LD label, and outcomes.

Although this study focuses on potential costs of the LD label, students may experience both costs and benefits from special education placement. Labels and even stereotypes efficiently organize responses to diversity (Scrambler 2011), and special education placement is meant to enable achievement in distinctive learners. Link et al. (1989) advanced a modified labeling theory, arguing that labels can have negative effects even if labeled persons' poorer outcomes are not entirely attributable to the labels. Subsequent studies found support for this theory's position that stigmatizing cultural attitudes become personally relevant upon receipt of a label and thus contribute to labeled persons' behaviors (Kroska and Harkness 2006; Pescosolido and Martin 2007).

Hypothesis 4: Although the contributions of labeled persons' own distinctions and the potential benefits of labels are implicit within this study's framework, if the LD label is stigmatizing, teachers' and parents' educational expectations for labeled adolescents will be partially attributable to their perceptions of the adolescent as disabled, net of other factors.

Power

Link and Phelan (2001) described power as another critical element of stigma, primarily because stereotypes propagated by less powerful social groups never amount to stigma. The power to stigmatize begins with having the means to transform observed differences into widely recognized labels (Link and Phelan 2001). Teachers most often refer students for special education evaluation (Bradley et al. 2007; Mehan et al. 1986). Although some LD diagnoses may originate outside of schools, the disproportionate labeling of racial minorities, poor students, and linguistic minorities suggests that this disability label more often capitalizes on the power of schools relative to lower status families (Ong-Dean 2006). Zimmerman (2013) characterized power as "the capacity to cause pain or pleasure to others at relatively little cost to oneself" (p. 50). With the LD label implying deficiency, and even a lack of cognition or humanness (Ho 2004), advocating for an LD label may present fewer costs for teachers than for parents. The LD label diminishes teachers' responsibility for student success but may result in courtesy stigma for parents, with LDs sometimes attributed to prenatal factors, childrearing practices, or genetic inheritance (Ho 2004; Shonkoff and Phillips 2000). Power and stereotypes are products of culture and social structure (Sanders and Rogers 2011), and locating the origins of the LD label is a precursor to understanding which actors enable the LD label to stigmatize.

Hypothesis 5: If LD labels are reified within schools, teachers will perceive disability more readily in labeled adolescents than parents, and their educational expectations will be affected more negatively by the LD label than parents'.

People who confer stigma must be able to perpetuate the label by framing the opinions and thoughts of others (Link and Phelan 2001; Zimmerman 2013). Teachers' and parents' expectations for youth are shaped both through direct observation and shared information (Peet and Powell 1997). Parents might share information from home or doctors, but sharing evaluations of

students are explicit components of teachers' jobs. People who confer stigma have the power to separate and control access to major life domains (Link and Phelan 2001). Colleges and some employers rely on teachers' rather than parents' evaluations. Teachers' expert opinions may be sought even more often in the case of special education students, whose educational trajectories are reviewed by a panel of administrators, teachers, and parents on at least an annual basis per federal guidelines (U.S. Department of Education 2007).

Hypothesis 6: Although parents have broader power over their children's outcomes, teachers may have more power than parents to enable the LD label to stigmatize. If so, any negative effects of the LD label will be mechanized to a greater degree through teachers', rather than parents', perceptions and expectations.

Purpose of the Study

This study focuses on pathways whereby the school LD label may produce stigma and reproduce disadvantage as described by labeling theory. Students' likelihood of receiving a school LD designation depends on their academic records, attitudes, and behaviors, qualities that may also be shaped by receiving the designation. This study controls on these qualities to enable the comparison of designated and undesignated adolescents who should be expected to complete similar levels of education. If the school LD designation functions as a label, teachers and parents will be more likely to perceive disability in adolescents with this designation. Second, if the school LD label produces negative stereotypes, teachers and parents will hold lower educational expectations for labeled adolescents than they do for otherwise similar unlabeled adolescents, and these lower expectations will be partially attributable to their perceptions of the adolescent as disabled. From the perspectives of labeling theory, teachers' and parents' altered perceptions and expectations will contribute to labeled adolescents' lower educational expectations for themselves. Finally, this study uses decomposition methods to address a

third research question: whether teachers have more power than parents to enable the school LD label to stigmatize, or whether any negative effects of the school LD label are mechanized to a larger degree through teachers' rather than parents' perceptions and expectations.

DATA AND METHODS

The data used in this study come from ELS, a nationally representative longitudinal study of 16,373 10th graders enrolled in approximately 750 schools. The National Center for Education Statistics (NCES) first surveyed students in 2002 and then again in 2004. The NCES surveyed students' parent, and English and math teachers during the base year and collected high school transcript data after 2004. The NCES attempted to survey only one parent and teachers of only these two subjects. School-level information is available from school administrator surveys and linked data. This study excludes students designated with disabilities other than LDs ($n = 300$), who attended schools that did not report students' disability status ($n = 4,150$; more details below), or who were missing on the dependent variable. (NCES guidelines require unweighted frequencies to be rounded to the nearest 10.) Approximately 690 of the students in the analytic sample (6 percent) have school LD designations, which aligns with national benchmarks (Spellings et al. 2007). This study maintains separate analytic samples for each dependent variable to retain the maximum number of adolescents with school LD designations. The educational expectations of teachers are estimated with about 10,380 adolescents (640 with school LD designations), those of parents with 9,010 adolescents (500 with school LD designations), and those of adolescents with 10,700 adolescents (470 with school LD designations).

