Public Preferences for Rehabilitation versus Incarceration of Juvenile Offenders: Evidence from a Contingent Valuation Survey

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Abstract

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Research Summary

Accurately gauging the public’s support for alternative responses to juvenile offending is important, because policymakers often justify expenditures for punitive juvenile justice reforms on the basis of popular demand for tougher policies. In this study, we assess public support for both punitively and non-punitively oriented juvenile justice policies by measuring respondents’ willingness to pay for various policy proposals. We employ a methodology known as ‘contingent valuation,’ (CV) that permits the comparison of respondents’ willingness to pay (WTP) for competing policy alternatives. Specifically, we compare CV-based estimates for the public’s WTP for two distinctively different responses to serious juvenile crime: incarceration and rehabilitation. An additional focus of our analysis is an examination of the public’s WTP for an early childhood prevention program. The analysis indicates that the public is at least as willing to pay for rehabilitation as punishment for juvenile offenders and that WTP for early childhood prevention is also substantial. Implications and future research directions are outlined.

Policy Implications

The findings suggest that lawmakers should more actively consider policies grounded in rehabilitation, and, perhaps, be slower to advocate for punitive reforms in response to public concern over high-profile juvenile crimes. Additionally, our
willingness to pay findings offer encouragement to lawmakers who are uncomfortable with the recent trend toward punitive juvenile justice policies and would like to initiate more moderate reforms. Such lawmakers may be reassured that the public response to such initiatives will not will be hostile. Just as importantly, reforms that emphasize leniency and rehabilitation can be justified economically as welfare-enhancing expenditures of public funds. The evidence that the public values rehabilitation more than increased incarceration should be important information to cost-conscious legislators considering how to allocate public funds. Cost-conscious legislatures may become disenchanted with punitive juvenile justice policies on economic grounds and pursue policies that place greater emphasis on rehabilitation. They may be reassured, on the basis of our findings, that the public will support this move.

Key words: public opinion, punishment, rehabilitation, juvenile justice, prevention, crime policy
INTRODUCTION

Over the past few decades, American juvenile justice policy has become progressively more punitive, as evidenced by the increasingly harsh nature of the dispositions imposed on juveniles who have been adjudicated delinquent or guilty, as well as by the marked increase in the number of states in which juveniles can be tried as adults (Bishop, 2000; Scott & Steinberg, 2003). During the 1990s, in particular, legislatures across the country enacted statutes under which growing numbers of youths can be prosecuted in criminal courts and sentenced to prison (Reppucci, 1999; Scott, 2000; Snyder & Sickmund, 1995). Indeed, today, in almost every state, youths who are 13 or 14 years of age (or less) can be tried and punished as adults for a broad range of offenses, including nonviolent crimes (Sickmund, 2003; Griffin, Torbet, & Szymanski, 1998). Even within the juvenile system, punishments have grown increasingly severe (Bishop, 2000; Fagan & Zimring, 2000).

It is generally accepted that intense public concern about the threat of youth crime has driven this trend, and that the public supports this legislative inclination toward increased punitiveness (Roberts, 2004). And yet, it is not clear whether this view of the public’s attitude about the appropriate response to juvenile crime is accurate. On the one hand, various opinion surveys have found public support generally for getting tougher on juvenile crime and punishing youths as harshly as their adult counterparts (Bureau of Justice Statistics [BJS] Sourcebook, 2003; Soler, 2001; Moore, 1994). At the same time, however, scrutiny of the sources of information about public opinion reveals that the view that the public supports adult punishment of...
juveniles is based largely on either responses to highly publicized crimes such as school shootings or on mass opinion polls that typically ask a few simplistic questions (Cullen, Fisher, & Applegate, 2000; Roberts & Stalans, 1997). Moreover, evidence from recent research that seeks to probe more deeply into adults’ attitudes toward juvenile crime suggests that the public response may be more complex than political rhetoric suggests (Roberts et al., 2002; Stalans & Henry, 1994; Schiraldi & Soler, 1998). For example, several surveys have found public support for rehabilitation as a goal of juvenile justice policy (Roberts, 2004; Moon et al., 2000) and also for sanctions and programs that are alternatives to prison (Krisberg & Austin, 1993). One survey found that participants thought that school discipline, rather than imprisonment, was the best way to reduce juvenile crime (Hough & Roberts, 2003). It is quite plausible that assessments of public sentiment about juvenile crime, and the appropriate response to it, vary greatly as a function of when and how public opinion is gauged.

