Punitive versus Medicalized Responses to Childhood Behavior Problems and Performance in High School

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Abstract: Recently, scholars have documented two contemporary trends involving misbehavior in public schools in the United States - a growing reliance on suspension and expulsion as punishment and medicalization, or the use of medical diagnoses and treatment. Despite these trends, we know little about how school punishment and medicalization influence long-term social and economic well-being. In particular, we are unclear about how the social construction of child behavior contributes to involvement in the school to prison pipeline, a process in which children with behavior problems are pushed out of school and into crime and incarceration. This paper begins to consider the relationship between childhood social control and school performance within the context of the school to prison pipeline. Specifically, I argue that one of the most popular forms of control child misbehavior – school suspension – may push kids out of school and potentially into the criminal justice system. On the other, another increasingly common form of child social control, the use of therapy and/or medication for behavior problems, may not have the same negative implications for academic performance that school suspension does and, instead may keep kids in school and out of the criminal justice system.

Introduction

There have been significant changes in the way parents and schools have defined and managed the misbehavior of school-aged children in the United States. At the same time schools have been relying on suspension and expulsion as punishment and deterrence for those who misbehave in public schools a growing number of American schoolchildren are receiving medical diagnoses and treatment for behavioral conditions such as ADHD or conduct disorders. Looking at recent historical trends, in 1990, one in five American schoolchildren reported at least one suspension before reaching 10th grade. By 2006, this number had increased to nearly one in four (Bertrand and Pan 2011; Skiba et al, 2013). At the same time, a growing number of children and behaviors are undergoing a process of medicalization, being defined using medical or psychological terminology and controlled through the techniques and practices of the health care profession (Conrad 2007). For example, an estimated 10 percent of children under 15 in the United States have been diagnosed and treated for symptoms associated with ADHD, up from just a little over 2 percent in the 1990 (Kelleher et al. 2000; Hinshaw and Scheffler 2014). Additionally, a growing number of children are being treated for a number of different behavior problems, including conduct disorder (Frick and Nigg 2009; Moffitt et al. 2001), oppositional defiant disorder (Frick et al. 1993); cognitive delays (Boyle et al. 2011); and other medically and psychologically recognized behavior disorders (Conrad 2007).

Despite the increasing prevalence in both school punishment and medically diagnosed behavior disorders, we know little about how or whether these different types of behavioral intervention during childhood and adolescence influence long-term social and economic well-being. Moreover, our knowledge is limited by the fact that most social science research on the effects of such practices on well-being has been unable to disentangle the consequences of

punishment or the efficacy of treatment from underlying behavioral traits (Fletcher and Wolfe 2013; Savolainen et al. 2011). Therefore, despite these important changes in how we control children with behavior problems, we know little about how or whether these interventions contribute to social and academic well-being.

Interventions like school punishment or therapy and/or medication are intended to improve the academic performance of children with behavior problems (Hinshaw and Scheffler 2014; Kim, Losen, and Hewitt 2010). School performance and high-school graduation represent two important and related pathways for long-term success. For children with behavior problems, academic success can be extremely difficult. Because good grades require persistent effort and maintaining a routine, children who are inattentive and impulsive are not perceived to perform well (Hinshaw and Scheffler 2014). Consequently, children with ADHD or other behavior problems are at a significantly greater risk of dropping out of high school (Breslau et al. 2011). Furthermore, both punishment and medicalization represent different types of social control. While school punishment is intended to deter misbehavior through social exclusion and isolation, therapy or medication provides a medicalized approach to behavior that includes treatments specifically designed to improve behavior (Medina and McCranie 2011).

Recently, scholars have pointed to similarities between school punishment and the criminal justice as examples of the "criminalization" of social control (Simon 2007). For example, school punishment early in life removes children from the classroom and creates a reputation as a troublemaker that follows children throughout their school career (Ferguson 2002). As a result, students who experience punishment early in life perform worse in school and are less likely than their peers to complete high school. This places them at risk of falling into the "school to prison pipeline" in which suspension or expulsion from school pushes them out of

the classroom and into the criminal justice system (Kim, Losen, and Hewitt 2010). On the other hand, the use of therapy and medication represent a process of "medicalization" in which the child's misbehavior is given biological or psychological causes and controlled through medical expertise and supervision (Conrad 2007). Importantly, medicalization is often accompanied by official legal protections in the classroom and unofficially limited culpability (Kim, Losen, and Hewitt 2010). Despite these potentially divergent effects on academic well-being, most research continues to examine the effects of school punishment *or* the effects of therapy and/or medication.

In this paper, I draw from developmental and life-course criminology to examine school punishment and medicalization as early social control policies with important long-term implications with respect to the school to prison pipeline. I argue that children who experience early school punishment perform worse in school and are less likely to graduate than their peers who do not graduate. Additionally, I argue that children that receive therapy and/or medication during childhood, but avoid school punishment, perform better and are more likely to finish high school than their punished peers. Finally, after taken several steps to consider the role of behavior problems, academics, and other social factors, I suggest that medicalization may provide children with behavior problems with a way to avoid school failure and the feelings of being pushed out associated with school punishment.

Conceptual Framework

School Punishment, Therapy/Medication, and the School to Prison Pipeline

The school to prison pipeline refers to a system in which some American children are siphoned out of schools and into the criminal justice system rather than (Behnken et al. 2014;

Kim, Losen, and Hewitt 2010). Rather than traverse the conventional educational pathway, such as moving from elementary to high school and on to college or employment, individuals diverted into the pipeline experience an adolescence and adulthood characterized by insecurity and frequent contact with police and the court system (Hirschfield 2008;Rios 2009). The "pipeline" concept draws on the connection between academic failure and/or disruptions in educational progress and a greater risk of involvement with the criminal justice system during adolescence and young adulthood (Behnken et al. 2012, Hirschfield 2008). For example, scholars connect failure to complete school with a number of factors which increase the likelihood of criminal activity, particularly a failure to find steady employment (Sum, Khatiwada, and McLaughlin 2009); lower wages or income (Campbell 2015) and difficulty maintaining interpersonal relationships (Sampson and Laub 2005). Nearly one in ten males without a high school degree will serve jail time or probation during young adulthood (Sum, Khatiwada, and McLaughlin 2009).

