An Examination of Victory Seeker Use and Recidivism

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ABSTRACT

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The current study extended earlier findings about the RealVictory program by using a larger sample and by examining Victory Seeker phone use in more detail. Using a sample of 144 juveniles, it was found that as the number of calls answered increased, the likelihood of a rearrest and the number of rearrests decreased slightly but the differences were not statistically significant. However, as the number of calls increased, the likelihood of a felony rearrest decreased significantly and the total number of felony arrests decreased significantly. These findings suggest that Victory Seeker may be a useful tool to reinforce and provide follow-up after treatment.

ACKNOWLEDGEMENTS

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Introduction

In 2012 juveniles between the ages of 10 and 17 comprised 10.5 percent of the U.S. population but accounted for 10.8 percent of all arrests, 11.7 percent of all violent arrests, and almost 18 percent of all arrests for property crimes (Puzzanchera & Kang, 2014). From 1985 to 2009, juvenile court cases in the United States increased 30 percent. In 2009, the juvenile courts processed 1.5 million cases and more than 31 million youth were under their supervision (Puzzanchera, Adams, & Hockenberry, 2012). Research indicates that childhood delinquency influences adult lives and that saving a high-risk juvenile from a life of crime could save society up to $5 million per life span of each juvenile (Cohen & Piquero, 2009; Piquero, Farrington, Nagin, & Moffitt, 2010).

Many programs have been created to help juvenile probationers succeed and avoid further crime. Those who develop programs believe that their programs help offenders and testimonials of program participants are common—many participants express satisfaction with the program and say that it helped them. However, systematic evaluations of programs with control groups are much less common. Although program evaluations have become more frequent in recent years, there remains a great need for more high quality evaluations (Agnew & Brezina, 2011; Visher, 2006).

The importance of program evaluations is illustrated by the Greenlight (GL) Project, a large program designed to prepare offenders for their transition to the community after prison. It was an intensive intervention administered in the eight weeks prior to release and included many elements shown in previous research to be associated with successful reentry. Those who developed and implemented the program believed it would help the offenders prepare for reentry. A majority of those involved in the program were satisfied with it and said it helped

them. However, a systematic comparison of those who did and did not participate in the program showed no evidence that it helped the clients adjust after leaving prison (Wilson & Davis, 2006).

The failure of the Greenlight program illustrates the importance of evaluation research to determine if a program is effective in a particular setting. A program that is effective in one particular setting or group may not be effective in another setting or with a different group. In recent years there has been increased emphasis on evaluation research to provide evidence of program effectiveness (Farrington & Welsh, 2007; Greenwood & Welsh, 2012; MacKenzie, 2002; Sherman, Farrington, Welsh, & MacKenzie, 2002). With decreased budgets, many administrators and legislators do not want to commit funds to a program unless there is evidence that it works (Coalition for Evidence-Based Policy, 2013).

There is a need for much more research on the mechanisms that explain why a program is or is not effective (Bushway, Piquero, Broidy, Cauffman, & Mazerolle, 2001; Greenwood & Welsh, 2012; Lynch, 2006; Sherman et al., 2002; Visher, 2006). Areas where research is needed include evaluations of innovative technologies and examinations of how programs work (Visher, 2006; Wormwith et al., 2007).

The purpose of this research is to evaluate the effectiveness of the RealVictory (RV) program. RealVictory is an innovative treatment program that includes a cognitive-behavioral class followed by the use of a cell phone coach called Victory Seeker to reinforce and follow-up on the concepts taught in the class. Data from a sample of 144 juvenile offenders who participated in the RV program will be analyzed to assess whether use of Victory Seeker is associated with recidivism. It is one of the first programs to use cell phone technology as a correctional tool. Although innovative technologies are being used more frequently in

corrections, there has been relatively little empirical research that evaluates their effectiveness (Wormwith et al., 2007).

Recidivism

The purpose of most treatment programs, including the RV program, is to help offenders change so that they can avoid future crime and live normal productive lives. The overall goal is to help them desist from crime.

The outcome measure of most treatment programs is recidivism which is defined as a return to crime. Programs are considered successful if they help the participants avoid relapse into criminal behavior.

Recidivism can refer to at least four different behaviors (Maruna, 2001; Harris, Lockwood, & Mengers, 2009). First, recidivism may be defined as any criminal act that occurs after a treatment program is completed. This type of measurement usually relies on self-report data since official records assess only a small part of criminal behavior. Second, recidivism is often measured by a re-arrest. Arrests are a subset of all criminal behavior since much criminal behavior does not come to the attention of authorities and results in no arrest. Third, recidivism is sometimes measured by convictions. Convictions are only a small subset of arrests since many arrests are dropped or the offenders are acquitted. Fourth, recidivism may refer to re-incarceration. Incarceration is a subset of convictions since many convicted individuals are placed on probation rather than being incarcerated.

The selection of any one of these definitions of recidivism entails an understanding of the particular tradeoffs associated with each one. Defining recidivism as any committed criminal act after treatment casts the widest net evaluating the scope of recidivism, but because this data can only be provided by self-report it is subject to the individual lying, exaggerating or otherwise

misrepresenting their criminal activity. Defining recidivism via arrest defines recidivism a bit more narrowly since it requires police action and is recorded consistently and publicly, may also be misrepresented by wrongful arrest, and occurs due to grounds of suspicion of crime. Defining recidivism by conviction represents the existence of clear committed acts of criminality in the eyes of the criminal justice system and is recorded consistently and publicly, although it can be an inaccurate measure of criminal activity due to the prevalence of plea bargaining that changes and often reduces charges, and many convictions are avoided thanks to the skill of the lawyer defending the individual in question. Lastly, defining recidivism by incarceration is the most concrete and severe definition, but suffers from each of the shortcomings associated with conviction and also represents only the most serious result of participation in the criminal justice system. In the study that follows here, arrest data is selected to define recidivism due to the availability of accurate data indicating the quantity and quality of arrests, it is free from the possible misrepresentation of self-reported data, and it represents a marker of criminality dependent on the individual's actions that is not subject to external, systemic factors once evaluation of the arrest moves towards conviction and its associated punishments.