ELS was the ideal choice for this study for several reasons. In contrast to data used in most previous studies, ELS offers data at the student and school levels; a large sample size; peers not designated with disabilities as a base of comparison; and excellent measures of adolescents' attitudes and behaviors, sociodemographic, and academic characteristics. Last, ELS provides a school report of disability identification but also measured parents'

and teachers' perceptions of disability. Both the data and methodological techniques make this study a major contribution to research on students labeled with disabilities.

School LD Designation

Schools reported which sampled students had an Individualized Education Program (IEP), that is, were in receipt of special education services, during 10th grade. This study excludes all students who qualified for special education, as per their IEPs, for disabilities other than LDs. For reasons that remain unclear, IEP statuses were not reported for about 8,150 students; this study's analytic sample only excludes the approximately 4,150 students in the 202 schools that provided IEP reports for none of their sampled students. Because exploratory analyses showed that comparable mean proportions of students were designated with any disability, and with LDs, across the two groups of schools providing IEP reports on all (175 schools) and only some (374 schools) of their sampled students, the 4,000 students with missing IEP reports in the latter group of schools were classified as not having IEPs. All regression models include an imputation flag for these cases. Because of distinctions between excluded and included students, this study's analytic sample cannot be described as nationally representative. More details are available in the limitations section of the discussion and in online supplementary tables.

Perceptions of Disability

A dichotomous measure indicates whether parents chose "specific learning disabilities" in response to: "In your opinion, which of these disabilities does your tenth grader have?" Because LD diagnoses most often originate in schools (Bradley et al. 2007), parents' perceptions of disability should be informed by the school LD designation. Parents may perceive disability in the absence of a school designation if their children were exited from special education at some point or if the parents base their perceptions on diagnoses not recognized by the school. Another dichotomous measure indicates whether one or both of adolescents' 10th grade math and English teachers responded "yes"

to the question "In your opinion, does this student have a learning-, physical-, or emotional-disability that affects his/her school work?" This question would have better served the purposes of this study without the condition of the disability affecting school work. Ideally, the question would have also focused only on LDs, but the exclusion of students with disabilities other than LDs from these analyses somewhat ameliorates this issue. The implications these differences may carry for findings are considered in the discussion.

Educational Expectations

Each ordinal measure of educational expectations indicates whether the adolescent is expected to complete: (1) a bachelor's degree (BA) or higher, (2) some college, or (3) a high school degree or lower. Some analyses narrow in on BA completion. These outcomes have a relatively large number of missing values, but the differences between adolescents with school LD designations who were not excluded from analyses entirely, and adolescents with school LD designations in each analytic sample, were minimal; details beyond those provided in this section are available in the discussion and in online supplementary tables. The educational expectations of adolescents' 10th grade English and math teachers are averaged. Four hundred adolescents were missing both teachers' reports, with adolescents with school LD designations less likely to be missing than adolescents without school disability designations (7.4 percent vs. 11.8 percent). Estimates of stigma related to teachers' expectations may be conservative because the adolescents with school LD designations used in these analyses have slightly higher socioeconomic status (SES) on average than the larger group of adolescents with school LD designations. Fifteen hundred ten adolescents were missing on parents' expectations, with adolescents with school LD designations slightly more likely than adolescents without school disability designations to be missing (23.8 percent vs. 20.9 percent). The adolescents with school LD designations not missing on parents' expectations do not differ markedly from the larger group of adolescents with school LD designations. To enable longitudinal models, this study uses adolescents' 12th grade

rather than 10th grade reports of their educational expectations. Two hundred eighty adolescents did not report their educational expectations, with adolescents with school LD designations more likely than adolescents without school disability designations to be missing (22.9 percent vs. 9.1 percent). Estimates of stigma related to adolescents' expectations may be conservative because the adolescents with school LD designations used in these analyses are slightly more socially and academically advantaged than the larger group of adolescents with school LD designations.

Controls

This study uses controls for adolescents' sociodemographic and academic backgrounds, level of 9th grade coursework, early high school achievement, and attitudes and behaviors. Unless there was a strong theoretical reason for including a measure, the controls included in regression analyses had the largest impacts in the direction of the association between the predictor of interest and the dependent variables (see Frank 2000). Missing values on all independent variables were addressed through multiple imputation by the MICE system of chained equations (Royston 2009). Sociodemographic and academic background controls include measures of each adolescent's sex, race, SES, age at the time of the 10th grade survey, school type (public, Catholic, other), and whether the adolescent lived with both biological parents, was ever in remedial English or math, or was ever retained. Ninth grade coursework controls describe the number of credits completed in low-level, regular-level, advanced-level, and noncore (e.g., elective, vocational) coursework, as well as ordinal indicators of the levels of math and science attempted. Early high school achievement controls measure the number of 9th grade core (English, math, science, social studies, foreign language) semesters failed, grade point average in all 9th grade coursework, and score on the 10th grade reading test. Adolescents' attitudes and behaviors as 10th graders are described by scale measures of the number of negative behaviors engaged in per their own and teachers' reports, passivity per teachers' reports, and positivity toward math coursework, English coursework, and learning per

their own reports. A complete list of the variables used to construct these scales is available in an online supplement.