Recent research has singled out exclusionary school disciplinary policies, including suspension and expulsions, as a primary gateway into the school to prison pipeline (Bowditch 1993; Hirschfield 2008; Kim, Losen, and Hewitt 2010). Early school punishment negatively influences school performance and increases the likelihood of dropping out of school (Bowditch 1993; Lamont et al. 2013). Furthermore, early school punishment can increase the likelihood that young men will come into contact with police officers or other criminal justice actors (Behnken et al. 2014; Ferguson 2002; Meiners 2011). Consequently, school punishment serves as particularly salient event early in life that sets the stage for a series of negative consequences throughout adolescence and adulthood.

As punishment potentially ensnares young men into the school to prison pipeline, medicalization of childhood behavior transforms them into patients of psychiatrists and psychologists (Conrad 2007). For example, a growing number of parents or teachers consider restless, impulsive, or inattentive behavior in the classroom to be a symptom of common childhood mental illnesses/behavioral disorders, such as ADHD (Conrad and Slodden 2013; Conrad 1992). As a result, the use of diagnosis, therapy, and/or psychotropic medication on children viewed as troublesome has increased substantially over the past twenty-five years (Conrad 2007). These different ways of responding and controlling childhood misbehavior have direct and indirect implications for the school to prison pipeline.

For children with behavior problems, the nature of early interventions may hasten entrance into the school to prison pipeline through their influence on academic achievement. Importantly, if disorders such as ADHD or oppositional defiant disorder go undetected or untreated, young men and women are more likely disrupt class, perform poorly on assignments, and experience conflict with teachers and administrators (Hinshaw and Scheffler 2014). Research suggests that pharmaceutical treatment improves attention and concentration and can often result in better behavior (Barkley 2002; Hinshaw and Scheffler 2014; Millichamp 2010). Clinical reports also suggest that medicalized children exhibit better short-term impulse control, reducing incidents of classroom disruption (Barkley 1997; Hinshaw and Scheffler 2014; McDonagh et al. 2007), particularly when medication is combined with behavioral therapy (Barkley 2002). Furthermore, federal law protects children diagnosed with behavior disorders from harsh discipline and provides resources to help them with their education (Kim, Losen, and Hewitt 2010). Consequently, children who receive therapy and/or medication during childhood

may fair better than those who were suspended or expelled (Conrad and Schneider 1992; Medina and McCranie 2011).

The association between misbehavior and responses to misbehavior over the life-course is extraordinarily complex. Misbehavior, poor academic performance, and involvement in the school to prison pipelinecould reflect stable personal traits that contribute to problems across the life-course. For example, children who misbehave more frequently are more likely to get into trouble during childhood, less likely to succeed in school, and experience greater involvement with the criminal justice system during adulthood (Moffitt 1993; Piquero et al. 2013). Conversely, the school to prison pipeline could embody a process of cumulative disadvantage generated by school punishment during childhood or held in check by medicalization. If this is the case, punishment and medicalization early in childhood may set the stage for different educational and criminal justice experiences during young adulthood (Behnken et al. 2014). To discuss how behavior, school punishment, and medicalization contribute to how individuals navigate the school to prison pipeline, I draw from developmental and life-course perspectives in criminology and medical sociology.

Selection into the School to Prison Pipeline

Individuals who report early displays of misbehavior perform worse academically and are more likely to drop out of high school. Scholars suggest that misbehavior in early childhood reflects an underlying and long-lasting trait, defined by insufficient impulse control and an inability to withhold gratification (DeLisi 2013; Gottfredson and Hirschi 1990; Moffitt 1993). At relatively young ages, some children may have difficulty paying attention for extended periods of time and often cannot follow through on basic tasks (DeLisi 2013; Gottfredson and

Hirschi 1990). In addition, many develop a self-centered personality and have trouble developing relationships with peers, parents, and teachers (DeLisi 2013; Gottfredson and Hirschi 1990; Moffitt 1993). The failure to develop important interpersonal skills and learn to adhere to the commonly accepted rules of the community early in life significantly influences the long-term ability to regulate and manage behavior during important social situations (DeLisi 2013; Gottfredson and Hirschi 1990). As a result, children who display behavior problems early in life are at a greater risk of experiencing school discipline, dropping out of school, and eventually become involved with the criminal justice system.

While early misbehavior may signal a long-lasting antisocial trait, most young children with behavior problems grow up, go to school, and find steady employment (Sampson and Laub 2005; Robins 1978). Moreover, young men who rarely misbehaved during childhood are still dropping out of school, having trouble finding employment, and falling into addiction and poor mental health (Piquero et al. 2013; Sampson and Laub 2005). Countering the claims of trait theorists, scholars argue that childhood misbehavior does not automatically resign a child to a lifetime of social and economic hardship (Sampson and Laub 1997; 2005). Rather, certain features of school punishment contribute to the accumulation of human and social capital and the development of social bonds over time (Lopes et al. 2012; Sampson and Laub 1997; 2005). Drawing from recent developments in labeling theory, the school to prison pipeline can be viewed as a process of cumulative disadvantage. Specifically, school punishment sets into motion a process with short- and long-term consequences that significantly increase the likelihood of involvement in the criminal justice system (Bernburg 2009; Paternoster and Iovanni 1989; Rios 2009). On the other hand, certain features of medicalization in childhood may

provide benefits that may prevent or delay entrance into the school to prison pipeline (Link et al. 1989; Raffalovich 2013; Thoits 2005).

Labeling Theory and Cumulative Disadvantage

In using labeling theory to frame individuals' experiences in the school to prison pipeline, this paper draws heavily from important extensions made to labeling theory in medical sociology. In particular, Link and colleagues provide a modified labeling theory clarifying the mechanisms through which labeling can impact future life events (Link 1987; Link et al. 1989; Link and Phelan 2001; 2010; Lopes et al. 2012). Specifically, they argue that labeling contributes to a cumulative disadvantage process through which negative interactions with social institutions early in life can cut off access to socially accepted means of success, including education and employment later in life (Bernburg 2009; Link et al. 1989; Link and Phelan 2010; Lopes et al. 2012; Paternoster and Iovanni 1989; Sampson and Laub 2005). According to modified labeling theory, negative community attitudes about crime or mental illness influence how individuals respond to others labeled as criminal or mentally ill (Link et al. 1989; Link and Phelan 2010).

