Coping with post-ceasefire violence

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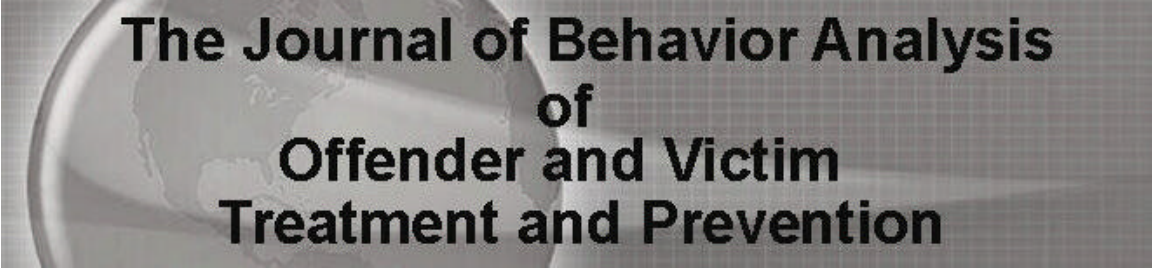**Queen's University Belfast - Research Portal:**
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Publisher's Statement

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The Journal of Behavior Analysis of Offender and Victim Treatment and Prevention (JOBA-OVTP) is published quarterly by Joseph Cautilli. JOBA-OVTP is an online, electronic publication of general circulation to the scientific community.

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Mission

The mission of The Journal of Behavior Analysis of Offender and Victim - Treatment and Prevention will be to highlight the role of behavior analysis in adult and juvenile crime prevention, assessment of offenders including risk assessment, and treatment programs from a behavioral orientation including but not limited to the use of behavioral counseling, collaborative goal setting, contingency management, functional assessment, functionally based interventions, respondent conditioning and counter conditioning procedures, functional analytic psychotherapy and acceptance and commitment therapy.

The journal will also place a major focus articles on that present behavior analytic and social learning models of the development of criminal behavior, the behavioral treatment of victims, victimology from a behavior analytic perspective, behavioral interventions for violent crime, functional assessment of offender motivation, and other types of criminal activity, including behavioral approaches to the reduction of terrorism and insurgency reduction. We see all of these topics as suitable for publication in this journal. In addition, the journal will publish articles on behavior analysis in the treatment of the offender that are policy oriented. Articles on forensic behavior analysis, testifying,

due process, and behavioral profiling of criminal behavior will be considered. Finally, organizational behavior management and positive behavioral support articles dealing with system change issues in schools and criminal institutions will also be considered."

The vision of the Journal of Behavior Analysis of Offender and Victim - Treatment and Prevention is as follows: By 2001, the Bureau of Justice Statistics estimated that 2.7% of adults in the U.S. had served time in prison. This is almost a full percentage over the 1.8% that were estimated to have served back in 1991. This dramatic rise in those serving in prisons speaks to the need to strong offender treatment and prevention programs. We envision a world in which evidenced based practices are in place to reduce recidivism and serve as a functional alternative to reducing crime.

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The Journal of Behavior Analysis
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All papers must be submitted in RFT format to the Lead Editor (Dr. Joseph Cautilli) via e-mail at jcautilli2003@yahoo.com. Papers may be submitted at the initiative of an author or in response to an invitation from the Lead or Associate Editors. All submissions are peer-reviewed and must be accompanied by a signed Assignment of Rights (AOR) form. A link to the AOR form is provided on the journal's website at the "Submissions" page.

After peer review and follow-up, all articles are copyedited. Authors have an opportunity to review and approve their manuscript prior to publication. Once approved, authors are responsible for all statements made in their work, including changes made by the copy editor prior to approval.

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* Manuscripts must be saved and submitted in RTF format.

* When there is a conflict between the requirements of APA style (see below) and the formatting rules listed here, the formatting rules will supersede the APA requirements.

<u>Manuscript Style Requirements:</u>

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General Guidelines for Preparing Abstracts:

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* An abstract may not exceed 960 characters and spaces (approximately 120 words). Characters can be conserved by using digits for numbers (except at the beginning of sentences); by using well-known abbreviations; and by using the active voice.

* Begin the abstract with the most important information, but don't repeat the title.

* Include only the four or five most important concepts, findings, or implications.

* Embed as many key words and phrases in the abstract as possible.

* Include in the abstract only information that appears in the body of the manuscript.

* For the sake of clarity, define all acronyms and abbreviations except for measurements; spell out the names of tests; use generic names for drugs (when possible); and define unique terms.

· Use the present tense to describe results with continuing applicability or conclusions drawn and the past tense to describe variables manipulated or tests applied.

* As much as possible, use the third person rather than the first person.

Abstracts for Empirical Studies:

    Abstracts for empirical studies are also generally about 100 to 120 words in length. They should include the following information:

* Problem under investigation (in one sentence)

* Pertinent characteristics of participants (e.g., number, type, age, sex, genus and species)

* Experimental method, including apparatus, data-gathering procedures, and complete test

* Names and complete generic names and dosage and routes of administration of any drugs (particularly if the drugs are novel or important to the study)

* Findings, including statistical significance levels

* Conclusions and implications or applications

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    Abstracts for review or theoretical articles are generally about 75 to 100 words in length, and they include the following information:

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* The purpose, thesis, or organizing construct and the scope (comprehensive or selective) of the article

* Sources used (e.g., personal observation, published literature)

* Conclusions

Thank you!

The Behavior Analyst Online Journals Department

Editorial: Behavior analysis's forgotten promise

Matt Tincani, Kirk A. B. Newring & Joseph Cautilli

In the 1960s and 1970s, behavior analysis strongly influenced the criminal justice field (Cautilli & Weinberg, 2007). The importance of behavior analysis was evidenced by numerous promising applications of operant conditioning with offenders and at-risk youth. Unfortunately, the following decades accompanied a decline in the application of behavior analysis with offender populations. The *Journal of Behavior Analysis of Offender and Victim Treatment and Prevention* aims to rectify the current situation by disseminating innovative research and applications of behavior analysis to minimize and prevent criminal behavior.

A closer look at the history of behavior therapy reveals the importance of behavioral approaches with offender populations. A recent meta-analysis of studies found that behavior therapy interventions produced the largest effect size over other treatments, except for cognitive-behavioral treatments[1], in reducing recidivism (Redondo-Illescas, Sánchez-Meca, & Garrido-Genovés, 2001). With special populations, behavior analysis has also produced some interesting and promising results. For example, behavioral interventions with sex offenders led to the reduction of deviant arousal (Marshall, Jones, Ward, Johnston, & Barbaree, 1991; Marshall & Barbree, 1988) with techniques like satiation therapy (Marshall, 1979), signaled punishment (Quinsey, Chaplin, & Carrigan, 1980), and covert sensitization (Grossman, Martis, & Fichtner, 1999). This reduction in arousal did not consistently coincide with reductions in recidivism (e.g., Rice, Quinsey, & Harris, 1991 found no effect), suggesting the need to improve these behavioral techniques.

Indeed, the third wave of behavior therapies may potentially address shortcomings of past behavioral approaches. For example, Wheeler and colleagues have demonstrated the applicability of Dialectical Behavior Therapy (DBT) approaches to empirically derive risk factors for sexual recidivism (Wheeler, George, & Stephens, 2005; Wheeler, George & Stoner, 2005). Newring and Wheeler have extended this approach with the inclusion of Functional Analytic Psychotherapy (FAP) as a component of sex offender treatment (Newring & Wheeler, in press). Acceptance and Commitment Therapy (ACT) may also be an appropriate intervention for sexualized misbehavior when that misbehavior is motivated by factors such as emotional avoidance and cognitive fusion (Penix Sbraga & Brunswig, 2003). Taken together, ACT, FAP and DBT can provide a behavior analytic roadmap for intervention based on empirically-derived risk factors.

Another special population in criminal justice is the substance abuser. Here again, first generation behavioral interventions produced noteworthy results. For example, the Community Reinforcement Approach (CRA) is a behavioral program for treating substance abuse problems with considerable empirical support (Smith & Meyers, 2000; Smith, Milford, & Meyers, 2004). The training of significant others to engage abusers has also been shown to reduce substance abuse (e.g., Kirby, et al., 1999).

These applications represent just a few of the areas in which behavior analysis has made a significant contribution to offender treatment and prevention. In the theoretical arena, behavior analysis has contributed to the development of models of antisocial behavior (Snyder, & Stoolmiller, 2002).

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[1] The rates for the cognitive behavioral and behavioral treatments were equal, which may suggest that the inclusion of the cognitive intervention was not additive to the overall effect.

Specifically, the role of coercion and negative reinforcement has been strongly established in offender behavior (Snyder & Patterson, 1995), and correlates with arrest rates two years post assessment (Snyder, Schepferman, & St. Peter, 1997).

A recent Pew Charitable Trust (2008) study found that one in 100 people in the U.S. are now behind bars. One in 35 individuals is involved with the criminal justice system in some way. Criminal acts also create victims, who may suffer for years after the event. If the goal of behavior analysis is to reduce human suffering (e.g., Hayes, Strosahl, & Wilson, 2003), then logic dictates the importance of the behavior analysis approach. While the cost of the suffering may be difficult to quantify, the consequences of victimization have been well described in behavior analytic terms (Pistorello, Follette & Hayes, 2000).

Several jurisdictions are demanding evidence-based accountability for taxpayer-funded programs, including prisons. In the state of Washington, legislators have mandated that prison programs be based on evidence-based best practices (Aos, Miller & Drake, 2006). Legislatively mandated program evaluation appears to be increasing, with evidence-based criteria playing a critical role in the funding of bills and programs. In reviewing the evidence base and cost benefit of their sex offender treatment program, Marshall, Marshall, Serran and Fernandez (2006) estimate a "financial saving to society of approximately CAN $1,395,000 per year" (p. 94). We are hopeful that behavior analysts will help lead the way in discovering cost effective, evidence-based practices for the prevention and treatment of criminal behavior, as well as effective treatment for the victims of criminal behavior.

The first volume of *Journal of Behavior Analysis of Offender and Victim Treatment and Prevention* represents a major step towards discovering and disseminating behaviorally-based approaches with offender populations. For example, MacKain and colleagues explore the effects of behaviorally-based self-medication training for mentally ill inmates in their article, *Medication Management Skills for Mentally Ill Inmates: Training is not Enough,* while Resor and Blume review behavioral approaches to treat offenders who abuse drugs in their piece, *Treating Substance Use Disorders in Offenders*. In the conceptual area, Dillenburger's article, *A Behavior Analytic Perspective on Victimology*, explores factors that affect the risk and resiliency of crime victims, while Collie and her colleagues detail an innovative approach in their piece, *Assessment and Case Conceptualization in Sex Offender Treatment.* We hope you enjoy reading these high quality articles as much as we did, and we look forward to receiving many more excellent submissions to the *Journal of Behavior Analysis of Offender and Victim Treatment and Prevention* in the future.

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A Behavior Analytic Perspective on Victimology

Karola Dillenburger

Abstract

The field of victimology has become an area of serious scientific enquiry only recently and now attracts a wide range of theories from within multiple disciplines. In this paper the contribution that the science of behavior analysis can make to the conceptualization of the field is explored by investigating what makes people vulnerable to becoming victims or indeed perpetrators of violence and by examining why some people who have experienced violent incidents become victims while others grow to be survivors. A behavior analytic perspective sheds new light on these issues.
Keywords: behavior analysis, victimology, Northern Ireland, victim, survivor, perpetrator.

Introduction

Victimology is defined as "the study of why certain people are victims of crime and how lifestyles affect the chances that a certain person will fall victim to a crime. The field of victimology can cover a wide number of disciplines, including sociology, psychology, criminal justice, law and advocacy' (Wikipedia, 2007). Victimology is also "the study of people who hurt others, and people who are hurt by others. Its subjects are bullies, rapists, molesters, batterers, gang leaders, terrorists, hate crime perpetrators, armed robbers, and their victims" (Ripple Effects, 2007).

As such victimology includes the study of particularly vulnerable groups of people; it explores prevalence of violent incidents; assesses profiles of victims and perpetrators; looks at the impact of violence on victims; patterns of disclosure; societal norms and values with regard to victims and perpetrators; legal status; and/or working and living conditions of those affected. Victimology also includes the study of victims of accidents, such as traffic accidents or house fires; natural disasters, such as floods, tsunamis, and hurricanes; war crimes, civil unrest, and terrorism; and more generally victims of abuse of power, such as sexual harassment or racial discrimination, as well as similar issues linked to perpetrators of violent acts.