An assessment of the public’s support for various responses to juvenile offending is important because policymakers often justify expenditures for punitive juvenile justice reforms on the basis of popular demand for tougher policies. Punitive responses to juvenile crime (e.g., the incarceration of juvenile offenders in correctional facilities) are far more expensive than less harsh alternatives (e.g., providing juvenile offenders rehabilitative services in community settings). Further, there is little evidence that these more punitive policies are more effective in deterring future criminal activity, and some evidence (Bishop et al., 1996) that overly punitive responses, such as the incarceration of juvenile offenders in adult facilities, actually may increase juvenile
offending (Fagan, 1997). If politicians’ misreading of public sentiment has led to the adoption of more expensive policy alternatives than the public actually wants, tax dollars are likely being wasted on policies that are costly and possibly ineffective, and that also may be less popular than is widely assumed.

In this study, we assess public opinion toward juvenile justice policy using an approach that differs from conventional polling, by measuring respondents’ willingness to pay (WTP) for various policy proposals. We employ a methodology known as “contingent valuation” (CV), which permits the comparison of respondents’ willingness to pay for competing policy alternatives. In our judgment, this approach has three principal advantages over conventional public opinion polling.

First, asking how much respondents as individual taxpayers are willing to pay for a specific policy likely yields a more accurate estimate of their attitude toward that policy than merely asking whether they approve or disapprove of it, because the question requires the respondent to consider the cost of the policy as well as its benefits. One of the shortcomings of most public opinion polling about policy options is that the questions posed seldom situate the hypothetical alternatives in a concrete economic context. It is far easier to endorse a particular policy when it is proposed in the abstract (e.g., “Do you favor expanding the city’s sanitation services in order to clean the streets more frequently?”) than when one is told the actual cost of that policy (e.g., “Do you favor expanding the city’s sanitation services in order to clean the streets more frequently, at an annual cost to the city of $1 million per year?”) or what the impact of that policy would be on the respondent’s personal tax burden (“Would you be willing to
pay an additional $100 in property taxes annually in order to expand the city’s sanitation services and clean the streets more frequently?). As a consequence, conventional polls may indicate more enthusiastic public support for a potentially expensive policy than would likely be the case if the actual cost burden of the policy were revealed. Although asking a respondent how much he or she would be willing to pay for a given program or intervention is not the same as a formal referendum in which respondents are asked to vote up or down a policy where the cost to the individual taxpayer is specified in advance, the approach employed in the present study likely yields a more accurate estimation of public opinion than does conventional polling.

Second, the CV methodology employed here permits a more direct comparison of public attitudes toward different policies designed to address the same fundamental problem. In conventional opinion polling, respondents’ preference for one versus another policy is often ascertained (e.g., “Do you favor Policy A or would you prefer Policy B?”), but the phrasing of such comparative questions seldom provides respondents with information on the relative effectiveness or cost of the proposed options. Without knowing what the respondent believes to be the effectiveness or cost of each alternative, one is unable to know what the respondent’s answer genuinely reflects. Imagine, for example, how different one’s responses to a question contrasting Policy A and Policy B might be if one were told that the first option had been shown to be only half as effective as the second, or that the second cost five times as much as the first. In the present study, we use an experimental methodology that permits us to compare respondents’ opinions about policy alternatives that are presented as equally
effective. Any observed differences in respondents’ willingness to pay for two policies of equal effectiveness must necessarily indicate a true preference for one over the other.

The third advantage of the CV methodology is that it permits one to calculate a rough estimate of the economic value of a given policy to the public. Generally speaking, crime policy is seldom formulated on the basis of careful assessments of the economic costs and benefits of different policy options or by taking into account their relative value to the public (Cook and Ludwig, 2000; Nagin, 2001; Zimring and Hawkins, 1995). Increasingly, however, legislators want to know whether the economic benefits, measured in dollar terms, of a given policy outweigh its actual costs. But whereas estimating the costs of a given crime policy (e.g., mandating that correctional facilities provide drug treatment for individuals with drug abuse or dependency problems) is often possible (i.e., one can multiply the actual cost of providing treatment by the number of inmates with drug problems), estimating the economic benefits of the same policy is a different matter, because many such benefits are intangible (e.g., increases in the public’s feelings of safety), and assigning a monetary value is difficult. As a consequence, it is often impossible to compute a cost-benefit ratio for various policy alternatives based on an assessment of the tangible benefits of the policy.

The CV methodology overcomes this problem by estimating the economic value of various policies in the most straightforward way possible: by determining how much individuals are willing to pay for each of them. This approach differs from conventional economic analyses that focus solely on the tangible benefits of interventions (e.g.,
estimates of the number of days of added employment one could gain by successfully treating individuals with drug addiction) because it permits the assessment of intangibles that are difficult to value economically but that are nevertheless important in the overall assessment of the value of an intervention (e.g., the added safety that individuals feel knowing that fewer individuals with drug problems are living in their neighborhood). The CV approach fineses the difficulties inherent in trying to build an estimate of total benefits by estimating WTP for each of the component benefits by asking respondents for WTP for total package of benefits that may attend a particular policy. Thus, if the average taxpayer in a given state is willing to pay an additional $100 in taxes each year to implement a particular policy, and there are 5 million taxpayers in that state, the annual value of that policy to the taxpayers in that state is $500 million based on the WTP criterion. A comparison of this figure with the known cost of the policy produces a rough calculation of its cost-benefit ratio and, if multiple policies are studied, their relative cost-benefit ratios. Thus, a policy promises to offer substantial value if the public is willing to pay more than its actual cost.