Reducing recidivism would reduce much pain and human suffering and would save large sums of money. For example, preventing a high-risk juvenile from engaging in a life of crime is estimated to save society at least $2.6 million dollars (Cohen & Piquero, 2009; Piquero et al., 2010). It is estimated that each dollar spent on prevention programs produces a savings of at least $2.50 in expenditures on crime, education, welfare (Welsh & Farrington, 2011).

Change

The basic question underlying all offender intervention programs is how to help people change. Most offenders express a strong desire to change their behavior and avoid future crime

(Healy & O'Donnell, 2008). What will help offenders desist from future criminal behavior? Despite the existence of extensive research on recidivism, desistance is not well understood (Bottoms, Shapland, Costello, Holmes, & Muir, 2004; Bushway et al., 2001). Some of the major questions include: What factors make it more likely an offender will desist from crime? Do different types of individuals desist in different ways? Does treatment help individuals desist and if so, how?

Life Course Theory

To understand how people change over time, it is useful to view desistance as a process rather than a discrete event (Bottoms et al., 2004; Bushway et al., 2001; Maruna, 2001; McNeil, 2006). Maruna, Immarigeon, & LeBel (2004) distinguished between primary and secondary desistance. Primary desistance refers to the immediate move away from criminal behavior, such as when an offender remains drug free for two months. Secondary desistance refers to becoming a law abiding person on a permanent basis as one gradually develops a new identity and becomes a changed person (Healy & O'Donnell, 2008; Maruna & Toch, 2005).

Laub and Sampson (2001; 2003) developed a life course theory which integrates social learning, social control, and cognitive transformation theories while examining key turning points and change over time. They viewed desistance as a process which depends on both subjective (internal) and social (external) characteristics. Subjective influences are internal characteristics such as attitudes, self-esteem, identity, and motivation. Social influences include employment, marriage, parenthood, and treatment interventions. Laub and Sampson (2001; 2003) focused on social factors and emphasized the importance of structured routine activities and social controls, but they acknowledged that agency and internal factors also play a significant role in desistance. Structured activities, such as employment or treatment

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interventions, are important because they reinforce legal activities and provide networks of social support. Creating bonds with family members and friends also help individuals desist from crime. Conversely, associations with deviant peers appeal to individuals who are unsuccessful in developing meaningful relationships at home or work. LeBel, Burnett, Maruna, and Bushway (2008) and Davis, Bahr, and Ward (2013) found support for a combined subjective-social model in which desistance is associated with both types of factors. They suggested that the two factors may interact: desistance is enhanced when treatment is combined with high subjective motivation.

Cognitive Transformation Theory

According to the Cognitive Transformation Theory of Giordano, Cernkovich, and Rudolph (2002), there are four key elements in the desistance process. First, they hypothesized that individuals develop an openness to change. Through their experiences and agency, individuals may begin to conceive of personal change as a possibility. Agency refers to personal choice—whether one seeks change. Some offenders like their life as it is and do not wish to change; others say they would like to change and are willing to attempt to change their behavior. In a study of 73 offenders, Healy and O'Donnell (2008) found that 95% desired to change and 85% said they were capable of changing.

Second, individuals are exposed to particular circumstances or "hooks" that may help them move toward change. Hooks for change include social characteristics such as obtaining a good job or attending a treatment program (Giordano et al., 2002). Laub and Sampson (2001) emphasized the importance of social institutions, especially marriage and work, as forces that influence the desistance process.

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The third element in their desistance theory is the development of a conventional replacement self. They maintain that part of change is seeing yourself in a different light and changing your identity. Past mistakes are not viewed as characteristic of their true selves.

Finally, there is a reinterpretation of previous illegal behavior. For example, those who were previously enmeshed in the drug culture might begin to view it as something that hurts people and that they want to avoid. Rather than seeing drug use as their own personal choice which doesn't affect others, they may begin to see how their behavior hurt other family members.

Consistent with Giordano et al. (2002), Terry (2003) described desistance as a conversion process that takes a considerable amount of time. He observed that the process often begins when an event helps individuals reassess their lives. Some were motivated to change when they were unable to function after they became ill. Others decided to change when they realized the damage they had inflicted on their family. A new arrest was a turning point for some—they were faced with the choice of going back to prison or entering a treatment program. With support from treatment, some were able to rebuild their self-worth, develop new associations, and become assimilated into a different social world.

Maruna (2001) also argued that desistance requires a reformulation of one's identity. After analyzing in-depth interviews of "desisters" and "persisters," he observed that desisters tended to describe redemption narratives in which they viewed their "real selves" as non-criminals. They differentiated themselves from their previous mistakes, crafted a moral tale from their experiences, and expressed a desire to use their experiences to help others (Maruna, 2001). Similarly, Shover (1996) and Rumgay (2004) found that desisters were able to conceive of change as possible and alter their perceptions of their previous activities. In summary, Cognitive

Transformation Theory provides a complement to other theories by focusing on the transformation of one's identity in the process of desistance from crime.

Life Course Theory and Cognitive Transformation Theory suggest useful frameworks for evaluating the mechanisms of change that programs must account for if they hope to reduce recidivism. Programs generally are not so expansive in scope that they can change the social conditions surrounding the participant, and focus instead on catalyzing change by encouraging internal reflection. For example, Life Course Theory suggests that changes to an individual's attitudes and motivations, coupled with other external changes to their life like relationships and employment, would produce changes in behavior that lead to desistance. Similarly, Cognitive Transformation Theory suggests that programs should encourage their participants to be open to changing their lives, and engage them in a viewpoint of themselves that they have both taken on a new identity and reinterpret their previous criminal activity as being something unappealing to their new selves.

Character Development Model

A theory that explains the internal change processes that lead to desistance is the Character Development Model of Cherrington & Cherrington (2000). It is built on the work by Bandura (1986) and Kohlberg (1981) and postulates that change is facilitated by the reciprocal interactions of attitudes and behavior. The model describes, on a practical level, the change process and how it is influenced by subjective and social factors.