The issues addressed in this paper relate to features that make people vulnerable to becoming victim or perpetrator and to factors that distinguish between people who have experienced violent incidents and view themselves as victims and those who view themselves as survivors. Although this is paper is mainly a conceptual/theoretical extrapolation of behavioral principles to victomology quotes from people affected by community violence in Northern Ireland are used to illustrate points made (Dillenburger, Fargas, & Akhonzada, 2007) and applications can be derived from theoretical investigations while empirical data to support this approach are emerging.

Becoming victim or perpetrator

There is evidence that some people are more vulnerable than others to becoming victims of crime, accident, natural disaster, or other violent events. Information regarding variables related to increased vulnerability is important as it may lead to the identification of factors that can protect people from victimization. For example, Loeber, Kalb, and Huizinga (2001) found that family factors including low socioeconomic status, parental crime, single-parent household, and poor

parental supervision as well as individual factors, such poor school grades, involvement in gang or group fights, participation in serious assault, drug use, drug sales, being oppositional, hyperactive, or impulsive, and association with delinquent peers were related to increased risk of victimization (Espiritu, 1998; Achenbach & Edelbrock, 1987). Conversely, stable family life, good supervision of children, good high school achievements, not being involved in unlawful behavior, and certain personality characteristics, such as locus of control orientation, and self-esteem are thought to be protective factors against the likelihood of victimization (Moran & Eckenrode, 1992).

Maybe not surprisingly, vulnerability (or risk) as well as the protective factors that are related to becoming a victim of violence are very similar to those of becoming a perpetrator of violence. Borowsky, Hogan, and Ireland (1997) outlined that factors such as experiencing intra-familial or extra-familial abuse, witnessing family violence, frequent use of illegal drugs, anabolic steroid use, daily alcohol use, gang membership, high levels of suicide risk behavior, and excessive time spent "hanging out" were found to be risk factors, while emotional health, connectedness with friends and adults in the community, and academic achievement were protective factors.

Race, social class, and gender are clearly important factors in the socialization and enculturation process (Gadner, 1997) of victims as well as perpetrators, although Alice Ray (Ripple Effects, 2007) found that these were not common distinguishing factors. Instead, she found that people who hurt others shared a skills deficit in the following seven areas; empathy, impulse control, management of feelings, especially anger and fear, assertiveness, decision making ability, self understanding, and connection to community. One of the most recent examples for the disastrous effects of socio-demographic risk factors and ensuing skills deficits, were the shootings in Virginia Tech, when a 23 year-old loner, whose socialization lacked all protective factors and who consequently had a massive social skills deficit, killed 32 fellow students and teachers, before committing suicide (BBC News, 2007).

A victim in Northern Ireland expressed this feeling as follows:

"My initial designation would be victim. I'm a victim not because I wanted to be a victim, I'm a victim because somebody else decided that I should be a victim … and my family should be a victim. It wasn't my choice at all. To me, the term victim encapsulates accurately what has been done to me and to my family."

Traditional theory

Theories of victimology first emerged with criminologists Mendelsohn (1963) and Von Hentig (1948). Both were particularly interested in the vulnerability of victims of homicides. Mendelsohn developed the idea of victim precipitation, i.e., the notion that victims had an aptitude, although unconsciously, of being victimized. Consequently, his classification of victimhood emphasised grades of innocence, with only one of the six types of victims *completely innocent*. The other types of victims were all in part to blame for their victimhood, i.e, the *victim with minor guilt* resulted from the victim's ignorance, the *victim as guilty as offender* was for example someone who assisted suicide, the *victim more guilty than offender* was the one who provoked violence, the *most guilty victim* was the one killed while attacking another, and the *simulating victim* was guilty of pretence. This typology still finds resonance in the perception of victimhood today, as one of the victims said:

"… there's victims and there's victims. To me, there's innocent victims, which my husband was and there's a lot of people that class themselves as victims, which I don't. And I think… the innocent victims should be looked after better by the Government."

At the same time, Von Hentig proposed a categorization of victims on the basis of their personality types. He thought that the easiest target was the *depressive type* because they were

careless and unsuspecting; the *greedy type* was easily deceived because of their insatiability; the *wonton type* was vulnerable because of their neediness, and the *tormentor type* was attacked by the victim of his abuse. In fact, Wolfgang (1958) took this typology further and hypothesised that victims oftentimes had unconscious desires that fed the crime, e.g., victims of homicide were unconsciously longing to commit suicide. Schafer (1968) took intra-psychic explanations of victimhood even further when called his book *The Victim and His Criminal.* Again, such sentiments are still present today as this statements from a victim illustrates:

> *"I must have done something awful bad in my youth because why would God be punishing me like this."*

One would expect that this kind of *victim blaming* is considered entirely unacceptable nowadays. Yet, some of the main theoretical underpinnings of these kinds of intra-psychic explanations still dominate the field. For example, Luckenbill (1977) proposed the still widely used *Situated Transaction Model* that suggests that it is a contest of character between victim and criminal that leads to the commitment of a crime. While Cohen and Felson (1979) developed the *Routine Activities Theory* that states that violence requires three conditions; suitable targets, motivated offenders, and the absence of guardians. In addition, they recognised that victims oftentimes experience propinquity (e.g., similar socio-demographic characteristics) and relative physical proximity to the perpetrators of the violence. In a similar vein, the *Lifestyle-Exposure Theory* (Hindelang, Gottfredson, & Garofalo, 1978) suggests that the likelihood of becoming a victim is related to lifestyle choices of the victim. Quinn, Holman, and Tobolowsky (1992) describe the *Threefold Model* that outlines three conditions that support crime: precipitating (e.g., time and space), attracting (e.g., choices, options, lifestyles), and predisposing (e.g., sociodemographic characteristics) and these are reflected in the thinking of some victims:

> *"I could have accepted it if my husband wasn't innocent. He wasn't out murdering in the streets every night. He was out working every day. He was too tired to go on the streets. He did not choose his life, he did not choose to be murdered."*

In conclusion then, most existing theories in victimology borrow concepts from three categories; *psychopathology*, where the victim is somehow viewed as disturbed and virtually inviting violence; *feminism*, where the victim is viewed as historically socialised into accepting violence, and *traditional learning theory*, where acceptance of violence is thought to be either enabled by a mutual disinhibition cycle between victim and perpetrator or encouraged via learned helplessness (Seligman, 1991).

Meier and Miethe (1993) found that maturation of any of these theories has been hampered by inadequate attention to variations of behavioral variables, "compartmentalized thinking, poor links between theory and data, inadequate measures of key concepts, and failure to specify clearly functional relationships between sets of variables" (p. 459). Behavior analysis offers a knowledge base that has matured past these kinds of limitations and meets the keystones of good theories; generality (or inclusiveness); testability (including empirical and logical support); external validity (or accuracy); fruitfulness (or utility); simplicity (or parsimony) (Schlinger, 1995).

Behavior analysis

Behavior analysis is the science of behavior and its subject matter is "behavior in its own right" (Skinner, 1989); in other words, behavior analysts study interactions between organisms and environment (Baer, 1973). The main focus is the study of public as well as private behaviors of organisms, how these are controlled by environmental contingencies, and therefore how changes in behavior can be predicted, if enough is known about environmental events (Moore, in press). This inductive, natural science approach differs from the deductive social science approach of other fields in psychology or sociology, where generally theories are proposed and hypotheses are tested. Behavior analysis thus deals with behavioral phenomena and aims to discover laws of

nature. It is important to remember that in this context behavioral phenomena include publicly observable (e.g., walk, talk, cry, laugh) as well as private events (e.g., emotions and cognitions) that are only observable by the person who experiences them.

Behavior analysts generally consider at least three interconnected levels of analysis; the *personal learning history* of the organism, the *prevailing contingencies* to which the organism is exposed, and the prevailing *cultural or meta-contingencies* (Glenn, 1988; Moynahan, 2001). These three levels of analysis apply to any behavior and therefore offer a coherent system of analysis for the behavior of victims and perpetrators.

Personal learning history

Personal learning history refers to how private and public behavioral repertoires are shaped across the life span of an individual, from the cradle to the grave. As this shaping process is ongoing at all times, it is ever evolving and changing. Thus, a person's behavioral repertoire is constantly changing. People acquire new repertoires and old repertoires 'drop out' across the life span. For example, many baby behaviors change once the child starts going to school or behaviors acquired for competent performance in a work setting are no longer required in retirement and as a result disappear.

Social and demographic variables play a large part in personal learning histories, so do family composition, sibling order, and parental employment situations. In addition, gender and time (i.e., age) make a difference, for example, in Northern Ireland the vast majority of those killed in the Troubles were young men (Dillenburger, 1992). Gender specific learning also seems to make a difference in coping, as boys usually are shaped to become men who are brave and respond to violence with deeds or stoicism while girls generally are shaped to become women who are more likely to become carers of the injured and respond passively. As Morrissey and Smyth (2002) put it, women learn to suffer in silence.

At the same time there are, of course, other individual differences. Some people have a personal learning history (Roediger, 2004) that makes them more vulnerable to falling victim of crime or becoming a perpetrator of violent acts than others. For example, on a macro scale, a history of child abuse and neglect usually leaves the individual more vulnerable, deprivation or poverty experienced over a lengthy time period increases vulnerability. On a micro level, patterns of behaviors are established that make people more vulnerable, e.g., certain ways of walking, talking, conducting oneself can invite or fend off potential attackers. Take, for example, someone how takes self-defence classes. This person will conduct himself differently than someone who feels weak and vulnerable, because they lead a sedentary life style, are physically unfit, or unwell. An older person will be more vulnerable to certain crime than a younger person, while teenagers who have been brought up in violent circumstances may be more vulnerable to shootings or knife crime than teenagers who a brought up in stimulating environments that promote healthy habits or hobbies. In addition, social learning variables, such as imitation and peer pressure have been found to account for significant variations in vulnerability (Schwartz, Garmling, & Mancini, 1994). As such, individual learning histories differentiate between victims and non-victims as well as perpetrators and non-perpetrators.

Prevailing contingencies

Prevailing contingencies are situational factors, contingencies of reinforcement that are present at the time of the violent event. The kind of event that can be considered violent differs vastly and ranges from violent homicide, terrorist attacks, grievous bodily harm (GBH), street fighting, domestic violence, sex abuse, theft, natural disasters, to verbal abuse and viewing violence on television.

Prevailing contingencies are obviously highly important when it comes to vulnerability for victims or perpetrators of violence. Contingencies that prevail at the time of the event include *antecedents*, such as time of day, e.g., most crime is committed at night time, after dark; place, e.g., most personal theft is committed in crowded places, most house burglaries are committed in built-up areas and suburbs; and company, e.g., most crimes are committed by a very small number of people who move in certain circles.

Prevailing contingencies also include *consequences*, such as instant gratification of a theft, or potentially punitive effect of personal injury. From a behavior analytic view, victim as well as perpetrator behavior is elicited by prevailing contingencies of reinforcement and punishment, however, this is not necessarily a linear process, as the behavioral interaction between victim and perpetrator will influence the sequence of behaviors; the behavior of one will provide antecedent as well as consequent stimuli for the behavior of the other. As such, during the violent event, victim as well as perpetrator behavior is determined by contingent and functional relationships between a complex net of proximal antecedent and consequent stimuli.

Cultural or metacontingencies

Cultural or meta-contingencies exist over prolonged time periods and shape behaviors that are passed from one generation to the next. "Culture is learned; … is it is not encoded in the human genome. It's socially created" (Avruch, 2003). The culture in which we live will determine the level and likelihood of violence experienced. This is due to the cultural differences (Mattaini, 2001; 2004) and the fact that perpetrators as well as victims experience a lifelong process of enculturation. "Enculturation is the process whereby an established culture teaches an individual by repetition its accepted norms and values, so that the individual can become an accepted member of the society and find their suitable role. The six things of culture that are learned are: technological, economic, political, interactive, ideological, and world view" (Wikipedia, 2007).

"Ok, I am a victim, you made me a victim, but I'm not going let you beat me, I'm going to go on. And I'd prefer seeing them in the gutter, they would love to see me in the gutter. So, that's the way I would look at it. And that would make me rising above them, would make me a survivor."