The contingent valuation methodology has been widely used in the study of other policy arenas (Mitchell and Carson, 1989) but only recently has it been utilized in the criminal justice context to estimate the value of crime control programs more generally (Cohen et al., 2004), the value of violent crime prevention (Atkinson et al., 2005), and such interventions as drug abuse treatment programs (Zarkin, Cates, and Bala, 2000) and gun control policies (Cook and Ludwig, 2000; Ludwig and Cook, 2001) in particular.
The present study employs a CV methodology to compare public attitudes toward two distinctively different responses to serious juvenile crime: incarceration and rehabilitation. The study was carried out in Pennsylvania, a state that is a mix of urban, suburban, and rural communities and that is fairly representative of the United States population with respect to its political climate (in the 2000 Presidential election, Pennsylvanians, like the country as a whole, split nearly evenly between Bush and Gore). Importantly, however, Pennsylvania’s crime rates differs significantly from those in other parts of the country in ways that might make residents more punitive in their preferred response to violent crime. Although Pennsylvania has one of the lowest rates of juvenile property crime in the country (1,222 per 100,000 population, compared to the US average of 1,442 per 100,000), its rate of violent juvenile crime is among the highest in the nation (402 per 100,000 in Pennsylvania, compared to the U.S. average of 291 per 100,000).

DATA & METHODS

Telephone interviews were conducted with a random sample of Pennsylvania households (adults over the age of 18) between March 2005 and August 2005. A random digit dial sample of 7,570 telephone numbers yielded a total of about 4,200 eligible numbers (excluding business, disconnected numbers, fax lines, etc.). Of these, 1,503 completed interviews. The response rate of 44% (number of completed / number of actual households contacted) is comparable to that reported in other similar contingent valuation studies (see Cohen et al., 2004). With respect to race and sex, the sample closely mirrored the state’s population. Specifically, 86.7% of the sample was
White, and 59.7% of the sample was female; according to 2000 Census data, 85.4% of the state’s population is White and 51.7% female. Fifty-percent of the study sample reported an income over $50,000, and 50% reported at least some college experience, again comparable to the state as a whole. The average age of the respondents was 50.18 (range 18-94).

A survey was developed to examine respondents’ WTP for rehabilitation and incarceration of juvenile offenders. The survey instrument was drafted using an extensive design process that also included pre-testing among young adults for further refinement. Additionally, we followed the guidelines established by the National Oceanic and Atmospheric Administration (NOAA) for studies employing the contingent valuation methodology, and modeled our approach after prior contingent valuation research in criminology more specifically (Cohen et al., 2004; Ludwig and Cook, 2001). The average time to complete the survey was just under nine minutes.

Respondents were presented with several hypothetical scenarios and numerous questions about their background and attitudes. The basic survey was the same for all individuals, with one important exception. One item, which asked respondents if they would be willing to vote for a crime policy proposal requiring each household to pay an additional amount of money in taxes, was systematically varied. Half of the sample, randomly selected, responded to a proposal to increase the amount of rehabilitative services provided to violent juvenile offenders, without any increase in their time incarcerated, whereas the other half of the sample responded to a proposal to increase the amount of time violent juvenile offenders were incarcerated for their crime, without
the addition of any services. Otherwise, the wording of the two proposals was nearly identical, in order to compare responses to each of them.

The text of the added rehabilitation question was as follows:

“Currently in Pennsylvania, juvenile offenders who commit serious crimes such as robbery are put in jail for about one year. Suppose Pennsylvania citizens were asked to approve the addition of a rehabilitation program to the sentence for these sorts of crimes. Similar programs have reduced youth crime by 30%. Youths in these programs are also more likely to graduate from high school and get jobs. If the change is approved, this new law would cost your household an additional $100 per year in taxes.”

After reading this question, respondents were asked: “Would you be willing to pay the additional $100 in taxes for this change in the law?” Respondents who indicated ‘yes’ were asked an additional follow-up question: “Would you be willing to pay $200 for the same change?” Respondents who indicated ‘no’ to the original question also were asked an additional follow-up question: “Would you be willing to pay an additional $50 for this change?” Response options to all questions were ‘Yes’ and ‘No’.