Formal institutions of social control, including schools and mental health professionals, have the ability to officially define behavior and individuals who misbehave (Bernburg 2009; Link et al. 1989). Receiving an official label is an important life-event because it attaches all of society's stereotypes of behavior and labels to an individual (Bernburg 2009; Link et al. 1989; Paternoster and Iovanni 1989). Scholars have argued that, despite the generally negative connotations associated with various labels, the labeling process has both positive and negative consequences. Specifically, official labeling has potential to be both stigmatizing and

rehabilitating. Link and Phelan (2010) argue that mental health labeling is a "package deal" with both consequences and benefits (Wright, Jorm, and MacKinnon 2011). While individuals labeled as mentally ill are stigmatized because of the diagnosis, they may also reap the benefits of labeling the mental illness as it often leads to treatment and possible improvement of behavior (Link and Phelan 2010; Wright, Jorm, and MacKinnon 2011).

Possible Consequences of School Punishment

For many children and adolescents, school punishment can be a stigmatizing process that in many ways mirrors the experiences of criminal sentencing. Similar to adults in the criminal justice system, children who are punished for their behavior risk social exclusion and the adoption of a deviant self-image (Ferguson 2002; Skiba et al. 2010). Rather than provide a necessary deterrent for school violence or criminal behavior, many scholars argue that particularly harsh school punishments, including suspension and expulsions, disrupt efforts at educational success and discourage the development of a pro-social identity (Bowditch 1993; Hirschfield 2008; Kim, Losen, and Hewitt 2010).

Suspended and expelled children are excluded from official and unofficial school activities, including classroom participation and involvement in extracurricular groups that facilitate academic achievement, social development, and emotional health (Skiba 2008). Moreover, teachers and other professionals are less likely to invest time and effort in those children they view as less willing to learn and cooperate, compounding other social problems that may be associated with academic difficulty, including problems at home, learning difficulty, or other behavior disorders (Ferguson 2002). This blocking off of opportunity to participate and succeed in the classroom disrupts a child's education and interferes with their ability to

understand the course material in a sufficient manner (Kim, Losen, and Hewitt 2010). Further, despite efforts at maintaining confidentiality, removal from the classroom and marks on official records often turn suspension and expulsions into very public displays of punishment (Ferguson 2002; Kupchik 2010). Lack of success in the classroom and being singled out as a troublemaker reinforces negative stereotypes and contribute to declining confidence and self-esteem (Balfanz 2013; Kim, Losen, and Hewitt 2010; Rios 2011). By removing opportunities and replacing them with obstacles to success, suspension and expulsion can ensnare and marginalize young men, regardless of the severity of their behavior problems (Ferguson 2002; Rios 2011: Sampson and Laub 1997).

While school punishment has potentially detrimental consequences for future social and economic well-being, less is known about other forms of labeling, particularly the diagnosis and treatment of behavioral problems (Bernburg 2009; Paternoster and Iovanni 1989). Medically labeled misbehaviors in children, such as hyperactivity, oppositional defiant disorder, or conduct disorder, are stigmatized as well (Bernburg 2009; Conrad 1992b, 2005; Schnittker 2013). However, several features of medicalization suggest that medically diagnosed behavior disorders may serve as inclusionary labels, offering children and adolescents an opportunity to resist stigma and avoid future harm.

Possible Consequences of Medicalization

For some children, medicalization can actually be beneficial for long-term well-being by providing therapy and treatment and helping to improve self-confidence and control behavior problems (Conrad and Schneider 1992; Link and Phelan 2010; Rosenfield 1997; Wright, Jorm, and McKinnon 2011). Rather than isolating and excluding, medicalized labels

that signify treatment or therapy can be more inclusive and redeeming (Conrad and Schneider 1980; Orcutt 1973; Rosenfield 1997; Triplett and Jarjoura 1994). Evidence suggests that certain features of medical diagnosis and treatment are effective in managing symptoms of common behavior problems. Furthermore, while strangers and casual acquaintances may avoid individuals with mental health disorders, diagnosis and treatment may actually strengthen family and close friendship bonds, helping individuals maintain a close and supportive network of understanding friends and family (Perry 2011b; Thoits 2005, 2011). As a result, individuals who receive mental health treatment may also receive social and material support needed to combat declining confidence and self-esteem (Link et al. 1989; Link and Phelan 2010; Rosenfield 1997).

Research on the effectiveness of medical diagnosis and psychological treatment has yielded inconsistent results. In the short term, children and adolescents receiving therapy show improvement in symptom management. A combination of behavioral therapy and pharmaceutical treatment has been shown to curb impulsive behavior and cut down on incidents of classroom disruption (Barkley 1997,2002; McDonagh et al. 2007). In addition to keeping kids more attentive in class, therapy and treatment can improve classroom performance by improving concentration and helping improve attention to detail (Barkley 2002; DuPaul, Guevremont, and Barkley 1992; Millichamp 2010). When boys are adhering to their behavioral or pharmaceutical regimens, they report more ease and comfort during routine social interactions with their parents and peers (Barkley 2002).

The diagnosis and treatment of relatively minor behavior problems may offer social benefits as well. Diagnosis and treatments offer a form of rehabilitation and restoration, as opposed to deterrence and punishment (Conrad and Schneider 1980). As parents are typically an essential part of the therapy and treatment process, they become more involved in the child's

behavior by offering both material and social support (Conrad 1992a; Thoits 2011). Furthermore, if children are known to be receiving medical treatment or psychological help for their behavior, teachers and other professionals may be less inclined to write them off as unwilling to learn and be more eager to continue investing time and effort in the learning process (Conrad 1992b). This strengthening of family support and increasing school willingness to help represents potential pathways to social inclusion that help the child maintain strong social bonds (Bernburg 2009; Paternoster and Iovanni 1989).