In this context, the term cultural difference does not refer only to distinctive inter-cultural differences, such as for example those between Asian and European cultures or between different religious cultures, it also addresses intra-cultural differences. Intra-cultural differences exist between different social economic classes (e.g., working class/middle class culture) or demographic areas (e.g., urban/rural). In addition, there are gender- and age related cultural difference, like pop culture, or the culture and atmosphere in a residential facility for older adults.

Clearly, cultural contexts determine whether an individual or group is more likely to encounter violent events. Violent cultures, such as those often experienced in inner city ghetto areas, will lead to more violent incidents, in other words, more violent behavior from perpetrators and consequently produce more victims. Certain intra-group cultures, for examples those promoted in some youth gangs, may idealise violence and encourage their members to engage in violence. Other cultures encourage the feelings of victimhood, for example, the Scottish (Kay, 2007) as well as the Irish (Ní Aoláin, 2000) have been accused of promoting a victims culture, where the behaviors involved in being a victim are reinforced.

In sum, the three levels of analysis described above allow for a coherent as well as comprehensive analysis of contingencies of which victim as well as perpetrator behaviors are a function, before and during the violent event. After the event, these contingencies will obviously continue to have a strong influence on subsequent behaviors, however, social contingencies will need to be added to the analysis of long-term effects. Consequently, Dillenburger and Keenan's (2005) D.I.S.C analysis considers the **D**eath (prevailing contingencies), **I**ndividual (learning

history), **S**ocial (subsequent shaping, generalization, and maintenance), and **C**ultural (meta contingencies) contexts in a thorough behavior analysis of victim and survivor behaviors.

Victim or survivor

The first step of a behavior analysis of what happens after the violent event, i.e., why some people become victims and some become survivors, is to identify and define what kind of behaviors victims and survivors engage in. The most common problems faced by over 75% of victims of violent events are emotional distress, including fear, anxiety, nervousness, self-blame, anger, shame and difficulty sleeping. If these kinds of behaviors persist for more than a month, Post-traumatic Stress Disorder (PTSD) may be diagnosed. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994, pp 247-251) outlines in detail the behaviors that are the basis of the diagnosis:

> "A- The person has been exposed to a traumatic event … that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others [and] … the person's response involved intense fear, helplessness, or horror.
>
> B. The traumatic event is persistently re-experienced in … recurrent and intrusive distressing recollections of the events … [or] dreams of the event. … acting or feeling as if the traumatic event were recurring. … intense psychological distress … [and/or] physiological reactivity on exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event.
>
> C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness, [3 or more; e.g.,] … avoid thoughts, feelings, conversions; … avoid activities, places, people; … inability to recall an important aspect of the trauma; … diminished interest or participation in significant activities; … feeling of detachment or estrangement from others; … restricted range of affect; … sense of foreshortened future.
>
> D. Persistent symptoms of increased arousal [2 or more, e.g.,] … difficulty falling or staying asleep; irritability or outbursts of anger; difficulty concentrating; hypervigilance; exaggerated startle responses".

According to the DSM- IV, a diagnosis should be made only if these behaviors persist for more than 1 month and if they cause "clinically significant distress or impairment in social, occupational, or other important functioning". PTSD is considered *acute,* if these behaviors persist for less than 3 months;? *chronic,* if they continue for 3 months or more; and *delayed,* if they emerge or remain at least 6 months after the traumatic event. The concept of PTSD is not without its critiques (Gilligan, 2006; Kutchins & Kirk, 1999; Jones, 2006; Spates, 2003; Summerfield, 1999), which is mainly due to over-diagnosis in minor cases of traumatization, e.g., diagnosis of PTSD after watching a violent TV dramatization; abuse of the term for unmerited personal gain; and inherent mentalism, e.g., having flashbacks is considered caused by PTSD. Stevens (2006) illustrates these points in Northern Ireland, "we all now have to present ourselves as victims. We can see the rise of competitive victimhood between the two main communities in Northern Ireland. So a culture of rights has the danger that it feeds into a culture of victimhood" (p.4).

> *"I wasn't attacked personally, but I was in situations where I was very close to attacks that have happened. I wasn't attacked physically but I feel that I was attacked psychologically, mentally, emotionally."*

From a behavior analytic point of view, the terms *victim* and *survivor* obviously are more correctly considered as descriptive *summary labels* (Grant & Evens, 1994) rather than explanations of behavior (i.e., she is behaving like this because she is a victim). This distinction

leads to an understanding of victims' and survivors' behavior as contextually determined patterns or repertoires of behavior that are shaped by reinforcement contingencies.

> "*I would be more a survivor now and I would have been more a victim years ago, but I suppose time would have helped.*"

One of the main problems in distinguishing between victims or survivors (Cairns & Mallet, 2003) is that there may not be much in the line of obvious and publicly observable behavior. Much of the difference between victims and survivors lies in private behavior, i.e., emotional or cognitive. Private events or 'Inners' are notoriously hard to measure (Calkin, 1981). To assess private behavior, we generally have to rely on how the individual describes their feelings or thoughts, i.e., verbal behavior, and Lloyd (1994) alerts us to the general lack of correspondence between what people do and what they say they do. If what we do and what we say we do is not corresponding, then one can safely assume that, what we feel or think and what we say we feel or think may not be corresponding either. This problem is further augmented by the difficulty of expressing precisely what we feel or think, a difficulty that lies in how we learn to label feelings and thoughts within the limitations of language (Keenan, 1997).

Establishing/abolishing operations

The violent event usually changes things for victims and survivors dramatically and forever. In the non-behavioral literature the 'social meaning' of violent events has been discussed in relation to violent death by Michalowski (1976) who found for example that despite the fact that violent death in motor accidents happens far more often than homicides, the latter are far more feared. In relation to Northern Ireland McLoone (1988) thought that the images that are used to portrait violence also play an important part in the development of meaning of violence. As one victim put it:

> "*Well, if you look at it clinically, I'm a victim, because I have been attacked. And I'm a survivor, because I wasn't killed.*"

The individual who experienced a violent incident feels differently, behaves differently, and relates differently to their environment and at the same time those around them behave differently towards them after the event. In behavior analysis, events that change things in this way are considered establishing and/or abolishing operations, in other words, motivational operations (Michael, 2000). Motivational operations are events that alter the reinforcing effectiveness of a stimulus and modify the current frequency of all responses that have been reinforced by that stimulus. For example, Sulzer-Azaroff (1999) found that "the experience of losing my husband must have functioned as an establishing operation, changing the value of some of those presumed reinforcing activities. While some persisted, gardening and music dropped out entirely" (p. 59).

As such the question of whether someone becomes a victim or survivor may depend on whether the event had an establishing or abolishing function. An event that leads to new reinforcers becoming available can be considered an establishing operation and lead to a greater variety of 'survivor behaviors'. For example, after the death of a husband who was afraid of flying, a widow may start to use airplanes to visit relatives that she has not seen for years (Dillenburger & Keenan, 2001). A victim in Northern Ireland described how she was availing of new reinforcers after the trauma:

> "*Am I a victim? Am I a survivor? Yes, I would be a survivor. I would go to hell and high water to survive. Life is good. There's people who obviously don't have the opportunity and the choices that I have, and I'm going to avail of anything that is there for me to improve my life.*"

If however, the event leads to the abolishment of reinforcers, the widow may not engage in behaviours that were previously reinforced and may experience restricted variability in behaviors in line with 'victim behaviors'. For example, music what was previously enjoyed with the husband now longer holds any attraction and the widow may listen to less music or no longer go to concerts that she previously enjoyed. Sulzer-Azaroff (1999) realized that "recognizing and availing myself of alternative reinforcing choices would hasten the recovery process" (p. 57-58).

Trans-generational transmission of trauma

Clearly, people who actually experience violence are not the only ones to suffer. In fact, there are instances where trauma is verbally transmitted or transmitted across generations. For example, in South Africa the issue of second-generation traumatization has come to the fore and Hamber and Lewis (1997) found that "[a]t times those vicariously traumatised can act-out victim-aggressor patterns or over-identify with victims". In Germany, the trans-generational transmission of the trauma of the Holocaust has attracted large-scale attention in post-war psychological research (Rowland-Klein & Dunlop, 1998). In cases where trauma is transmitted over many generations, this can grow into a culture of victimhood as shown in a number of contexts and cultures, for example, Dowty (2006) argues that a mentality of victimhood developed as a result of Israeli–Palestinian conflict, while Shanafelt (2004) outlines the potential for the development of such a mentality in African-American culture.

> *"And then even, children grow up with this fear that's not their fear, it's the person's fear who wants to be a victim. They carry it, and what does it do? It just goes round in a circle."*

However, the general concept of transmission of trauma has been critizised, for example, by Kohout and Brainin (2004) who considered that a "vague and almost mystic notion of transmission of trauma … has appeared in psychoanalytic literature" (p1261) that does not fit with the DSM-IV diagnosis which requires direct exposure to a traumatic event involving actual or threatened death or serious injury or a threat to the physical integrity.

For behavior analysts the concept of transmission of trauma is neither vague nor mystic and obviously concentrates on transgenerational transmission of victim behavior (private as well as public). Across generations this kind of behavior is largely transmitted by stories (Leonard, 2006) and thus determined by verbal behavior. Skinner (1969) pointed clearly to the difference between behavior that is shaped by contingencies and behavior that is verbally determined, when he said that rule governed behavior "is in any case never exactly like the behavior shaped by contingencies … [Even] when topographies of responses are very similar, different controlling variables are necessarily involved, and the behavior will have different properties. When operant experiments with human subjects are simplified by instructing the subjects in the operation of the equipment…, the resulting behavior may resemble that which follows exposure to the contingencies and may be studied in its stead for certain purposes, but the controlling variables are different, and their behaviors will not necessarily change in the same way in response to other variables" (p. 150-151).

As such the analysis of transgenerational transmission of trauma as rule-governed behavior is entirely feasible, as long as it is understood that the behavioral repertoire of the second generation is different from that of the first, who experienced violence first hand. This is recognised even by non-behavior analytic writers such as Halbwachs (1992), who agued that *historical memory* (i.e., transmitted) is not as rich and personally meaningful as *autobiographical memory* (e.g., experienced). In addition, behavior analysts working in the areas of modelling, imitation, schedules, and stimulus equivalence make valuable contributions to an even better understanding of transgenerational transmission of behavior (private and public), that explore and clarify functional relations, and take the concept truly out of a vague, mystic, and mentalistic world (cf. Dillenburger & Keenan, 2001).

Access to reinforcers

Consequently, traumatised individuals find themselves functioning in changed environmental contingencies, and these contingencies determine whether someone is a victim or a survivor. In a *Theory of Conservation of Resources*, Hobfoll and colleagues (Freedy & Hobfoll, 1995; Hobfoll, 1989) identify the role that access to resources plays in the differentiation between victims and survivors. They thought that there are at least five necessary key resource areas; *object resources* (e.g., "housing that suits my needs"); *condition resources* (e.g., "status/seniority at work"); *personal resources* (e.g., "sense of optimism"); *energy resources* (e.g., "financial resources"); and *feelings about self.*

> *"There should be more help for victims. It's not fair the way they are left. We didn't choose it, to be left on our own with no help, it wasn't there."*

> *"There is plenty of money but no husband."*

While Hobfoll and colleagues make important points, a behavior- or functional analytic approach can take their observations one step further. Clearly, those who have access to these key resources (i.e., reinforcers) are more likely to view themselves as survivors than those who do not have access to them. Consequently, even where resources were destroyed through violence (e.g., Tsunami or earthquake), those who can regain access to these key resources quickly are more likely to become survivors. As such Hobfoll's list of key resources could be viewed as a list of potential key reinforcers responsible for the behavioral differential between victims and survivors (Sturmey, 1996). To a large extent, the establishment of these reinforcers depends on the establishing or abolishing effect of the violent event mentioned earlier.

> *"That's one very, very, particular thing I'd love to see fun out there, for children, to do something with them, because not alone that, they deserve it, you know. It's only right that there should be something out there for them."*

However there is more to the story. It is a well-known fact that reinforcers are functionally defined as consequences of behavior that increase the future probability of the behavior in question. Yet, much of victim behavior is shaped by avoidance contingencies, i.e., is negatively reinforced. Blackledge (2005) explains, "The term experiential avoidance refers to any behavior, private or public, that functions to eliminate or attenuate aversive stimulation arising from emotions, cognitions, physical sensations, or other experiences. Such avoidance strategies can take a broad variety of forms. Behaviors as apparently diverse as physical avoidance, thought suppression, dissociation, rumination, mental undoing, drinking, drug use, distraction, numbing, inability (or unwillingness) to articulate details of the trauma, can be thought of as examples of experiential avoidance because they function to attenuate, eliminate, or stave off aversive emotions, cognitions, and sensations" (p. 454).