The text of the added incarceration question was nearly identical:

“Currently, in Pennsylvania juvenile offenders who commit serious crimes such as robbery are put in jail for about one year. Suppose Pennsylvanians were asked to vote on a change in the law that would increase the sentence for these sorts of crimes by one additional year, making the average length of jail time two

1 The 30% crime reduction figure was obtained from Lipsey’s (1992) meta-analysis findings regarding the effect of rehabilitation.
years. The additional year will not only impose more punishment but also reduce youth crime by about 30% by keeping juvenile offenders off the street for another year. If the change is approved, this new law would cost your household an additional $100 per year in taxes.”

The same follow-up questions were asked of respondents who received the incarceration scenario as were asked of respondents who were presented with the rehabilitation scenario.

Many of the other questions in the survey were included in order to validate respondents’ answers to the WTP question. For instance, in order to gauge their overall preference for punitive responses to juvenile crime, all respondents were presented with the following question:

“Jason, who is 15 years old, is convicted of robbing a convenience store. While a gun was used, nobody was injured. Jason has no history of arrests for violent crimes but has been previously arrested for stealing. Do you think Jason should be sent to jail?”

Respondents who indicated that Jason should be sent to jail, were presented with a follow-up question about how long, in years, they believed Jason’s sentence should be.

Similarly, all respondents were presented with one scenario designed to gauge their interest in spending additional tax dollars for an early childhood prevention program.

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2 We retained the 30% crime reduction estimate and the $100 dollar amount so as to maintain its comparability to the rehabilitation-added scenario presented to the other half of the sample.
program modeled after a nurse home visitation program developed by Olds and colleagues (1998). The text of the question read as follows:

“The state of Pennsylvania is considering starting a program of home visits by nurses to young mothers in which nurses encourage healthy behaviors during pregnancy, good parenting, and the mother’s own personal development in terms of education and work. This program has been found to reduce the child’s later involvement in crime and also cut their use of alcohol during adolescence. In addition, it cuts welfare use of the women themselves and reduces the chances of their abusing their children. Would you be willing to pay the additional $150 in taxes for this change in the law?”3

As with the other WTP question, follow up questions were asked depending on the respondent’s initial response. Respondents who indicated ‘yes’ were asked: “Would you be willing to pay $300 for the same change?” Respondents who indicated ‘no’ to the original question were asked: “Would you be willing to pay an additional $75 for this change?”

RESULTS

WTP estimates

Table 1 arrays WTP by four bid levels: (1) those who said no to $100 and no to $50 (to be conservative in our estimate of WTP, coded $0); (2) those who said yes to $50 but no to $100 (coded $50); (3) those who said yes to $100 but no to $200 (coded $100); and (4) those who said yes to $100 and yes to $200 (coded $200).4

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3 These were all findings reported in the Olds et al. (1998) evaluation.
4 It is important to note here that these amounts may underestimate some participants’ willingness to pay
With regard to the rehabilitation-added scenario, 27.8% of the respondents were unwilling to pay for the service, whereas the rest were willing to pay at least $50. As shown, over 60% of the respondents who received the rehabilitation-added scenario were willing to pay at least $100 for the program. With regard to the punishment-added scenario, 40.8% of the respondents were unwilling to pay for the service, a much higher percentage compared to the rehabilitation-added scenario and a difference that is significant at p<.01. Also, a little over 50% of the respondents who received the punishment-added scenario were willing to pay at least $100 for the program. As for the nurse home visitation program, 65% of respondents were willing to pay at least $75 for the program, and 56.7% were willing to pay $150 or more for the program.

Perhaps the most interesting finding from Table 1 concerns the average WTP for the rehabilitation-added and punishment-added scenarios. Here it can be seen that the average WTP was almost $20 higher for the addition of rehabilitation services, $98.10/household, than for the addition of an extra year of incarceration, $80.97. This difference is significant at p<.01. It is also noteworthy that the average WTP is still higher for the nurse visitation program, $125.71, although the different response metric used for this scenario cautions against a direct comparison with the other two.

Further analysis indicated that African-American participants were more willing to pay for rehabilitation than whites ($102.35 v. $97.52) and less willing to pay for rehabilitation or punishment. Presumably, there are people who would spend more than $200 (the highest figure we offer as an option for the rehabilitation and punishment scenarios) and there are people who might spend somewhere between $0 and $50 (we score anyone who says ‘no’ to $50 as being willing to spend nothing). Thus, the estimates are conservative because we only know that respondents would
incarceration ($59.31 v. $84.67). Women were more willing to pay for rehabilitation than men ($102.01 v. $92.39). WTP for both rehabilitation and incarceration generally increased with income, as economic theory would predict. For example, for households with income greater than $100,000 average WTP for rehabilitation is $124.65 whereas for households with income less than $25,000 it is $85.56. This correlation between income and WTP increases our confidence that expressed WTP are a reflection of real preferences.

