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Public Attitudes toward the Use of Psychiatric Medications for Children*

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Psychiatric medication use for children has increased dramatically over the past three decades. Despite substantial media attention to the issue, little is known about how the lay public feels about the use of psychiatric medications for children. Drawing on theories of medicalization, we describe and analyze Americans' attitudes towards the use of psychiatric medications generally and Prozac specifically for children described as having three types of behavioral problems. Using data from the 1998 General Social Survey's Pressing Issues in Health and Medical Care Module, we find that more Americans (57%) are willing to use psychiatric medications for children who have expressed suicidal statements than for "oppositional" behaviors (34.2%) or for hyperactivity (29.5%). Across the board, respondents are less willing to give Prozac than the general class of psychiatric medications. While socio-demographics do little to identify Americans with differing positions, the strongest and most consistent correlates of willingness to give psychiatric medications to children are trust in personal physicians, general attitudes towards psychiatric medications, and the respondent's expressed willingness to take psychiatric medications herself or himself.

"Are we now giving youngsters Prozac when they have a bad hair day or using

Ritalin as a new solution for poor classroom etiquette?"

—Dr. Barbara Korsch, quoted in Marsa,
Los Angeles Times (April 3, 2000)

"To trivialize psychiatric illness, however, or the suffering it inflicts, perpetuates the stigma felt by parents and children who seek expert treatment, or who have benefited from expert treatment."

—Dr. Mark Riddle, *Baltimore Sun* (March
15, 2000)

"This is an age that tries to medicalize every difficulty or deficit."

—George Will, *Washington Post*
(December 2, 1999)

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Psychiatric medication use for children has increased dramatically over the past three decades (Gadow 1997; Hoagwood et al. 1998; Safer 1997). This increase holds across diverse groups of children, including those being treated on an inpatient and outpatient basis, and children of different ages. The most recent published data indicate that the use of "stimulant" medications increased approximately threefold among preschoolers and antidepressant medication use increased by a factor of approximately two during the early 1990s (Zito et al. 2000). On any given day in the United States, an estimated six million children take medications for what are classified as mental health problems (Cohen, McCubbin, Collin, and Pérodeau 2001).

By this measure, children's emotional and behavioral problems have become medicalized—defined and treated as medical problems and deferred to the supervision of the medical profession. Medicalization is a process of long-standing interest to medical sociologists who highlight the contested nature of illness definitions and of societal responses. Classic writings on medicalization critiqued the medical profession's promotion of medical interpretations of social problems, its use of medications whose long-term efficacy has not been documented, and its efforts to expand its boundaries and power base at the expense of public safety and well-being (Conrad 1975; Illich 1976; Szasz 1974). More recent writings elaborate this basic critique through more nuanced analyses of the medicalization process. These analyses de-emphasize medical imperialism and moral entrepreneurship as exclusive explanations for medicalization in favor of explanations centered on the sociopolitical processes involved in the emergence of new disease categories and new medical interventions. Previous simplistic accounts of medical colonization of ambiguous social problems have been replaced by accounts that acknowledge that medicalization is not always complete, that it carries benefits as well as costs, and that it is both constrained and enabled by lay public responses (Conrad 2000; Williams and Calnan 1996).

To date, studies of medicalization have relied on information from the popular press, formal organizations, health statistics, and the like to analyze the processes through which specific conditions come to be medicalized (or demedicalized). In this paper, we examine a

different component of medicalization—lay public responses to the use of medical interventions. Specifically, we analyze lay public attitudes about psychiatric medication use for children's emotional and behavioral problems.

We chose to focus on children's emotional and behavioral problems for two reasons. First, there is a long history of interest in children's emotional and behavioral problems within the medicalization literature, beginning with Conrad's (1975) seminal article on the "discovery" of hyperkinesis. Noting an initial furor when the *Washington Post* reported that 5 to 10 percent of grammar school children in Omaha, Nebraska were being treated with Ritalin (a "stimulant" medication shown ironically to reduce impulsivity and restlessness in some children), Conrad (1975) points to the "Pharmaceutical Revolution" as critical to the transformation of hyperkinesis from a "relatively esoteric diagnostic category" to a "well known clinical disorder." Pharmaceutical companies as well as an advocacy group (the Association for Children with Learning Disabilities) became the "moral entrepreneurs" who assisted medicine in promoting the medical redefinition of deviant childhood behavior, particularly in classroom settings. Others extend Conrad's analyses by interpreting the development of "behavioral pediatrics" as an attempt by academic medicine specialists to increase their domain in medical schools (Halpern 1990) and by practitioners to increase the market for their services as the child population became more healthy (Pawluch 1983). By reporting on contemporary attitudinal data, our analysis builds on a long tradition of research on the medicalization of child behaviors.

