



The total effects of boot camps that house juveniles: A systematic review of the evidence

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ABSTRACT

Boot camp programs were first introduced in the 1980s, became increasingly popular as a correctional sanction, and were widely adopted and implemented throughout the United States. This study involved an examination of the prevalence of state run boot camps for juvenile delinquents and a systematic review of the existing evaluations of boot camp programs that house juveniles. In addition to the effects of boot camps on recidivism, within program effects on participants' attitudes and perceptions of boot camp, and jurisdiction-level effects on bed space were examined. Findings revealed that boot camps are less prevalent than they were in the 1990s. Boot camps, by themselves, typically do not have an effect on participants' odds of recidivism. Boot camps do seem to improve individuals' attitudes and other behaviors within programs. Boot camps also appear to reduce the number of confinement beds jurisdictions require, often resulting in cost savings. These findings are discussed in terms of their implications for research and practice.

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Introduction

Boot camp programs are short-term residential programs modeled after military basic training facilities. Participants are typically assigned

to squads or platoons and housed in dormitories that resemble military barracks. They are subjected to a rigorous daily routine that emphasizes discipline, physical labor, exercise, and drill that is supervised by program staff who function as drill instructors and are often addressed by military titles (Jones & Ross, 1997a; Mackenzie & Parent, 2004; MacKenzie, 2006; Parent, 2003). Some programs also incorporate rehabilitative elements such as substance abuse or group counseling, and aftercare; however, there is considerable variation between programs in terms of the emphasis, availability, and quality of programming (MacKenzie & Rosay, 2004; Parent, 2003; Wilson,

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MacKenzie, & Mitchell, 2008). Punishment for noncompliance with program rules is swiftly administered and entails either group or summary (individual) punishment, which frequently involves physical tasks such as running or doing push-ups (MacKenzie & Rosay, 2004; Parent, Snyder, & Blaisdell, 2001). The typical boot camp program generally lasts between ninety and 180 days and participants who successfully complete the program are often recognized at graduation ceremonies that are attended by family and friends (MacKenzie & Parent, 2004; Wilson et al., 2008).

Most boot camps are correctional boot camps, in that they function as a disposition for juvenile delinquents or sentence of confinement for adult offenders (MacKenzie & Parent, 2004; Parent, 2003). Boot camps can also be privately run camps designed to house other troubled youth. Boot camps have the explicit goal of changing participants' problem behaviors (e.g., antisocial attitudes, offending). More specifically, the short-term confinement, coupled with the strict discipline and demanding physical exercise and labor common to boot camps, can "shock" participants into behaving in a respectful and obedient manner, making them more likely to comply with rules or laws upon completion of the program (Jones & Ross, 1997a; MacKenzie & Parent, 2004; MacKenzie, Souryal, Sealock, & Bin Kashem, 1997; MacKenzie, 2006). Interactions with boot camp staff or adherence to the daily routine could also teach participants skills that better enable them to control their behavior. Camp participants are expected to learn and practice prosocial behaviors (e.g., respect), and the close supervision within these programs permits staff to reinforce these positive behaviors and punish negative behaviors immediately (Jones & Ross, 1997a; MacKenzie & Parent, 2004; MacKenzie, 2006). In addition to reducing participants' problem behaviors, correctional boot camps also have the goal of reducing institutional populations by diverting participants away from traditional confinement facilities and housing them for shorter periods of time (MacKenzie & Parent, 2004; Parent, 2003; Reid-MacNevin, 1997). Correctional boot camps hold the promise of directly lowering operating costs by reducing institutional populations and indirectly lowering costs by reducing participants' odds of recidivism (MacKenzie & Parent, 2004; Reid-MacNevin, 1997). This study involved a systematic review of the existing research regarding the effects of boot camps that house juveniles on problem behaviors and institutional populations and an examination of the prevalence of state run boot camps for juvenile delinquents.

History and development of boot camps for juveniles

Intermediate sanctions and the development of boot camp for juveniles

Historically, a number of training schools and juvenile correctional facilities have operated according to a quasi-military structure; however, the emergence of boot camps as a distinct dispositional or placement option occurred in the 1980s as part of a larger movement to develop or expand existing intermediate sanctions (Bottcher & Ezell, 2005; MacKenzie & Parent, 2004; MacKenzie, 2006; Parent, 2003; Tonry & Lynch, 1996). In response to rising crime rates in the 1960s and 1970s and concerns over the misuse of discretion by justice system actors, policymakers and the public became disillusioned with indeterminate sentencing, rehabilitation programs, and the widespread use of probation. They argued for tougher punishments proportional to the seriousness of the offense and offenders' prior record (Cullen, Blevins, Trager, & Gendreau, 2005; Tonry & Lynch, 1996). The disenchantment with rehabilitation and probation, along with the aforementioned rise in crime rates, contributed to an increased use of incarceration in both the adult and juvenile systems (see, e.g., Blumstein & Beck, 1999; Snyder & Sickmund, 1999). Intermediate sanctions were viewed as a mechanism for addressing the problems resulting from the increased use of incarceration (e.g., overcrowding, increased operating costs) by diverting offenders away from traditional confinement facilities while still satisfying desires for

crime control through stricter sanctions (Tonry & Lynch, 1996). Correctional boot camps were extremely popular because they seemingly addressed the public's desire to punish by confining offenders and subjecting them to stringent, physical exercise, drill, and regimen. Correctional boot camps could also address correctional crowding by typically limiting periods of confinement to less than six months (MacKenzie & Parent, 2004; MacKenzie, 2006; Parent, 2003).

The first correctional boot camps were opened in Georgia and Oklahoma in 1983 (MacKenzie & Parent, 2004; Wilson et al., 2008). The first correctional boot camp specifically for juveniles was opened in Louisiana in 1985. By 1995, state correctional agencies operated seventy-five boot camps for individuals convicted in adult criminal court, state juvenile correctional agencies operated thirty boot camps for juvenile delinquents, and county agencies operated eighteen programs in local detention facilities (Parent, 2003). Additionally, a number of school systems began operating boot camp programs for children who were responsible for breaking school rules (see, e.g., Trulson, Triplett, & Snell, 2001) and privately operated boot camps emerged as an option for parents who were frustrated with their unruly teens (Weis & Toolis, 2009).

Controversies surrounding boot camps

Despite their initial popularity, boot camps have also been criticized by academics and practitioners on practical and ideological grounds. For example, critics have also argued that the structure and process of boot camps are ideologically inconsistent with rehabilitative treatment. For instance, Correia (1997) has argued that boot camps may be effective at accomplishing their intended goals for the military; however, they are incompatible with rehabilitation because they do not target the causes of delinquency. Cullen and his colleagues (2005) have noted that boot camp drill and ceremony include "a Spartan lifestyle, exhausting physical demands, planned and repeated humiliation and authoritarian drill sergeants who are unrelenting in their discipline" (p. 57). Exposure to this type of aggressive and demeaning behavior by authority may not be conducive to reform and can actually serve to model and reinforce antisocial behaviors. Similarly, boot camps reject values that promote conformity, like empathy or compassion, and ridicule the expression of these characteristics as weak and feminine (Morash & Rucker, 1990). Boot camps may also impede rehabilitation by relying solely upon negative reinforcement (Correia, 1997).