Several other findings also increase our confidence that the responses to the hypothetical contingent valuation scenarios were based on actual preferences. We expected that compared to conservatives and more punitively oriented respondents, liberals and less punitively oriented respondents would be more supportive of rehabilitation and less supportive of punishment. This is precisely what we found. Support for rehabilitation was stronger among participants who identified themselves as liberal than those who identified themselves as conservative ($131.47 v. $84.11). Not surprisingly, differences were also found between those who favored a non-custodial response to the vignette asking the appropriate disposition for the youth who committed an armed robbery over those who favored prison. Respondents who recommended a prison sentence reported significantly higher average WTP for punishment than respondents who recommended a non-custodial sentence, $98.16 v. $46.83, and significantly lower average WTP for rehabilitation, $94.25 v. $111.29. Finally, respondents who believe that sending juveniles to jail is more effective than rehabilitation have higher WTP for jail than respondents with the converse

be willing to pay ‘at least’ XX dollars. Other approaches could use the mid-point as a WTP.
expectations, $88.90 v. $72.71, and comparatively lower WTP for rehabilitation, $81.85 v. $110.02.\textsuperscript{5}

Although respondents differ in their responses depending on their political philosophy and attitudes toward punishment, our results suggest broad public support for effective prevention and rehabilitation. Even more punitively oriented respondents expressed substantial WTP for rehabilitation and prevention. Similarly, while self-identified conservatives reported significantly higher WTP for punishment than self-identified liberals, $86.29 v. $62.76, and significantly lower WTP for rehabilitation, conservatives as well as liberals expressed substantial support for public investment in effective rehabilitation.

Cost-Benefit Analysis

In this section we use the results of the contingent valuation survey to conduct a ‘first-cut’ benefit-cost analysis. We caution against placing too great a weight on the specific calculations because participants in our survey responded to a hypothetical question; nonetheless, we believe the cost benefit analysis is informative, particularly regarding the important question for juvenile justice policy of striking the right balance between the punishment and rehabilitation of offenders (e.g., Moon, Sundt, Cullen, and Wright, 2000).

The estimates of willingness-to-pay (WTP) for incarceration, rehabilitation, and early prevention at the level of the household provide the basis for calculating statewide

\textsuperscript{5} With the exception of the white/black difference in WTP for rehabilitation all the differences reported in this paragraph and the prior paragraph are significant at the .01 level.
WTP for each of these programs. According to 2000 US Census, there were 4.78 million households in Pennsylvania. Based on this scale factor, Table 2 translates our contingent valuation-based estimates of average WTP per household into statewide WTP. We should note again that the WTP estimates for the nurse visitation program cannot be directly compared to those for the other two scenarios, because the response options were not the same.

* Table 2 about here *

In the nomenclature of cost-benefit analysis, statewide WTP measures the total dollar value of the benefits of these programs as perceived by a representative sample of Pennsylvanians. The contingent value methodology is not designed to provide an accounting of the relative contributions of various types of perceived benefits of rehabilitation or incarceration that contribute to respondents’ willingness to pay. Given the respondents’ willingness to pay more for the same reduction in crime achieved via rehabilitation as that achieved through incarceration, it seems safe to presume that even if crime reduction is the largest perceived benefit of rehabilitation, other types of benefits such as social productivity of increased employment, individual welfare of affected youths likely contribute as well. In the case of the longer sentence scenario, respondents likely valued retribution and increased public protection in the longer period of incarceration.

The second key ingredient to a cost-benefit analysis is cost estimation. Total annual cost is calculated by multiplying an estimate of the annual cost per individual in
the target population by an estimate of size of the target population. Table 3 reports this calculation for each program type.

* Table 3 about here *

Consider first the estimates of the annual cost per person. A 2003 study by the Washington State Policy Institute reports the cost of a great variety of treatment programs for juvenile offender programs (Aos et al., 2004). The costs vary widely. The three most expensive rehabilitation programs are multi-systemic therapy ($5,681), mentoring in the Juvenile Justice System ($6,471), and Intensive Parole ($5,992). The report does not specify the annual costs of these programs per person. To be conservative in our estimation of the benefits of rehabilitation relative to cost, we use what we believe is a high-end cost annual estimate of $10,000 per person. A 2004 bulletin from Pennsylvania’s Department of Public Welfare (2004) reports per diem rates for confinement in various types of secure facilities for juveniles. The average for 2005 was $306/day, which translates into an annual cost of $111,000. Here again we are on the side of caution, but in this case to avoid over-stating the benefit to cost ratio of rehabilitation relative to incarceration, we use an annual cost estimate of $50,000 per juvenile. The Washington State study reports that the total cost of the Olds’ Nurse Family Partnership for Low Income Mothers is $9,118 per child. This cost covers about 3 years of service, the nine months of pregnancy plus two years of follow-up. Therefore, we base our annualized cost calculation on an estimate of $3000/year per child.