Analytic Strategy

Descriptive statistics document differences in the characteristics of adolescents with and without school LD designations. To explore the labeling and stereotyping elements of stigma, logistic regression models are estimated to contrast differences by school LD status in teachers' and parents' perceptions of disability and their educational expectations. These analyses also explore whether teachers' perceptions and expectations more readily align with the school LD designation than parents'. Robust standard errors are estimated for all regression analyses to account for the clustering of students within schools.

The decomposition method decomposes the total effect of the school LD designation into a direct and an indirect effect and then determines the contribution of each mediator to the total effect, net of controls and other mediators. This method is used to: (1) document the extent to which any negative effect of the school LD label on educational expectations is attributable to perceptions of disability; (2) determine whether the negative effect of the school LD label on teachers' and parents' expectations is mediated to a greater degree by parents' or teachers' perceptions of disability; and (3) determine whether the negative effect of the school LD label on adolescents' educational expectations is mediated to a larger degree through teachers' or parents' educational expectations. The decomposition method used in this study addresses issues of scaling that arise when comparing log odds or odds ratios across models (Hoetker 2007; Kohler, Karlson, and Holm 2011). As another means of understanding whether teachers or parents have more power to enable the school LD label to stigmatize, I show predicted probabilities estimated from a third regression model incorporating a mutually exclusive indicator of perceptions of disability (10th grader perceived as disabled by [1] neither parents nor teachers, [2] teachers only, [3] parents only, or [4] teachers and parents).

When estimating adolescents' educational expectations, a flag is included for cases missing

on teachers' or parents' expectations. Because the study's focus is not on changes in expectations from the 10th to the 12th grade, a measure of adolescents' 10th grade expectations (a lagged model) is not included. Exploratory analyses showed that adolescents' expectations decline slightly from 10th to 12th grade on average, but the expectations of adolescents with school LD designations do not decline significantly more or less than those of adolescents without school disability designations. This aligns with this study's conceptualization that adolescents' expectations form in conjunction with those of their parents and teachers throughout the course of their academic careers. These analyses capture a brief window of those careers.

RESULTS

In addition to providing descriptive statistics, Table 1 establishes differences between adolescents with and without school LD designations. Teachers and parents perceive disability in a significantly greater proportion of adolescents with school LD designations than in adolescents without disability designations and hold significantly lower educational expectations for adolescents with school LD designations, than they do for adolescents without school disability designations. Adolescents with school LD designations are more socially disadvantaged and have poorer academic histories than adolescents without school disability designations. Adolescents with school LD designations exhibit poorer academic behaviors and fewer positive attitudes toward learning. Teachers' and parents' more negative perceptions of and expectations for adolescents with school LD designations may be entirely attributable to these adolescents' more disadvantaged social, academic, attitudinal, and behavioral qualities.

Labeling and Negative Stereotypes

Table 2 shows odds ratios from logistic regression models predicting teachers' and parents' perceptions of 10th graders as disabled, with and without controls. At the baseline, the odds that teachers perceive disability in adolescents with school LD designations are 32.6 times higher than those for

adolescents without school disability labels (Model TA1). Similarly, the odds that parents perceive their children as disabled are 22.2 times higher if their children have school LD designations (Model PA1). Among adolescents with similar social and academic backgrounds, and attitudes and behaviors, the odds of perceiving disability in adolescents with school LD designations are still 18.5 times higher among teachers (Model TA2) and 10.6 times higher among parents (Model PA2). Because teachers and parents are more likely to perceive disability in adolescents with school LD designations—regardless of academic record, attitudes, or behaviors—the school designation appears to function as a label. Teachers' heightened likelihood of perceiving disability on the basis of the school designation, relative to parents, may indicate that the LD label is reified within schools.

Table 2 also shows odds ratios from multinomial logistic regression models predicting teachers' and parents' educational expectations for adolescents as 10th graders, without and with controls. At the baseline, the odds of teachers expecting some college rather than no college for labeled adolescents are 49 percent lower (100 [−51 – 1] percent) than the odds of teachers expecting some college for unlabeled adolescents; the odds of teachers expecting a BA or higher versus no college are 96 percent lower for labeled adolescents (Model TB1). At the baseline, the odds of parents of labeled adolescents expecting some college versus no college for their children are 50 percent lower, and of expecting a BA versus no college are 87 percent lower, than the odds of parents of unlabeled adolescents expecting similar levels of attainment (Model PB1). The differences by school LD status in teachers' expectations of a BA appear to be larger than those in parents'. Among adolescents with similar social and academic backgrounds, early high school achievement, attitudes, and behaviors, the odds of teachers expecting a BA or higher versus no college are still 82 percent lower for labeled adolescents than those for unlabeled adolescents (Model TB2), and the odds of parents of labeled adolescents expecting a BA or higher are 48 percent lower than those of parents of unlabeled adolescents (Model PB2). These findings may indicate the school LD label

Table 1. Weighted Means and Proportions of Analytic Sample from ELS (n = 11,740).