The Character Development Model uses four key concepts: attitudes, behavioral intentions, behavior, and behavioral explanations. Behavioral intentions and behavioral explanations (i.e. behavioral justifications) serve as intervening variables that explain the reciprocal impact of attitudes and behavior on each other. For example, attitudes influence

behavior by first influencing behavioral intentions. A general, undefined intention is less likely to lead to action than a specific intention to do something at a specific time and place.

On the other hand, behaviors influence attitudes by the rationalizations and justifications that are created in the behavioral explanation process (Ajzen & Fishbein, 1980). People tend not to view themselves as capricious, random actors but as rational beings whose behavior is conscious and planned and whose actions are consistent with their attitudes (Bem, 1972; Festinger, 1957). When behavior is not consistent with attitudes, the easiest way to create harmony is to change one's attitudes. Therefore, when people misbehave and create an inconsistency between their attitudes and behavior, the easiest way to re-establish harmony is to rationalize and justify their misbehavior.

This rationalization process can be reversed if people recognize that their behavior is improper and make a plan to change. This reversal could be facilitated by various external interventions that change the internal processes, as shown in Figure 1. These external interventions can occur independently or in combination, and the strength of a treatment intervention would be expected to increase as the number of components being influenced increases.

Figure 1 about here

The Character Development Model is a useful supplement to the desistance theories of Laub and Sampson (2003) and Giordano et al. (2002) because it provides clarity regarding the change process. It served as the conceptual basis for the RV program evaluated in this research consisting of a cognitive class and a cell phone coach.

The RealVictory Program

The RealVictory (RV) program was developed in 2005 to reduce recidivism. It combines a cognitive-behavioral class followed by a phone coach (Victory Seeker) designed to reinforce the concepts taught in the class and provide aftercare.

The Cognitive Training

There has been extensive research on the effectiveness of cognitive behavioral therapy (CBT) programs for both adult and juvenile offenders. In a meta-analysis of 400 studies treating juvenile delinquents, Lipsey (1995) observed that the average recidivism rate was about 50 percent for the control group compared to 45 percent for the treatment group, a 10 percent improvement. Lipsey, Chapman, and Landenberger (2001) examined 14 experiments and found that recidivism of those in treatment was lower than the recidivism of controls, although a modest difference.

In the following quote, Lipsey and Landenburger (2007) summarized the key elements in CBT programs:

> Cognitive-behavior therapy is based on the assumption that cognitive deficits and distortions are learned rather than inherent. Programs for offenders, therefore, emphasize individual accountability and attempt to teach offenders to understand the thinking processes and choices that immediately proceeded their criminal behavior. Learning to self-monitor thinking is typically the first step, after which the therapeutic techniques seek to help offenders identify and correct biased, risky, or deficient thinking patterns. A crucial aspect of CBT is an emphasis on free choice. Offenders are not told what to think in a specific situation (i.e., there is no assumption of a superior set of values) but, instead,

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are taught how to consider all aspects of a situation, test whether one's beliefs are accurate and functional, and make choices based on those considerations.

Landenberger and Lipsey (2007) also identified six best practices commonly found in successful CBT programs: a focus on thinking patterns and skill development, targeting high risk offender populations, focusing on the specific needs of individual offenders, the program is intensive in nature, the program is implemented well, and the program is conducted by a trained therapist. In their review of various meta-analyses, Lipsey and Cullen (2007) concluded that cognitive-behavioral programs tend to reduce recidivism although the results are rather modest.

The cognitive training in the RV program follows the principles identified by Lipsey and Cullen (2007). It consists of six 90-minute training sessions that teach the Control Model and how it can be used to analyze one's behavior and attitudes. The Control Model was first proposed by Robert Bennett (1987) in his book, *Gaining Control*, and is designed to help individuals examine their principles and beliefs, understand how their beliefs influence their behaviors, and align the results of their behavior with their basic principles and goals. Pedagogically, the sessions follow a group instructional model including short lectures from the instructor about course material, clips from popular films, newspapers and other media to reinforce the concepts taught in the curriculum, and individual reflection activities and group discussions. A more complete description of the content of these classes is found in Cherrington, Bahr, Kawai, Bennett, & Burraston (2011).

The Control Model is illustrated in Figure 2. It assumes that all human behavior is motivated by a desire to satisfy one of four basic needs: the need to live (survive), the need to love and be loved, the need to feel important, and the need to experience variety. All persons have a unique "belief window" through which they view the world and this window includes a

set of principles that form expectations: "If I do X, then Y will happen." These beliefs are seen as the forces that determine behavior. During the training, participants examine their behaviors and assess the consequences of their actions. They are asked to assess whether the results of their behaviors are satisfying their basic needs; and if they are not, they are asked to identify which incorrect beliefs may be causing their problems.

Figure 2 about here

The Control Model is consistent with the Character Development Model discussed earlier, particularly in examining how attitudes influence behavior. However, the value of its use in the RV training is that it helps participants examine the consequences of their behavior.

The Control Model is intended to provide a value-neutral framework for examining one's beliefs and adjusting one's behaviors to achieve desired results. This nonjudgmental approach allows participants to discover for themselves why they need to change their behavior by helping them assess the natural consequences of their actions. Group discussions of the natural consequences of one's behavior, especially for others, facilitate the behavioral evaluation process.

Phone-coach Monitoring

A major limitation of many programs is a lack of follow-up or aftercare. Aftercare is defined as the continued services offered to offenders as they transition from program completion to everyday life. Evidence indicates that aftercare may be a critical element in the effectiveness of programs. For example, Inciardi, Martin, and Butzin (2004) found that a prison therapeutic community was more effective if the participants were involved in aftercare. Similarly, Kurlychek and Kempinen (2006) compared individuals who did and did not receive aftercare following participation in a wilderness boot camp program for offenders. In previous

work a number of researchers found that correctional boot camp programs were not effective in reducing recidivism (MacKenzie, Wilson, & Kider, 2001; MacKenzie, 2002). Contrary to previous research, Kurlychek and Kempinen observed that individuals from correctional boot camps who received a 90-day residential aftercare program had significantly lower arrests rates than boot camp graduates who were assigned to parole as usual. The combination of a well-designed and executed program with high participation in aftercare correlated with reduced recidivism (Knight, Simpson, Hiller 1999; Martin, Butzin, Saum, & Inciardi, 1999; Wexler, Melnick, Lowe, & Peters, 1999). It appears that aftercare provides follow-up and reinforcement that helps more individuals remain crime free. Without aftercare, more individuals tend to regress and return to previous criminal behavior. The combination of program participation and aftercare appears to be superior to program participation alone (Inciardi et al., 2004).