> *"My mum was saying at the time of C's death, how she thought of herself as a victim, … I was saying, 'Ach, for God sake wise up to yourself', hoping I wouldn't have to listen to that again."*

Behavioral economies

Whether resources (i.e., reinforcers) are established, abolished, avoided, or conserved determines the kind of behavioral economy experienced. Behavioral economics is the study of relationships between behavioral dimensions (e.g., intensity or frequency) and reinforcer dimensions (e.g., quality and amount, or unit price). In the experimental study of behavioral economics a difference is made between open and closed economies. *Open economies* are those where the reinforcers are available at all times, during the experimental situation as well as outside

the experiment, while in *closed economies* the reinforcer is only available during the experimental situation. "The closed-economy methodology extends the generality of behavioral principles to situations in which response rate and obtained rate of reinforcement are interdependent." (Hursh, 1984, p.435). Experimental results of this differentiation show that behavior in open economies is weaker, more flexible, and less resistant to change than behavior in closed economies, that is usually strong, relatively inflexible, and resistant to change (unless there are changes in the economies).

These findings have important implications in the understanding of victimology. Becoming a victim of crime, natural or man-made disaster means that previously open economies have become largely closed economies, since due to a range of factors (including avoidance behaviors), many reinforcers become only available in certain situations. These situations are usually coherent with the victim role and behavior. For example, compenzation is only available if suffering can be evidenced, in other words, compenzation functions as reinforcer for victim behaviors in a closed economy of victimology.

At the same time, a person who has suffered a violent event and does not get involved with victims' support is much less likely to benefit from social support. Within this closed economy there are high demand functions for reinforcers, in other words, there is a requirement of a large number or high intensity victims' behaviors in order to access reinforcers, such as compenzation, social support, or sympathetic responses from others.

> *"… if you can keep people in a state of victimhood, then they're no bother, you can do whatever you want and proceed with politics."*

The amount of effort needed to achieve a reinforcer is known as *demand function* and in the experimental chamber "[d]emand functions generated by operant conditioning techniques are used to measure animals' motivation to obtain a certain reinforcer" (Ladewig, Sørensen, Nielsen, & Matthews, 2002, p. 325). When these findings are applied to humans we find also that if the demand function is too high, performance will be adversely affected, while lower demand function will increase behaviors. For those who experienced violence, the demand function to receive reinforcers is lower for victim behaviors than for survivor behaviors, at least in the short term, thus there is higher motivation for victim behaviors than for survivor behaviors.

> *"But it's the people who want to stay negative and in a hole, the way to do it is 'I'm a victim and I lived through 30 years of the Troubles', I hate that. It was an awful time but now it's a good time, if people would just move on."*

At the same time, experimental research found that "[s]ince specific reinforcers allow the animals to perform specific behaviors, the method can be used to compare and rank different behaviors according to their importance to the animals" (Ladewig, Sørensen, Nielsen, & Matthews, 2002, p.325). As such, if we could rank different behaviors according to the importance for victims or survivors, we would find that at least initially victims behaviors would rank higher than survivor behaviors.

In most situations of violence, eventually there will be an insertion of resources. This could be in the form of individual compenzation, charitable giving, or Governmental funding, e.g., in Northern Ireland 44 Million Pound Stirling were spent on victims support since the Good Friday agreement (McDougall, 2006). Moynahan (2001) suggested that it is entirely possible that victim behavior rather than survivor behavior is reinforced in these circumstances (Dillenburger, Fargas, & Akhonzada, 2005). As such victims' behaviors are reinforced by what has been termed a "victims industry" (Best, 1999).

Does this mean that maybe we should not offer compensation, support, or empathy to victims? Of course not! Given that victims are likely to go through an extinction burst during the

early part of victimization, it is important not to prematurely punish or reinforce these behaviors. Extinction bursts are a natural part of the process that victims go through after the event and therefore need to be managed carefully (Dillenburger & Keenan, 2001; 2005). If managed successfully, contingencies change and consequently victims will grow to become survivors (Joseph & Linley, 2004).

> *"I would have called myself a victim but I think now, going through all what I've gone through with the group and the program... I would like to think I am a survivor."*

> *"I felt a victim when the feud was going on. When the feud is over, I gather myself together and feel like I'm a survivor. But then, if something happens tomorrow, I would feel like a victim again, you know. So, you are moving from one to the other."*

On the other hand, if the extinction burst is not handled well, or repeated violent events are experienced, victims may get stuck in victimhood.

> *"I would like to think I'm both [victim and survivor]. One, I had a number of incidents where my wife and I had our own house blown up and wrecked through a bomb that was dumped down, along with quite a number of other houses ... But due to my illness, which obviously made me a victim, I would categorise myself as a victim of the Troubles, but also a survivor because, because I mean I'm able to talk about it. Sadly, quite a number of victims haven't been able to reach that stage."*

Conclusion

In this paper we have outlined a behavior analytic view of victimology. We have done this by considering two main areas. First, we looked at protective and vulnerability factors for victims and perpetrators and then we looked at reasons why some people who experience violence become victims while others grow to be survivors. We outlined behavior analytic principles that underpin the understanding in each of these areas. We found that the range of factors that determine whether someone becomes a victim or a perpetrator include the personal learning history, prevailing contingencies, and cultural context. While obviously these factors also influence whether someone who has experienced violence becomes a victim or survivor, there are a number of other factors that are important here. These include the nature of the event, the effect the event had on motivational operations, and the nature of the behavioral economy after the event. Closed economies lead to less flexible behavior that is more resistant to change and may typify victim behaviors while open economies produce more flexible and variable behavior that is more likely to be described as survivor behaviors.

In a nutshell, a behavior analysis of vicitmology is based on event related, individual, societal, and cultural contexts that determine actual behavioral repertoires (public as well as private) (Dillenburger & Keenan, 2005). As Skinner (1980) said some time ago: "One can picture a good life by analysing one's feelings, but one can achieve it only by arranging environmental contingencies" (p.127). A behavior analysis of victimology acknowledges that violent behaviors are a function certain personal learning histories that evolved within cultural contexts and culminate in specific prevailing contingencies. Violent events in turn constitute establishing or abolishing operations for behavioral economies of which ultimately victim, survivor, and perpetrator behaviors are a function and subsequently become integrated into behavioral repertoires and personal learning histories.

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Treating Substance Use Disorders in Offenders

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Abstract

This article describes treatment modalities used in incarcerated populations with substance abuse or dependence disorders, a group that comprises a substantial proportion of individuals in the U.S. prison system. Approaches to treating adult offenders are reviewed from a behavioral perspective. The theoretical development of substance abuse treatment from a time in which addicted offenders were often thought to be untreatable to current evidence that treatment can lead to several improved outcomes among substance using offenders is described. Through a comprehensive literature review, empirical evidence is examined for widely used behaviorally based programs designed to treat offenders with substance use disorders.
Keywords: Substance use treatment, offender rehabilitation, therapeutic communities, drug court

Introduction

Over 7,000,000 adults in the United States actively participate in the criminal justice system; approximately 5,000,000 people are on probation or parole and approximately 2,000,000 are inmates in prisons and jails. These numbers have been steadily increasing over the last two decades (U.S. Department of Justice (USDOJ), 2007a). Department of Justice statistics show that nearly one third of all federal and state inmates in the United States committed their offenses while under the influence of a psychoactive substance with between 14-19% of all federal and state inmates being held for violations of drug laws (USDOJ, 2007b), and substance abuse has been shown to predict recidivism in some cases (Dowden & Brown, 2002). Over one fourth of federal and state offenders incarcerated for violent crimes and over one third incarcerated for property offenses reported substance use at the time of the offenses (USDOJ, 2007b). The numbers intoxicated at time of violent and property offenses appear to be much higher for inmates in local jails (USDOJ, 2007d). In addition, drug testing of local jail inmates has resulted in about 10% testing positive to substance use during incarceration (USDOJ, 2007c).

Evidence suggests that substance use in prison is not typically an artifact of residing within a particular prison system but is based on individual factors leading inmates to seek out or exploit opportunities to use substances while incarcerated (Gillespie, 2005). One such factor may be dependence on substances. While jails and prisons assess for physiological evidence and effects of substances, level of dependence typically is not assessed using clinically and empirically based techniques (Kubiak, Boyd, & Young, 2005). In this article we examine treatment of substance use disorders in adult offender populations. Along with ideological changes that have occurred over time in the U.S., efforts aimed at rehabilitating offenders who abuse alcohol or drugs have become more commonplace. Due to limited jail space and the costs associated with reincarcerating substance using offenders on multiple occasions, effective treatment for substance use disorders that can be delivered within the criminal justice system is warranted.

More than half of all federal and state inmates have reported drug use in the month prior to incarceration regardless of gender. Approximately one half of state and federal inmates met Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV, 1994) criteria for a substance abuse or dependence diagnosis, and about four in ten participated in some type of program intervening upon substance use during their incarceration (USDOJ, 2007b). Approximately two thirds of local jail inmates met criteria for a substance abuse or dependence diagnosis and approximately one half received formal

programs targeting the alcohol or drug problems (USDOJ, 2007d). Over the past few years, the trend has been for greater numbers of inmates to receive help for an alcohol or drug problem while incarcerated. The most commonly abused drugs by federal and state inmates were reported to be marijuana/hashish, cocaine (including crack), and stimulants (including methamphetamine; USDOJ, 2007b).

In the mid 20th century there was hope that even the most violent criminals with chronic and severe symptoms of substance use disorders could be rehabilitated, but in the 1970s a "Nothing Works" ideology emerged that concluded too much faith had been put in basic human nature (Lipton, Martinson, & Wilks, 1975; Wilson, 1975). This era was characterized by the belief that some drug dependent criminals were beyond rehabilitation. However, in the 1990s, firm believers that "Nothing Works" publicly rescinded their earlier pessimistic conclusions in the face of multiple sources of scientific evidence showing that these repeatedly violent offenders with substance use disorders significantly reduced their recidivism following treatment (Lipton, 1994). While large reductions in criminal recidivism and lower rates of substance use relapse can result from rehabilitation programs, only a minority of individuals in the criminal justice system who have substance use disorders receive treatment during their incarceration (USDOJ, 2007b & d). Substance users experiencing trouble with the law who become incarcerated are in a unique position to receive treatment services that they would likely not seek or receive under other circumstances (Lipton, 1994). Thus, an opportunity to decrease substance use and criminality is presented.

The imposition of criminal sanctions for substance use and possession, as well as laws prohibiting alcohol-related behaviors including driving under the influence and public intoxication, have contributed to the composition of current inmate populations. Public and governmental opinions vary regarding whether the large groups of criminal offenders with substance use disorders should participate in programs to treat their substance use disorders or if the focus of prison should be putative rather than rehabilitative (Pallone & Hennessy, 2003).

Treatment versus Punishment

Classical explanations for why people commit crimes posit that decisions to act are based on rational considerations of pros and cons of engaging in different behaviors (Torres, 1996). If potential benefits of a criminal behavior outweigh potential risks, then likelihood that the crime will be committed increases. This describes people's free will that allows them to choose whether or not to commit a criminal offense, thus punishment severity should fit the severity of a criminal behavior in which someone has chosen to engage in order to discourage this behavior in the future. A competing viewpoint is positivistic in nature and emphasizes the role of biological, psychological, and social processes in contributing to an individual's behavior (Torres, 1996). Since some of these factors extend beyond a person's control, such as inherited traits or societal economic structures, behavioral decisions are complex and the varying contributors to behavior should be considered in determining appropriate rewards or punishments. From this positivistic viewpoint the medical model developed, in which criminal offenders were described as disordered individuals in need of treatment, which ideally should be delivered in the communities where maladaptive behavior chains have been established.

One concern of critics of the medical model is the removal of responsibility from an individual who has committed a crime because the individual is viewed to be "sick" (Torres, 1996). Perceiving an offender in this way can compromise the application of behavioral principles to rehabilitation. Someone with a disease beyond her or his control cannot necessarily be held responsible for related actions; thus "working with" an offender (by means of reinforcing successive approximations toward the goals) is commonly favored over a strict system of reward and punishment. These flexible approaches commonly lack predictability and may be easily manipulated by offenders with low motivation to change behavior. Consistency in reinforcing and punishing behavior, however, can lead to adoption of desirable, adaptive

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behaviors more quickly than systems that do assume people with substance use disorders have a disease beyond their control. In addition, the behavioral model allows for skills training in treatment to increase skill repertoires of offenders.