We turn now to our estimates of the size of the target population of youths who would receive added rehabilitation or punishment. Pennsylvania does not report data
on the number of juveniles who are incarcerated for committing serious violent crimes of the type, robbery, which was the subject of our WTP scenarios on lengthened sentences and rehabilitation. In 2003, Pennsylvania juvenile courts placed 5,701 juveniles in facilities outside their home (Pennsylvania Juvenile Court Judge’s Commission, 2003). However, most of these placements were not to prison-like facilities. For example, 506 were placed in facilities for drug and alcohol treatment and 806 were placed in group-homes. Placement in secure facilities and boot camps probably come closest to the dispositions received by our target population. In 2003, these totaled 1,234. Another 642 were ‘wilderness-based’ placements. Again to be conservative in our estimation of benefit to cost ratios we assumed 2,000 individuals per year would be the targets of the enhanced sentence and rehabilitation programs.

As for the nurse visitation program, census data for Pennsylvania indicate that about 75,000 children two years old or younger live in households below the poverty line. This statistic suggests that 35,000 low-income Pennsylvania women are pregnant each year. We, thus, estimate that with a 100% participation rate about 100,000 children, either born or in utero, would be enrolled in the nurse visitation program. A 100% take-up rate is, of course, unrealistic. However, if we were to use a lower rate, it would seem only reasonable to factor down the estimated benefits by the same factor. As a result, the cost to benefit ratio would be unaffected.

Combining the benefits and costs in Tables 2 and 3, yields very different benefit to cost ratios by program type. For the rehabilitation option the ratio of benefits to costs is 23.4 ($468/$20). For the lengthened incarceration option the ratio is 3.87
($387/$100), and for the nurse visitation option the ratio is 1.79. All imply that benefits as measured by WTP substantially exceed costs. However, the estimated returns per dollar spent differ substantially.

For our purposes here the difference in return between incarceration and rehabilitation is of particular interest. Both imply very large returns, but the difference in magnitude between rehabilitation, $23.4 in benefit per dollar spent, versus $3.87 per dollar spent for incarceration is striking. This difference is largely attributable to the differences in cost per person between rehabilitation and imprisonment because the assumed size of the target population is the same in both sets of calculations. In fact, had we used the actual current annual cost of incarcerating a juvenile in Pennsylvania based on per diem figures, which are well over $100,000, the benefit to cost ratio for incarceration would be more than halved.

We emphasize the pivotal role of cost (per offender) in explaining the difference between the benefit to cost ratios for incarceration versus rehabilitation for two reasons. One is that the cost per person-year estimates used in the benefit to cost calculations are the least speculative of all the components of the calculation. We can have some confidence in the accuracy of the costs described above of various rehabilitation programs and of incarceration of juvenile offenders, and there is no dispute that rehabilitation programs are far less costly than incarceration.

A second reason for the emphasis on cost per person is that our estimates of WTP for punishment and rehabilitation, used to derive our estimate of each policy’s benefit, are roughly comparable in magnitude. As a result, the difference in the benefit
to cost ratio of these two options is mostly attributable to the denominator, cost. We judge this an important point because it makes clear that according to our contingent valuation survey, the public is at least as supportive of effective rehabilitation of juveniles as they are of punishment of the juveniles for their crimes. While we acknowledge that the issue of the relative effectiveness of punishment and rehabilitation in crime control is far from settled, the contingent valuation results provide strong support for the contention that the public is willing to pay for effective rehabilitation.

DISCUSSION

This study surveyed 1500 randomly selected Pennsylvania adults to elicit their opinions about policies responding to youth crime. The survey employed contingent valuation, an innovative methodology that gauges preferences on the basis of respondents’ willingness to pay for public benefits, often through a specified increase in taxes. In our study, the alternative policies of increased incarceration or rehabilitation were presented as having equivalent effectiveness in reducing juvenile crime. Participants were initially asked whether they were willing to pay $100 in increased taxes; the amount was doubled or halved depending on whether their response was positive or negative.

We found that respondents on average expressed somewhat greater willingness to pay for rehabilitation ($98.10) than for longer incarceration ($80.97) of youths charged with serious crimes—and even greater willingness to pay for an early childhood prevention program ($125.71). These results suggest that the public generally is willing...
to pay for programs that promise to reduce youth crime—and more willing to support and pay for rehabilitation and prevention programs than for longer periods of incarceration (see also Cullen et al., 1998). It is noteworthy that even individuals who identified themselves as conservative or who supported punitive policies in response to attitude questions and the robbery vignette also indicated substantial WTP for rehabilitation and prevention programs. This suggests that rehabilitation and prevention programs as policy responses to youth crime have substantial public support across the political spectrum.