These findings indicate that the ineffectiveness of a program could be due to a lack of follow-up and reinforcement of what is learned in treatment rather than from a flaw in a program or its implementation. Kurlychek and Kempinen (2006) suggest that aftercare may be a missing link which is essential for program effectiveness to be maintained after transitioning out of a program. This may be particularly important when individuals return to the environment they lived in when they became involved in criminal behavior.

Cell phones have the potential to be effective tools to reinforce training and provide follow-up reminders. Prior research in the United States, England, and the Netherlands has demonstrated that telephone calls help some people overcome addictions to alcohol (Cacciola et al., 2008; Mundt, Moore, & Bean, 2006; Weitzel, Bernhardt, Usdan, Mays, & Glanz, 2007), tobacco (Gilbert & Sutton, 2006), and other drugs (Oudejans et al., 2009). Telephone calls have been highly effective in providing exercise counseling and promoting physical activity (Castro &

Ling, 2002). Phone calls have also been used to treat people suffering from depression (Datto, Thompson, Horowitz, Disbot, & Oslin, 2003).

Victory Seeker is a program that uses cell phones as a tool to reinforce and follow up concepts taught in the RealVictory CBT classes. The cognitive class is much shorter than many interventions and a key question is whether a six-week class can effectively produce lasting change. Victory Seeker is designed to be an aftercare component that reinforces the learning from the cognitive class and reminds individuals of their goals.

The phone-coach program uses an automated system to call all participants. Although the technology is rather sophisticated, the application of the phone-coach program is very simple. The cell phone is used as a tool to help the program participants monitor their own behavior.

Near the end of the class the participants set personal goals with lists of specific activities that will help them accomplish both short-term and long-term goals. After setting specific goals, they decide how often they will be called and the prime question they will be asked. The calls can be received on any phone but most participants use cell phones. Since most people carry their cell phone, they can receive calls at any time or place.

Most participants receive two phone calls per day at pre-established times. Each call consists of three short questions. First, the phone coach asks if the participant has followed the goal since the last phone call. Next, it asks how much effort the participant has put forth to accomplish one of the steps to achieve the goal. Finally, it asks what results the efforts have produced.

Participants answer each question using the keypad on their phone and may also record a more detailed explanation of their report. If there has been progress, a prerecorded positive message is played at the end of the call. If correction is needed, a prerecorded encouragement

message is played. These messages can be recorded by friends, family or anyone the participant invites. Since these were simple phone-mail messages, they could be changed at any time by the support persons. In addition to daily VictorySeeker calls, participants also received a personal monthly check-in by phone from RealVictory staff and completed a program exit interview one year from the beginning of their use of Victory Seeker.

Problem Statement

The primary question addressed in this study is whether offenders who use the phone coach program in conjunction with cognitive-behavioral treatment recidivate at a lower rate than offenders who do not use the phone coach. The purpose is to evaluate Victory Seeker as a potential tool in the criminal justice system and fulfill the call for more systematic program research (Visher, 2006, Sherman et al., 2002, Wilson & Davis, 2006). The study will contribute to the growing body of literature evaluating the use of mobile technology for behavior change and aftercare in the criminal justice system. Most scholarship in this area has examined the use of mobile technology in changing behavior related to health (Mundt et al., 2006; Castro & Ling, 2002; Datto et al., 2003), whereas much of the scholarship on the use of technology in the criminal justice system has focused on electronic monitoring (Bales et al., 2010; Bulman, 2010; Pagett, Bales, & Blomberg, 2006; Yeh, 2010).

This research also extends previous evaluations of the RealVictory program in three ways. First, this study will examine a larger sample size than earlier evaluations. The previous analyses of the RealVictory program were based on a sample of only 70 juvenile probationers (Burraston, Cherrington, & Bahr, 2012; Cherrington et al., 2011). Second, the previous evaluations assessed RealVictory as a whole and did not look specifically at the effectiveness of Victory Seeker. Third, this study includes a more detailed examination of Victory Seeker.

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Previous work measured participation in Victory Seeker as a binary variable signifying that the participant did or did not answer at least 50% of the call attempts (Burraston, Bahr, & Cherrington, 2014). This study examines the total number of calls answered by the participant within one year after completing the class. The analysis will move beyond an assessment of a mere use threshold of the phone coach to an analysis of the quantity of phone usage.

Methods

Data

RealVictory participants were divided into treatment and control groups in order to allow the possibility for proper evaluation throughout the program's existence. However, the control group participants were never given access to Victory Seeker. Therefore, we cannot know how much control group participants would have used Victory Seeker if they had been given the opportunity. Since the purpose of this study was to evaluate Victory Seeker, only the 144 treatment participants were used.

These participants were drawn from juvenile offender populations from three different Utah programs. The first group was comprised of 43 juveniles who were on probation in the Utah Fourth District Court.

The second group was comprised of 34 offenders living in group homes in rural communities. They were selected by program administrators based on their availability to participate in this program.

The third group was comprised of 67 juveniles in four secure care facilities who were expected to be released within the next six months. These juveniles had committed more offenses and/or more serious offenses than those in the other programs, which resulted in their being locked up for a period. Individuals in the treatment group participated in the six classes

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while they were in the secure care facility and then waited for their release. When they were ready to be released, they attended a transition meeting where the phone-coach program was explained and they set goals. After they were released they began receiving the cell phone calls.

A total of 144 juveniles participated in the treatment group; however, only 134 cases were analyzed here. Ten participants were excluded from the analysis due to missing data on at least one variable. Table 1 shows the number of cases by program. Table 2 compares the participants from the three programs on criminal history. As would be expected, those on probation had fewer prior arrests and fewer felony arrests than the participants from the other two programs, and those in rural programs had fewer previous arrests and felony arrests than the youth from the secure care facilities.