Variable	No School Disability Label (n = 11,050)	School LD Label (n = 690)
Perceptions of and expectations for 10th grader		
Perceptions of disability		
Neither	.82	.09
Teachers only	.13	.39
Parents only	.03	.08
Teachers and parents	.02	.44
Teachers' educational expectations	3.09	1.74
Parent's educational expectations	3.88	2.75
Sociodemographic and academic background		
Male	.49	.66
Race		
White	.63	.60
Black	.13	.14
Hispanic	.15	.17
Asian	.03	.02
Other	.05	.07
Socioeconomic status	.01 (.68)	-.22 (.64)
Both biological parents live in household	.59	.48
Type of high school		
Public	.94	.99
Catholic	.04	.01
Other private	.02	.01
Ever in remedial English	.07	.18
Ever in remedial math	.09	.19
Ever retained a grade	.11	.35
Age at 10th grade survey	15.86 (.59)	16.15 (.69)
9th grade coursework		
Credits in special education or low-level coursework	.24 (.47)	.90 (1.00)
Credits in regular-level coursework	3.64 (1.31)	2.68 (1.45)
Credits in advanced-level coursework	.33 (.59)	.07 (.24)
Credits in noncore coursework	2.27 (1.04)	2.54 (1.25)
Level of math coursework ^a	3.81 (1.36)	2.58 (1.47)
Level of science coursework ^b	2.45 (1.17)	2.04 (1.53)
Early high school achievement		
Semesters of 9th grade core coursework failed	.59 (1.40)	.79 (1.50)
GPA in all 9th grade coursework	2.74 (.78)	2.28 (.70)
Score on 10th grade reading test	51.07 (8.98)	39.77 (7.94)
Attitudes and behaviors as a 10th grader		
Negative academic behaviors per teachers	6.70 (4.84)	9.40 (5.08)
Negative social behaviors per teachers	5.46 (3.47)	7.56 (4.43)
Student's passivity per teachers	.26 (.48)	.39 (.59)
Negative behaviors per student	6.73 (4.17)	9.06 (5.36)
Positive attitudes toward learning	21.04 (6.65)	17.85 (6.49)
Positive attitudes toward math coursework	15.46 (5.11)	14.46 (4.10)
Positive attitudes toward English coursework	13.28 (4.54)	11.33 (4.01)

Note: GPA = grade point average; LD = learning disability. Standard deviations are provided in parentheses. All differences between labeled and unlabeled students are statistically significant ($p \leq .05$, two-tailed test).

a. Level of math coursework: 0=No math, 1=Basic/remedial, 2=General/applied, 3=Pre-Algebra, 4=Algebra I, 5=Geometry, 6=Algebra II, 7=Advanced math, 8=Pre-calculus, 9=Calculus.

b. Level of science coursework: 0=No science, 1=Basic/remedial, 2=General/earth science, 3=Biology, 4=Chemistry, 5=Advanced science, 6=Physics.

Table 2. Altered Perceptions and Negative Stereotypes: Odds Ratios from Logistic and Multinomial Logistic Regression Models Predicting Teachers' and Parents' Perceptions and Expectations.

	Teachers			Parents		
	Perceive 10th Grader as Disabled	Educational Expectations for 10th Grader (vs. No College)		Perceive 10th Grader as Disabled	Educational Expectations for 10th Grader (vs. No College)	
		Some College	BA or Higher		Some College	BA or Higher
	Model TA1	Model TB1		Model PA1	Model PB1	
School LD label	32.62*** (.15)	.51*** (.12)	.04*** (.20)	22.20*** (.12)	.50*** (.16)	.13*** (.16)
BIC	10,500,000	20,380,000		5,135,616	14,230,000	
	Model TA2	Model TB2		Model PA2	Model PB2	
School LD label	18.50*** (.17)	.76 (.16)	.18*** (.27)	10.57*** (.15)	.76 (.18)	.52*** (.19)
Sociodemographic and academic background						
Male	1.00 (.07)	.97 (.10)	1.37* (.12)	1.00 (.11)	1.00 (.13)	.74* (.13)
Race						
White (reference)	—	—	—	—	—	—
Black	.88 (.10)	.89 (.15)	1.47 (.20)	.51*** (.18)	1.13 (.18)	3.60*** (.19)
Hispanic	.94 (.09)	.93 (.13)	1.25 (.18)	.55*** (.15)	1.23 (.19)	4.58*** (.21)
Asian	.78 (.15)	1.23 (.23)	2.86*** (.31)	.33*** (.28)	1.70 (.46)	8.73*** (.49)
Other	1.06 (.14)	1.00 (.19)	1.36 (.23)	.71 (.21)	.73 (.23)	1.16 (.25)
Socioeconomic status	1.07 (.05)	1.65*** (.08)	3.13*** (.10)	1.54*** (.09)	2.00*** (.11)	3.50*** (.11)
Both biological parents in household	.98 (.07)	1.06 (.09)	1.18 (.11)	1.11 (.11)	1.19 (.13)	1.17 (.13)
Type of high school						
Public (reference)	—	—	—	—	—	—
Catholic	1.46** (.14)	3.77*** (.26)	9.98*** (.32)	1.29 (.18)	.95 (.39)	3.68*** (.36)
Other private	1.00 (.23)	1.52 (.53)	3.82* (.66)	1.54* (.22)	1.29 (.61)	2.88* (.53)
Ever in remedial English	1.02 (.15)	1.29 (.19)	1.12 (.25)	1.00 (.24)	1.04 (.24)	1.00 (.25)
Ever in remedial math	1.26 (.14)	.66* (.17)	.64* (.22)	.97 (.24)	1.19 (.23)	1.28 (.23)
Ever retained a grade	1.24* (.09)	.78* (.11)	.61** (.16)	2.61*** (.13)	.76 (.16)	.57*** (.16)