Commitment to Change

A concern when working with offenders who receive substance abuse treatment is a lack of commitment to change. Some individuals in jails and prisons are told participation in treatment is required of them. Incarcerated offenders who are not mandated to participate in treatment may be given the option to take part in treatment or suffer stricter, lengthier consequences; this strategy effectively coerces many offenders to enter treatment (Klag, O'Callaghan, & Creed, 2005). Some researchers have concluded that those who enter treatment because of mandates or coercion may not only have outcomes as good as those achieved by voluntary participants, but outcomes for coerced participants may be even more positive (e.g., Goldsmith & Latessa, 2001; Hiller, Knight, Broome, & Simpson, 1998; Marlowe, 2001; Young, 2002). The mechanisms contributing to outcomes in coerced treatment have been questioned, with the element of coercion viewed in the context of other treatment components that may better explain why some studies have found coercion to lead to positive outcomes (Farabee, 2006; Marlowe, 2006; Prendergast, Farabee, Cartier, & Henkin, 2006; Stevens, McSweeney, van Ooyen, & Uchtenhagen, 2005). One explanation of this finding is that those who are coerced into treatment typically spend greater lengths of time in treatment than those who are not, and time in treatment is a significant predictor of treatment success. Other researchers have found mixed evidence attesting to the efficacy of coerced treatment of offenders and question the methodology of studies finding positive treatment outcomes following coercion (Klag et al., 2005).

In a study of 62 inmates coerced into community-based drug treatment, the effectiveness of involuntary treatment programs was investigated (Baird & Frankel, 2001). Inmates participating in these treatment programs were men with identified substance use problems and at least six months of their sentences remaining. Most had been incarcerated for drug-related offenses. They were referred from one county and one state correctional system in Philadelphia. Treatment consisted of individual and group therapy, in which inmates worked to identify ways they could break substance using behavior chains after they were released. Inmates also were encouraged to participate in 12 step programs and seek other external community support to aid in continuation of adaptive behavioral patterns following treatment completion. Inmates began treatment with limited access to external resources. Contingency management strategies were used that rewarded inmates for adhering to program requirements with employment or educational opportunities. As inmates advanced through the phases of the program, they were allowed to spend longer periods of time away from the treatment facility. They also began to formulate plans for living and working arrangements following treatment. Specifically, they identified potential barriers to continuing recovery and avoiding recidivism, and then identified behavioral choices they could make to avoid or overcome these barriers. Those who did not adhere to the community rules were punished by returning to the initial level of treatment where no unsupervised time in the community was allowed. In this evaluation it was shown that 64.9% of those who began treatment successfully completed. Researchers reported this as evidence of success of the overall structure of the program and suggested that further studies provide more in-depth examination of treatment components that are more efficacious (Baird & Frankel, 2001).

Motivational interviewing (MI) is a therapeutic method that can be used to increase offenders' commitment to change by helping them explore the pros and cons changing harmful substance use behavior (Miller & Rollnick, 2002). Resistance to changing and motivation to change are viewed not as characteristics of one's personality, but as changing states that may be affected by a number of factors. MI is based on five principles: 1) expressing empathy; 2) developing discrepancy; 3) avoiding argumentation; 4) rolling with resistance; and 5) supporting self-efficacy. These techniques are designed

specifically for individuals who may not be motivated to change and also may have negative attitudes toward treatment, characteristics that can make certain problem drinkers particularly hard to treat (Britt, Blampied, & Hudson, 2003).

Behavior change can be encouraged by applying MI principles to substance abuse treatment in a variety of ways. For example, supporting self-efficacy and reinforcing positive self-talk can increase the likelihood of maintaining desirable treatment outcomes (Moos, 2007). Substance abusers who believe they are capable of changing their behavior and express their commitment to making these changes have been shown to evidence greater rates of abstinence following MI (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003). MI can shape behavior through the use of reflections and summaries as well; these techniques can be utilized by therapists to help substance abusers increase awareness of discrepancies between their current behavior and their desired behavior and move toward changing present behavior patterns to more closely match goals. MI has been suggested as a practice that may be helpful for those who work with offenders on probation (Clark, Walters, Gingerich, & Meltzer, 2006; Harper & Hardy, 2000), and in some studies MI for substance use among offenders has specifically been examined.

Researchers investigated the effectiveness of a brief motivational interview in reducing alcohol abuse among 63 offenders charged with alcohol-related crimes (Sharp & Atherton, 2006). A key component of this intervention was the proximity of the motivational interviewing to the criminal offense, which assisted in emphasizing legal problems as a result of drinking. Six months following completion of their court cases, offenders participated in semi-structured interviews. The majority of participants ($n = 55$) reported making positive changes in their drinking habits following the motivational interviews. Through qualitative data it was demonstrated that participants felt surprised about the nonjudgmental approach of the counselors. They reported increased awareness of the connections between drinking and committing crimes, and they described learning new strategies for preventing such negative consequences.

Motivational interviewing may be used as a precursor to lengthier substance abuse treatment programs for offenders, or it may used as a stand-alone intervention. In an investigation of MI in addition to substance abuse treatment as usual, 96 offenders were randomly assigned to an MI session, a control interview session, or a no interview condition prior to entering the treatment program. Those who took part in the MI endorsed greater utilization of behavioral processes of change (e.g., counterconditioning, reinforcement management, stimulus control) one week following MI (Vanderburg, 2003).

In another study MI was implemented, focusing on individualized feedback and exploration of pros and cons of change in 73 substance abusing incarcerated veterans (Davis, Baer, Saxon, & Kivlahan, 2003). The primary aim of the MI was to encourage participants to seek substance use disorder treatment following their release. Participation in the MI condition was associated with greater likelihood of attending appointments at an addictions clinic (66.7 for MI vs. 40.5% for control; $p = .025$). An investigation of MI as a self-contained treatment modality utilized readiness to change in order to examine if the MI was successful (Ginsburg, 2001). The sample consisted of 83 male inmates with problematic drinking behaviors. Compared to the control group, participants who engaged in MI had significantly greater recognition of their drinking problems and were more likely to advance in their readiness to change these behaviors.

Using an MI framework, a study was conducted to pilot test a group for inmates with alcohol problems and learning disabilities (Mendel & Hipkins, 2002). The aims of the group were to increase participants' readiness to change their drinking behaviors, teach them to accept responsibility for their behavior and consider outcomes of drinking behavior, and train staff to reinforce change talk. Participants in the group were seven men with mild learning disabilities who were incarcerated for alcohol-related offenses and lacked commitment to change their drinking behaviors. Over the course of three meetings,

six of the seven participants advanced in their readiness to change drinking patterns and five participants evidenced increased self-efficacy regarding their ability to make changes.

Prior Reviews

In several reviews, the effectiveness of substance abuse treatment provided to criminal offenders has been examined. A meta-analysis in which treatment provided to this population between 1968 and 1996 was reviewed, most programs were found to employ TC, group counseling, or boot camps in treating substance abuse disorders among inmates (Pearson & Lipton, 1999). Results from boot camp studies were found to yield many methodological concerns and a lack of support for this treatment modality. Group counseling was based on general counseling traditions, often lacking in strong theoretical underpinnings that were applied in group settings. This method of treating drug use in offenders failed to meet criteria for indication of an efficacious form of treatment. Support was found for the effectiveness of TCs in reducing recidivism (Pearson & Lipton, 1999). Available data assessing efficacy of cognitive behavioral therapy was limited and not included in the analyses, but cognitive behavioral treatment was concluded to be "promising" and worthy of future assessment. In addition, there were insufficient empirical evaluations of 12 step programs, such as those focusing on practices utilized in Alcoholics Anonymous, to systematically examine the efficacy of these approaches.

Another review described the assessment of outcomes of cognitive-behaviorally oriented substance abuse treatment across 16 male correctional facilities and 4 female facilities (Pelissier, Motivans, & Rounds-Bryant, 2005). Equivalent reductions in rates of recidivism and relapse across treatment sites for males were found. However, in the female facilities examined, qualitative differences in outcomes were noted across sites. Global positive results were found for females, and site differences were thought to be partially explained by the examination of relatively few facilities with wide variance in how similar conceptual models were put into practice.

In a review of treatment services for offenders with comorbid substance use and mental health disorders, data were gathered from 20 treatment programs in 13 state correctional systems (Peters, LeVasseur, & Chandler, 2004). Programs were an average of 10 months in duration and were TCs that utilized cognitive behavioral approaches including behavioral contracts, reinforcement and punishment from staff and other inmates based on accountability, and staff modeling acceptable behavior. Manualized psychoeducational groups were held in most facilities. Common skills taught addressed managing anger and stress, handling triggers, and coping with other potential antecedents to relapse. Due to the community focused treatment orientation, some programs excluded inmates with histories of violence or escape attempts. Many programs offered reduced sentences as a reward for inmates who successfully completed treatment. Several other contingency management techniques were used offering incentives including desirable work assignments, housing separate from other prisoners, a variety of leisure activities, and desired foods. In TCs desirable behavior was rewarded with opportunities to advance to phases with more responsibility.

Drug Courts

Since the inception of Drug Treatment Courts in 1989, over 700 drug courts have been established in the U.S. as an alternative method of treating people charged with drug-related offenses (Nolan, 2002). In drug courts, a judge oversees a client's treatment program and often treats the client in a caring, therapeutic manner uncommon in typical criminal courts. Participation in drug courts often lasts for one year, at which time clients who complete the program participate in a graduation ceremony and receive incentives from the court. This modality of treatment may be offered as an alternative to legal consequences that offenders would otherwise face. Originally intended as a solution to criminal justice systems with more nonviolent drug offenders than resources to deal with them, concerns have been raised

that the manner in which drug courts encourage the adoption of the disease model of addictions (Nolan, 2002). Many drug court judges openly espouse the disease model. This may explain why nonviolent drug offenders are permitted to participate in drug courts rather than regular courts enforcing stricter penalties, while other non-violent offenders do not usually have the option go to specialized therapeutic courtrooms focused on their offenses. In the drug court setting, it is commonly presumed that drug-related criminal offenses are symptoms of illness, which results in offenders being treated in a manner that is very different from the way in which other offenders are treated.

Drug courts in the U.S. vary in strategies they use to promote desirable behavior (i.e., no drug use and no criminal activity). In an examination of five drug courts in Florida, a structure largely based on behavior modification strategies was described, with systems of sanctions and rewards used to encourage prosocial behavior and punish antisocial behavior (Lindquist, Krebs, & Lattimore, 2006). Interviews were conducted with 86 stakeholders yielding qualitative data that were used to compare drug courts to traditional courts. Results were found to indicate that drug courts used more sanctions and focused more on sanctions as a means of advancing individual treatment goals. Sanctioned behaviors include positive urinalysis or breathalyzer, skipping court or treatment activities, accruing new criminal charges, not having a job, and not having a sponsor. In response to these behaviors, individuals may be sent to jail for a brief time, they may be mandated to increase their treatment activities (e.g., attend more Alcoholics Anonymous meetings), do community service, or receive greater supervision. Rewards include advancing phases, praise from the judge, early graduation, and reducing court appearances.

A study was conducted to assess outcomes of graduates of a drug court in the Southwestern U.S. (McCarthy & Waters, 2003). This drug court focused on relapse prevention and preparing participants for varying situations they may encounter that could result in returning to drug use. Out of 64 total graduates, 29 agreed to complete surveys and interviews. Participants were contacted for data collection 18, 12, 9, 6 and/or 3 months following graduation. Archival data were available for seven additional graduates. Most graduates were able to follow the relapse prevention plans they had delineated as part of their treatment. Out of 36 graduates, 21 avoided relapse to drug use. Those who were successful after they graduated maintained strong relationships over time and worked to accomplish goals. This program was described as more cost-effective than incarcerating the offenders, since food and shelter were not provided, and rates of relapse and recidivism were concluded to be lower than for offenders who did not participate in the drug court.

Therapeutic Communities

Therapeutic communities (TCs) are long-term residential programs that focus on holistic health of communities and community members in the provision of substance abuse treatment (see Blume & Resor, in press, for a description). The roles and responsibilities of individuals in their communities, as well as relationships among all members of the community (including staff and patients), are considered key components of the therapeutic process. Personal investment is increased by involving community members in chores and responsibilities that help maintain all aspects of community functioning. Members are held responsible for maintaining structure, cleanliness, and order within the community. Fulfillment of responsibilities results in rewards such as advancing through the hierarchy to a phase that entails more privileges and freedom.