Our study also provides information that permits the comparison of rehabilitation and incarceration using cost-benefit analysis, a standard mode of policy analysis that has only recently begun to be used in evaluating criminal justice policies. Based on estimates of the yearly costs per offender of incarceration and of rehabilitation programs, and estimates of the number of young offenders incarcerated in Pennsylvania, we calculated a cost-benefit ratio for incarceration and rehabilitation. This analysis produces strikingly different cost-benefit ratios for these two policies, a difference that is the result of two factors: a) a year of incarceration is far more expensive than a year of rehabilitation and b) participants’ willingness to pay for the two policies was comparable. Indeed they were more willing to pay for rehabilitation.

Two related limitations of willingness-to-pay methodology should be emphasized, both of which speak to the amount of confidence we can have in participants’ responses—or, put another way, whether the amount participants stated they were willing to pay is a meaningful figure. The first is sometimes described as “anchoring.”
Participants were asked initially whether they would pay $100, focusing their attention on that amount as a baseline, and, likely influencing their ultimate responses. If they had first been asked if they were willing to pay $25, their ultimate WTP amount, and, consequently, the average for their scenario, may well have been different. The second limitation, mentioned earlier, is that participants understood that the inquiry was hypothetical. Thus, we cannot be confident that their responses would have been the same in a tax levy, where their expressed willingness to pay would have cost them tax dollars. For these reasons, the survey does not demonstrate that Pennsylvanians are ready to pay $468 million more for rehabilitation programs or $387 million for incarceration. The actual amount they are willing to pay for the program described to them may have been less (or more).

Nonetheless, the cost-benefit analysis provides useful information for comparing the publics’ willingness to pay for the alternative policies. The factors that might undermine our confidence about the participants’ expressions about willingness to pay likely affect responses to both rehabilitation and incarceration similarly. Importantly, there is no reason to think that anchoring would affect responses differently; if participants were asked initially whether they were willing to pay $25 for either incarceration or rehabilitation, the average willingness to pay amount likely would be affected for both options by a comparable amount. What is important in evaluating the two policies is that, although the dollar amount that taxpayers are willing to pay for either policy may be uncertain, participants are willing to pay at least as much for rehabilitation—probably somewhat more—as they are for incarceration. This finding,
together with the external evidence that incarceration is substantially more costly than rehabilitation, supports the conclusion that the returns per dollar spent on rehabilitation are a better value than the returns on incarceration— even if the benefit (based on the public's willingness to pay) is less than the results indicate. In other words, the benefit to cost ratio for rehabilitation may be lower than the $23.4 benefit per dollar spent calculated on the basis of average WTP of $98.10, but it will still be favorable as compared to the benefit-cost ratio for incarceration.

Our survey challenges the view held by many politicians and the media that the public opposes rehabilitation and favors incarceration of young offenders. According to conventional wisdom, the driving force behind the punitive reforms in recent years has been the public demand for tough juvenile justice policies, and politicians frequently point to public outrage at violent juvenile crime as justification for sweeping legislative reforms. Moreover, some earlier opinion surveys found public support for policies that punish juveniles as adults and pessimistic views about rehabilitation programs offered by the juvenile system. In contrast, our survey suggests that public attitudes about youth crime policy are more complex. We interpret our results to indicate that members of the public are concerned about youth crime and want to reduce its incidence, but are ready to support effective rehabilitative programs as a means of accomplishing that end—and indeed favor this response to imposing more punishment through longer sentences (e.g., Applegate, Cullen, and Fisher, 1997).

What explains the differences between our findings and the conventional view of public opinion about juvenile crime—including the findings of some earlier surveys?
First, our survey was conducted quite recently and attitudes may have changed since the 1990s, when some surveys found punitive public attitudes. Juvenile crime rates have declined dramatically over the past 10 years (Blumstein and Wallman, 2000), and the public may realize that the threat has subsided. In general, attitudes (and legal policies) toward youth are protective and paternalistic. Perhaps, the public is more likely to express these traditional attitudes when they do not perceive young criminals as a threat.

This suggests another reason that politicians and the media may have distorted impressions about public attitudes and crime. Often public opinion on this issue is gauged when attention is focused on a high-profile violent crime by a juvenile, such as a school shooting. In this context, in part because of intense media coverage, the salience and magnitude of the threat may become distorted in the public imagination. In contrast, the attitudes of our participants were probed in a neutral context. It is plausible that their responses represent more stable policy preferences than those of individuals whose opinion is gauged in the midst of media coverage of a horrendous crime.
Policy Implications

Any suggestion that our study may offer lessons for policy formation must first acknowledge the survey’s limitations. We have discussed already the possible sources of distortion in the willingness to pay amounts. Beyond this, the policy implications of the survey are limited by the fact that it was undertaken in a single state, Pennsylvania. A broader sample from different regions of the country might provide a more accurate measure of public opinion about juvenile crime. Nonetheless, as we discussed earlier, there is good reason to think that Pennsylvania residents are likely to be a relatively good proxy for a national sample in their attitudes on this issue; if anything, relatively more punitive responses might be expected in Pennsylvania, given its relatively higher rate of violent juvenile crime.