Boot camps have been criticized for increasing confinement populations and related correctional costs through net widening (Tonry & Lynch, 1996). Instead of diverting delinquents from traditional confinement to boot camp programs, critics have argued that judges sentence juveniles who would have otherwise received probation to boot camp, resulting in a greater number of juveniles confined in institutions. Similarly, when juveniles receive dispositions involving more intensive supervision (e.g., boot camps), the likelihood of detecting new offenses or rule violations is increased. Since boot camp failures are often revoked and subsequently recommitted to traditional confinement facilities, this process also contributes to growing institutional populations.

Finally, critics have argued that boot camps may contribute to the abuse of participants. For example, Lutze and Brody (1999) observed that many boot camps adhere to the philosophy of "tearing them down to build them up." Because of the aggression, confrontation, and humiliation inherent to the approach of "tearing them down", boot camps have the potential to be particularly traumatic on the mind and emotions of juveniles (Benda, 2005; Ravenell, 2002). Additionally, Cullen and his colleagues (2005) have argued that because the structure of boot camps is one where "adult bullies are given unfettered power over vulnerable charges (p. 65)," boot camps can encourage physical abuse and neglect. These conditions foster a threatening environment for youth and induce stress, which could lead to depression, anxiety, and other adjustment problems among boot camp participants

(MacKenzie, Wilson, Armstrong, & Gover, 2001). In addition to these concerns, boot camps have endured several highly publicized instances of abuse and/or neglect that have resulted in serious injuries or even the death of participants (see, e.g., Caputo & Miller, 2006; Kiefer, 2005; Ravenell, 2002; Selcraig, 2000; Zarazua, 2007).

The second generation of boot camps for juveniles

In addition to the criticisms discussed above, a number of evaluations of boot camps for both juvenile and adult offenders have revealed no differences between recidivism rates of boot camp participants and various control groups. In response, many juvenile correctional agencies have abandoned the use of boot camps for juvenile delinquents. By contrast, other states have altered their programs to include or place more emphasis on rehabilitative programming, and a number of programs have added an aftercare component (Parent, 2003). The increased use of rehabilitative treatment and aftercare services, coupled with a decreased emphasis on the confrontational quasi-military components of boot camps has prompted a number of scholars to speculate that these second generation boot camps may be more effective in reducing recidivism than traditional facilities (e.g., MacKenzie & Rosay, 2004; Tyler, Darville, & Stalnaker, 2001; Wells, Minor, Angel, & Stearman, 2006). Unfortunately, few studies have examined the effects of variation in treatment services and aftercare components on recidivism (Zhang, 1998).

Methods

This study involved an assessment of the prevalence of state run boot camps for juvenile delinquents and a systematic review of the empirical studies of the effects of boot camps for juveniles and young offenders. The study differs from previous reviews of the research on boot camps by focusing not only on the effects of boot camps on recidivism (e.g., Wilson, MacKenzie, & Mitchell, 2008), but also on the within program effects of on attitudes and other behaviors (e.g., adjustment), as well as jurisdiction-level effects on institutional populations.

Search strategy and inclusion criteria

Accumulation of the existing evaluations of boot camp programs proceeded in several stages. First, a database search using the keywords "boot camp" and "shock incarceration" was conducted using the following databases: Academic Search Premier, Criminal Justice Abstracts, Google Scholar, JSTOR, and National Criminal Justice Reference Center. Second, all issues (beginning with 1990) of the major journals in criminology were manually searched for relevant studies.² Studies were included if they involved evaluations of programs that: 1) were strictly designed to house juvenile populations; or, 2) admitted individuals under 18 years of age. Regarding this latter category, a study was included if the author(s) reported that the boot camp housed individuals under 18.³ Although these studies were technically evaluations of boot camps for individuals "legally defined as adults", a number of participants were under the age of 18, presumably because they had been transferred to adult criminal court. Since the study was designed to examine the effects of boot camps on juveniles' behavior, where juveniles were defined by their age, not the type of facility they were housed in (adult or juvenile), all of the studies that examined programs that housed juveniles were included. Due the potential differences across populations, however, the findings from studies of the two types of camps are discussed separately.

Unpublished studies and agency reports were also included in order to avoid publication bias. In order to obtain these studies, a survey of representatives of state departments of juvenile justice/corrections was conducted during the fall of 2009. In addition to inquiring about any evaluations of boot camp programs, respondents

were also asked whether their state currently operated a boot camp for juvenile delinquents. In the event a response to the survey was not received, follow-up phone calls were made to the relevant personnel from the non-responding states. These procedures generated a response rate of 100 percent. Finally, the reference lists of other published reviews of the effects of boot camps on offending were also consulted (e.g., MacKenzie, Wilson, & Rider, 2001). These procedures resulted in forty-four documents which contained sixty-nine unique evaluations of forty-five different boot camps that house juveniles.⁴

The studies were classified into at least one of the following areas: within program effects on attitudes and other behaviors, post-release effects on recidivism, or jurisdiction-level effects on bed space. In addition to a description of the key elements of each of the studies (e.g., operationalization of recidivism) and their respective findings, each study was coded independently for methodological rigor. The methodological rating scale ranged from one to five and was a modified version of the scale used in the study *Preventing Crime: What Works, What Doesn't, What's Promising: A Report to the United States Congress* (Sherman, Gottfredson, MacKenzie, Eck, Reuter, & Bushway, 1997). Studies received a score of five if the authors used an experimental design with random assignment. Studies received a score of four if the authors compared the treatment group to either a matched comparison group or a comparison group that did not exhibit any major differences from the treatment group. Studies were given a score of three if the authors compared the treatment group to a comparison group that differed significantly from the treatment group, but statistically controlled for those differences. Studies received a score of two if the authors compared the treatment group to a comparison group, but did not demonstrate the equivalence or differences between the groups, and/or did not attempt to statistically control for differences between the treatment and control group. The remaining studies received a score of one because the authors did not compare the treatment group to a control group.