<center>Tables 1 and 2 about here</center>

Dependent Variables

The dependent variables in this study were four measures of recidivism. The first measure assessed whether the participant was ever arrested within one year after their participation in the Real Victory program. Those that were ever arrested were scored as 1 and those that were never arrested were scored as zero. Under this measurement all arrests were treated equally, regardless of severity.

The second measure assessed whether the participants were arrested for a felony within one year after participation in RealVictory. Those with one or more felony arrests were scored as 1 and those that were not arrested for a felony were scored as zero.

The third measure of recidivism was a count of the total number of arrests within one year after participating in the RealVictory program. The fourth measure of recidivism was a count of the total number of felony arrests within one year after participating in RealVictory. To

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identify arrests both juvenile and adult court records were examined during the year following participation in RealVictory. This enabled us to determine if an arrest had occurred and if so, the nature and number of offenses.

Whether an arrest occurred in the year following the program was a useful indicator although the number of arrests provided a more refined measure. On the binary variable, a youth who was arrested several times during a year was scored the same as a youth who was arrested only once but the former would be considered more deeply involved in delinquency. Similarly, some youths became involved in minor offenses and they would be considered less delinquent than juveniles who committed a felony.

Table 3 provides a summary of the participants' involvement in criminal behavior after the program. Fifty-four percent were arrested within a year of completing the program while 21% were arrested for a felony. The number of rearrests ranged from 0 to 21 and the mean was 2.1. The number of felony arrests ranged from 0 to 2 and the mean was 0.26.

Table 3 about here

Independent Variable

The primary independent variable was a count of the total number of calls from Victory Seeker received by the participants within the year following completion of the RealVictory class. A completed call was recorded if the participant answered the Victory Seeker call and responded to at least one of the questions. The number of calls answered varied from 0 to 708 with a mean of 100. To ease with interpretation, the number of calls was scaled to 100.

Control Variables

One of the limitations of this research is that participants chose whether to answer calls. A key question is whether participation in Victory Seeker is merely an indicator of other

characteristics or whether Victory Seeker actually helped individuals remain crime free. It is possible that those who were already more inclined to remain crime free were the ones who answered the calls. If this was the case, then answering the calls would only be an indicator of a propensity to remain crime free but would not actually help individuals remain crime free. The control variables were designed to help minimize selection bias by accounting for previous criminal history, age, gender, and race.

It is important that there is a control for criminal history, as it is possible that those that answered the calls were those who were less criminal. Therefore, two measures of criminal history were used. The first was the number of arrests for the individual prior to participating in RealVictory. The second was the total number of felony arrests prior to their RealVictory enrollment. Criminal history variables were included because we would expect a correlation between criminal history and the likelihood of recidivism.

There is also evidence that criminal activity varies by age, gender, and race, so it is important to control for those variables as well (Agnew & Brezina, 2011; Farrington & Welsh, 2007). The age of the participants ranged from 12 to 20 and the mean was 17. Males were coded "1" and females were "0." Ninety-one percent of the participants were males. Race was coded as White, Hispanic or other. Fifty-four percent were White, 33% were Hispanic, and 13% were other. As mentioned previously, participants were drawn from three different programs: Utah Fourth District Juvenile Court probation, Rural Programs, and Secure Care. Table 3 provides descriptive statistics for the independent and control variables.

Analysis

Logistic regression was used to analyze the data when the outcome variables were binary--the participant was either arrested or not, or arrested for a felony or not. Negative

binomial regression was used when the outcome variables were counts of arrests and felony arrests (Hoffmann, 2004). Each model estimated the impact of total number of Victory Seeker calls on recidivism, net of the control variables. In all computations robust standard errors were used to correct for statistical dependence among multiple observations from the same individual (Wooldridge, 2010).

<p style="text-align:center">Results</p>

Rearrests

The first measure of recidivism was whether the participants were rearrested. As noted earlier, 54% of the participants were rearrested within one year of completion of the RealVictory program. The logistic regression equation indicated that the number of calls answered was not associated with whether a participant was rearrested. As shown in Table 4, the odds ratio was .899 for number of calls. The odds ratio (OR) is the antilog of the coefficient and represents the change in the odds of experiencing a rearrest for a one-unit increase in the number of calls (in units of 100), net of controls. The OR may be transformed into a percent (1 - .899 = .101) which in this case indicates that an increase of 100 calls would reduce the odds of a rearrest by 10.1%. This finding is not statistically significant.

<p style="text-align:center">Table 4 about here</p>

As indicated earlier, total rearrests may be a more refined measure of recidivism than just whether or not one was rearrested. The total number of rearrests ranged from 0 to 21 with a mean of 2. Negative binomial regression was used to estimate whether the number of calls answered was associated with the total number of rearrests. This is the appropriate statistical technique since the dependent variable, number of rearrests, is a count variable and the variance is greater than the mean (Hoffmann, 2004).

The results are shown in Table 5. The incident rate ratio (IRR) of .92 is the antilog of the coefficient and represents the rate of change in rearrests for a one-unit increase in number of calls (in units of 100). The IRR may be transformed into a percent (1 - .920 =.08) which in this case indicates that an increase of 100 calls would reduce the rate of arrests by 8.0%, which is not statistically significant. Thus, the total number of calls answered was not associated significantly with either whether or not one was rearrested or with the total number of rearrests.

Table 5 about here

Felony Rearrests

The next measure of recidivism was whether the participants were rearrested for a felony. As noted earlier, felony rearrests may be the most important indicator of recidivism because they measure serious crime. Juveniles may be rearrested for status offenses or misdemeanors without committing a serious crime but if they are arrested for a felony they are suspected to have committed a much more serious act.