While there is evidence that therapy and/or treatment can lead to short-term improvement in behavior and social support, we know much less about the long-term effects of treatment on well-being in late adolescence and early adulthood (Currie and Stabile 2006; Currie, Stabile, and Jones 2013; Fletcher and Wolfe 2007; Savolainen et al. 2011). The general public remains apprehensive about the safety and potential dangerousness of people diagnosed or exhibiting symptoms of mental health disorders, including children (Link and Phelan 2001; Pescosolido et al. 1999, 2007; Walker et al. 2008). Consequently, young men officially labeled with mental illness are likely to experience decreased self-confidence or self-esteem, regardless of any improvement in behavior or school performance (Rosenfield 1997). In the long-term, diagnosis and treatment of behavior problems in childhood could lead to the development of certain mental health disorders in adulthood, such as depression or substance abuse, by decreasing confidence and self-esteem during adolescence (Currie, Jones, and Stabile 2013; Rosenfield 1997).

Regardless, the benefits of therapy and treatment suggest that it may be a more advantageous means of social control than other, more punitive measures (Conrad and Schneider 1992; Medina and McCranie 2011; Zola 1974). For school-aged children with behavior problems, medical diagnosis and treatment, as opposed to school punishment, may provide

children with behavior problems additional opportunities to avoid or diminish the negative consequences associated with official labeling (Conrad 1992a). Diagnosis and treatment may help individuals with mental health problems manage to avoid stigma by managing specific characteristics of their disorder (Conrad and Schneider 1980). If treatment is more effective at controling problem behavior than punishment, there should be fewer problems with behavior and grades during adolescence and young adulthood (Barkley 1997).

Summary and Hypotheses

The research discussed above describes how school punishment and medicalization present different approaches to dealing with child misbehavior. While both seek to ameliorate future misbehavior, school punishment relies on retribution for moral failing while therapy and treatment rely on restoration through dealing with underlying biological or psychological issues (Conrad 2007; Simon 2007). On the other hand, medicalization offers short-term solutions to these underlying biological or psychological issues, including controlling behavior through psychotropic medication. Moreover, medicalization entails formal and informal protections, including reduced culpability and legally required educational assistance that may prevent future criminality and involvement in the school to prison pipeline.

Drawing from the research discussed above, I develop and test four specific research hypotheses regarding the ways in which racial stratification influences how child problem behavior is socially constructed, either through a process of medicalization or criminalization. These are delineated below:

H1: Children who experienced school punishment early in life will be more likely to report low grades and less likely to graduate high school than their peers that were not punished.

H2: Children who experience therapy and medication early in life will be less likely to report low grades and more likely to graduate high school than their peers that received school punishment during childhood.

Data and Methods

To examine the long-term effects of childhood behavior, school punishment and medicalization on individuals' connection to the school to prison pipeline, I use data from the National Longitudinal Study of Youth, 1979 Cohort – Child and Young Adult Sample (NLSY79-CYA). The NLSY79 is a nationally representative, prospective cohort study containing information on 12,686 men and women between the ages of 14 and 22 in 1979 and were interviewed annually from 1979 through 1994 and biannually from 1996 until 2012. Beginning in 1986, a new sample containing the children of the original NLSY79 females was initiated, and, in 1994, a Young Adult survey was created for young adults at least 15 years of age. By 2012, the NLSY-Child and Young Adult survey included 11,504 children from 4,932 mothers, ranging from 0 to 41 years of age.

Dependent Variables

This paper examines the influence of school punishment versus therapy and medication on school performance. I include two measures of academic success: poor grades and high school graduation..Child's grades are measured with a dummy variable equal to "1" if the respondent's average grades in high school were less than a C-. While failing grades represent one mechanism through which school punishment and/or therapy and medication may influence criminal activity, scholars point to high school graduation as a specific "turning point" in the life-course (Kirk and Sampson 2012; Sampson and Laub 1997; 2005). Specifically, high school representation represents an important transition into young adulthood, academically and social (Sampson and Laub 1997; 2005). High school graduation is measured with a dummy variable equal to "1" if the respondent received his high school diploma.

Independent Variables

Childhood Variables (ages 6 to 14)

The central independent variable in this paper captures punishment or therapy and/or treatment. Behavior problems during childhood and young adulthood play key roles in the analysis as well. To capture punishment/treatment status, I create a series of dummy variables designed to capture a range of possible responses to childhood misbehavior involving school punishment and medicalization. School punishment is measured using the Mother's response to the question "Has your child ever been suspended or expelled from school?" and coded "one" if the mother responds "yes." Medicalization is intended to capture medical or psychological treatment for behavior problems and is taken from the child's response to one of two questions: (1) whether or not the child had seen a psychiatrist or psychologist for troubles in school or for tantrums, hyperactivity, or disruptive behavior and; (2) whether or not the child was taking drugs

to control his/her behavior. To construct my categorical measure, I coded the response as follows: (1) neither punished nor treated; (2) Treatment only; (3) Punishment only; (4) both punishment and treatment.

To capture childhood problem behavior, I use an externalizing behavior scale adopted from the Child Behavior Problems Index (Peterson & Zill, 1986). A full list of variables in the externalizing behavior scale is available in Appendix A. Externalizing behaviors are those behavior characterized by a lack of emotional control or an inability to suppress impulses, leading to rule breaking (Parcel, Campbell, and Zhong 2012). Importantly, the externalizing behavior scale includes behaviors like being disobedient at school, getting into trouble with teachers, and bullying or being cruel to others. These behaviors, which could possibly lead to school discipline, are also listed by mental health professionals as "symptoms" of childhood behavior disorders. For example, cheating/lying and bullying are included in some conduct disorder symptom checklists, disobedience is often a sign of ODD, and confusion, restlessness, and inattention are considered to be classic ADHD symptoms. Following Currie and colleagues (2013), I create a time-invariant measure of behavior by averaging externalizing scores between the ages of 6 and 14.