In several of the included studies, the researchers compared boot camp participants to multiple control groups. For these studies, only the results that involved comparisons between boot camp participants and individuals housed in traditional confinement facilities were reported. The rationale for this decision was based on several observations. First, boot camps were designed to achieve multiple goals, one of which was to reduce confinement populations. For boot camps to achieve this goal, only offenders who would have otherwise been sent to a traditional confinement facility should be sent to boot camps. Taking this one step further, if boot camps are to achieve the goal of reducing confinement populations *and* the goal of reducing problem behaviors, the latter can only truly be assessed by comparing boot camp participants to comparable individuals who were sent to traditional confinement facilities. Second, the majority of the studies that included a control group involved comparisons between boot camp participants and individuals who were housed in traditional confinement facilities. Finally, in the studies that did include multiple control groups, results were nearly always consistent across control groups (although see individual studies contained within Austin et al., 2002; MacKenzie & Souryal, 1994). Studies in which researchers compared boot camp participants to a control group other than individuals sent to traditional confinement were still included, and a description of the control group was documented in the notes for the table containing the relevant study. Finally, for studies in which the authors reported comparisons between boot camps participants and individuals in a control group at different time intervals (e.g., six months, one year, two years), only the longest follow-up period was reported.

Information regarding whether each of the boot camps offered rehabilitative treatment services (and what types) and/or aftercare treatment services (recidivism studies only) was also collected. Only the information regarding services that could actually be considered "rehabilitative" was included. For instance, a number of programs

offered recreation and nutrition classes, which have other purposes besides rehabilitation. Similarly, the evaluations of boot camps that were included in this study were all conducted on programs designed to hold individuals under eighteen years of age. Since most states require educational services be provided to individuals who are younger than eighteen years of age, those services were not considered rehabilitative treatment *per se*. The majority of the correctional boot camps also provided community supervision after participants' were released from the respective boot camp. Although some aspects of supervision could potentially be rehabilitative in nature, supervision was not considered "aftercare". For this study, aftercare treatment services included those services that were offered in addition to community supervision and were rehabilitative in nature. Finally, for the studies of the effects of boot camps on bed space, data regarding the estimated cost savings was also collected.

Findings

The results of the survey of state representatives are presented first, followed by the findings from the examination of studies of the within program effects on attitudes and other behaviors of juvenile delinquents (Table 1) and juveniles and adult offenders (Table 2). Table 3 contains the results of the review of the studies of the effects of boot camps for juvenile delinquents on recidivism, while Table 4 displays the related findings from the studies of the effects of boot camps that admit individuals under 18 years of age. Table 5 contains the results of the studies of the effects of voluntary boot camps for juveniles on recidivism.

Finally, Table 6 presents the results from the review of studies examining the jurisdiction-level effects of boot camps for juvenile delinquents on bed space. Each entry in the tables is associated with a unique evaluation of a boot camp, although some of the evaluations were conducted as a part of the same study. There is also some overlap among the boot camps contained in the tables because several of these programs have been evaluated multiple times with different samples.

The prevalence of state operated correctional boot camps for juveniles

The survey of representatives of state departments of juvenile justice/corrections revealed that, as of the fall of 2009, eleven states operated boot camps for juvenile delinquents. The states included Colorado, Florida, Illinois, Indiana, Kentucky, New Jersey, New York, Oklahoma, Oregon, Texas, and Washington. The representatives of several states (e.g., Iowa) also advised that their respective departments contracted with private providers who operated boot camps for juveniles. Some officials also reported that some counties within their state operated boot camps for juvenile delinquents (e.g., Texas).

Within program effects on attitudes and other behaviors

Researchers examining the within program effects of boot camps on the attitudes or other behaviors of program participants have typically done so by surveying a cross-section of participants in boot camps or comparing results from pre- and post-test surveys of a sample of program participants. Some researchers have also

Table 1

Studies of the within program effects of boot camps for juvenile delinquents on attitudes and other behaviors

Study (methods rating)	Agency (length of stay)	Rehabilitative treatment services	Sample size(s) & participants ages	Outcome measure(s)	Effects of boot camp
MacKenzie, Wilson, Armstrong et al. (2001) (3)	27 boot camps within 20 states	None	Treatment N = 2,390 Control N = 1,578 Mean = 16	Perceptions of environment (control, resident danger, staff, danger, environmental danger, activity, care, risk to residents, quality of life, structure, justice, freedom, therapeutic programming, preparation for release), adjustment and change (anxiety, depression, social bonds, dysfunctional impulsivity, social adjustment)	Perceived significantly more prepared for release, therapeutic programming, structure, control, activity, and staff danger; perceived significantly less environmental danger, resident danger, environmental risks, and freedom
Trulson et al. (2001) (1)	Conroe Independent School District-Montgomery County, TX (12-24 weeks)	None	Treatment N = 23 Range = 10-16 Mean = 14.5	Perceptions of program, perceptions program would keep participants out of trouble, perceptions regarding reintegration	Increase in perceptions of program as beneficial, decrease in perceptions program would keep participants out of trouble
Zhang (2001) (1)	Los Angeles County, CA (6 months)	Substance abuse counseling, parental involvement	Treatment N = 137 Range = 16-18 Mean = 16.6	Self-esteem, future prospects, attitudes toward authority	None
Zhang (2001) (3)	Los Angeles County, CA (6 months)	Substance abuse counseling, parental involvement	Treatment N = 100 Control N = 100 Range = 16-18 Mean = 17.3	Self-esteem, future prospects, attitudes toward authority (1 year)	None
Austin et al. (2002) (1)	Cumberland County, PA-Abraxas Foundation, Inc. (15 weeks)	Wilderness challenge, cognitive skills development, group counseling, individual counseling, life skills, leadership skills	Treatment N = 111-127 Range = 14-18 Mean = 17	Problem-solving skills, withdrawal, avoidance, attitudes towards program, depression	Significant increase in problem-solving skills, attitudes towards program, self-esteem; significant decrease in withdrawal, avoidance, and depression
Austin et al. (2002) (1)	CA (6 months)	Individual counseling, gang awareness, group counseling, AA, NA	Treatment N = 21-54 Range = 15-18 Mean = 17	Problem-solving skills, withdrawal, avoidance, attitudes towards program, depression	Significant increase in problem solving skills and self-esteem; significant decrease in depression and attitudes towards program
Gover (2005) (3)	Boot camp within western plains state	None	Treatment N = 203 Control N = 105 Mean = 15.83	Anxiety, depression, perceptions of facility (controlled, active, just, free)	Significant increase in perceptions of control and activity; significant decrease in justice and freedom

Table 2
Studies of the within program effects of boot camps that house juveniles and adult offenders on attitudes and other behaviors