Logistic regression was used to estimate whether the number of calls answered was associated with the risk of a felony rearrest. As shown in Table 6, the number of calls answered was associated significantly with the risk of being rearrested for a felony. The odds ratio was .65 for number of calls answered. This indicates that an increase of 100 calls would reduce the odds of a felony arrest by 35%, which is statistically significant $(1.00 - 0.650 = 0.350, p = .03)$

Table 6 about here

The final measure of recidivism was the total number of felony rearrests. Negative binomial regression was again used to estimate whether the number of calls answered was associated with the total number of rearrests. As shown in table 7, the total number of calls answered was associated with a significant decrease in the incident rate of total felony rearrests.

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For every 100 calls answered there was a 33.8% decrease in the rate of felony rearrests (1 - .662 = .338, p = .016). Thus, those individuals who answered more calls were significantly less likely to have been rearrested for a felony and had significantly fewer rearrests for felonies.

Table 7 about here

Discussion

As noted earlier, in a previous evaluation of RealVictory on a small sample of 70 individuals, it was found that program participants recidivated at a lower rate than controls, exhibited more pro-social attitudes than the controls, and reported better employment histories than controls (Cherrington et al., 2011). In addition, program participants were arrested 51% less than control participants and had a longer average time to first rearrest (Burraston et al., 2012, Burraston et al., 2014).

The current study extended these earlier findings by using a larger sample and by examining Victory Seeker phone use in more detail. Using a sample of 144 juveniles, it was found that as the number of calls answered increased, the likelihood of a rearrest and the number of rearrests decreased slightly but the differences were not statistically significant. However, as the number of calls increased, the likelihood of a felony rearrest decreased significantly and the total number of felony arrests decreased significantly. These findings suggest that Victory Seeker may be a useful tool to reinforce and provide follow-up after treatment.

One of the questions about these findings is why use of Victory Seeker was associated with significantly fewer felony rearrests but not fewer other rearrests. Perhaps it is because desistance is a process that takes time and that process often includes some relapses. In the process of change, it is common for individuals to commit minor crimes or use drugs. They may be rearrested and receive some sanctions for their violations but then regroup and continue

toward long-term desistance (Terry, 2003).Thus, occasional lapses and rearrests may not indicate a permanent return to criminality. If individuals are able to refrain from major criminal activity, they may be able to change and achieve long-term desistance in spite of some temporary criminal lapses.

The findings indicate the importance of differentiating between minor (misdemeanor) and major (felony) arrests. Misdemeanor arrests such as shoplifting, truancy, or underage drinking generally represent less potential harm to self or others than being arrested for a felony. The fact that Victory Seeker was associated with fewer felony arrests but not with fewer other arrests is an important finding that needs further exploration.

One possible explanation relates to the frameworks for change described by Life Course Theory and Cognitive Transformation Theory. The combination of the cognitive-behavioral therapy training and the goal making process supported by Victory Seeker may help program participants to change the attitudes and motivations that guide their behaviors away from serious crimes, but may not be so persuasive as to prevent the participant from engaging in lesser crimes. Similarly, the consistent reminders granted by Victory Seeker reinforce the participant's openness to change identified as a component of change by Cognitive Transformation Theory. However, it is possible that when the participant creates their new identity, Victory Seeker is only able to influence that identity such that committing lesser crimes is still in harmony with that identity and remains a part of the identity. While committing more serious crimes has lost appeal, Victory Seeker may not overcome the temptation for the participant to engage in lesser offenses.

Earlier six key components of effective CBT programs were identified. Table 8 provides an assessment of the RealVictory program using the six criteria identified by Lipsey and

Landenberger (2007). The RealVictory program included all six of those components as shown in Table 8. The Victory Seeker aspect included four of the best practices they identified. First, Victory Seeker reinforced the need for the participants to consistently evaluate their thoughts and plans. The daily calls provided a daily reminder of their goals and required a daily report on how they were doing. Second, Victory Seeker helped tailor the program to their individual needs. During the program participants set individual goals based on what they felt they desired to change. Furthermore, they decided for themselves how they would use Victory Seeker and the content of the questions they were asked during their calls. Third, the Victory Seeker program was intensive in that participants received two calls per day over a year. Fourth, the Victory Seeker program was consistent in that participants were called and asked about their progress daily over a year. The fact that Victory Seeker conformed to these criteria helps explain why the number of calls was associated with fewer felony arrests.

Table 8 about here

Victory Seeker also conforms to a number of aftercare best-practices identified by Altschuler and Brash (2004). For example, they recommended that the goals of aftercare be evident to the care recipient, and that the intensity of the aftercare should vary depending on the recipient's need. Since the goals set in Victory Seeker were developed by the participants themselves, they were clear to the participants. In addition, the participants were able to choose how many calls to receive each day and they could request changes to that schedule as desired. Effective aftercare also requires consistent effort (Dum & Fader, 2013); the automated nature of the phone coach lends itself to consistency, as noted above, as long as the participant's phone is with them, charged, in working order, and has reception. In addition, the impersonal nature of the

Victory Seeker phone coach is an advantage since the delivery of aftercare is not subject to worker burnout and does not rely on any worker training or investment.

In an attempt to understand how the participants perceived the program, exit interviews were conducted among participants after they completed the RV program. A number of participants commented on how the phone coach was a useful reminder that helped them at key decision points. The following are three illustrative comments participants made about the phone calls:

> It was a constant reminder—twice a day. They would call and if I'm in a position to go one way or the other, they're calling and putting me in my place. It made me think, 'I shouldn't go that way.' It really, really was effective.

> It's like a reminder and it also reminds me of where I was too, so I don't go back. That's another big thing. Because once you get out of treatment, you kind of forget where you were and then with those phone calls it helps you like, 'yeah, I remember that.'

> I had the phone, I felt like I had to be responsible. I couldn't let these people down who were letting me have a phone.

The following themes emerged from the exit interviews and helped explain why the program was effective in reducing serious crime: Victory Seeker (1) provided effective aftercare support, (2) encouraged participants to set manageable goals, (3) facilitated support from friends and family, (4) helped participants to feel accountable to themselves for their actions, and (5) provided a reminder about goals and choices These themes are consistent with the desistance process described in the Cognitive Transformation Theory (Giordano et al., 2002) and Life Course Theory (Laub & Sampson, 2003). The program appears to provide support and encouragement that may help participants refrain from serious criminal activity.