The theoretical bases of TCs have evolved over time, but commonalities can be found in the focus on behavior change in orientations based on social learning as well as those that focus on behavior modification (Frye, 2004). Substance use is seen as one of many potential symptoms of underlying psychological distress. Among correctional facilities that aim to treat and rehabilitate offenders, TCs are a relatively common approach. Pearson and Lipton (1999) conducted a meta-analysis of treatments for incarcerated substance abusers, reporting findings from seven TC trials. Positive effects of treatment on

reducing recidivism were found in six of the seven studies, with effect sizes ranging from *r* =.13 to .28. Only one of these studies was determined to employ solid research techniques; the effect size in this study was .16.

Since this meta-analysis, numerous articles have been published that describe the process and outcomes of offender participation in TCs. For example, in a recent study investigating criminal offenders mandated to TCs, results between those completed the program (*n* = 290) and those who dropped out (*n* = 116) were compared (Hiller, Knight, & Simpson, 2006). A random sample of 100 offenders from the same county who were not assigned to substance abuse was utilized for comparison. As expected, TC graduates were least likely to be rearrested during a two year time period following treatment completion; this significant group difference persisted after adjusting for pre-treatment group differences. Treatment drop-outs had higher rates of felony arrests during the two year assessment than treatment completers and those never mandated to treatment. Another study began with 715 participants randomly assigned to either a TC condition or a no treatment control condition (Prendergast, Hall, Wexler, Melnick, & Cao, 2004). Data collection occurred at multiple follow-up points. At five years post treatment (81% of original sample), the TC group was significantly more successful in terms of delaying or preventing reincarceration than those in the control condition. Participating in community-based treatment following TC completion led to the lowest reincarceration rates. Intent to treat analysis were conducted indicating minimal differences between the TC and control conditions on substance use and employment, but TC participants who went on to community-based aftercare evidenced less drug use and greater employment.

Participation in a TC following release from prison and preceding reintegration into the community has been shown to be effective over time (Butzin, Martin, & Inciardi, 2005). In a study comparing offenders assigned to a TC to those participating in a no-treatment work release program, interviews and urine screening were conducted at baseline as well as 6, 18, 42, and 60 months following baseline. Baseline data were collected from 1319 offenders and 1247 participated in subsequent interviews. Those in the no-treatment group were found to be more than three times as likely as the TC participants to relapse to substance use. When relapse occurred, time to relapse was approximately twice as long for those in the TC group. Results of this study can be used to support assertions that treatment provided immediately before offenders transition back into the community may produce better outcomes than TC participation during incarceration; this may be related to opportunities for reinforcing desirable behaviors that occur more closely to the time and settings in which temptation to relapse occurs (i.e., when behaviors are not controlled as strictly as they are during incarceration).

Several components of TCs are based on behavioral principles, including behavior modification; the behaviors of TC members (including staff) are treated as meaningful opportunities for modification and learning (Broekaert, van der Straten, D'oosterlinck, & Kooyman, 1999; Tomlinson, 2005). Essential in TCs is the environment, which is designed to examine risk factors and behavioral antecedents to maladaptive behavior as well as teach new skills in a setting that reinforces desirable behavior during skill acquisition (McFetridge, Morton, & Berg, 2006; Shine & Morris, 2000). For example, in examining offending behavior of incarcerated males, the focus of some TCs is traumatic events that may have led to criminal behavior and this information in used along with community norms to teach offenders to respond to antecedents using more adaptive behavioral skills (Tucker & Wylie, 2006). Another key component is the modeling that occurs when newer members of the community observe the behavior of staff and more senior members. Through social learning, this observation of desired actions leads to emulation of these behaviors as members of the community learn to act in appropriate and adaptive ways (Bandura, 1977). After skills are developed, TC residents work to practice these behaviors in settings outside of the TC in order to increase awareness of natural reinforcement that occurs in community settings in response to desirable behavior. During behavioral interactions between TC members, opportunities arise for senior community members to guide others in the examination of antecedents and consequences of behaviors

such as disordered eating (Jones, 2005), bullying (Stein, Hoosen, Brooks, Haigh, & Christie, 2002) or deliberate self-harm (Ward, 2004).

Special Populations

Sex Differences

While most prison-based TCs only serve male offenders, there is a clear need for women to have access to treatment for substance use disorders as well. In a study that investigated 1189 men and 300 women receiving substance abuse treatment in correctional facilities, women reported higher rates of identifying problems with their substance use behavior and lower rates of self-efficacy regarding ability to avoid relapse in tempting situations after release (Pelissier & Jones, 2006). Both men and women identified several coping strategies they used, although women reported greater use of accessing social support as a coping mechanism. As a result, it seems that behavioral strategies used to decrease substance use in offenders may be different for males and females. Since females were more likely to accept the severity of their substance use disorders, strategies designed to increase motivation to change substance using behavior may be more effectively utilized with males. Effective strategies for females may include bolstering self-efficacy through planning and practicing possible approaches to triggers and temptations (Pelissier & Jones, 2006).

A TC for women was implemented in Washington with a focus on addressing biopsychosocial contributors to and consequences of substance abuse through the use of behavior modification and other cognitive and behavioral strategies (Mosher & Phillips, 2006). Close to half (44%) of participants in the TC successfully completed treatment. Recidivism rates were lower than those found in controls, even when TC treatment was not completed. In a recent study in California, however, group differences in recidivism rates did not emerge between female offenders who participated in TCs and those who did not at six and twelve month follow-ups (Messina, Burdon, & Prendergast, 2006). One possible explanation for this lack of treatment effect is the failure of the traditional TC to meet the multifaceted needs of the women who are in these situations, highlighting the importance of tailoring substance use treatment in prison systems to meet needs of those who will be utilizing them.

Other research has been focused on the unique needs of female offenders and asserts that prison systems historically have not been geared toward treating women based on their needs. Some broadly used strategies, such as aftercare planning and teaching refusal skills, are incorporated among other programs less traditionally available to men, including teaching parenting skills and psychoeducation on safe sex and domestic violence (Baletka & Shearer, 2001).

Treating Dual Diagnoses

A study of 136 male inmates randomly assigned participants to a therapeutic community with a cognitive behavioral curriculum or mental health treatment (Sacks, Sacks, McKendrick, Banks, & Stommel, 2004). Therapeutic community participants were encouraged to challenge maladaptive behavior patterns, address inappropriate behavioral responses to various stimuli, and develop adaptive cognitive and behavioral coping techniques. Inmates in this condition who completed the program were offered entry into a residential aftercare program upon release. The mental health treatment condition included cognitive behaviorally oriented individual and group therapy addressing topics such as anger management and domestic violence by challenging motivation and justification for criminal behavior and teaching adaptive response patterns. Substance abuse intervention in this condition was centered on psychoeducation and relapse prevention. Mental health aftercare was offered in out-patient community settings. Participation in both conditions included psychotropic medication when pharmacotherapy was warranted. The focus on community and peer support differentiated the TC from the mental health

condition, and results indicated that participants in the TC condition evidenced significantly lower rates of recidivism one year following release from prison (9% reincarceration for TC group, 33% for mental health condition). Days until first crime and days until incarceration were greater for the TC group as well.

In another study, differences between participants with comorbid substance use and mental health disorders and those without dual diagnoses were investigated in 8850 male and female inmates (Messina, Burdon, Hagopian, & Prendergast, 2004). Of inmates participating in this study, 93% met criteria for a substance use disorder, while 26% also had a mental health disorder. Dual diagnosis inmates were found to have begun their sentences with more severe histories of substance use and criminal activity. Dual diagnosis inmates were found to have left aftercare sooner ($M = 4.3$ months in aftercare versus 5.1 months for non dual diagnosis inmates) and also had significantly higher recidivism rates (48% reincarceration for dual diagnosis inmates, 31% for non dual diagnosis). Treatment offered for those with substance use disorders included TCs, however the researchers in this study suggested a modified TC program could be warranted for these dual diagnosis offenders that would teach them skills specific to their behavior patterns.

Other Skills Training

Meditation is an alternative to other forms of treatment that has been examined as a strategy for treating psychological disorders (e.g., Grossman, Niemann, Schmidt, & Walach, 2004; Marlatt, 2002; Witkiewitz, Marlatt, & Walker, 2005). Mindfulness is a component of meditation in which non-judgmental attention to present internal and external states is the focus (Baer, 2003; Kabat-Zinn, 1994; Linehan, 1993; Marlatt, & Kristeller, 1999). Mindfulness techniques can be used in self-regulation of behaviors and have been incorporated into many substance use treatments, including relapse prevention (Marlatt & Gordon, 1985). Through non-judgmental awareness and assessment of current states, individuals can increase awareness of consequences that may result from engaging in certain behaviors (Linehan, 1993). Recognizing that behavior chains are modifiable and encouraging reflection about the present, and how it will affect the future, can facilitate behavior change.

In a meta-analyses conducted to examine the effects of mindfulness-based interventions aimed at reducing psychological distress and increasing quality of life in people with physiological and mental health disorders (e.g., cancer, chronic pain, depression, anxiety), the results from 20 studies with 1605 participants were aggregated (Grossman et al., f2004). Effect sizes were calculated and compared across different types of research designs. Effect sizes were similar at around .5 with homogenous distribution.

At the University of Washington, the first investigation of Vipassana meditation as a substance use treatment among prisoners in the U.S. was conducted (Bowen et al., 2006; Parks et al., 2003). Through Vipassana meditation, mindfulness and self control are taught to aid individuals in viewing themselves in a nonjudgmental way (Hart, 1987). Feelings and thoughts, such as craving of a drug, are treated as transient, and restructuring conditioned associations is a key component of the Vipassana meditation technique. The process of teaching the mind to react in an adaptive way to stimuli that have been conditioned to elicit certain responses can help people with substance use disorders learn to allow cravings and urges to pass.

The initial sample consisted of 305 inmates who either volunteered to participate in the Vipassana meditation or received treatment as usual (Bowen et al., 2006). Vipassana participants took part in a 10 day program in which they were separated from others and silently meditated for 11 hours each day. Three months following this intervention, data were collected from 87 participants who had completed treatment in either condition. When compared to their baseline data, Vipassana meditation participants reported significantly lower rates of using three out of four substances examined in analyses (i.e., alcohol,

marijuana, and crack) as well as significantly fewer consequences experienced as a result of alcohol use. Additional associations were demonstrated through a multiple linear regression in which levels of psychiatric symptoms were negatively associated with completing the Vipassana treatment; drinking-related locus of control and optimism were increased in this group. Through these studies it is shown that teaching inmates to break conditioned associations related to their substance use and manage cravings may be successful in reducing drug use, and additional positive effects may result in relation to psychiatric distress, a common concern among substance abusing offender populations.

The mechanisms through which meditation produces positive effects are not known (Roemer & Orsillo, 2002). Regarding mindfulness meditation for addictions, increased awareness of cravings as a trigger and awareness of behavioral responses to these triggers has been suggested as a means through which mindfulness can be used in treatment for substance use disorders (Groves & Farmer, 1994). This awareness may be used in the process of modifying conditioned behavioral responses (Witkiewitz et al., 2005). Counterconditioning can be achieved through the utilization of desirable results of mindfulness meditation (e.g., awareness and relaxation) as a positive reinforcement in place of drug use. Mindfulness also may promote relaxation and stress reduction skills that can help former substance abusers cope with situations or events that may have served as past triggers leading to substance use. The potential for relaxation has been demonstrated by studies of effects of meditation, which have shown that meditation can elicit physiological changes including slowed heartbeat and breathing (e.g., Lehrer, Sasaki, & Saito, 1999; Sudsuang, Chentanez, & Veluvan, 1991; Wallace & Benson, 1972). Research suggests that Buddhist monks and other trained meditation practitioners can condition themselves to control some physiological processes through meditation (e.g., significantly decreasing heart rate and respiration rates).