Study (methods rating)	Agency (length of stay)	Rehabilitative treatment services	Sample size(s) & participants ages	Outcome measure(s)	Effects of boot camp
Hunter et al. (1992) (1)	Harris County, TX (90 days)	Substance abuse counseling,	Treatment N = 125 Range = 17-24 Mean = 19.3	Perceptions of boot camp staff, substance abuse counseling, AIDS counseling, boot camp program, future opportunities, interpersonal relations, self-control and coping skills	Significant improvement in perceptions of boot camp staff, substance abuse counseling, boot camp program, self control and coping skills
Burton et al. (1993) (1)	Harris County, Houston, TX (90 days)	None	Treatment N = 389 Range = 17-24	Perceptions of boot camp staff, substance abuse counseling, AIDS counseling, boot camp program, future opportunities, interpersonal relations, self-control and coping skills	Significant improvement in perceptions of boot camp staff, substance abuse counseling, boot camp program, future opportunities, interpersonal relations, self control and coping skills
MacKenzie and Souryal (1994) (3)	GA (90 days)	<1 hour/day of education, counseling, substance abuse counseling	Treatment N = 101 Control N = 62 Range = 17-25 Mean = 20.2	Attitudes towards program, antisocial attitudes	Significant improvement in attitudes towards program; significant decrease in antisocial attitudes
MacKenzie and Souryal (1994) (3)	LA (90-180 days)	3.5 hours/day of education, counseling, substance abuse counseling	Treatment N = 207 Control N = 98 Range ≤ 39 Mean = 23.1	Attitudes towards program, antisocial attitudes	Significant improvement in attitudes towards program; significant decrease in antisocial attitudes
MacKenzie and Souryal (1994) (3)	NY (180 days)	5.6 hours/day of education, counseling, substance abuse counseling	Treatment N = 299 Control N = 101 Range = 16-29 Mean = 22.7	Attitudes towards program, antisocial attitudes	Significant decrease in antisocial attitudes
MacKenzie and Souryal (1994) (3)	SC (90 days)	1.9 hours/day of education, counseling, substance abuse counseling	Treatment N = 94 Control N = 95 Range = 17-24 Mean = 19.8	Attitudes towards program, antisocial attitudes	Significant improvement in attitudes towards program; significant decrease in antisocial attitudes
MacKenzie and Souryal (1994) (3)	TX (90 days)	<1 hour/day of education, counseling, substance abuse counseling	Treatment N = 296 Control N = 191 ^a Range = 17-25 Mean = 21.5	Attitudes towards program, antisocial attitudes	Significant improvement in attitudes towards program; significant decrease in antisocial attitudes
Burns et al. (1997) (1)	AL (90 days)	Substance abuse counseling, group counseling, individual counseling	Treatment N = 77 Range = 15-34 Mean = 20	Perceptions of boot camp, self-change	Improvement in perceptions of boot camp, perceived the boot camp as affecting positive self-change
Ethridge and Sorensen (1997) (1)	Hidalgo County, TX (6 months)	Substance abuse counseling	Treatment N = 403 Range = 17-25 Mean = 20.3	Perceptions of boot camp, self-efficacy, self-esteem, interpersonal relations	Significant improvement in perceptions of boot camp, self-efficacy, self-esteem, and interpersonal relations
Wright and Mays (1998) (1)	OK (90-180 days)		Treatment N = 83 Range = 16-47	Perceptions of boot camp	Majority of participants preferred boot camp over prison, perceived the boot camp rehabilitated them, the main goal of the boot camp was rehabilitation, and the boot camp was necessary to change

Notes: ^a = offenders sentenced to boot camp before the implementation of enhanced substance abuse treatment.

compared the results from the respective surveys to those from a control group (e.g., delinquents housed in a traditional confinement facility). In general, these studies have revealed that participation in boot camps is associated with improvements in attitudes, perceptions of boot camp programs and program staff, and indicators of adjustment (e.g., depression). Five of the seven studies of boot camps for juvenile delinquents in Table 1 yielded multiple findings that suggest boot camps improve participants' attitudes and other within program behaviors. Only two of those five studies produced any results that supported the idea that boot camps produce unfavorable effects. Two studies did not reveal any effects of the respective boot camps.

Table 2 shows that the results of studies of boot camps that admit individuals under 18 were also supportive of boot camps. All ten studies contained in Table 2 revealed at least one favorable effect of the respective boot camp being evaluated. Although some studies revealed no improvements or significant differences between boot camp participants and offenders housed in traditional confinement on some indicators, none of the studies generated any findings that were unfavorable to boot camps.

Effects on recidivism

Researchers who have examined the effects of boot camps on recidivism have generally done so by comparing the recidivism rates

of boot camp participants and a control group of similar individuals. In general, the results of the studies of the effects of boot camps for juvenile delinquents on recidivism suggest that boot camps do not affect participants' odds of recidivism. Fourteen of the twenty-three studies contained in Table 3 resulted in no differences between treatment and control groups. Four studies resulted in an increase in boot camp participants odds of recidivism, while five studies resulted in lower odds of recidivism for boot camp participants. It is, perhaps, worth noting that three of the four studies that resulted in an increase in participants' odds of recidivism did not offer any rehabilitative treatment services. In contrast, four of the five studies that resulted in a decrease in boot camp participants' odds of recidivism did provide treatment services. Then again, twelve of the fourteen evaluations that resulted in no differences in recidivism rates between boot camp participants and the control group were conducted on boot camps that contained rehabilitative treatment services. A similar pattern, or lack thereof, was observed with regard to aftercare services.

Turning to the studies of the effects of boot camps that housed juveniles and adult offenders, Table 4 shows that thirteen of the twenty-four studies included in this study resulted in no differences in recidivism between boot camp participants and the respective control groups. In three studies, the researchers found that participation in a boot camp was associated with an increase in offenders' odds of recidivism. In nine studies, researchers found some evidence that boot camps decreased participants' likelihood of recidivism. Based on the

Table 3

Studies of the effects of boot camps for juvenile delinquents on recidivism

Study (methods rating)	Agency (length of stay)	Rehabilitative treatment services	Aftercare treatment services	Sample size(s) & participants ages	Outcome measure(s) (follow-up period)	Effects of boot camp
Boyles et al. (1996) (2) Peters (1996a) (5)	Rebound! (CO) (60 days) Mobile County, AL (3 months)	None Life skills, parental involvement, individual counseling	Employment services, family therapy, mental health services None	Treatment N = 177 Control N = 153 Treatment N = 187 Control N = 187 ^a Range = 13-17 Mean = 15.1	New charge (6 months) Reconviction (28 months)	Significant increase in odds of recidivism None
Peters (1996b) (5)	CO and New Pride, Inc. (3 months)	None	Employment services, substance abuse counseling, personal development	Treatment N = 124 Control N = 116 ^a Range = 13-17 Mean = 15.9	Reconviction (28 months)	None
Thomas and Peters (1996) (5)	Cuyahoga County, OH and North American Family Inst. (3 months)	None	Employment services, skill building, family support, self-sufficiency, community integration	Treatment N = 170 Control N = 172 Range = 14-18 Mean = 15.9	New conviction (21-24 months)	Significant increase in odds of recidivism
Florida DJJ (1996a) (4)	Leon County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment services, therapeutic counseling.	Treatment N = 63 Control N = 63 Range = 14-17 Mean = 16.2	Rearrest, new charge (1 year)	None
Florida DJJ (1996b) (4)	Manatee County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment, employment services	Treatment N = 58 Control N = 58 Range = 14-17 Mean = 16	Rearrest, new charge (1 year)	None
Florida DJJ (1996c) (4)	Pinellas County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment, family focused case management, individual counseling, group counseling, life skills, mentoring, substance abuse counseling	Treatment N = 52 Control N = 52 Range = 14-17 Mean = 16.3	Rearrest, new charge (1 year)	None
Florida DJJ (1997a) (4)	Bay County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment, employment services, family counseling, group counseling, behavior management, interpersonal skills	Treatment N = 59 Control N = 59 Range = 14-17 Mean = 16	Rearrest, new charge (1 year)	None
Florida DJJ (1997b) (4)	Martin County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment, behavior modification	Treatment N = 55 Control N = 55 Range = 14-17 \bar{x} = 16.2	Rearrest, new charge (1 year)	None
Florida DJJ (1997c) (4)	Polk County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment, employment services	Treatment N = 64 Control N = 64 Range = 14-17 Mean = 16.1	Rearrest, new charge (1 year)	None
Florida DJJ (1997d) (4)	Polk County, FL (4 months)	Substance abuse counseling, anger management, rational thinking, problem solving	Day treatment, employment services	Treatment N = 28 Control N = 28 Range = 14-17 Mean = 15.9	Rearrest, new charge (1 year)	None