(continued)

Table 2. (continued)

	Teachers			Parents		
	Perceive 10th Grader as Disabled	Educational Expectations for 10th Grader (vs. No College)		Perceive 10th Grader as Disabled	Educational Expectations for 10th Grader (vs. No College)	
		Some College	BA or Higher		Some College	BA or Higher
		Model TA2	Model TB2		Model PA2	Model PB2
Age at 10th grade survey	1.03 (.05)	.81** (.07)	.76** (.09)	.97 (.08)	.83* (.09)	.76** (.09)
9th grade coursework						
Credits in coursework						
Special education or low level	1.22** (.07)	.88 (.08)	.75* (.12)	1.05 (.08)	.90 (.10)	.83 (.10)
Regular level	.96 (.03)	1.10** (.04)	1.19** (.06)	.95 (.04)	1.18** (.05)	1.22*** (.05)
Advanced level	.87 (.09)	1.15 (.16)	1.97*** (.17)	.76* (.14)	1.23 (.17)	1.87*** (.16)
Noncore	1.07* (.03)	.96 (.04)	.77*** (.06)	1.00 (.04)	.91 (.05)	.79*** (.05)
Level of math coursework	.96 (.03)	1.02 (.04)	1.07 (.06)	.98 (.04)	.90 (.05)	.97 (.05)
Level of science coursework	1.01 (.03)	.98 (.04)	.90* (.05)	1.01 (.04)	.92 (.05)	.93 (.05)
Early high school achievement						
Semesters 9th grade core coursework failed	.98 (.02)	1.01 (.03)	1.01 (.07)	.97 (.04)	1.03 (.04)	1.02 (.05)
GPA in all 9th grade coursework	.63*** (.05)	1.30** (.09)	3.28*** (.12)	.78** (.09)	1.29* (.12)	1.97*** (.12)
Score on 10th grade reading test	.97*** (.00)	1.02** (.01)	1.07*** (.01)	.95*** (.01)	1.01 (.01)	1.04*** (.01)
Attitudes and behaviors as a 10th grader						
Negative behaviors per teachers:						
Academic	1.07*** (.01)	.89*** (.01)	.75*** (.02)	1.05*** (.02)	1.00 (.02)	.94*** (.02)
Social	1.08*** (.01)	.93*** (.02)	.89*** (.02)	1.00 (.02)	.96* (.02)	.97 (.02)
Passivity per teachers	1.50*** (.06)	.77*** (.08)	.55*** (.11)	1.16 (.09)	1.00 (.11)	.92 (.12)

(continued)

Table 2. (continued)

	Teachers			Parents		
	Perceive 10th Grader as Disabled	Educational Expectations for 10th Grader (vs. No College)		Perceive 10th Grader as Disabled	Educational Expectations for 10th Grader (vs. No College)	
		Some College	BA or Higher		Some College	BA or Higher
	Model TA2	Model TB2		Model PA2	Model PB2	
Per student:						
Negative behaviors	1.00 (.01)	.97*** (.01)	.95*** (.01)	.98 (.01)	.98 (.01)	.97* (.01)
Positive attitudes toward:						
Learning	.99 (.01)	1.01 (.01)	1.03* (.01)	.99 (.01)	1.00 (.01)	1.03* (.01)
Math coursework	.99 (.01)	1.01 (.01)	1.04** (.01)	1.01 (.01)	1.02 (.02)	1.04* (.02)
English coursework	1.01 (.01)	.99 (.01)	1.00 (.01)	.99 (.01)	1.02 (.02)	1.03 (.02)
BIC	8,591,663	13,520,000		4,588,060	1,111,000	

Note: BIC = Bayesian information criterion; LD = learning disability. Standard errors are provided in parentheses. Models predicting perceptions of disability were estimated using approximately 10,670 students. Models predicting educational expectations used approximately 10,380 students for teachers' and 9,010 students for parents' expectations.

* $p < .05$, ** $p < .01$, and *** $p < .001$ (two-tailed tests).

produces negative stereotypes, stereotypes particularly salient to teachers.

Figure 1 decomposes the negative estimated effect of the school LD label on educational expectations into direct and indirect effects. The magnitude of the negative effect of the school LD label on teachers' and parents' expectations as indicated in Figures 1.1 and 1.2 is comparable with the results from Table 2. As can be seen in Figure 1, 32.1 percent and 84.9 percent of the total negative effect of the school LD label on teachers' and parents' expectations are, respectively, mechanized through perceptions of the adolescent as disabled; perceptions, this study has already shown, that appear to be informed by symbols of the school LD label. The direct effects of the school LD label are not evidence against stigma but rather suggest that the school LD label is also associated with expectations

via unmeasured factors (e.g., labeled adolescents' mannerisms) (Blakely 2002). These findings may support labeling theory's predictions that stigma related to the school LD label influences teachers' and parents' lower expectations, in that their expectations are partially attributable to disability perceptions informed by the school LD label.