Second, the medicalization of children's emotional and behavioral problems has entered a new phase that has not yet received rigorous academic attention (see Cohen et al. 2001). Recent academic reports on rates of psychiatric medication use by children (Rappley et al. 1999; Zito et al. 2000) have brought renewed media and political attention to the question of whether, and under what circumstances, psychiatric medications are appropriate for children. While the attention itself is not new (psychostimulants, Ritalin in particular, have been the target of substantial media coverage for over thirty years (e.g., Maynard 1970)) its scope has now widened to include selective serotonin reuptake inhibitors, such as Prozac

(fluoxetine), as they are used to treat a variety of childhood disorders, including depression and oppositional defiant disorder (Cohen et al. 2001; Leonard 1997; Schute, Lucy, and Pasternak 2000). Lay responses to these trends serve as one barometer of the status of medicalization in this arena.

THEORETICAL BACKGROUND

Medicalization encompasses several related processes, including defining a problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, and using a medical intervention to treat it (Conrad 1992). The multidimensional nature of medicalization implies that conditions may be subject to certain forms of medicalization but not others. For example, violence has been described by public health advocates and by the popular press as an "epidemic" (e.g., Green, quoted in Glaberson 1990), but there are no existing medical interventions to "cure" it. Moreover, the component processes of medicalization occur to different degrees for different conditions. Providers and the public accept medical interventions for childbirth but medical treatment of menopause remains controversial (Griffiths 1999; Meyer 2001; Stephens, Budge, and Carryer 2002).

Lay public responses both constrain and enable medicalization efforts. The lay public is not passive in the face of shifting frameworks for understanding social problems but, rather, participates in the ongoing evolution of these frameworks by rejecting or accepting their tenets. For example, active challenges to medicalized definitions led to the removal of homosexuality from the psychiatric canon in the 1970s and lend support to contemporary movements to promote non-medical definitions of menopause (Conrad 2000; Meyer 2001; Riessman 1983; Switzer, Dew, and Bromet 1999). In contrast, the lay public may also embrace medical definitions because they accord legitimacy to troubling experiences and validate claims to supportive interventions and research funding (Figert 1996; Riessman 1983).

Prior research on medicalization relies on qualitative analyses of specific conditions (or groups of conditions) to trace the evolution of the definitions and treatment of the condition

over time. Such research analyzes popular press and professional writings, health behavior statistics (such as treatment utilization rates), and the activities of advocacy groups, pharmaceutical companies, and other major stakeholders to create an account of how and to what degree the condition came to be medicalized and the implications of medicalization for those who are affected. What is surprisingly absent from most of these accounts are data on lay public attitudes about specific conditions and their treatment. To the degree that lay public attitudes are mentioned, they are typically inferred from health-related behaviors rather than being measured directly. For example, high rates of treatment for hyperkinesia are part of the evidentiary base on which claims of lay public support for the medicalization of children's behavior problems are made (Conrad 1975). Such inferences may be unwarranted, however, particularly when alternatives to medical services are constrained by the structure and financing of health care services (Conrad 2000).

Data on lay public attitudes complement other types of data about medicalization by offering insight into the degree to which medicalized definitions have entered the public consciousness. In addition, they provide a precise measure of the extent of medicalization within the lay public attitudinal domain. While Conrad (2000) is correct in noting "that problems can still be medicalized even in the face of a skeptical public" (p. 324), the responses of the public comprise an important component of that medicalization, serving as a resource upon which concerned stakeholders can draw to promote or oppose medicalization attempts.

To address this gap in the literature, we analyze nationally representative data on the public's willingness to give psychiatric medications to children and the social correlates of that willingness. Data come from the 1998 General Social Survey's *Pressing Issues in Health and Medical Care Module*, which targeted a series of issues on psychiatric treatments for adults as well as children. We are able to distinguish the public's views towards the general class of psychiatric medications from its views toward Prozac, a selective serotonin reuptake inhibitor currently at the center of this and other controversies. We are also able to distinguish among specific emotional/behavioral problems for which psychiatric medications are currently used or for which

their use has been proposed: hyperactivity, oppositional behaviors, and depression.

Our analysis of social correlates focuses on three groups of variables: sociodemographic characteristics, knowledge and experience with psychiatric medications, and general attitudes towards medicine and medications. Sociodemographic characteristics mark different sectors of community tolerance regarding pharmacological solutions to children's behavior problems. We expect characteristics that tap greater general and medical knowledge (e.g., more education, younger age, urban residence, higher income) to be positively correlated with willingness to give psychiatric medication to children. Sociodemographic characteristics that tap traditional pockets of skepticism of medical intervention (e.g., the black community's knowledge of and reaction to the Tuskegee syphilis experiment) or that are closer to the potential problems (e.g., having children, being married) should be associated with lower willingness. In addition, we expect variables that tap greater information about psychiatric medications and greater contact with the mental health system to be associated with greater willingness. Finally, we ask whether holding more positive attitudes toward medical providers (both personal physicians and doctors, in general) translates into more favorable attitudes towards a medical response to children's emotional and behavioral problems.