MacKenzie et al. (1997) (4)	NY (6 months)	Substance abuse counseling, Magic Within™ which develops self-discipline, self-esteem, self-worth	Independent living, substance abuse counseling, outreach counseling, mentorship	Treatment N = 207 Control N = 461 Range = 13-17 Mean = 15.62	Rearrest, recommitment (2 years)	Significant decrease in odds of recidivism
Aloisi and Lebaron (2001) (3)	NJ (6 months)	None	None	Treatment N = 323 Control N = 286 Mean = 17.5	Rearrest, new conviction, recommitment (2 years)	None
Trulson et al. (2001) (3)	Conroe Independent School District-Montgomery County, TX (12-24 weeks)	None	None	Treatment N = 94 Control N = 92 ^b Range = 10-16 Mean = 14.5	Rearrest (6-12 months)	Significant increase in odds of recidivism
Zhang (2001) (4)	Los Angeles County, CA (6 months)	Substance abuse counseling, parental involvement	Drug education, individual counseling, parental counseling, services based on risk/needs assessment	Treatment N = 427 Control N = 427 Range = 16-18	Rearrest, new charge, new conviction, technical violation (5 years)	None
Zhang (2001) (1)	Los Angeles County, CA (6 months)	Substance abuse counseling, parental involvement	Drug education, individual counseling, parental counseling, services based on risk/needs assessment	Treatment N = 137 Range = 16-18 Mean = 16.6	Self-reported delinquency (1 year)	Significant decrease in odds of recidivism
Zhang (2001) (3)	Los Angeles County, CA (6 months)	Substance abuse counseling, parental involvement	Drug education, individual counseling, parental counseling, services based on risk/needs assessment	Treatment N = 100 Control N = 100 Range = 16-18 Mean = 17.3	Self-reported delinquency (1 year)	Significant increase in odds of recidivism
Austin et al. (2002) (5)	IN (90 days)	Life skills, substance abuse counseling, family living training	Life skills, substance abuse counseling, family living training	Treatment N = 107 Control N = 98 Mean = 15.6	Recommitment (4-6 months)	None
Frederick and Roy (2003) (1)	NY (6 months)	Skill development, leadership training, social support	Day reporting focusing on self-discipline, self-worth, teamwork, self-esteem	Treatment N = 323 Mean = 15.7	Rearrest, rearrest violent offense, rearrest new felony, new conviction (180-365 days)	Significant decrease in odds of rearrest violent offense over time
Bamoski (2004) (3)	WA-Second Chance (120 days)	None	None	Treatment N = 359 Control N = 384	Rearrest, rearrest new felony, rearrest violent offense, new conviction (2 years)	Significant decrease in odds of rearrest violent offense
Bottcher and Ezell (2005) (5)	CA (4 months)	Mentoring	None	Treatment N = 344 Control N = 277 Range = 14-17 Mean = 17.1	Rearrest (2-9 years)	None
Wells et al. (2006) (4)	KY (4 months)	Individual counseling, group counseling targeting criminogenic needs and behaviors	Transition counseling	Treatment N = 68 Control N = 68 Range = 14-18 Mean = 16.9	New conviction, recommitment (1 year)	Significant decrease in odds of recommitment
Iowa DCJJP (2007) (2)	Woodward Academy (IA) (90 days)	Skill development, group counseling, individual counseling, substance abuse counseling	Placement services (e.g., foster care)	Treatment N = 139 Control N = 140 Range = 13-17 Mean = 16.3	New charge or new conviction (1-2 years)	None

Notes: ^a = juveniles released from traditional confinement facility and juveniles placed on probation; ^b = juveniles placed on probation; all other controls groups consisted of juveniles released from traditional confinement facility.

Table 4

Studies of the effects of boot camps that house juveniles and adult offenders on recidivism