Power

Figure 1 also shows the extent to which each mediator contributes to the total negative effect of the school LD label, net of controls and other mediators. Although only 4.5 percent of the negative effect of the school LD label on teachers' educational expectations is mechanized through parents' perceptions of the adolescent as disabled (Figure 1.1), 26.3 percent of the negative effect of the school LD label on

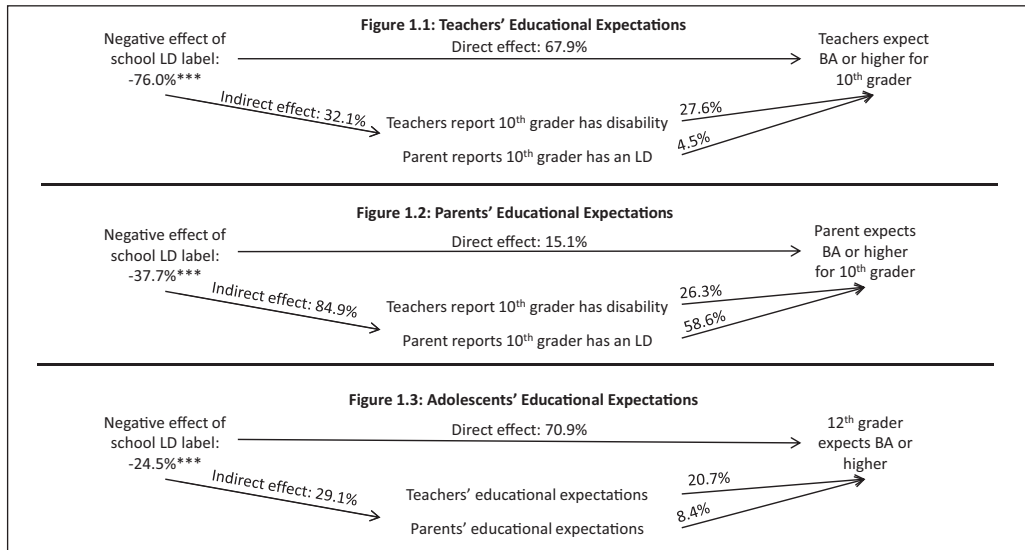


Figure 1. Power to Enable Stigmatization: Relative Strength of Mediators between the School Learning Disability (LD) Label and Expectations That Adolescents Will Complete a Bachelor's Degree (BA) or Higher, Net of All Controls.

Note: These decomposition estimates control for the influence of students' sociodemographic and academic backgrounds, ninth grade coursework, early high school achievement, and attitudes and behaviors (the model predicting adolescents' expectations also controls for teachers' and parents' perceptions of disability). The degree to which each mediator influences the outcome is net of the influence of the other mediators listed. *** $p < .001$ (two-tailed test).

parents' expectations is mechanized through teachers' perceptions of the adolescent as disabled (Figure 1.2). Figure 1.3 shows that the odds of labeled students expecting to complete at least a BA are 24.5 percent lower than the odds of unlabeled adolescents expecting the same. Although 8.4 percent of the negative effect of the school LD label is mechanized through their parents' expectations for them, 20.7 percent of the negative effect of the school LD label is mechanized through their teachers' expectations for them. These findings align with labeling theory's prediction that labeled adolescents' lower educational expectations are partially attributable to others' altered perceptions of them and suggest that the power of the school LD label to stigmatize is sourced in teachers more so than parents.

Figure 2 shows differences in teachers' and parents' educational expectations depending on whether parents and/or teachers perceive adolescents as disabled (regardless of whether the adolescents have school LD labels). Teachers' predicted expectations

are lowest for adolescents they perceive as disabled, regardless of whether the adolescents are perceived as disabled by their parents. Similarly, parents' educational expectations are lowest if they perceive their adolescents as disabled, regardless of teachers' disability perceptions. Parents hold significantly lower expectations for adolescents perceived as disabled by only teachers than they do for adolescents not perceived as disabled by teachers or parents. This same difference (perceived as disabled by neither vs. by only their parents) is not statistically significant among teachers. Although teachers' and parents' own perceptions contribute the most to their respective expectations for labeled adolescents, teachers' perceptions appear to be more influential for parents' expectations than parents' perceptions are for teachers' expectations. It is also important to reiterate that, regardless of the mechanisms, the school LD label appears to have a much smaller effect overall on parents' expectations than it does on teachers'.