DATA AND METHODS

The data for the analysis come from the 1998 General Social Survey conducted by the National Opinion Research Center at the University of Chicago. The survey has been conducted regularly since 1972 (first annually, then biennially), with nationwide, representative samples of adults living in non-institutionalized housing. The goal of the survey is to monitor the attitudes, beliefs, and behaviors of the American public on critical social issues. In 1998, the survey incorporated a module on *Pressing Issues in Health and Medical Care*, which included questions on managed care, physicians, and psychiatric medications. Most relevant to this analysis, the module included a short series of questions about respondents' willingness to give psychiatric medications to children.

In recent years, the General Social Survey

has been administered to two independent, national samples in each year that it has been conducted. The samples respond to questionnaires that have both common and distinct content. The *Pressing Issues in Health and Medical Care Module* was included in the questionnaire administered to one of those samples. The response rate for the survey on which the medications questions appeared was 76 percent ($N = 1,444$). Non-responses were primarily refusals or "break-offs" (interviews terminated before completion).

Assessing the Willingness to Give Psychiatric Medication to Children

Survey respondents were asked six questions about their willingness to give psychiatric medications to children. Half of the questions were asked with reference to psychiatric medications in general; half of the questions were asked specifically about Prozac. For each type of medication, respondents were asked how likely they would be "to give doctor-prescribed medication to your child or a child you were responsible for in the following situations?" (If respondents asked, they were told that "child" referred to someone between the ages of 6 and 15.) The questions about Prozac were asked only of those respondents who said they had heard of Prozac (approximately 88% of respondents; Lubell et al. 2001).

The three situations represented behaviors typically discussed in medicalization debates and marked as major symptoms of children's mental health problems. They map crudely on "disorders." The first asked about a child who "is hostile, often loses his/her temper, often argues with adults, actively defies authority and seems spiteful or vindictive." This description marks some of the major symptoms associated with oppositional defiant disorder. The second asked about a child who "is not paying attention in school, does not follow through with school work or chores, has difficulty organizing activities, is easily distracted, talks excessively, and seems to run around and fidget constantly." These descriptors are more typical of children labeled as having attention deficit hyperactivity disorder. Finally, the third situation referred to a child who "is talking about killing him or herself." Suicidal ideation is a major marker of depression for mental health professionals.

For the descriptive analyses, we collapsed the original five-point response continuum into three categories (very or somewhat likely, mixed, very or somewhat unlikely). For the multivariate analyses, we combined "very likely" and "likely" responses into a single category (coded 1) that was compared with responses of "mixed," "unlikely," or "very unlikely" (coded 0). Respondents were not offered "don't know" or "no response" options but were coded into those categories if given. Both groups were deleted from the analyses we report here. Across the situations, approximately 6 percent of respondents gave "don't know" responses to the questions about psychiatric medications, and about 11 percent to the questions about Prozac. Comparisons of trends in responses across situations and across medications were unaffected by the deletion.

Predictors of Willingness to Give Psychiatric Medication to Children

As described earlier, we evaluated three sets of predictors: sociodemographic characteristics of the respondent, knowledge of and experience with psychiatric medications, and general attitudes towards medicine and psychiatric medications. Respondent characteristics included marital status, rural/urban residence, race, sex, income, number of children, age, and education. Income (coded at the midpoints of 23 categories, in thousands of dollars), number of children,¹ and age were measured on continuous scales, whereas the other sociodemographic characteristics were represented by series of dummy variables. Missing values for income were assigned the mean.

Three indicators of knowledge of and experience with psychiatric medications and the mental health system were included in the analysis, all of which were coded as dichotomous variables. Specifically these include whether the respondent or "anyone else" they know had "ever seen a psychiatrist, psychologist, or counselor;" whether the respondent had "ever heard of Prozac" (omitted from the models predicting willingness to prescribe Prozac); and whether the respondent had herself or himself "ever taken Prozac" or "personally known anyone who took Prozac."

Attitudes towards medicine/medications were assessed with three summated scales. Trust in doctors was based on a seven-item

scale including questions such as, "I trust my doctor's judgments about my medical care" and "I trust my doctor to tell me if a mistake was made about my treatment." Responses of "strongly agree" and "agree" were coded 1 and responses of "neither agree nor disagree," "disagree," and "strongly disagree" were coded 0. Responses to all seven items were added and divided by seven to arrive at a final scale score. Positive attitudes towards psychiatric medications were assessed with a four-item scale including questions such as, "Taking these medications helps people deal with day-to-day stresses" and "These medications help people control their symptoms." Responses were coded, summed, and averaged as they were for the trust scale.

Finally, respondents were asked four attitudinal questions about their willingness to take psychiatric medications themselves, covering situations ranging from "because you were having trouble in your personal life" to "because you were feeling depressed, tired, were having trouble sleeping or concentrating, and felt worthless." The number of situations for which respondents were "very likely" or "somewhat likely" to take psychiatric medications was counted and divided by four to arrive at the final scale score.