I also include a number of time-invariant measures to capture social and structural conditions during childhood. To control for early academic experience, I include measures of academic achievement using the child's standardized score on the PIAT Reading Recognition and Mathematics test, and dummy variables equal to "1" if the respondent repeated a grade due to academic issues or enrolled in Head Start, respectively. To capture socioeconomic status, I use mother's education (in years) and a dummy variable equal to "1" if total family income (total money family members earned from wages, tips, and salaries in the past year, adjusted for

inflation and reported in 2010 dollars) was ever less than 1.25 times time poverty level between the ages of 6 and 14. I also include dummy variables indicating whether the respondent ever lived in a single-mother household as a child. Similar to externalizing behaviors, all continuous variables were created by averaging the scores between the ages of 6 and 14.

Adolescence and Young Adult Independent Variables (Ages 15 and older)

I include a number of variables during adolescence and young adulthood that serve as potential pathways between responses to misbehavior in early childhood and academic well-being. I may control for expectations, who knows? To control for stability in behavior problems into adolescence, I include two variables argued to be more appropriate measures of misbehavior during adolescence. First, I control for self-control using six-item scale based on Gottfredson and Hirschi's (1990) argument that attitudinal measures of self-control better capture the concept during adolescence. Similar to the other measures, respondents are asked whether they (1) strongly disagree to (4) strongly agree with the questions: I often get in a jam because I do things without thinking; I think that planning takes the fun out of things; I have to use a lot of self-control to keep out of trouble; I enjoy taking risks; I enjoy new and exciting experiences, even if they are a little frightening or unusual; life with no danger in it would be too dull for me. Second, I control for misbehavior using a measure of *criminal activity* using a scale (0-7) developed from questions relating to whether or not the respondent had engaged in any of the following behaviors: violent crime in the past year (hurt someone badly enough to need doctor, gotten into a physical fight at school or work, seriously threatened or hit someone); property crime in the past year (damaged school property intentionally, taken something worth $50 or more, taken something from store without paying); drug use in the past month (marijuana, powder cocaine, crack cocaine, heroin, methamphetamine, or hallucinogens).

Because stereotypes associated with school punishment and the use of therapy or medication influence attitudes about self-worth and ability, I include three time-varying measures of attitude during adolescence designed to capture separate but related aspects of self-perception. To measure self-efficacy, I use a seven-item scale based on the Pearlin Mastery Scale (Pearlin 1979; Rosenfield 1997). At several points during adolescence and adulthood, respondents were asked whether they (1)strongly disagree to (4) strongly agree with the questions: there is really no way I can solve some of the problems I have; sometimes I feel that I'm being pushed around in life; I have little control over the things that happen to me; I can do just about anything I really set my mind to (reverse-coded); I often feel helpless in dealing with the problems of life; what happens to me in the future mostly depends on me; and, there is little I can do to change of the important things in my life. To measure self-esteem, I use a ten-item scale based on the Rosenberg Esteem Scale (Rosenfield 1997). At one point during adolescence, respondents were asked whether they (1)strongly disagree to (4) strongly agree with the questions: I feel that I'm a person of worth, at least on an equal basis with others; I feel that I have a number of good qualities; all in all, I am inclined to feel that I am a failure (reverse-coded); I am able to do things as well as most people; I feel that I do not have much to be proud of (reverse-coded); I take a positive attitude toward myself; on the whole, I am satisfied with myself; I wish I could have more respect for myself (reverse-coded); I certainly feel useless at times (reverse-coded); at times I think I am no good at all (reverse-coded). In order to be consistent across my attitudinal measures, I recode self-efficacy and self-control so that higher scores on each measure indicate positive or "better" attitudes and standardize each variable before the analysis to ease interpretation of the coefficients.

Additional variables include time-invariant measures of whether the respondent lived in a suburban, rural, or urban residence during school, the region of the country in which the respondent resided during school (Northeast, Midwest, South, or West) and whether the mother was under 18 years old when the respondent was born, and whether or not the mother smoked during pregnancy. Race is captured with a series of dummy variables for non-Hispanic Black, Hispanic, and White respondents (reference category).

Analytic Strategy

For this paper, I apply two separate modeling strategies, I use logistic regression and inverse probability weighted regression adjustment (IPRWA) for binary variables to examine the risk of failing grades and high school graduation during young adulthood. Using the *teffects* command in Stata 13.0, I am able to account for the multinomial treatment variable used in this analysis. Here, I simultaneously estimate the average treatment effect on the treated for each possible intervention using the reference as a control group. For example, if "never labeled" is considered the reference categories, coefficients for the treatment variables represent the average treatment effect for the treated (ATET) for children receiving school punishment, therapy or medication only, or both before high school compared to respondents who were neither punished nor medicalized (e.g. the effect of school punishment alone on those who only received school punishment versus the counterfactual scenario of receiving neither punishment nor therapy/medication) . Finally, because I am interested in comparing the effects of school punishment to those of therapy and/or medication, I run matching models for all possible combinations of childhood interventions.

IPWRA estimation uses one model to predict treatment and another model to predict outcomes (Stata Press 2013). In this case, variables measured before the age of fifteen are used to predict my treatment status (school punishment and/or therapy/medication) and variables measured between age fifteen and eighteen, race, and gender, are including in models predicting grades and high school graduation. Importantly, because IPWRA models utilize Woolridge's (2007) "double-robust" estimators, only one of the two models must be correctly specified to produce consistent and reliable estimates (Stata Press 2013; Woolridge 2007). IPWRA estimation is a three-step process. First, parameter estimates of the treatment model are obtained and used to compute inverse-probability weights. Second, using the inverse probability weights, treatment-specific outcomes are predicted for each subject are obtained from weighted regression models of each outcome. Finally, the average treatment effect on the treated is obtained by contrasting the probabilities of high school graduation of those in the treatment groups to those in the respective control groups (Stata Press 2013).

Results

[INSERT TABLE 1]

Table 1 presents weighted means and proportions for dependent and key independent variables used in the current study. As Table 1 demonstrates, there are noticeable differences in academic outcomes, behavior problems, and race/ethnicity across treatment categories. For example, approximately 80 percent of the total sample received their high school diploma by the time they were twenty years-old. While the graduate rates of young adults who received no behavioral intervention or used therapy or medication during childhood are relatively similar to the total sample, those who received school punished were much less likely to graduate. Indeed,

slightly less than 60 percent of all respondents who were suspended or expelled before they were 15 went on to graduate high school. Similar numbers are observed for the distribution of failing grades. While 7 percent of the total sample and those received medical interventions reported failing grades in school, 11 percent of those young adults who received school punishment during childhood report failing grades. Indeed, nearly one in five of those receiving both punishment and therapy or medication reported failing grades in high school.