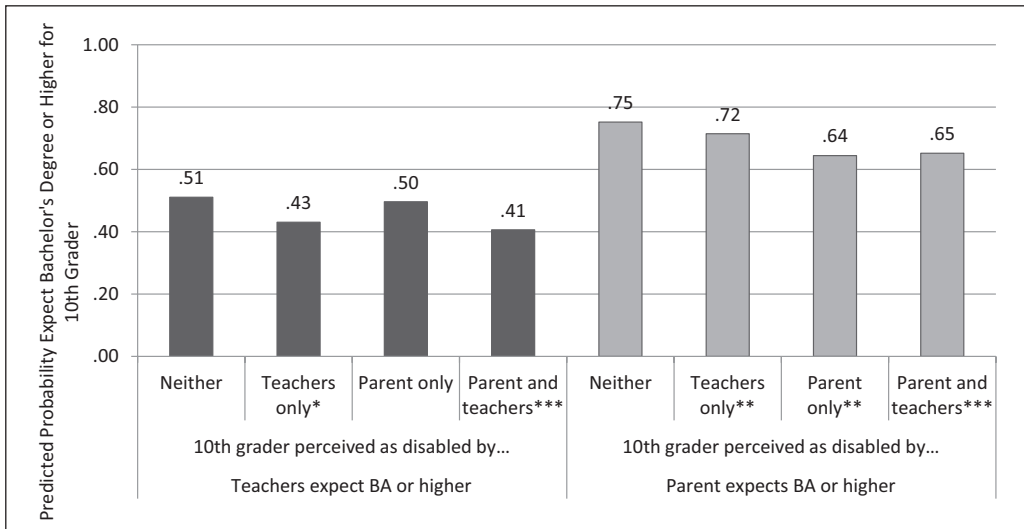


Figure 2. Power to Enable Stigmatization: Predicted Probability of Expectation That a 10th Grader Will Complete a Bachelor's Degree (BA) or Higher Depending on Disability Perceptions.

Note: Predicted probabilities estimated from models with controls for each adolescent's sociodemographic and academic background, 9th grade coursework, early high school achievement, attitudes and behaviors as a 10th grader, and teachers' and parents' perceptions of disability. Statistical significance shown for differences between the three groups of adolescents perceived as disabled by their teachers and/or parents and the group of adolescents not perceived as disabled by teachers or parents. * $p < .05$, ** $p < .01$, and *** $p < .001$ (two-tailed test).

DISCUSSION

The poorer outcomes of students labeled with LDs are alternately attributed to their own deficiencies, cumulative disadvantage, and more direct stigmatizing processes. Data and methodological issues have limited investigation of these possibilities. This study contributes to research on this status group and general theories on labeling by exploring whether stigma related to the label shapes educational expectations for students labeled with LDs. The contributions of differences in learning ability and cumulative disadvantage are accounted for by comparing adolescents with similar potential for educational attainment, as evidenced by their academic records, attitudes, and behaviors as of early high school. The results appear to be consistent with the predictions of labeling theory. Teachers and parents hold significantly lower educational expectations for adolescents labeled with LDs than they do for similarly achieving and behaving adolescents not labeled with disability, and these lower expectations contribute to labeled adolescents' lower educational expectations for themselves.

The interpretation of labels as objective and important is a first indicator of stigma (Link and Phelan 2001). LD diagnostic criteria are criticized as inconsistent and subjective (Dudley-Marling 2004), but teachers' and parents' increased likelihood of perceiving disability in adolescents with school LD designations suggests that this designation may function as a label. Although these results are based on comparisons of adolescents with similar academic records, attitudes, and behaviors, the possibility remains that factors unmeasured in this study influence teachers' and parents' perceptions. Moreover, teachers were asked to report disabilities that affect adolescents' school work, while parents' survey question did not add this extra condition. Although it would seem the distinction in these questions would result in teachers being less likely to report disability than parents, the inconsistent survey questions remain a limitation of this finding.

Among similarly achieving and behaving adolescents, this study finds that the odds of teachers expecting a BA or higher versus no college for adolescents with school LD labels are 82 percent lower than those for adolescents without school

disability labels, and the odds of parents of labeled adolescents expecting a BA or higher are 48 percent lower than those of parents of unlabeled adolescents. Furthermore, teachers' and parents' lower expectations for labeled adolescents were partially attributable to their perceptions of these adolescents as disabled, net of achievement evidence. Although it is possible that teachers' and parents' educational expectations are influenced by unmeasured correlates of the LD label rather than the label itself, these findings present the possibility that the LD label communicates negative stereotypes, particularly among teachers. Finally, consistent with labeling theory's depiction of reproduced disadvantage, results from this study indicate labeled adolescents' lower educational expectations are partially attributable to their teachers' and parents' lower expectations for them.

On the basis of data from only two of each adolescent's teachers, these results may be conservative estimates of the stigma students labeled with LDs encounter over the course of their school careers. Although some advocate for the cessation of labeling within schools (Ho 2004), others maintain that labels enable efficient responses to diversity (Kroska and Harkness 2006; Scrambler 2011) and provide relief to those whose inability to function like others was previously unexplained (Sanders and Rogers 2011). Special education services may engender stigma while simultaneously improving students' opportunities to learn. With a focus on the manifest purposes of labels (Perry 2011a; Rosenfield 1997), some criticize social models of disability for dismissing inherent difficulties of distinctiveness, or for offering few remedies for root issues (Sanders and Rogers 2011; Shakespeare 2006). Most sociologists of health advocate for the blending of medical and social perspectives (Perry 2011b) or, in this case, reducing negatives of special education labels while capitalizing on the positives. This study identified potentially negative implications of correlates of the LD label (perceptions of disability and lower educational expectations) for labeled adolescents' social-psychological outcomes. The increasing emphasis on patients' authority over their own health (Topol 2012) may counterbalance psychiatrists' and educators' vested interest in propagating simplistic absolute diagnoses that carry negative

stereotypes. An increased understanding of the meaning and subjectivity of the LD label may promote expectations for labeled students more consistent with their achievement levels (Quinn et al. 2011). With information on remaining gaps in scientific knowledge on LDs, students might incorporate useful insights from an LD diagnosis while not feeling the label seals their destiny or captures their complexity.