Analyses

Analyses were conducted on the sample of respondents with valid values on all of the variables ($N = 1,186$ for psychiatric medications questions, $N = 970$ for Prozac questions). Comparisons of the distributions of responses for the psychiatric medication and Prozac questions were based on z-tests of the difference in the proportion of respondents who were "very likely" or "likely" to give each type of medication in each situation. Binomial logistic regression was used to determine the association between the various predictors and willingness to prescribe psychiatric medications to children.

We report logit coefficients in the tables as well as odd ratios (OR) for significant coefficients. Reported coefficients are from models in which all predictors were entered simultaneously. Results from models in which predictors were entered in groups (sociodemographic, knowledge/experience, attitudes) were substantively identical (details available upon

request).² Tests of statistical significance were two-tailed.

RESULTS

Public Willingness to Give Psychiatric Medications to Children

Public willingness to give psychiatric medications to children can be compared across problems and across types of medications (Table 1). Comparing across problems, respondents generally expressed a greater willingness to give medications for suicidal statements than for the other problems. 57 percent of Americans reported being "very" or "somewhat likely" to give psychiatric medications in that situation. The percentage of respondents willing to give psychiatric medications is next highest for the scenario describing oppositional behaviors (34.2%), followed by those tapping behaviors associated with attention deficit hyperactivity disorder (29.5%). The percentage of respondents "very" or "somewhat unlikely" to give medications is particularly high for attention deficit hyperactivity

disorder (53.0%), perhaps reflecting greater public knowledge of, and debate about, Ritalin (with the comparable percentages for oppositional and suicidal behaviors being 49.2% and 25.6%, respectively).

Comparing the general category of psychiatric medications with Prozac, Americans expressed less willingness to give the latter (47.1% "very" or "somewhat likely" to give Prozac for suicidal statements; 15.9% for hyperactivity; 22.6% for oppositional behaviors). For each situation, the percentage of respondents who reported being "very" or "somewhat likely" to give the medications was significantly lower for Prozac than for psychiatric medications. (Z-statistics for tests of the differences in the proportions reporting being "very" or "somewhat likely" to give psychiatric medications and Prozac were 5.97, 7.53, and 4.60, respectively, for the "oppositional," "hyperactive," and "suicidal" scenarios.) This holds true even for suicidal statements, the one situation for which one might expect greater public acceptance of Prozac, since it was developed as a treatment for depression.³

TABLE 1. Americans' Willingness to Give Psychiatric Medications and Prozac to Children by Situation, General Social Survey, 1998

Situation	Very or Somewhat Likely	Mixed	Very or Somewhat Unlikely
	% (N)	% (N)	% (N)
Oppositional: S/he is hostile, often loses his/her temper, often argues with adults, actively defies authority and seems spiteful or vindictive			
Psychiatric Medications	34.2 (405)	16.7 (198)	49.2 (583)
Prozac	22.6 (219)	12.8 (124)	64.6 (627)
Hyperactive: S/he is not paying attention at school, does not follow through with school work and chores, has difficulty organizing activities, is easily distracted, talk excessively, and seems to run around or fidget constantly			
Psychiatric Medications	29.5 (350)	17.4 (207)	53.0 (629)
Prozac	15.9 (154)	11.4 (111)	72.7 (705)
Suicidal: S/he was talking about killing him or herself			
Psychiatric Medications	57.0 (676)	17.4 (207)	25.6 (303)
Prozac	47.1 (457)	17.4 (169)	35.5 (344)

Predictors of Willingness to Give Psychiatric Medications to Children

Regardless of situation or type of medication, the strongest and most consistent predictors of willingness to give psychiatric medica-

tions to children were trust in doctors, attitudes towards psychiatric medications, and the respondent's expressed willingness to take psychiatric medications herself or himself (Tables 2 and 3). Few sociodemographic characteristics were significantly associated with

TABLE 2. Logistic Regressions Predicting Willingness to Give Psychiatric Medications to Children, General Social Survey, 1998