Summary and Conclusion

With growing prison populations and high rates of recidivism, it is necessary to address possibilities of rehabilitating offenders. Many individuals involved in the criminal justice system use substances, and many meet criteria for substance use disorders, although levels of dependence on substances typically are not routinely evaluated. Further, several offenders report intoxication during the commission of their crimes, and evidence shows that substance abusers do not necessarily discontinue drug use in prison. Clearly, the issue of substance use is a concern among offenders, and treating use that is harmful or associated with criminal activity has the potential to prevent future crime and other negative consequences of continuing use following release. Incarcerated substance abusers are in a unique situation where treatment can be provided that normally would not be sought out. At times this treatment is provided coercively, but offenders coerced into treatment often still experience desirable outcomes. In the past several decades variations in attitudes towards criminal offenders and their potential for rehabilitation have been evident, with the focus on empirical investigation in more recent years to examine programs that may result in positive outcomes for offenders and society as a whole.

Most formal treatment programs for individuals involved in the legal system consist of drug courts or therapeutic communities. The structure of drug courts can vary, but these settings are generally much more lenient than regular courts with the judge often taking on the role of a therapist or case manager for offenders. In most drug courts operant based systems of reinforcement and punishment are utilized to shape positive behavior change. Relapse prevention is included in some courts that aim to prepare offenders for successfully coping with risky situations. Empirical investigation of drug courts and outcomes is limited. Therapeutic communities are more widespread than drug courts and some success in reducing substance use and recidivism has been found, although further research incorporating higher levels of experimental control is warranted in this area. Other areas necessitating a closer look include treating groups of substance abusing offenders such as women and offenders with co-morbid mental health disorders that have received few targeted treatment efforts addressing their specialized needs.

Currently, new techniques for treating this population, such as Vipassana meditation, offer promise for the future of rehabilitating offenders.

Ideally, future treatment for substance use disorders in offenders will be shaped by empirical evidence. Expecting the majority of substance using offenders to voluntarily seek treatment may not be realistic, but taking advantage of the time during which prisoners are incarcerated in order to increase commitment to change and provide necessary tools can result in positive outcomes for offenders and the criminal justice system alike. To reduce substance using behavior, established behavioral principles can be utilized. For example, providing rewards such as material goods or privileges following desirable behavior can be used as a technique to modify reinforcement contingencies. Consistency in behavior modification strategies is essential in creating adaptive habits and routines in individuals who have learned to seek reinforcement through drug use. Providing offenders with skills to manage triggers (e.g., avoiding situations the person associates with using; carrying only small amounts of cash) and teaching new methods of obtaining reinforcement in the absence of substances (e.g., mindfulness meditation) can equip them to transition to less restrictive environments where triggers and opportunities to use may be more prevalent. Motivational interviewing is one technique that can be used as a brief intervention or a precursor to more lengthy treatment. Through MI, offenders can be prompted to examine the pros and cons of cessation and how congruent substance use is with goals for the future. Reinforcing change talk as it occurs can encourage thought processes that may lead to behavior change. Manualized, theoretically based treatment programs for offenders that shape and extinguish specific behaviors through the use of clearly delineated behavioral techniques are needed in order for best practices can be determined.

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Sexual Assault Prevention with College-Aged Women: Toward an Individualized Approach

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Abstract

Research has yet to find a practical solution for eliminating men's sexually aggressive behavior. As a consequence, identification of behavioral strategies that help women decrease their risk of sexual assault remains necessary. One of the most common strategies used to assist women in reducing this risk has been the utilization of sexual assault prevention programs on college campuses. Despite the proliferation of these interventions, few programs have been effective at decreasing rates of sexual victimization. Given that the mechanisms responsible for increasing women's sexual risk remain unknown, prevention programs likely include content that fails to target the relevant behaviors to reduce this risk. We discuss current sexual assault prevention programs for college-aged women, highlighting theoretical and methodological problems that are specific to these programs. We argue that one solution to these problems is for researchers to test theoretical models that specify the potential processes involved in sexual victimization, thus allowing the results of these studies to logically and empirically inform the content included in prevention programs. We describe our use of a social information processing (SIP) model to conceptualize and test these processes, as well as how the results of these studies may have direct and important prevention implications.

Keywords*: sexual victimization, revictimization, sexual assault prevention, social information processing.

Introduction

College women face many challenges during their undergraduate years. In a just world, these challenges, as well as their outcomes, would never involve physical or psychological harm. Epidemiological studies suggest, however, that an important challenge for college women is to avoid becoming a victim of date or acquaintance rape. In fact, 54% of college women report some type of sexual victimization since the age of 14, with 15% of these experiences meeting the legal definition of rape in most states (Koss, Gidycz, & Wisniewski, 1987). Regrettably, this victimization occurs at the hands of men that women know, with 80-90% of sexual assaults committed by dates or acquaintances (Koss, Dinero, Siebel, & Cox, 1988).

Recent research indicates that college women continue to report high rates of sexual victimization. Based on incidents of rape within a 1-year period, a national survey conducted by the National Institutes of Justice (Fisher, Cullen, & Turner, 2000) indicated that, over the course of a college career, approximately one-fifth to one-quarter of college women experience a completed or attempted rape. This study also found that other forms of sexual victimization (i.e., unwanted sexual contact, sexual coercion, and threats of rape) ranged from 9.5% to 66.4%, and that the overwhelming majority of victims knew the offender (Fisher et al., 2000).

Not surprisingly, sexual victimization has been linked to a range of negative psychological (Faravelli, Giugni, Salvatori, & Ricca, 2004; Thompson, Crosby, Wonderlich, Mitchell, et al., 2003) and physical (Conoscenti & McNally, 2006) consequences. One of the most serious of these is that once a woman is victimized, she is nearly twice as likely to be revictimized (Gidycz, Hanson, & Layman, 1995; Koss & Dinero, 1989). The reason for this remains unclear. Research has demonstrated, however, that certain health risk behaviors, such as drug and alcohol use and early age of onset for sexual intercourse are linked to sexual victimization (Brener, McMahon, Warren, & Douglas, 1999), suggesting that continued participation in such behaviors might place previously victimized women at increased risk for revictimization (Blackwell, Lynn, Vanderhoff, & Gidycz, 2004). Related research has shown that poor or deficient risk perception (Messman-

Moore & Brown, 2006; Wilson, Calhoun, & Bernat, 1999), anxious and depressive symptomatology (Gidycz, Coble, Latham, & Layman 1993; Sandberg, Matorin, & Lynn, 1999), the use of sex to gain social acceptance and self-confidence (Matorin & Lynn, 1998), and low sexual assertiveness and insecurity about relationships with men (Greene & Navarro, 1998) also are related to an increased risk of sexual victimization. Despite these, as well as other explanations, no risk factor has received unequivocal support. To date, the most robust predictor of women's sexual victimization is a past history of sexual victimization. This relationship explains little, however, as historical variables do little to explain why a behavior continues to occur.

By comparison, significant progress has been made in identifying factors that predict men's sexually aggressive behavior (Malamuth, 1988; Malamuth, Linz, Heavey, Barnes, et al., 1995; Wheeler, George, & Dahl, 2002). For example, recent research suggests that self-reported hostility towards women and sexual promiscuity (i.e., a pattern of engaging in impersonal sex) predicts sexual aggression in men over a 10-year longitudinal period (Malamuth, et al., 1995). Related research demonstrates that poor empathy for women, as measured by self-report attitudinal questionnaires, moderates this effect (Wheeler, et al., 2002). For women then, dating or engaging in other social interactions with men who exhibit such behaviors may increase their risk for sexual victimization.

The results of these studies, however, have yet to produce a viable solution for eliminating men's sexual aggressive behavior. Moreover, sexual assault prevention programs for men have not been shown to decrease men's self-reported rates of sexual assault (Yeater & O'Donohue, 1999; Schewe & O'Donohue, 1993). Even if an effective program existed, women would continue to come into contact with men who had not received the intervention. Thus, to protect women from harm, research that identifies behaviors that assist women in decreasing their risk of sexual assault remains necessary. In essence, this is a harm reduction approach, and one that is analogous to wearing seatbelts to avoid fatal car accidents or locking doors to prevent theft of private property.

Clearly, there are inherent difficulties in identifying behavioral strategies that will help women decrease their risk of sexual victimization. Nonetheless, the prevalence and consequences of sexual victimization necessitate a continued focus in this area, the goal being to improve the efficacy of sexual assault prevention programs. With these complexities in mind, the focus of the current paper is twofold. First, we review current sexual assault prevention programs for college-aged women, highlighting both the outcomes, as well as the theoretical and methodological problems specific to these programs. Our review includes terms for the psychological constructs used by the authors of these studies, the majority of which describe processes presumably occurring inside the individual. However, in the section immediately following, we provide an analysis of a contingency-based alternative for sexual assault prevention.

We chose to focus our review on programs developed for women, as opposed to mixed-gender and male-only programs, as extensive reviews of the latter are available (Blackwell et al., 2004; Schewe & O'Donohue, 1993; Yeater & O'Donohue, 1999), and because we believe that program development and evaluation in this area has been slower than that for mixed-gender and male-only audiences. We suspect that this may be due in part to obvious tension between teaching women behavioral strategies to prevent victimization, and alternately, not wanting to "blame the victim" if they are victimized. However, as we will discuss, there are clear disadvantages to targeting only men or mixed-gender audiences.

Second, we argue that one solution to the prevention problem is for researchers to posit and test theoretical models that specify the potential processes involved in sexual victimization, thus allowing the results of these studies to logically and empirically inform prevention program content. We describe the use of one such model in our own research, a social information processing (SIP) model (McFall, 1982), as well as how the results of basic research studies using this model may have direct, important, and ideographically-based prevention implications for college-aged women.

Overview

One of the most common strategies used to assist women in reducing their sexual risk has been the implementation of sexual assault prevention programs on college campuses. In part, these prevention efforts are a direct consequence of the Clery Act of 1990, which requires all colleges and universities that have financial aid programs to collect and disclose information about criminal activities that occur on or near their campuses. The goals of these programs are to reduce rates of sexual assault, as well as to prevent the negative psychological sequelae often associated with sexual victimization (Yeater & O'Donohue, 1999). While these are notable goals, methodological and conceptual problems specific to these programs make conclusions regarding their efficacy difficult. Although these problems have been described in detail elsewhere (Schewe & O'Donohue, 1993; Yeater & O'Donohue, 1999), a few of the main problems will be noted here, as they are related directly to the thesis of this paper.

First and foremost, only a minority of sexual assault prevention programs have been evaluated empirically (Gidycz, Rich, & Marioni, 2002; Yeater & O'Donohue, 1999). When they have been evaluated, researchers typically have done so by using a pre-posttest rather than prospective design. To complicate matters further, few psychometrically adequate dependent measures are available to evaluate these programs (Yeater & O'Donohue, 1999). When they do exist, it is decidedly unclear whether statistically significant changes on these instruments are, in any way, clinically meaningful. Given that the overarching goal of prevention in this area is to reduce new cases of sexual assault, evaluating these programs longitudinally with psychometrically adequate attitudinal and behavioral measures is necessary if we are the have any faith that our interventions will change theoretically important behavior.

Second, there exists insufficient information about what types of programming are preferable to participants, what behaviors are expected to change as a result of these interventions, and how long the changes can be expected to last. There also is little information about the types of psychological constructs and environmental variables that are most important to target in these programs. Indeed, content often appears to be included because it is face valid or "makes sense" (e.g., media influences on rape myths, information on sexual assault risk factors), and often without a sufficient rationale for how such content will affect behavioral change.

Third, it is unclear which gender to target in these programs. While men-only, women-only, and mixed-gender sexual assault prevention programs have been developed, a mixed-gender format appears to be most common. While we recognize the cost-effectiveness and convenience of these programs, there is a lack of empirical support for mixed-gender programs (Blackwell, et al., 2004). Moreover, researchers have argued that there may be serious disadvantages to these types of interventions (Blackwell, et al., 2004; Yeater & O'Donohue, 1999). Men may learn, for example, that sexual assault is a common experience, and that there are few negative consequences for men that rape. More importantly, men who are at high risk for being sexually aggressive will learn strategies used by women to decrease their sexual risk. This information might allow them to adjust their own strategies, thus increasing their success at coercing women into unwanted sexual activity.

Additionally, because the mixed-gender program content ostensibly targets different behaviors for men and women, at any given time during the presentation, only half of the information presented will be salient to the participants. For example, men might be asked to view a videotape of rape victims describing how their assault affected them negatively, the goal being to increase men's empathy for women, which then presumably decreases their motivation to rape. Women, on the other hand, might be asked to view a videotape of a date rape scenario which depicts several known risk factors for sexual assault (e.g., drinking alcohol and becoming isolated with a man). They then might be asked to identify these risk factors, as well as to identify behaviors that would help the woman decrease her risk of sexual assault. Thus, mixed-gender interventions such as these, that clearly target different behaviors for men and women, may fail to contain an adequate

"dosage" of material to change the behavior of either gender. Because of these, as well as related concerns, researchers have called for a "two-pronged" approach to sexual assault prevention, in which separate programs are developed that target behaviors specific to either reducing men's sexually aggressive behavior or women's risk for sexual victimization (Blackwell et al., 2004; Yeater & O'Donohue, 1999).