Stigma is a product of social relations (Goffman 1963), rather than distinctive attributes or labels alone. Findings from this study and an understanding of the processes that produce an LD label suggest that the authority of this label is grounded within schools and that teachers may have more power than parents to enable the LD label to stigmatize. Relative to parents', teachers' heightened likelihood of perceiving disability on the basis of the school LD designation and their relatively lower educational expectations for labeled adolescents may indicate that the LD label is reified within schools. The negative effects of the school LD label seem to be mechanized to a greater degree through teachers' rather than parents' perceptions and expectations. These findings align well with the fact that academic evaluations are an explicit function of teachers' rather than parents' roles. Although these results are based on comparisons of adolescents with similar academic records, attitudes, and behaviors, teachers' seeming power to enable the LD label to stigmatize could actually be attributable to this study's unmeasured factors being qualities that are more obvious to or interpreted as more relevant by teachers than parents.

Although inconclusive evidence that the power of the LD label to stigmatize is sourced in teachers more so than parents, the very possibility of stigma might be sufficient motivation for additional research into and modification of special education processes within schools. Schools could increase teachers' awareness of the subjectivity of the LD label and preparation to interact positively with special education students; students might be provided with coping strategies proved to mitigate stigma related to other mental disorders (Major and O'Brien 2005; Ohan et al. 2011; Thoits 2011). Stigmatizing attitudes arise from broader cultural values (Scrambler 2011), suggesting the potential

value of increasing general public knowledge on LDs (Kroska and Harkness 2006; Thornicroft et al. 2007).

Several limitations of this study merit mention. Although ELS was ideal for this study in several ways, a relatively large number of cases were missing values on key variables. About a quarter of sampled schools did not report whether sampled students were labeled with disabilities, resulting in the exclusion of one quarter of sampled students from these analyses. Excluded students were more likely to be racial minorities and had higher SES on average, lower levels of course taking, and comparable levels of academic achievement. Although some of these differences were statistically significant, most were not substantively large. Excluded students' relative social advantage may suggest that the results of this study are only conservative estimates. The findings on differences in attitudes and behaviors were mixed. There are differences in the types, regions, and urbanities of the schools of included and excluded students, but exploratory analyses showed that type of school was the only factor that influenced the outcomes of interest in this study, net of students' own characteristics. Results from analyses estimated with the full sample (students with missing school reports classified as not labeled with disability) were similar to those presented here. Nonetheless, although the sample size remained large and diverse, these findings cannot be generalized to the national population of students and may be particularly less applicable to racial minorities and students in private schools because students with these characteristics were more likely to be excluded. The students with school LD labels in the analytic samples used to predict teachers' and adolescents' educational expectations were slightly more advantaged than the larger group of students with school LD labels, but results from analyses with imputed versions of expectations were also similar to results presented here.

The possibility that stigma is a consequence of the symptoms of a condition rather than the label itself has been a classic tension in the psychiatric labels literature (Gove 1970; Link et al. 1989). Most previous studies on psychiatric labels focused on mental illnesses, for which behaviors are the primary symptoms (Kroska and Harkness 2006; Martin et al. 2007). Low levels of academic

achievement are the primary diagnostic criterion for LDs (Fletcher et al. 2005; Hibbel et al. 2010). This study benefits from the objectivity of measures of academic achievement relative to measures of behaviors and through the use of a data set with excellent measures of the primary symptom of LDs. Nonetheless, the possibility remains that teachers' and parents' perceptions of and expectations for labeled adolescents are based on unmeasured correlates of the LD label rather than the label itself. Behaviors are important contributors to academic achievement (McLeod, Uemura, and Rohrman 2012), and high school academic achievement levels presumably encompass the effect of students' behaviors on their academic potential. Expectations based on more subjective indicators of potential (e.g., mannerisms), rather than objective achievement evidence, may still indicate stigma, but stigma that is not sourced in the LD label. The potential influence of unmeasured factors on these findings should not be discounted.

Despite these limitations, this study's data and methodological strategies, and new sociological framework for LDs, are a major contribution to the literatures on LDs, labeling, and stigma. The evidence in this study suggesting even a possibility of stigma related to the LD label might motivate improved data collection efforts and continued investigation. Future research might incorporate direct measures of stigma, use qualitative methods, or explore the extent to which stigma influences labeled students' academic outcomes, ideally using a life course perspective (McLeod and Kaiser 2004). Research on other health conditions has found that stigma varies depending on labeled persons' sociodemographic characteristics, social-psychological qualities, and their conditions' severity or externalizing symptoms (Major and O'Brien 2005; Martin et al. 2007). Stigma also varies depending on the characteristics of potential stigmatizers (McLeod et al. 2007). These studies suggest possible means whereby stigma might vary among students labeled with LDs or through which conditions such as autism and attention-deficit/hyperactivity disorder may be more or less stigmatizing than LDs.

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