	Oppositional		Hyperactive		Suicidal	
	b	Odds Ratio	b	Odds Ratio	b	Odds Ratio
<i>Demographic Characteristics</i>						
<i>Marital Status</i>						
Widowed	-.180 (.290)		-.504 (.296)		.079 (.292)	
Separated/divorced	.007 (.192)		-.419* (.206)	.66	-.044 (.201)	
Never married	-.112 (.211)		-.151 (.222)		-.278 (.212)	
<i>Residence</i>						
Urban	-.260 (.182)		.126 (.194)		.055 (.187)	
Suburban	-.101 (.177)		.293 (.189)		.137 (.182)	
<i>Race</i>						
Black	.116 (.220)		-.002 (.234)		.143 (.218)	
Other	.171 (.304)		.341 (.325)		-.081 (.295)	
Male	.328* (.142)	1.39	-.212 (.151)		.080 (.146)	
Income	.002 (.003)		-.001 (.003)		.006* (.003)	1.01
Number of children	.042 (.071)		.083 (.075)		-.023 (.073)	
Age	.002 (.006)		.021*** (.006)	1.02	.002 (.006)	
<i>Education</i>						
High School degree	.130 (.226)		.195 (.232)		.082 (.237)	
Associate degree/Junior college	.257 (.324)		-.281 (.359)		-.209 (.336)	
Bachelors degree	.006 (.273)		.083 (.283)		.030 (.284)	
Graduate degree	.003 (.345)		.706* (.347)	2.03	.275 (.369)	
<i>Knowledge/experience with psychiatric medications</i>						
Heard of Prozac	-.197 (.250)		.083 (.269)		.484 (.254)	
Know someone who has taken Prozac	.229 (.158)		.329* (.167)	1.39	.319* (.158)	1.38
Has received care for mental health problem	.028 (.163)		-.192 (.173)		-.083 (.164)	
<i>Attitudes toward medicine and medications</i>						
Trust in doctors	.095** (.035)	1.10	.085* (.037)	1.09	.100** (.035)	1.11
Positive towards psych. meds.	.162** (.062)	1.18	.173** (.067)	1.19	.211*** (.056)	1.24
Would use psych. meds. for self	.565*** (.049)	1.76	.565*** (.051)	1.76	.766*** (.056)	2.15
Pseudo R ²	.148		.170		.231	

* $p < .05$; ** $p < .01$; *** $p < .001$

Note: Omitted categories are married, rural, white, female, less than a high school degree. Odds-ratios are presented only for significant coefficients. Standard errors are in parentheses.

TABLE 3. Logistic Regressions Predicting Willingness to Give Prozac to Children, General Social Survey, 1998

	Oppositional		Hyperactive		Suicidal	
	b	Odds Ratio	b	Odds Ratio	b	Odds Ratio
<i>Demographic Characteristics</i>						
<i>Marital Status</i>						
Widowed	-.079 (.372)		-.349 (.409)		.266 (.330)	
Separated/divorced	-.340 (.234)		-.53 (.275)		-.199 (.207)	
Never married	-.286 (.263)		-.061 (.287)		.099 (.224)	
<i>Residence</i>						
Urban	-.166 (.223)		.195 (.254)		.080 (.196)	
Suburban	.038 (.215)		.242 (.250)		.108 (.192)	
<i>Race</i>						
Black	-.330 (.301)		-.295 (.338)		-.218 (.242)	
Other	.087 (.399)		.106 (.450)		-.475 (.347)	
Male	.336 (.174)		.363 (.193)		.012 (.153)	
Income	-.008* (.003)	.99	-.007 (.004)		.003 (.003)	
Number of children	.007 (.087)		-.018 (.100)		-.078 (.076)	
Age	.002 (.007)		.012 (.008)		-.011 (.006)	
<i>Education</i>						
High School degree	.955** (.336)	2.60	.296 (.333)		.421 (.272)	
Associate degree/Junior college	.883* (.431)	2.42	.309 (.457)		.251 (.361)	
Bachelors degree	.476 (.384)		-.011 (.393)		-.110 (.312)	
Graduate degree	.825 (.441)		.656 (.443)		.975** (.377)	2.65
<i>Knowledge/experience with psychiatric medications</i>						
<i>Know someone who has taken</i>						
Prozac	-.010 (.186)		-.109 (.208)		.119 (.161)	
Has received care for mental health problem	.005 (.203)		-.094 (.227)		.048 (.176)	
<i>Attitudes toward medicine and medications</i>						
Trust in doctors	.133** (.045)	1.14	.088 (.050)		.052 (.037)	
Positive towards psych. meds	.237** (.084)	1.27	.157 (.093)		.219*** (.064)	1.24
Would use psych. meds. for self	.475*** (.060)	1.61	.435*** (.068)	1.54	.569*** (.054)	1.77
Pseudo R ²	.128		.102		.163	

* $p < .05$; ** $p < .01$; *** $p < .001$

Note: Omitted categories are married, rural, white, female, less than a high school degree. Odds-ratios are presented only for significant coefficients. Standard errors are in parentheses.

willingness to give psychiatric medications to children, and those that were did not have consistent relationships across the different dependent variables. Variables measuring knowledge of and experience with psychiatric medications had mixed relationships with expressed willingness, as elaborated below.