Almost 80 percent of those who sought therapy or received medication to control their behavior in childhood were non-Hispanic White, while 12 percent were non-Hispanic Black and almost 8 percent were Hispanic. On the other hand, more than half of those who received school punishment without therapy or medication during childhood were non-Hispanic Black, compared to just 36 percent and 10 percent non-Hispanic White and Hispanic respectively. In addition to racial differences across types of treatment in childhood, there are differences in childhood and adult misbehavior as well. For example, while all children receiving intervention had higher levels of externalizing symptoms in childhood, those of punished children are noticeably higher.than those receiving therapy or medication alone. On the other hand, medicalized and punished children exhibit similar levels of illegal activity and risky behavior during young adult and medicalized children actually report lower levels of self-esteem and depression.

The descriptive statistics provide initial evidence that different responses to childhood misbehavior may contribute to different academic outcomes. Indeed, children who receive therapy or medication differ in many ways from those who receive school punishment or those who receive no label at all when they are young. Moreover, these children differ on a number of characteristics associated with poor grades or dropping out of high school. For example, race/ethnicity, school performance, behavior problems, and family income are all associated with

dropping out of high school (Bowditch 1993). In order to examine how school punishment and therapy or medication influence academic well-being net of these important factors, I report the results of a series of regression model using IPRWA matching techniques designed to isolate the effects of multinomial treatment variables such as the one used in this analysis.

[INSERT TABLE 2]

Table 2 presents ATET estimates of failing grades for young adults who received various treatments for behavior problems during childhood. The results presented in Table 2 suggest that school punishment has detrimental implications for school performance, but therapy or medication do not. Here, school punishment alone increases the chances that respondent will report failing grades by 6 percent [$100*(e^{.055})-1$]. School punishment and medicalization increase the chances that these respondents will report failing grades by almost 9 percent [$100*(e^{.082})-1$]. While therapy or medication does not seem to affect the quality of grades during adolescence, the results of matching analysis comparing the effects of medicalization versus punishment suggest that there may be some relative benefits. For example, for labeled children, therapy or medication reduces the likelihood of failing grades by approximately 3 to 4 percent compared to school punishment or school punishment in conjunction with therapy or medication.

[INSERT TABLE 3]

Table 3 presents ATET estimates of high school graduation for young adults who received various treatments for behavior problems during childhood. Furthermore, because Table 3 suggests that punishment and/or medicalization may directly influence grades and school performance predicts school completion, the models used to predict high school graduation

include the dummy indicator for poor grades. The results presented in Table 3 suggest that school punishment and medicalization have important and direct effects on high school graduation. Compared to receiving no label, school punishment alone decreases the chances that respondent will finish high school by 11 percent [100*(e-$^{.120}$)-1]. When done in conjunction with therapy or medication, school punishment decreases the chances that of high school graduation by almost 10 percent [100*(e-$^{.095}$)-1]. When compared to receiving no intervention, therapy or medication has no effect on high school graduation. However, therapy or medication increases the chance of high school graduation by 7 percent [100*(e$^{.065}$)-1] compared to school punishment alone and 10 percent [100*(e$^{.093}$)-1] compared to school punishment and medicalization during childhood .

Discussion

By examining how suspension and expulsion or therapy and medication influence both school grades during adolescence and high school graduation, this paper begins to consider the relationship between childhood social control and school performance within the context of the school to prison pipeline. Specifically, I argue that one of the most popular forms of control child misbehavior – school suspension – may push kids out of school and potentially into the criminal justice system. On the other, another increasingly common form of child social control, the use of therapy and/or medication for behavior problems, may not have the same negative implications for academic performance that school suspension does. Consequently, medicalization may keep children with behavior problems out of the school to prison pipeline by keeping them in the classroom and keeping their grades above failing.

Employing panel data from the National Longitudinal Survey of Youth 1979 – Child and Young Adult Survey and matching techniques for regression analysis, I test two hypotheses involving the social control of misbehavior during childhood and academic performance. Findings suggest that school suspension is associated with poorer grades and a lower likelihood of completing high school. While the long-term academic outcomes associated with therapy or medications are not distinguishable from no treatment, it does provide a better academic scenario than school punishment. Specifically, medicalization alone improves grades and increases the likelihood of school completion relative to school punishment or school punishment and the use of therapy or medication.

These findings have important implications for the school to prison pipeline. Most notably, the overuse of school suspension may be forcing children with unmet need into the criminal justice system without making any attempts at providing the necessary services (Kim, Losen, and Hewitt 2010). Instead of pushing kids out of school, medicalization may help to create a more positive learning environment in which children with behavior problems may thrive instead of withdraw and act out.

Findings also have implications for other medicalization trends. Specifically, null or beneficial findings for medicalization could reflect the overuse of therapy or medication among children who do not actually need the drugs. For example, children whose teachers or parents are concerned about performance on standardized tests may seek out medication without a thorough diagnosis. While the child may show improvements, he or she may not have faced any actual risk of failure (Hinshaw and Scheffler 2014).

References

Bernburg, Jon Gunnar. 2009. “Labeling Theory.” in Handbook on Crime and Deviance, *Handbooks of Sociology and Social Research*.

Bernburg, Jön Gunnar, and Marvin D. Krohn. 2003. “Labeling, Life Chances, and Adult Crime: The Direct and Indirect Effects of Official Intervention in Adolescence on Crime in Early Adulthood*.” *Criminology* 41(4):1287–1318.

Blokland, Arjan A. J., and Paul Nieuwbeerta. 2010. “Life-Course Criminology.” in International Handbook of Criminology, edited by Shlomo Giora Shoham, Paul Knepper, and Martin Kett. CRC Press.