Study (methods rating)	Agency (length of stay)	Rehabilitative treatment services	Aftercare treatment services	Sample size(s) & participants ages	Outcome measure(s) (follow-up period)	Effects of boot camp
Flowers et al. (1991) (3)	GA (90 days)	None	None	Treatment N = 860 Control N = 2,105 Range = 17-25 Mean = 20.27	Reincarceration (3 years)	Significant decrease in odds of recidivism
MacKenzie and Souryal (1994) (3)	GA (90 days)	<1 hour/day of education, counseling, substance abuse counseling	None	Treatment N = 79 Control N = 98 Range = 17-25	Revocation, revocation technical violation, revocation new crime (2 years)	None
MacKenzie and Souryal (1994) (3)	IL (120-180 days)	3 hours/day of education, counseling, substance abuse counseling	None	Treatment N = 98 Control N = 98 Range = 17-25	Revocation, revocation technical violation, revocation new crime (1 year)	Significant increase in odds revocation technical violation; significant decrease in odds of revocation new crime
MacKenzie and Souryal (1994) (3)	LA (90-180 days)	3.5 hours/day of education, counseling, substance abuse counseling	None	Treatment N = 219 Control N = 143 Range ≤ 39	Rearrest, revocation, revocation technical violation, revocation new crime (2 years)	Significant decrease in odds of recidivism
MacKenzie and Souryal (1994) (3)	NY (180 days)	5.6 hours/day of education, counseling, substance abuse counseling	None	Treatment N = 94 Control N = 95 Range = 16-29	Rearrest, revocation, revocation technical violation, revocation new crime (1 year)	Significant decrease in odds of revocation technical violation
MacKenzie and Souryal (1994) (3)	OK (90-180 days)	3 hours/day of education, counseling, substance abuse counseling	None	Treatment N = 210 Control N = 104 Range = 17-25	Revocation (2 years)	None
MacKenzie and Souryal (1994) (3)	SC (90 days)	1.9 hours/day of education, counseling, substance abuse counseling	None	Treatment N = 169 Control N = 64 Range = 17-24	Rearrest, revocation, revocation technical violation, revocation new crime (1 year)	None
MacKenzie and Souryal (1994) (3)	TX (90 days)	<1 hour/day of education, counseling, substance abuse counseling	None	Treatment N = 554 Control N = 115 ^b Range = 17-25	Rearrest, revocation (2 years)	None
NY DOC, 2000 (3)	NY (180 days)	Therapeutic community, substance abuse treatment, Choose your Life, Live your Choice, AA, NA	Substance abuse treatment	Treatment N = 20,778 Control N = 22,375 Range = 16-34 Mean = 23.3	Reincarcerated (3 years)	None
NY DOC, 2000 (3)	NY (180 days)	Therapeutic community, substance abuse treatment, Choose your Life, Live your Choice, AA, NA	Substance abuse treatment	Treatment N = 3,246 Control N = 2,567 Range = 16-34 Mean = 24.1	Reincarcerated (2 years)	Decrease in odds of recidivism
NY DOC, 2000 (3)	NY (180 days)	Therapeutic community, substance abuse treatment, Choose your Life, Live your Choice, AA, NA	Substance abuse treatment	Treatment N = 3,266 Control N = 2,388 Range = 16-34 Mean = 24.2	Reincarcerated (1 year)	Decrease in odds of recidivism
Jones and Ross (1997a) (3)	NC (120 days)	Substance abuse education, financial skills training, life skills training	None	Treatment N = 331 Control N = 369 ^a Range 16-25 Mean = 19.7	Rearrest (Mean ≈ 36 months)	Significant increase in odds of recidivism

Jones and Ross (1997b) (3)	NC (120 days)	Substance abuse education, financial skills, life skills	None	Treatment N = 309 Control N = 309 ^d Range 16-25 Mean = 19.6	Rearrest (Mean ≈ 36 months)	Significant decrease in odds of recidivism
Burns et al. (1997) (2)	AL (90 days)	Substance abuse counseling, group counseling, individual counseling	None	Treatment N = 77 Control N = NR Range = 15-34 Mean = 20	Reincarceration (1 year)	Decrease in odds of recidivism
Ethridge and Sorensen (1997) (2)	Hidalgo County, TX (6 months)	Substance abuse counseling	Mentoring, employment services	Treatment N = 403 Control N = NR Range = 17-25 Mean = 20.3	Reincarceration (1 year)	Decrease in odds of recidivism
Wright and Mays (1998) (2)	OK (90-180 days)	Counseling, substance abuse education, stress management, rational behavior therapy, AA, NA	None	Treatment N = 560 Control N = 802 Range = 16-47	Reconviction (30 months)	Significant increase in odds of recidivism
Farrington et al. (2001) (3)	U.K. (26 weeks)	None	None	Treatment N = 61 Control N = 97 Range = 18-21	New conviction (1 year)	None
Farrington et al. (2001) (3)	U.K. (25 weeks)	None	None	Treatment N = 177 Control N = 127 Range = 18-21	New conviction (1 year)	None
Stinchcomb and Terry (2001) (3)	Urban County, FL (90 days)	Individual counseling, group counseling, substance abuse counseling, life skills employment services	None	Treatment N = 191 Control N = 279 ^d Mean = 25	Rearrest (3 years)	None
Austin et al. (2002) (3)	IL (120 days)	Substance abuse counseling, life skills, self-esteem improvement, employment services	Employment services, substance abuse counseling, group counseling, family counseling	Treatment N = 4070 Control N = 5723 Range = 17-35 Mean = 22.2	Recommitment (3 years)	None
Austin et al. (2002) (3)	Cook County, IL (18 weeks)	Substance abuse counseling, life skills	Employment services, support groups, day reporting, substance abuse counseling	Treatment N = 443 Control N = 328 Range = 17-35 Mean = 20	Recommitment (1 year)	None
Farrington et al. (2002) (3)	U.K. (26 weeks)	None	None	Treatment N = 66 Control N = 69 Range = 18-21	New conviction (2 years)	None
Farrington et al. (2002) (3)	U.K. (25 weeks)	None	Work-release, support from officers in the community, mentoring	Treatment N = 184 Control N = 130 Range = 18-21	New conviction (2 years)	None
Steiner and Giacomazzi (2007) (3)	ID (120 or 180 days)	None	None	Treatment N = 49 Control N = 33 ^a Range = 15-17 Mean = 16.63	Reconviction, reincarcerated (2 years)	None

Notes: ^a = offenders placed on probation; ^b = offenders sentenced to jail and then released on probation; ^c = offenders released from traditional confinement facility and offenders placed on probation; ^d = offenders sentenced to house arrest with electronic monitoring; all other control groups consist of offenders released from traditional confinement facility.

Table 5
Studies of the effects of voluntary boot camps for juveniles on recidivism

Study (methods rating)	Agency (length of stay)	Rehabilitative treatment services	Aftercare treatment services	Sample size(s) & participants ages	Outcome measure(s) (follow-up period)	Effects of boot camp
Weis, Wilson, and Whitemarsh (2005) (3)	The National Guard Bureau (WI) (22 Weeks)	Behavioral and socioemotional functioning treatment	None	Treatment N = 116 Control N = 44 Range = 16-18	Parental report of rearrest or drug/alcohol problem (6 months)	Significant decrease in odds of rearrest, significant decrease in odds of alcohol/drug problem
Weis, Whitemarsh, and Wilson (2005) (3)	The National Guard Bureau (WI) (22 Weeks)	Behavioral and socioemotional functioning treatment	None	Treatment N = 135 Control N = 67 Range = 16-18	Parental report of rearrest or drug/alcohol problem (6 months)	Significant decrease in odds of rearrest, significant decrease in odds of alcohol/drug problem
Weis and Toolis (2009) (3)	The National Guard Bureau (WI) (22 Weeks)	Behavioral and socioemotional functioning treatment	None	Treatment N = 124 Control N = 65 Range = 16-18	Parental report of rearrest or drug/alcohol problem (36 months)	None

Notes: Treatment group compared to juveniles eligible for program but wait-listed.

information contained in Table 4, there does not appear to be a relationship between the effects of boot camps on recidivism and whether the camp offered rehabilitative treatment services or aftercare services. In fact, the only conclusion that can be inferred is that, of the eleven studies in which differences between boot camp participants and the respective control groups were observed, seven of those studies were either of poor methodological quality (≤ 2), did not report whether differences between boot camp participants and the respective control groups were significant differences, or did not involve comparisons between boot camp participants and individuals housed in traditional confinement facilities. Of the remaining studies in which effects were observed, only two studies found effects that were consistent across all the measure of recidivism that the authors considered (Flowers, Carr, & Ruback, 1991; MacKenzie & Souryal, 1994).