Sociodemographic characteristics. Moving across situations, we compare the general and Prozac-specific results for "oppositional" behaviors (situation 1; column sets 1 in Tables 2 and 3). Men were 39 percent more likely than women to be willing to give psychiatric medications to children described as troublesome

($b = .328$, $p < .05$, $OR = 1.39$, Table 2), noteworthy given the higher rates of behavior problems observed among boys (e.g., Fleming, Boyle, and Offord 1993). The difference between men and women for the comparable Prozac question was in the same direction and of the same magnitude, but only bordered on significance ($b = .336$, $OR = 1.40$, $p = .053$, Table 3). Compared to persons who did not graduate from high school, high school graduates and persons with associate's degrees expressed a greater willingness to give Prozac to children for "oppositional" behaviors ($b = .955$, $.883$, and $OR = 2.60$, 2.42 respectively, Table 3). The pattern of difference across educational groups was the same for the general psychiatric medication question, but was not significant.

Moving to the second situation (column set 2 in Tables 2 and 3), the only significant sociodemographic predictors of willingness to give medications for hyperactivity were marital status and age. Persons who were separated or divorced reported less willingness to give medications than persons who were married, regardless of the type of medication under consideration ($b = -.419$, $OR = .66$ for psychiatric medications, Table 2; $b = -.637$, $OR = .53$ for Prozac, Table 3). Willingness to give psychiatric medications for hyperactivity increased significantly with age ($b = .021$, $OR = 1.02$, $p < .001$, Table 2), with the comparable result for Prozac consistent in sign but not significant ($b = .012$, $OR = 1.01$, Table 3).

Under the final situation (column set 3, Tables 2 and 3), income increased willingness to give psychiatric medications for suicidal statements ($b = .006$, $p < .05$ for psychiatric medications, Table 2), however, the same association was not observed for the comparable Prozac question. Persons with graduate degrees were particularly likely to express a willingness to give Prozac to children for suicidal statements, being 2.65 times as likely to endorse the use of Prozac as those with less than a high school degree ($b = .975$, $p < .01$, Table 3).

Knowledge of and experience with psychiatric medications and the mental health system. Knowing someone who has taken Prozac increased respondents' expressed willingness to give psychiatric medications to children for the second and third situations ("hyperactivity" and "suicidal statements"; $OR = 1.39$, 1.38 , respectively), but not the first ("oppositional"

behaviors). However, the same pattern of association does not hold for the questions on Prozac, suggesting that the association may have more to do with general familiarity and comfort with psychiatric medications than with specific knowledge about specific medications. Having received treatment for a mental health problem was not associated with willingness to give psychiatric medications to children.

Attitudes toward medicine and medications. Trust in physicians increased expressed willingness to give psychiatric medications to children for all three situations by 9 to 11 percent (ORs range from 1.09 to 1.11, Table 2), but, in the case of Prozac, only for "oppositional" behavior ($OR = 1.14$). The latter finding is interesting inasmuch as Prozac is indicated only for the third situation where suicidal ideation was described. Positive attitudes towards psychiatric medications also increased willingness to give those medications to children across the board, with one exception (the case of giving Prozac for hyperactivity, ORs range from 1.17 to 1.27, Tables 2 and 3). Finally, consistent with prescribing patterns (Hong and Shepherd 1996), respondents who were willing to take psychiatric medications themselves were also more willing to give those medications to their children (ORs range from 1.54 to 2.15, Tables 2 and 3).

DISCUSSION

The medicalization of children's emotional and behavioral problems has been the subject of academic scrutiny for almost thirty years. Prior writings describe the activities of influential stakeholders—pharmaceutical companies, physicians, advocacy groups, and the like—as they contribute to and resist medicalization efforts (e.g., Conrad 1975; Halpern 1990; Pawluch 1983). Our analysis complements those writings by describing how the general public feels about one specific medical intervention that is used for troubled children—psychiatric medications. Data on public attitudes serve as an important corrective to analyses that rely on behavioral indicators (e.g., medication utilization rates) to gauge public support for medicalization efforts by providing a precise measure of the degree to which medicalized definitions have entered the public consciousness.

According to our analysis, the American public does not support the use of medical interventions for troubled children. In the case of children who were described as oppositional or hyperactive, the majority of respondents was not willing to give them psychiatric medications. Even in the case of suicidal statements, where public support for medication use was strongest, a sizable minority of respondents had mixed feelings about giving children prescribed medications or said that they would be unwilling to do so. The general reluctance we observed indicates that the lay public does not fully embrace medicalized definitions of child problems, despite increasing prescription rates (Rappley et al. 1999; Zito et al. 2000).

Across all of the situations we considered, respondents were significantly less willing to give Prozac to children than to give psychiatric medications in general. Our analysis cannot identify the origins of the resistance to Prozac, but at least three possibilities seem plausible. First, the relative wariness expressed towards Prozac might extend to any specific named medication inasmuch as named medications represent more specific referents. Because the General Social Survey did not inquire specifically about Ritalin, we are unable to compare attitudes towards Prozac with attitudes towards a similarly maligned medication. Second, negative media publicity regarding Prozac may have influenced public opinion at the time the 1998 General Social Survey was fielded. Media reports invoking Prozac as an explanation for Kip Kinkel's behavior,⁴ and negative media coverage of Eli Lilly's application to market Prozac for use among children, both appeared shortly before the 1998 General Social Survey went into the field. Third, and relatedly, the resistance to Prozac may reflect the larger debate over the selective serotonin reuptake inhibitors (Prozac in particular) and their connection to corporate medicine (Lubell et al. 2001). Respondents were not asked directly about their exposure to negative media publicity surrounding psychiatric medications so we cannot adjudicate these possibilities.