Breslau, Joshua, Elizabeth Miller, W.J. Joanie Chung, and Julie B. Schweitzer. 2011. “Childhood and Adolescent Onset Psychiatric Disorders, Substance Use, and Failure to Graduate High School on Time.” *Journal of Psychiatric Research* 45(3)” 295-301

Bussing, Regina, Bonnie T. Zima, Faye A. Gary, and Cynthia Wilson Garvan. 2003. “Barriers to Detection, Help-seeking, and Service Use for Children with ADHD Symptoms.” The journal of behavioral health services & research 30(2):176–89.

Campbell, Colin. 2015. “The Socioeconomic Consequences of Dropping Out of High School: Evidence from an Analysis of Siblings.” *Social Science Research*

Caspi, Avshalom, Bradley R. Entner Wright, Terrie E. Moffitt, and Phil A. Silva. 1998. “Early Failure in the Labor Market: Childhood and Adolescent Predictors of Unemployment in the Transition to Adulthood.” American Sociological Review 63(3):424–51.

Conrad, Peter. 1992a. Deviance and Medicalization: From Badness to Sickness. Temple University Press.

Conrad, Peter. 1992b. “Medicalization and Social Control.” Annual Review of Sociology 18:209–32.

Conrad, Peter. 2005. “The Shifting Engines of Medicalization.” Journal of Health and Social Behavior 46(1):3–14.

Conrad, Peter. 2007. The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders. JHU Press.

Conrad, Peter, and Caitlin Slodden. 2013. “The Medicalization of Mental Disorder.” Pp. 61–73 in Handbook of the Sociology of Mental Health, Handbooks of Sociology and Social Research, edited by Carol S. Aneshensel, Jo C. Phelan, and Alex Bierman. Springer Netherlands. Retrieved March 6, 2013 (http://link.springer.com/chapter/10.1007/978-94-007-4276-5_4).

Farrington, David P. 2003. “Developmental and Life-Course Criminology: Key Theoretical and Empirical Issues-the 2002 Sutherland Award Address*.” Criminology 41(2):221–25.

Ferguson, Ann Arnett. 2001. Bad Boys: Public Schools in the Making of Black Masculinity. University of Michigan Press.

Frick, Paul J. et al. 1993. “Oppositional Defiant Disorder and Conduct Disorder: A Meta-analytic Review of Factor Analyses and Cross-validation in a Clinic Sample.” Clinical Psychology Review 13(4):319–40.

Goffman, Erving. 2009. Stigma: Notes on the Management of Spoiled Identity. Simon and Schuster.

Gottfredson, Michael R., and Travis Hirschi. 1990. A General Theory of Crime. Stanford University Press.

Grattet, Ryken. 2011. "Societal Reactions to Deviance." Annual Review of Sociology 37(1):185–204.

Hay, Carter, and Walter Forrest. 2006. "The Development of Self-Control: Examining Self-Control Theory's Stability Thesis*." Criminology 44(4):739–74.

Haynie, Dana L., Harald E. Weiss, and Alex Piquero. 2008. "Race, the Economic Maturity Gap, and Criminal Offending in Young Adulthood." Justice Quarterly 25(4):595–622.

Hirschfield, Paul J. 2008. "The Declining Significance of Delinquent Labels in Disadvantaged Urban Communities1." Sociological Forum 23(3):575–601.

Kelleher KJ, McInerny TR, Gardner WP, et al. Increasing identification of psychosocial problems: 1979-1996. Pediatrics. 2000;105:1313-1321.

Kim, Catherine Y., Daniel J. Losen, and Damon T. Hewitt. 2010. The School-To-Prison Pipeline: Structuring Legal Reform. NYU Press.

Link, Bruce G., Francis T. Cullen, Elmer Struening, Patrick E. Shrout, and Bruce P. Dohrenwend. 1989. "A Modified Labeling Theory Approach to Mental Disorders: An Empirical Assessment." American Sociological Review 54(3):400–423.

Link, Bruce G., and Jo C. Phelan. 2001. "Conceptualizing Stigma." Annual Review of Sociology 27:363–85.

Link, Bruce G., and Jo C. Phelan. 2006. "Stigma and Its Public Health Implications." The Lancet 367(9509):528–29.

Lopes G et al. 2012. "Labeling and Cumulative Disadvantage: The Impact of Formal Police Intervention on Life Chances and Crime During Emerging Adulthood." Crime Delinq. Crime and Delinquency 58(3):456–88.

Matsueda, Ross L. 1992. "Reflected Appraisals, Parental Labeling, and Delinquency: Specifying a Symbolic Interactionist Theory." American Journal of Sociology 97(6):1577–1611.

Moffitt, Terrie E. 1993. "Adolescence-limited and Life-course-persistent Antisocial Behavior: A Developmental Taxonomy." Psychological Review 100(4):674–701.

Pager, Devah. 2003. "The Mark of a Criminal Record." American Journal of Sociology 108(5):937–75.

Parcel, Toby L., Lori Ann Campbell, and Wenxuan Zhong. 2012. "Children's Behavior Problems in the United States and Great Britain." *Journal of Health and Social Behavior* 53(2): 165-182.

Paternoster, Raymond, and Leeann Iovanni. 1989. "The Labeling Perspective and Delinquency: An Elaboration of the Theory and an Assessment of the Evidence." Justice Quarterly 6(3):359–94.

Perry, Brea L. 2011a. “The Labeling Paradox Stigma, the Sick Role, and Social Networks in Mental Illness.” Journal of Health and Social Behavior 52(4):460–77.

Perry, Brea L. 2011b. “The Labeling Paradox Stigma, the Sick Role, and Social Networks in Mental Illness.” Journal of Health and Social Behavior 52(4):460–77.

Pescosolido, B. A., J. Monahan, B. G. Link, A. Stueve, and S. Kikuzawa. 1999. “The Public’s View of the Competence, Dangerousness, and Need for Legal Coercion of Persons with Mental Health Problems.” American Journal of Public Health 89(9):1339–45.

Pescosolido, Bernice A. et al. 2008. “Public Knowledge and Assessment of Child Mental Health Problems: Findings From the National Stigma Study-Children.” Journal of the American Academy of Child & Adolescent Psychiatry 47(3):339–49.