Table 5 contains the results from the studies of the effects of the National Guard Bureau's boot camp on juveniles voluntarily placed there by their parents. Findings from two of the three studies revealed lower odds of recidivism for boot camp participants relative to juveniles who were eligible but not placed in the program.

Jurisdiction-Level effects on confinement bed space

In assessing the jurisdiction-level effects of boot camps on confinement bed space, researchers have generally compared the number of beds required to operate the boot camp with the number that would be required to house those offenders eligible for the boot camp if the camp did not exist. The studies also take into account the probability of commitment, length of stay, and odds of revocation or recommitment upon release. The three studies of the jurisdiction-level effects of boot camps on confinement bed space (Table 6) each found that the implementation of a boot camp in the respective jurisdiction was associated with a reduction in confinement bed space. Two of the three studies also revealed that the reduction in bed space was associated with cost savings. The program evaluated in the third study was not large enough to save enough confinement beds to result in a substantive cost savings.

Table 6
Studies of the effects of boot camps for juvenile delinquents on confinement bed space

Study	Agency (length of stay)	Participants ages	Authority that controlled boot camp selection decision	Confinement bed space saved	Cost savings per year compared to traditional confinement
California DYA (1997)	CA (4 months)	Range = 14-17 Mean = 17.1	CYA	126 beds/year	\$31,752/year
Parent et al. (2001)	OR (4 months)	Range = 15-18	OYA	17 beds/year	None
Parent et al. (2001)	SD (120 days)	Range = 14-17	Pre-1996 - Judge Post-1996 - SDDOC	148 beds/year	\$78,700/year

Discussion and conclusions

Boot camps for juveniles were designed with the goal of reducing participants' problem behaviors, and correctional boot camps for juvenile delinquents were also developed with the goal of reducing institutional crowding and related correctional costs. This study involved an examination of the effectiveness of boot camps for juvenile delinquents and boot camps for juvenile and adult offenders in achieving each of these goals.

Regarding problem behaviors, studies have generally focused on assessing within program effects on participants' attitudes, perceptions, and other behaviors, or on post-release behaviors such as participants' odds of recidivism. The findings from this study suggest that boot camps are effective in improving participants' attitudes, their perceptions of boot camps and program staff, and their adjustment. These findings counter critics' claims that the environments of boot camps are too harsh for juveniles, foster the potential abuse of participants, and that boot camps are not conducive to rehabilitation (e.g., Benda, 2005; Cullen et al., 2005; Lutze & Brody, 1999; Morash & Rucker, 1990; Ravenell, 2002). Although there have been some isolated instances of abuse of boot camps participants (see, e.g., Caputo & Miller, 2006; Kiefer, 2005; Ravenell, 2002; Selcraig, 2000; Zarazua, 2007), the results of the evaluations included in this study revealed that boot camps typically improved juveniles' attitudes and prospects for adjustment while in the facilities. Juveniles also held more favorable views of boot camps compared to traditional confinement facilities. These perceptions are consistent with those of boot camp staff, who, when compared to staff of traditional confinement facilities for juveniles, have also reported better working conditions as well as a better work experience (MacKenzie, Gover, Armstrong, & Mitchell, 2001). Staff members' satisfaction with their work environment and job satisfaction have also been linked to their intentions regarding voluntary turnover, an important consideration for correctional administrators (Mitchell, MacKenzie, Styve, & Gover, 2000).

The studies designed to assess the effect of correctional boot camps on recidivism generally revealed that boot camps have no effects on recidivism. In contrast, studies of boot camps for voluntarily placed

youth have generally found that these boot camps reduce participants' odds of recidivism. All of the evaluations of boot camps for voluntarily placed juveniles were conducted on the same program, however, so the findings may not be generalizable to similar programs. Still, the encouraging findings suggest that more studies assessing the effects of boot camps for voluntarily placed juveniles are needed.

The results of the evaluations of the effects of correctional boot camps on recidivism could be taken as support for claims that boot camps are not capable of rehabilitation, perhaps because they are not based on a sound theoretical model (e.g., Correia, 1997; Cullen et al., 2005). However, it is worth noting that the alternative, traditional confinement facilities were no more effective in reducing recidivism, and are not based on a sound theoretical model of criminal behavior either. Additionally, this study revealed that many states have added rehabilitative treatment and aftercare services to existing boot camps. These services which are a component of second generation boot camps may, at least in theory, target a number of the known correlates of delinquency.

On the other hand, this study also revealed that in general there were no differences in the recidivism rates of boot camp participants and the respective control groups even if the boot camps included rehabilitative treatment services and/or aftercare. Similar conclusions have been reached in previous examinations of the effects of correctional boot camps on recidivism (e.g., MacKenzie, Wilson, & Rider, 2001; MacKenzie, 2006; Wilson et al., 2008). Still, some studies of boot camps that included rehabilitative treatment services and aftercare did reveal lower recidivism rates among boot camp participants (e.g., MacKenzie & Souryal, 1994; MacKenzie et al., 1997; Wells et al., 2006; Zhang, 2001). Although one can only speculate why these differences between studies emerged, it could be that variation in the duration and quality of treatment is associated with reductions in recidivism. Regarding duration, findings from a study conducted by MacKenzie and Souryal (1994) are illustrative. MacKenzie and Souryal (1994) examined the effects of boot camps on recidivism in eight states, seven of which met the criteria for inclusion in this study. Among those seven evaluations, the three boot camps that were associated with reductions in recidivism were also the camps in which participants devoted the highest percentages of their time to rehabilitative activities (see also MacKenzie et al., 1995). Thus, one potential explanation for the differences in the findings between studies could be the amount of time (duration) individuals spent participating in rehabilitative services, as opposed to simply whether participants were offered rehabilitative services.

The quality, or integrity, of rehabilitative treatment services has often been neglected in corrections related evaluation research (Lowenkamp, Latessa, & Smith, 2006). In fact, none of the evaluations included in this study contained a process evaluation of the rehabilitative treatment services or aftercare services included as a component of the boot camp. Thus, it is possible that the integrity of the treatment provided within the boot camps that provided those services influenced participants' odds of recidivism. For example, MacKenzie, Biere, and Mitchell (2007) examined the effects of a Maryland correctional boot camp for adult offenders on recidivism. They revealed slightly lower recidivism rates for the boot camp participants relative to the control group (MacKenzie et al., 2007). Although the boot camp did contain a cognitive behavioral treatment component based on social science evidence regarding effective treatment modalities, an independent evaluation of the therapeutic integrity of the boot camp revealed that the quality of the program delivery was not very strong. Thus, MacKenzie et al.'s (2007) findings imply that boot camps with an evidenced-based therapeutic focus can reduce recidivism, but the reductions may be small if the rehabilitative treatment services are only evidenced-based in design rather than practice.