We expected to encounter greater opposition to the use of psychiatric medications within population subgroups that are traditionally skeptical of medical interventions or that have a greater stake in the issue, and greater support within population subgroups that are knowledgeable about or have experience with psy-

chiatric treatment. Somewhat surprisingly, there were few consistent sociodemographic or knowledge-based predictors of willingness to give psychiatric medications to children in this survey. Our results stand in sharp contrast to well-documented sociodemographic patterns in medication utilization. Rates of antidepressant use increase with mother's education, and are higher for boys and children with private health insurance (Wu et al. 2001) among children who meet criteria for disorder. White children also appear to be more likely to receive prescriptions for psychiatric medication than black children, with the discrepancy largest for psychostimulants and antidepressants (Goodwin et al. 2001). These patterns do not conform to the patterns we observed for reported willingness to give psychiatric medications to children, suggesting that sociodemographic differences in utilization are driven by something other than sociodemographic differences in the acceptance of medicalized approaches to children's emotional and behavioral problems.

The strongest predictors of willingness to give psychiatric medications to children were trust in personal physicians, general attitudes towards psychiatric medications (in essence, perceived efficacy), and the respondent's willingness to take psychiatric medications herself or himself. These results are consistent with theories of health services utilization that place perceived efficacy at the center of decisions about treatment-seeking and medication adherence (e.g., Ajzen and Fishbein 1980; Andersen 1995). They also resonate with evidence that parents' use of psychiatric medications is a strong predictor of use of those medications by their children (Hong and Shepherd 1996).

One critical question that remains unanswered by our analysis is what drives the association between personal willingness to use psychiatric medications and willingness to give those medications to children. It does not simply reflect an underlying trust in one's doctor, or a belief that psychiatric medications are beneficial, because the models controlled for those factors. The association could be spurious, reflecting variation in the prevalence of disorder across survey respondents, if respondents who have themselves experienced a disorder are more open to the possibility of taking psychiatric medications, and of allowing children to take those medications. We did not

have access to information about whether the respondent had been diagnosed with or received treatment for a psychiatric disorder (the utilization question asked about self *and* others), or about whether the respondent had actually used psychiatric medications, and we were therefore unable to evaluate that possibility. It is worth noting, however, that knowledge of and experience with psychiatric medications, whether personal or by acquaintance, was a much less powerful predictor of willingness to give children psychiatric medications than indicators of trust in one's doctor and belief in the benefits of the medications.

We suspect, then, that the association between personal willingness to take psychiatric medications and willingness to give those medications to children results from basic differences regarding the nature of and preferred responses to "disorder" across survey respondents. These differences are not captured by sociodemographic characteristics, experience with psychiatric treatment, or attitudes towards medical care, leaving open the question of their origins. To answer that question, we recommend focused exploration of how Americans conceptualize emotional and behavioral problems in children and adolescents, to what they attribute the causes, and who they feel is competent to address these issues. How the public evaluates troubled children will influence its support for a variety of potential societal responses, for example, societal policies oriented towards strengthening "fragile families" (McLanahan, Garfinkel, Reichman, and Teitler 2001), or practices that "dump" troubled children into other institutional systems (e.g., the criminal justice system, see Peyrot 1984) by default. As medicalization theorists acknowledge, despite the substantial personal and societal costs associated with medicalization, medical interventions can and do provide relief and comfort, and are often more humanitarian than alternative societal responses (Conrad 1975; Broom and Woodward 1996). Because we cannot determine what alternatives the public had in mind when answering the survey questions, it is unclear whether public opposition to the use of psychiatric medications for children should be interpreted in a positive or negative light.

In sum, this study offers compelling evidence that, except in the case where a child expresses suicidal thoughts, the majority of the American public does not embrace psychiatric

medications as a solution to child behavior problems and is particularly cautious in its views toward Prozac. Importantly, the wariness about psychiatric medications is not confined to any particular sociodemographic group but rather extends to a broad cross-section of the American public. Based on this evidence, we conclude that the medicalization of child behavior problems is not complete. The prescription rate for psychiatric medications has increased, but the public remains wary of medical intervention for their treatment.