Pescosolido, Bernice A., Danielle L. Fettes, Jack K. Martin, John Monahan, and Jane D. McLeod. 2007. “Perceived Dangerousness of Children with Mental Health Problems and Support for Coerced Treatment.” Psychiatric services (Washington, D.C.) 58(5):619–25.

Piquero, Alex R., Brie Diamond, Wesley G. Jennings, and Jennifer M. Reingle. 2013. “Adolescence-Limited Offending.” Pp. 129–42 in Handbook of Life-Course Criminology, edited by Chris L. Gibson and Marvin D. Krohn. Springer New York. Retrieved January 17, 2013 (http://link.springer.com/chapter/10.1007/978-1-4614-5113-6_8).

Rios, Victor M. 2011. Punished: Policing the Lives of Black and Latino Boys. NYU Press.

Sampson, Robert J., and John H. Laub. 1997. “A Life-course Theory of Cumulative Disadvantage and the Stability of Delinquency.” Developmental theories of crime and delinquency 7:133–61.

Sampson, Robert J., and John H. Laub. 2005. “A Life-Course View of the Development of Crime.” The ANNALS of the American Academy of Political and Social Science 602(1):12–45.

Schnittker, Jason. 2013. “Public Beliefs About Mental Illness.” Pp. 75–93 in Handbook of the Sociology of Mental Health, Handbooks of Sociology and Social Research, edited by Carol S. Aneshensel, Jo C. Phelan, and Alex Bierman. Springer Netherlands. Retrieved December 6, 2012 (http://link.springer.com/chapter/10.1007/978-94-007-4276-5_5).

Thoits, Peggy A. 2005. “Differential Labeling of Mental Illness by Social Status: A New Look at an Old Problem.” Journal of Health and Social Behavior 46(1):102–19.

Thoits, Peggy A. 2011. “Resisting the Stigma of Mental Illness.” Social Psychology Quarterly 74(1):6–28.

Triplett, Ruth. 1993. “The Conflict Perspective, Symbolic Interactionism, and the Status Characteristics Hypothesis.” Justice Quarterly 10(4):541–58.

Turner, Michael G., and Alex R. Piquero. 2002. “The Stability of Self-control.” Journal of Criminal Justice 30(6):457–71.

Walker, Janet S., Daniel Coleman, Junghee Lee, Peter N. Squire, and Barbara J. Friesen. 2008. "Children's Stigmatization of Childhood Depression and ADHD: Magnitude and Demographic Variation in a National Sample." Journal of the American Academy of Child & Adolescent Psychiatry 47(8):912–20.

Western, Bruce. 2006. Punishment and Inequality in America. Russell Sage Foundation.

Table 1. Means and Proportions for Dependent and Key Independent Variables for Analysis

	No Label	Therapy/Medication	School Punishment	Both	Total Sample
Dependent variables					
High-school Graduation	86.83%	79.93%	59.34%	52.99%	78.55%
Failing Grades	4.41%	7.39%	11.34%	19.40%	7.43%
Childhood variables					
Non-Hispanic, White	73.33%	78.87%	36.26%	56.72%	70.34%
Non-Hispanic, Black	16.98%	12.42%	53.35%	34.48%	20.28%
Hispanic	9.68%	8.72%	10.39%	8.80%	9.39%
Externalizing behavior symptoms	5.133	7.604	10.027	15.120	7.310
PIAT Math score	101.381	99.892	96.024	95.362	99.781
PIAT Reading Recognition score	104.715	103.638	98.316	97.521	102.994
Female	52.84%	58.69%	33.22%	31.41%	50.11%
Young Adult variables					
Expectations	85.39%	80.83%	73.02%	70.90%	81.34%
Illegal Activity	-0.195	0.181	0.190	0.604	0.027
Low Self-Control	-0.141	0.082	-0.015	0.411	-0.015
Self-esteem	0.119	-0.164	-0.033	-0.198	-0.005
Stress	0.168	-0.186	-0.029	-0.292	0.006
Depression	-0.195	0.323	-0.011	0.391	0.022
Income (in 2010 dollars)	$90,280.37	$80,002.53	$47,228.15	$46,531.61	$78,310.16
Repeated a grade	19.77%	25.72%	47.27%	50.85%	27.54%
N (Individuals)	2,645	1,390	611	471	5,117

Notes: All data are weighted to reflect the complex sampling design of the NLSY79 study.

Table 2. Estimated Effects of Therapy/Treatment, School Punishment, and Both Therapy/Medication and School Punishment on failing grades among NLSY Young Adults, 1994- 2012

Control	No Label				Therapy/Treatment only				School punishment only				Punishment			
	b		SE	exp(b)	b		SE	exp(b)	b		SE	exp(b)	b		SE	exp(b)
Treatment																
No Label					-0.007		0.008	0.994	-0.039	*	0.016	0.962	-0.048	*	0.021	0.953
Therapy/Medication	0.012		0.010	1.012					-0.032	*	0.016	0.968	-0.041	+	0.022	0.960
School punishment only	0.055	*	0.023	1.057	0.032	*	0.016	1.033					-0.009		0.026	0.991
Therapy/Medication & School Punishment	0.082	**	0.024	1.086	0.041	+	0.022	1.042	0.009		0.026	1.009				

+ p<.10 * p<.05 ** p<.01 *** p<.001

Table 3. Estimated Effects of Therapy/Treatment, School Punishment, and Both Therapy/Medication and School Punishment on high school graduation among NLSY Young Adults, 1994- 2012

Control	No Label			Therapy/Treatment only			School punishment only			Punishment		
	b	SE	exp(b)	b	SE	exp(b)	b	SE	exp(b)	b	SE	exp(b)
Treatment												
No Label				0.002	0.011	1.002	0.067 **	0.022	1.070	0.096 **	0.034	1.100
Therapy/Medication	-0.007	-0.480	0.993				0.065 **	0.024	1.067	0.093 **	0.035	1.098
School punishment only	-0.120 **	-3.400	0.887	-0.065 **	0.024	0.937				0.028	0.040	1.029
Therapy/Medication & School Punishment	-0.095 **	-2.880	0.909	-0.093 **	0.035	0.911	-0.028	0.040	0.972			

+ p<.10 * p<.05 ** p<.01 *** p<.001