The results of the existing studies of the jurisdiction-level effects of boot camps for juvenile delinquents on bed space were consistent;

boot camps for juvenile delinquents reduce the number of confinement beds used per year. Boot camps that are capable of housing larger numbers of juveniles can also result in some cost savings. Critics have argued that boot camps increase correctional populations through net widening (e.g., Tonry & Lynch, 1996). Although there may be some evidence to suggest this criticism may be true of facilities designed to house individuals legally defined as adults (see, e.g., MacKenzie & Parent, 1991; MacKenzie & Piquero, 1994), the findings from this study do not support these claims with regard to facilities designed to house juvenile delinquents.

The ability of boot camps for juvenile delinquents to reduce the number of confinement beds seems to be due to the way in which most states' juvenile justice systems are designed. Although judges are typically responsible for committing juvenile delinquents to state custody, most state statutes afford juvenile correctional officials control over placement of committed delinquents. Thus, the probability of placement in a traditional confinement facility for juvenile delinquents placed in state-run boot camps is generally 100 percent. Since juveniles typically serve shorter periods of time in boot camps compared to traditional confinement facilities, and the graduation rates of boot camps for juvenile delinquents are often high, it is not surprising that boot camps for juvenile delinquents are effective in reducing the use of confinement bed space, even if those camps are no more effective in reducing recidivism than traditional confinement facilities. Related to this finding, several of the evaluations included in this study also provided estimates of the cost per day of housing juveniles in boot camps versus traditional confinement facilities. The average cost per day of housing juveniles in boot camps was typically less than cost of housing juveniles in traditional confinement facilities (see, e.g., Peters, 1996b; Thomas & Peters, 1996). Thus, regardless of any post-release impacts, jurisdictions that operate boot camps could still realize some cost savings; even if juveniles were confined in boot camps for the same duration as they would have been in a traditional confinement facility (see also Biere, 2009).

Altogether, the findings from this study suggest boot camps are effective in achieving a number of their goals. Yet the initial enthusiasm to develop and operate boot camps for juveniles seems to have waned, and their numbers have dwindled (Koch Crime Institute, 2000). This study revealed that as of 2009, only eleven states operate boot camps for juvenile delinquents, which is considerably less than the thirty reported by Parent (2003) less than a decade ago. Whether these programs have been closed as a result of the criticisms levied against boot camps or because of the evidence that suggests boot camps do not reduce recidivism is unclear. What is clear is that a number of states have given up on boot camps as a means of reducing the problem behaviors of juveniles and their respective delinquent confinement populations. The findings from this study suggest that the decisions to close a number of boot camps for juvenile delinquents may have been premature. In contrast, the findings from this study suggest that it may be worthwhile for states to consider boot camps as an alternative to traditional confinement. If states who operate boot camps for juveniles permit placement decisions to be made by corrections officials, as opposed to judges, they will be likely to realize a reduction in the amount of confinement beds required; and in turn, a reduction in correctional costs. Similar observations have been made by researchers who have examined the effects of boot camps on confinement beds for adult offenders (MacKenzie & Parent, 1991; MacKenzie & Piquero, 1994). In light of the constraints imposed on many states' financial allocation for juvenile corrections, these savings could be very important to policymakers, correctional administrators, and taxpayers.

Correctional administrators seeking to make boot camps for juveniles more effective may want to ensure that programs devote more attention to rehabilitative treatment services and aftercare services that are longer in duration and have therapeutic integrity. Although the evidence is limited, some studies do suggest that those boot camps in which participants devote more time to therapeutic

activities can reduce recidivism (e.g., MacKenzie & Souryal, 1994). The mixed results from the evaluations of second generation camps also suggest that it may be worthwhile to examine the content or integrity of the treatment that is being provided within boot camps. Treatment components of boot camps could model those that have been deemed effective in reducing recidivism in other settings (for reviews of this literature see MacKenzie, 2006; Drake, Aos, & Miller, 2009). Any reductions in recidivism would increase the cost savings that are already enjoyed as a result of boot camps ability to reduce confinement populations. Of course, some may question the logic of implementing evidenced based treatment programs within boot camp programs, as opposed to other settings (e.g., traditional confinement). Boot camps, however, may offer an advantage over more traditional settings. Due to their design, boot camps permit staff the ability to sanction misbehavior or reward good behavior in a swift and certain manner. Evidence from evaluations of drug courts suggests that effective treatment, when combined with justice system sanctions can be even more effective in reducing recidivism (see, e.g., Hawken & Kleinman, 2009; Taxman, 2000). Thus, the boot camp model could provide for a more holistic therapeutic strategy than simply implementing evidenced based treatment within a traditional confinement facility. When coupled with the encouraging findings regarding within program effects on participants problem behaviors and jurisdiction-level effects on institutional populations reported in this study, it seems that second generation boot camps for juvenile delinquents that include an evidenced based treatment program and aftercare component may be a good investment for correctional administrators to consider.

Finally, it is important that researchers continue to examine second generation boot camps and focus more specifically on the extent, duration, and quality of these services, as much of the evidence pertaining to these issues is limited. Future researchers may also want to examine the effects of boot camps on institutional populations and on participants both within the program and after release. It is only through consideration of whether boot camps achieve each of their goals and by examining the processes that comprise boot camps that we can get a better handle on their total effects.

Notes

1. The term boot camp is often used interchangeably with shock incarceration (see, e.g., MacKenzie, 2006).

2. The journals searched individually included *Crime and Delinquency*, *Criminal Justice and Behavior*, *Criminology*, *Criminology and Public Policy*, *Federal Probation*, *International Journal of Offender Therapy and Comparative Criminology*, *Journal of Criminal Justice*, *Journal of Criminal Law and Criminology*, *Journal of Experimental Criminology*, *Journal of Offender Rehabilitation*, *Journal of Quantitative Criminology*, *Journal of Research in Crime and Delinquency*, *Justice Quarterly*, *Law and Society Review*, *Punishment and Society*, *The British Journal of Criminology*, *The Prison Journal*, *Youth and Society*, *Youth Violence and Juvenile Justice*.

3. Although the programs evaluated by Farrington et al. (2001) and Farrington et al. (2002) reportedly house individuals between the 18 and 21, the studies were included because: 1) of jurisdictional differences between the U.S. and the U.K. and, 2) they have been included in prior reviews of the literature regarding boot camps for juvenile delinquents (e.g., MacKenzie, 2006).

4. As far as the authors are aware, only one evaluation of a boot camp that has been included in prior reviews was not able to be located (Project Turnaround conducted by T3 Associates Training and Consulting). MacKenzie (2006) reported no significant differences between boot camp youth and comparison youth on a variety of measures of recidivism.

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