How do we reconcile the low levels of expressed willingness to give psychiatric medications to children with increasing prescription rates? General attitudes and specific behaviors are only weakly correlated, as a general rule (Schuman 1995), and may be even less so in situations where behavior is governed by powerful external constraints. When faced with a distressed or troublesome child, parents may be more accepting of a medication regimen than their stated attitudes would predict. Despite general opposition to the use of psychiatric medications for children, parents may perceive few other options, or may come to believe that medication is the best choice for their child, even if medication is not the right choice for every child. Insurers, medical providers, and schools also have a vested interest in promoting medical solutions inasmuch as they are relatively easy and inexpensive to administer (see, for example, Diller 1996). Faced with pressure from these stakeholders, parents may accept psychiatric prescriptions even as they maintain nominal opposition.⁵ In essence, as others have noted, medicalizing institutions do not need to capture the "hearts and minds" of the lay public as long as they are able to corner the market by controlling access to alternative therapies (Conrad 2000; Pescosolido, McLeod, and Alegria 2000).

That having been said, the disjunction between lay public attitudes and prescription rates reminds us that medicalization is multidimensional and dynamic (Conrad 2000). The public resistance we observed represents a resource to opponents of medicalization and a point of attack for its supporters. It serves as a constraint on medicalization efforts, a fact widely recognized by supporters of children's psychiatric medication use (see footnote 5). Future public and professional debate about the use of psychiatric medications for children must attend to this resistance.

The debate about psychiatric medication use for children requires continued monitoring from social scientists as the medical care system and scientific knowledge about children's emotional and behavioral problems evolve. The growth in managed care arrangements may further diminish support for the medicalization of children's emotional and behavioral problems to the degree that it diminishes trust in physicians (Mechanic and Schlesinger 1996). The integration of managed care into government-sponsored social services may be particularly critical to follow because it sets the competing needs of children and institutions in high relief. An "investigation" by the *Los Angeles Times* reported that thousands of California children in foster care receive psychiatric medication "to keep kids obedient and docile for their overburdened caretakers" (Weber 1998). As states move increasingly towards managed care arrangements for the provision of social services, the lines demarcating support for and opposition to psychiatric medication use for children, and the lay public's response, may become more sharply drawn.

With respect to the changing scientific knowledge base, Peter Jensen (1999) suggests that in the future the debate about psychiatric medications will shift towards issues of neural plasticity or the "human ability to 'recruit' additional neural tissues across an entire network of brain regions" (p. 7). This view suggests that early treatment may facilitate change during the period of greatest brain growth where the "human cortex has the ability to work around seemingly fixed brain disorders." If early diagnosis and treatment hold the promise of "cure," the moral, ethical, social and practical dilemmas for parents and providers are dramatically altered. For at least a generation or two of children, the promise will outstrip any evidence supporting or disproving this assertion, leaving the public particularly vulnerable to competing claims about the efficacy of the medications.

The increase in medication use continues unabated (Rappley et al. 2002). Whether the public will retain its skepticism or become convinced of the validity of medical approaches to child behavior problems remains to be seen. If, as Zola (1972) noted, medicine is the battleground of what will become of society—where physical and functional well-being compete with civil liberty and moral integrity—

future trends in lay public attitudes towards psychiatric medication use for children serve as an important indicator of which side holds the advantage.

NOTES

1. Analyses using a dichotomous indicator for number of children (0 versus 1 or more) yielded the same conclusions.
2. Other analyses from the 1998 General Social Survey used complicated weighting procedures through SUDAAN, with weights provided by the statistical staff at the National Opinion Research Center. The comparison of multivariate results weighted to correct for complex sampling designs showed few differences from the unweighted results, indicating the high quality of the National Opinion Research Center sampling method. In the interests of simplicity, we use unweighted data here.
3. The percentage of respondents reporting a willingness to give Prozac might differ from that for psychiatric medications simply because the questions about Prozac were answered only by those respondents who said that they had heard of Prozac. To evaluate this possibility, we recalculated the percentage distribution for willingness to give psychiatric medications only among those respondents who also answered the Prozac questions and observed a similar pattern of difference. Specifically, 34.8% of those respondents reported being "very or somewhat likely" to give psychiatric medications to children for oppositional behaviors, 30.1% for hyperactivity, and 59.3% for suicidal statements. The comparable percentages of respondents reporting that they would be "very or somewhat unlikely" to give psychiatric medications to children were 49.1%, 53.2%, and 23.7%. Thus, differences in the responses given to questions about psychiatric medications and about Prozac are not attributable to differences in the samples that responded to the two sets of questions.
4. Kip Kinkel murdered his parents and two students at his Springfield, Oregon high school in 1998.
5. Interestingly, parents are seen as both overly eager and, overly reluctant to give their children psychiatric medications by oppo-

nents and supporters of medication use, respectively. Compare, for example, Dr. Russell Reiff, who says, "Doctors face this incredible pressure from parents who come in saying 'Can't we just try the medications and see if it helps?'" (quoted in Hall 2000) with Dr. Howard Koplewicz: "The most frustrating part is when I tell someone that there are a lot of things that we can do, but the idea that their child might have to take a pill makes them so defensive. . . . They've left the office because they don't like the news and they're going to try to find someone who will tell them what they want to hear" (quoted in Tagliaferro 1996).

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