At a minimum, our findings suggest that lawmakers who are concerned about public opinion should consider policies grounded in rehabilitation, and, perhaps, be slower to advocate for punitive reforms in response to public concern over high-profile juvenile crimes. Legislation enacted in this climate institutionalizes public fears that are likely short-lived, and may result in laws that do not reflect stable public preferences about youth crime policy. Our study suggests that the political risk that lawmakers face in resisting public pressure during times of crisis is not as great as they might surmise. During calmer times, traditional paternalistic attitudes toward juveniles may exert a stronger influence on public opinion—dissipating enthusiasm for punitive policies.

Our willingness to pay findings offer encouragement to lawmakers who are uncomfortable with the recent trend toward punitive juvenile justice policies and would
like to initiate more moderate reforms. First, such lawmakers may be reassured that the public response to such initiatives will not be hostile. Just as importantly, reforms that emphasize leniency and rehabilitation can be justified economically as welfare-enhancing expenditures of public funds. Rehabilitative programs are far less costly than incarceration, and oftentimes, when informed by the principles of effective intervention, more effective (Cullen and Gendreau, 2000) and less harmful (Clear, 1994). The evidence that the public values rehabilitation more than increased incarceration should be important information to cost-conscious legislators considering how to allocate public funds.

Increasingly cost-benefit analysis is an important policy tool as policymakers seek to maximize the value obtained from tax dollars spent. In the realm of criminal justice policy, cost-benefit analysis is relatively new, but cost concerns have become an increasingly important factor in legal regulation. The high cost of punitive sentencing guidelines has become a consideration in the public debate—long sentences translate into more prison space, more staff and generally higher operating costs. In the past few years, legislatures in several states have reduced criminal sentences in recognition of the high costs of incarceration (Barkow, 2005). Cost-conscious legislatures may become disenchanted with punitive juvenile justice policies on economic grounds and pursue policies that place greater emphasis on rehabilitation and early childhood prevention. If so, they may be reassured, on the basis of our findings, that the public will support this move.
Table 1. WTP @ Bid Levels by Condition.

<table>
<thead>
<tr>
<th>Bid</th>
<th>Rehab</th>
<th>Jail</th>
<th>Nurse Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No 50-No 100</td>
<td>27.8%</td>
<td>40.8%</td>
<td></td>
</tr>
<tr>
<td>Yes 50-No 100</td>
<td>6.9%</td>
<td>7.4%</td>
<td></td>
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<tr>
<td>Yes 100-No 200</td>
<td>36.0%</td>
<td>26.3%</td>
<td></td>
</tr>
<tr>
<td>Yes 100-Yes 200</td>
<td>29.4%</td>
<td>25.5%</td>
<td></td>
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<tr>
<td>No 75-No 150</td>
<td></td>
<td></td>
<td>35.0%</td>
</tr>
<tr>
<td>Yes 75-No 150</td>
<td></td>
<td></td>
<td>8.4%</td>
</tr>
<tr>
<td>Yes 150-No 300</td>
<td></td>
<td></td>
<td>33.7%</td>
</tr>
<tr>
<td>Yes 150-Yes 300</td>
<td></td>
<td></td>
<td>23.0%</td>
</tr>
<tr>
<td>Average WTP</td>
<td>$98.10</td>
<td>$80.97</td>
<td>$125.71</td>
</tr>
<tr>
<td>Number of</td>
<td>712</td>
<td>699</td>
<td>1442</td>
</tr>
<tr>
<td>Respondents</td>
<td></td>
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Table 2: Programs Benefits

<table>
<thead>
<tr>
<th>Program</th>
<th>Ave. WTP per household per year</th>
<th>Statewide WTP per year</th>
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<tr>
<td>Rehabilitation</td>
<td>$98.1</td>
<td>$468 mil.</td>
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<td>Longer Sentence</td>
<td>$80.97</td>
<td>$387 mil.</td>
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<tr>
<td>Nurse Visitation</td>
<td>$125.71</td>
<td>$601 mil.</td>
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Table 3: Programs Costs

<table>
<thead>
<tr>
<th>Program</th>
<th>Ave. Cost per person-year</th>
<th>Size of Target Population</th>
<th>Total Cost</th>
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</thead>
<tbody>
<tr>
<td>Rehabilitation</td>
<td>$10,000</td>
<td>2000</td>
<td>$20 mil.</td>
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<tr>
<td>Longer Sentence</td>
<td>$50,000</td>
<td>2000</td>
<td>$100 mil.</td>
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<tr>
<td>Nurse Visitation</td>
<td>$3,000</td>
<td>100,000</td>
<td>$300 mil.</td>
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