Participation in Victory Seeker also has the potential to reduce costs if adopted more widely. Expenses for RealVictory are lower than for programs that require facilities and trained professionals. The program's reliance on cell phones does require an expense for hardware and ongoing phone service, and the program hinges on the willingness of the participants to keep their phone charged, in good working order, and in a service zone. Still, these are relatively minor requirements and costs and in today's society many individuals already have a working cell phone. The combination of lower felony rearrests and the low costs of the program indicate that the RealVictory program may be a useful tool for helping individuals change and reduce criminal involvement if the program becomes available to more people.

Limitations

This research has several limitations. First, the major limitation is the possibility of selection bias. Although the participants were encouraged to answer their calls, they were free to answer or ignore the calls. Some participants were much more involved in the phone coach than others. Unanswered was the question of whether the reductions in felony arrests were due to involvement in the Victory Seeker program itself or to other characteristics. It is possible that an unmeasured characteristic or set of characteristics produced higher phone use and lower recidivism. If this were the case, then the reduction in recidivism would be due to the participant characteristics rather than to the phone coach. The control variables were designed to minimize this possibility. Thus, the association between number of calls answered and recidivism existed after controls for criminal history, age, gender, race, and program type. Future research is needed to rule out more fully the possibility of selection bias.

Even if selection bias existed, involvement in Victory Seeker might serve as an effective signal for change. That is, being able to identify people who are less likely to recidivate is

valuable information even if the lower recidivism may be caused by characteristics other than Victory Seeker itself. One of the major issues in research on recidivism is how to get and keep people in treatment or how to identify those who can benefit from certain types of treatment (Bahr, Masters, & Taylor, 2012). Individuals who were involved in Victory Seeker and answered most of their phone calls were sending a signal that they want to change and may be ready to change (Bushway & Apel, 2012). This is valuable information in its own right. As noted earlier, there is evidence that change requires both personal motivation and social support (Davis et al., 2013). Those that answered their phone calls sent a signal that they are motivated and desire to change. This motivation along with the program support may help them achieve change. Victory Seeker at a minimum provided the vehicle for that signal of desire to change.

A second limitation of the current research is that, the participants were nested within three separate programs, (1) probation, (2) rural programs, and (3) secure care. Although program type was controlled in the regressions, more detailed analysis of how program type may influence the results would be helpful. Multilevel modelling is needed to adequately control for nesting effects (Singer & Willett, 2003).

Third, the RealVictory program was evaluated on a relatively small sample of 144 individuals from one state. It is possible that the results would be different among participants from different regions and subcultures. Further research on larger samples from different areas would be useful.

A fourth limitation is the reliance on arrest data. Much criminal behavior never comes to the attention of the police and even if it does, it may not result in an arrest. Furthermore, after some arrests the charges are dropped and no formal conviction occurs. While the case was made

previously for the selection of arrest data to define recidivism, that choice was made in recognition of the limitations of that data.

Conclusion

The purpose of this research was to evaluate the association of Victory Seeker use and rearrests. Using a sample of 144 juveniles, it was found that as the number of calls answered increased, the likelihood of a rearrest and the number of rearrests decreased slightly but the differences were not statistically significant. However, as the number of calls increased, the likelihood of a felony rearrest decreased significantly and the total number of felony arrests decreased significantly. The lack of aftercare is one of the major limitations of many existing programs. These findings suggest that Victory Seeker may be an effective and cost efficient tool that can be used to reinforce and provide follow-up after treatment.

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Table 1

Description of Treatment Participants

Program	Treatment
Probation	43
Rural Programs	34
Secure Care	67
Total	144

Table 2

Comparison of Criminal History of Program Participants

	Probation	Rural Programs	Secure Care
Prior Arrests	14.2	16.7	23.1
Prior Felonies	1.6	3.1	4.1

Table 3

Summary Statistics of All Variables

Variables	Mean	Std. Dev.	Range
Dependent			
Any rearrest	0.542	0.500	0–1
Total rearrest	2.063	3.733	0–21
Any felony rearrest	0.208	0.408	0–21
Total felony rearrest	0.264	0.555	0–2
Independent			
Number of calls answered (in 100s)	0.999	1.345	0–7.08
Control			
Age	17.058	1.349	12.78–20.45
Gender (Male = 1)	0.910	0.288	0–1
Race			
White	0.533	0.501	0–1
Hispanic	0.333	0.473	0–1
Other	0.126	0.333	0–1
# of pre-treatment arrests	18.892	12.183	0–70
# of pre-treatment felony arrests	3.187	3.478	0–17
Program			
Probation	0.299	0.460	0–1
Rural programs	0.239	0.459	0–1
Secure Care	0.472	0.501	0–1

$N = 144$

Table 4

Logistic Regression of Rearrest by Total Number of Calls Answered

Predictor Variables	Odds Ratio*	Robust Std. Err.	Probability**
Number of calls answered (in 100s)	0.899	0.123	0.435
Number of prior arrests	1.019	0.019	0.302
Gender (Male = 1)	1.369	0.846	0.612
Race			
White (reference)			
Hispanic	1.410	0.632	0.443
Other	1.813	1.060	0.309
Program			
Probation (reference)			
Rural programs	0.204	0.118	0.006
Secure Care	0.178	0.107	0.004
Age	0.949	0.180	0.782
_Constant	5.531	17.640	0.592

$N = 134$

*Odds ratios (OR) are the antilog of the coefficients and represent the change in odds of experiencing an arrest for a one-unit increase in the independent variable, net of controls. The OR may be transformed into a percent (1 - .899 = .101) which indicates that an increase of 100 calls would reduce the odds of an arrest by 10.1%, which in this case is not statistically significant.
**p-value

Table 5

Negative Binomial Regression of Total Rearrests by Total Number of Calls Answered

Predictor Variables	Incident Rate Ratio*	Robust Std. Err.	Probability**
Number of calls answered (in 100s)	0.920	0.063	0.222
Number of prior arrests	1.001	0.111	0.896
Gender (Male = 1)	1.250	0.383	0.468
Race			
White (reference)			
Hispanic	0.752	0.186	0.248
Other	1.196	0.385	0.579
Program			
Probation (reference)			
Rural programs	0.191	0.054	0.000
Secure Care	0.310	0.103	0.000
Age	0.647	0.069	0.000
_Constant	5749.000	10095.000	0.000

$N = 134$

*Incident rate ratios (IRR) are the antilog of the coefficient and represent the rate of change in arrests for a one-unit increase in the independent variable. The IRR may be transformed into a percent (1 - .920 =.08) which in this case indicates that an increase of 100 calls would reduce the rate of felony arrests by 8.0%, which is not statistically significant.
**p-value

Table 6

Logistic Regression of Felony Rearrest by Total Number of Calls Answered

Predictor Variables	Odds Ratio*	Robust Std. Err.	Probability**
Number of calls answered (in 100s)	0.650	0.129	0.030
Number of prior arrests	1.001	0.060	0.911
Gender (Male = 1)	2.671	2.740	0.338
Race			
White (reference)			
Hispanic	0.860	0.420	0.758
Other	0.691	0.537	0.634
Program			
Probation (reference)			
Rural programs	0.766	0.581	0.725
Secure Care	4.406	3.300	0.048
Age	0.747	0.176	0.202
Constant	10.680	41.000	0.537

$N = 134$

*Odds ratios (OR) are the antilog of the coefficients and represent the change in odds of experiencing a felony rearrest for a one-unit increase in number of calls, in this case 100 calls. The OR may be transformed into a percent (1 - .650 =.350) which indicates that an increase of 100 calls would reduce the odds of a felony arrest by 35%.
**p-value

Table 7

Negative Binomial Regression of Total Felony Rearrests by Total Number of Calls Answered

Predictor Variables	Incident Rate Ratio*	Robust Std. Err.	Probability**
Number of calls answered (in 100s)	0.662	0.113	0.016
Number of prior arrests	1.002	0.042	0.960
Gender (Male = 1)	2.904	2.802	0.269
Race			
White (reference)			
Hispanic	0.714	0.270	0.373
Other	0.580	0.370	0.393
Program			
Probation (reference)			
Rural programs	0.702	0.452	0.583
Secure Care	2.302	1.243	0.123
Age	0.720	0.099	0.016
Constant	26.900	65.630	0.177

N = 134

*Incident rate ratios (IRR) are the antilog of the model coefficient and represent the rate of change in felony rearrests for a one-unit increase in the independent variable. The IRR may be transformed into a percent (1 - .662 = .338) which indicates that an increase of 100 calls would reduce the rate of felony rearrests by 33.8%.
**p-value

Table 8

Comparison of CBT Best-Practices and RealVictory

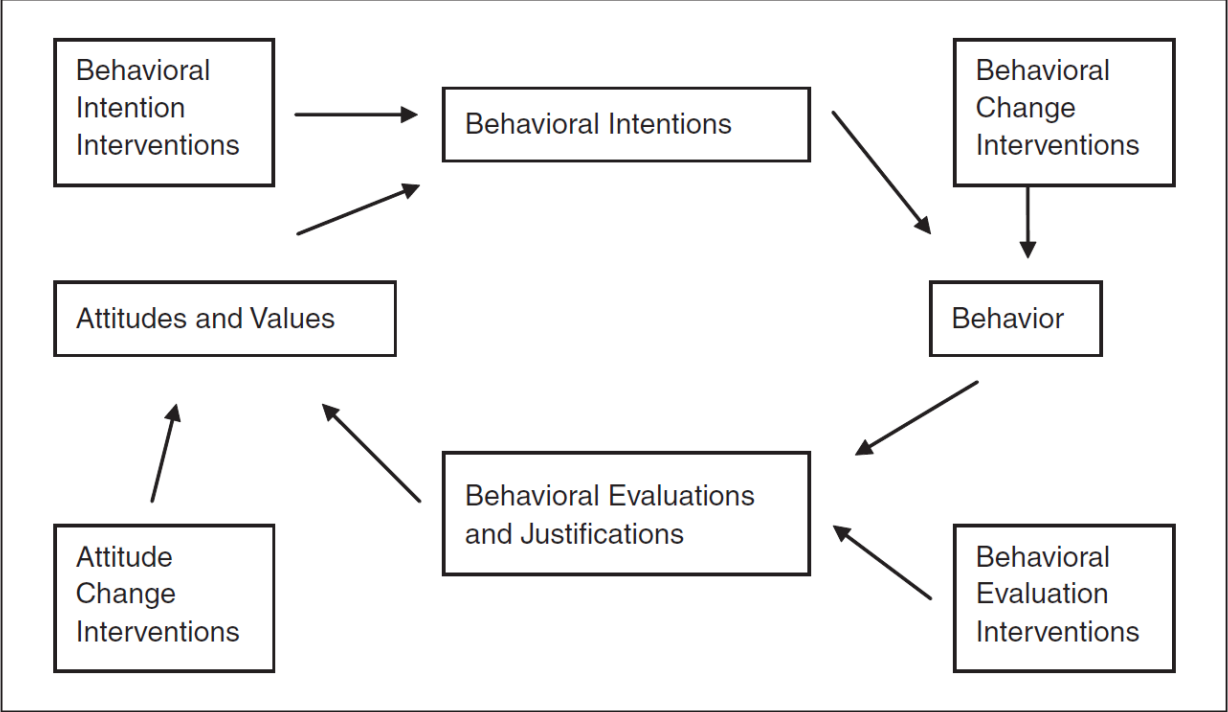| Criteria for Effective CBT	RealVictory Response
Focus on thinking patterns and skill development	Curriculum based entirely on evaluating and changing thoughts
Target high-risk offenders	High-risk offenders are included in the participant population
Focus on specific needs of offenders	Offenders are guided to define their own needs for themselves
Intensive in nature	RealVictory curriculum plus phone coach participation puts total intervention at 12+ months
Implemented well	Program curriculum and delivery has been consistent throughout program's history
Conducted by trained therapists	One instructor has presided over all sessions throughout program's history

Figure 1. The Character Development Model

Figure 2. The Control Model