Finally, research demonstrates that men and women who exhibit certain characteristics or behaviors are, respectively, at higher risk for sexual aggression or sexual victimization (e.g., Gidycz et al., 1995; Malamuth, et al., 1995). In other words, not all men and women are at equal risk. From a behavior-analytic perspective, this means that individuals' behavior is unlikely to be controlled by the same set of contingencies. Prevention programs, however, have commonly used a "one size fits all" approach, providing the same information to both low and high risk groups of men and women, the assumption being that each participant's behavior is, in fact, controlled by the same set of contingencies. Thus, prevention programs that are tailored to address these individual differences (i.e., an ideographic rather than nomothetic approach) are likely to be more effective at reducing rates of sexual victimization. While some researchers have begun to understand the importance of tailoring their interventions in this way (Marx, Calhoun, Wilson, & Meyerson, 2001), more research is needed to determine what types of programs are effective in decreasing risk for high-risk participants.

Previous Approaches to Sexual Assault Prevention with College-Aged Women

To date, eight published studies have evaluated the effectiveness of sexual assault prevention programs for college women. These programs have varied significantly in methodological rigor, program material, and measures used to evaluate the program's efficacy. In the section that follows, we discuss only the most methodologically rigorous studies; that is, studies that included an appropriate control group, followed a standardized prevention manual, and used psychometrically adequate outcome measures.

In a series of studies conducted over the past two decades, Gidycz and colleagues (Breitenbecher & Gidycz, 1998; Gidycz, Lynn, Rich, Marioni, et al., 2001; Gidycz, Rich, Orchowski, King, & Miller, 2006; Hanson & Gidycz, 1993) have developed and evaluated an information and video-based prevention program for undergraduate women. In the initial investigation of this program (Hanson & Gidycz, 1993), 360 college women were assigned randomly to either a sexual assault prevention program developed by the first author or a no intervention control group. To assess a prior history of sexual victimization, participants completed the Sexual Experiences Survey (SES; Koss & Oros, 1982). Participants also completed measures that assessed risky dating practices (Dating Behavior Survey) and sexual communication strategies (Sexual Communication Survey) (Hanson & Gidycz, 1993). Participants assigned to the prevention program first completed a Rape Myths and Facts Worksheet, which assessed participants' knowledge about sexual assault. Participants then watched a videotaped vignette which portrayed an interaction between a man and woman that eventually culminates in a date rape. The vignette illustrated many situational and behavioral factors associated with sexual assault, including alcohol use, isolation with a date, and difficulties being assertive. Participants then were asked to discuss what responses on the woman's part could have reduced her risk of sexual assault. Afterwards, participants watched another videotaped vignette, which showed the same situation, except that the women engaged in various behavioral strategies to reduce her risk, the result being that she avoids being victimized. Once again, the participants and prevention leader (the first author) discussed these strategies. The control group participants were asked only to complete the questionnaires. All participants were asked to return at the end of the 9-week academic quarter to complete the same set of questionnaires.

Results revealed that the program was effective at decreasing rates of sexual assault for non-victimized women (i.e., women who reported no previous incidents of sexual assault on the SES) during the prospective period, but ineffective at preventing victimized women from being revictimized during that same period. Additionally, prevention participants, as compared to the control group participants, reported

significantly more knowledge about sexual assault and less participation in risky dating behaviors. No other differences were found between the groups.

In hopes of designing the program to be more effective for high risk participants (i.e., participants with a previous history of sexual victimization), Breitenbecher and Gidcyz (1998) altered the program slightly to include information about the relationship between a prior history of sexual victimization and subsequent revictimization. Specifically, the authors included material which addressed: (a) the relationship between these two variables (this was included on their Rape Myths and Facts Worksheet); (b) the potential psychological impact of sexual assault on the victim portrayed in the videotaped vignette; (c) how previous victimization experiences may affect a woman's thoughts and perceptions without her complete awareness; and (d) how previous victimization, although not the woman's fault, increases her vulnerability and requires additional precautions on her part to prevention revictimization. Four hundred and six undergraduate women were assigned randomly to either the prevention program or a no intervention control group. Except for the inclusion of this material, the methodology was the same as that used in the Hanson and Gidycz (1993) study. Results revealed that the program was ineffective at decreasing rates of sexual victimization for both the victimized and non-victimized participants. Additionally, there were no differences between the two groups on measures of sexual communication, dating behaviors, or knowledge about sexual assault.

In a multisite study involving 772 undergraduate women, Gidycz et al. (2001) adapted this program to include content linked directly to the elaboration likelihood model (ELM; Petty & Cacioppo, 1981, 1986) and the health belief model (Hochman, 1958). The ELM posits that information processed centrally (the person attends to core concepts of message), rather than peripherally (the person attends to superficial aspects of message), is more likely to change behavior. To accomplish "central route processing," the authors included a videotape in which rape victims discussed the impact the rape had on their lives, as well as how they never thought they were at risk before the rape. Participants then were asked to participate in group discussions about the videotaped testimonials to promote further processing.

Similarly, the health belief model posits that people act to protect their health when they realize their own risk, or when they believe they possess the requisite skills to reduce their risk. To increase participants' perception of their risk, Gidycz et al. asked participants to discuss a variety of topics during the intervention, including risky behaviors and situations, behaviors of sexually aggressive men, and behavioral strategies for reducing their risk.

The results revealed that previously victimized participants, as compared to non-victimized participants, reported higher rates of victimization at both the 2- and 6-month follow-up periods. Moreover, participants assigned to the prevention program did not report lower rates of sexual victimization during the 2-month follow-up period than participants assigned to the control group. The program also was ineffective at changing self-reported dating behaviors and sexual communication strategies. However, participants in the prevention group who reported moderate victimization (i.e., an assault with no penetration) between the posttest and the 2-month follow-up period reported significantly fewer revictimization experiences at the 6-month follow-up period than participants in the control group.

The most recent evaluation of this program used the ELM, the health belief model, and social learning theory to "increase women's identification of risky dating scenarios" (Gidycz, Rich, Orchowski, King, et al., 2006, p. 176). Thus, an attempt was made to ensure that the information provided to participants was personally relevant. Five hundred college women were assigned randomly to either the prevention group or a wait-list control group. Many of the same components specific to the previous programs were included, as was a self-defense training and behavioral rehearsal component. Specifically, program participants: (a) received information about national and local rape statistics, as well as societal factors that influence violence against women; (b) discussed sexual assault risk factors (e.g., high risk situations, behaviors of the perpetrator) after viewing a videotape entitled, "I Thought It Could Never Happen to Me" (Gidycz, Dowdall,

Lynn, Marioni, & Loh, 1997); (c) discussed and rehearsed risk-reducing strategies for dealing with high-risk dating situations after viewing another videotape entitled "Keep Your Options Open: Alternative Solutions for Stressful Social Situations" (Gidycz, 2000); (d) attended a 2.5-hour self-defense training course, in which participants were taught to use verbal and physical defense strategies; and (e) participated in a 1.5-hour booster session 3 months after the program began, in which participants reviewed the material they learned during the program. Outcome measures included victimization rates during the study, self-efficacy, protective dating behaviors, sexual assault knowledge, and sexual communication strategies. The results revealed that program participants, as compared to the control group participants, reported an increase in their self-protective behaviors during the 6-month follow-up period. However, the groups did not differ with respect to self-reported rates of sexual victimization, assertive communication, or self-efficacy.

Breitenbecher and Scarce (1999; 2001) also have conducted a systematic evaluation of an information-based sexual assault prevention program for college women. In their initial study (Breitenbecher & Scarce, 1999), 224 undergraduate women were assigned randomly to either a prevention program or control group and asked to provide information on their knowledge of sexual assault and previous victimization experiences. Program participants received a 1-hour presentation on: (a) the prevalence of sexual assault on college campuses; (b) rape myths; (c) the effects of sex role socialization on promoting acceptance of violence against women; and (d) a 6-point definition of sexual assault that highlighted rape as violence, power, humiliation, and degradation. The authors hypothesized that, after learning this information, program participants would report lower rates of sexual victimization during the 7-month prospective period than control group participants, who were asked only to complete the outcome measures. These measures assessed sexual assault knowledge, as well as prior history of child sexual abuse and adolescent and adult sexual assault. Results revealed that, although the program participants demonstrated significantly greater knowledge of sexual assault at the follow-up period than control group participants, they were not less likely to experience a sexual assault than their counterparts as a result of the intervention.

To prevent victimization, Breitenbecher and Scarce (2001) modified their program to include 90-minutes of content hypothesized to reduce psychological barriers (i.e., verbal and behavioral responses) to resistance in high risk situations. Ninety four women were assigned randomly to either the prevention program or a no intervention control group. Specifically, program participants were assigned to small groups (4-5 women), in which members were asked to read a vignette describing a sexual situation. Participants were asked to image what they would think and feel if they were in the situation, as well as to indicate how they might respond to decrease their sexual risk. Participants then discussed their group's responses with the larger group. Groups who provided assertive verbal responses to the situation were reinforced by the group facilitator. All participants completed questionnaires that assessed child sexual abuse, adolescent/adult sexual assault, risky dating behaviors, sexual communication strategies, sexual risk perception, and sexual assault knowledge. Results revealed that there were no differences between the program and control group participants on any outcome measure.

In an attempt to focus only on women at high risk for victimization (i.e., those with a previous history of sexual victimization), Marx et al. (2001) evaluated a prevention program designed specifically for high-risk women. Sixty-six undergraduate women who reported a history of sexual victimization since the age of 14 were assigned randomly to either the prevention program or a no intervention control group. The program was implemented during two 2-hour sessions. Program participants were provided with a modified version of the original Hanson and Gidycz (1993) program. This program included a relapse-prevention component in lieu of the second videotaped vignette, which depicts behavioral resistance strategies to unwanted sexual contact. In the relapse prevention component, program participants were asked first to identify perpetrator, situational, and personal risk factors related to their own sexual assault. They then were asked to identify alternative strategies for responding if, in the future, they were to find themselves in a similar situation. Participants also were provided with several hypothetical high risk situations and asked to describe potential solutions and

responses that might help them prevent revictimization. Finally, program participants were asked to engage in covert modeling, in which they imagined responding assertively to four high-risk situations.

All participants completed measures that assessed their prior history of sexual victimization, general psychological distress, and self-efficacy. Participants also completed a measure of response latency, which involved listening to an audiotaped account of a sexual encounter between a man and a woman that ends in a rape, and indicating, by pushing a button, when they would leave if they were in the situation.

At the 2-month follow-up period, results revealed that there were no differences in the overall rate of victimization (i.e., any type of sexual assault) between the program and control group participants; however, program participants were significantly less likely to report an incident of rape than the control group participants. Nonetheless, it is important to note that these reported rapes did not occur because of physical force, but instead were the result of women being verbally coerced or provided with alcohol or drugs by the perpetrator. Program participants, as compared to control group participants, reported also a significant increase in self-efficacy and general psychological functioning as a result of their program participation. Although participants who had shorter response latencies on the risk recognition measure were less likely to report a rape at follow-up, there were no differences between the prevention and control groups on this measure.

Finally, Yeater, Naugle, O'Donohue, and Bradley (2004) evaluated the efficacy of a skills-based bibliotherapy approach to sexual assault prevention for college-aged women. One hundred and ten participants were assigned randomly to the prevention program or a wait-list control group and followed prospectively for 16 weeks. The self-help book, written by the authors, was organized to motivate participants to read the material, to make the content credible to participants, and to emphasize that the intention of the book was to help women improve their overall relationships with men rather than prevent a sexual assault (see Yeater, et al., 2004 for a comprehensive review of the book's content). The first part of the book addressed issues related to dating successfully; the second part of the book included content specific to sexual assault prevention. This content included: (a) rape myths and replacement beliefs; (b) factors associated with an increased risk of experiencing a sexual assault; (c) behavioral strategies for decreasing sexual risk; (d) strategies for increasing safety when "hooking up" (engaging in spontaneous sexual activity) with someone; (e) ways for avoiding or dealing effectively with a stranger rape; and (f) strategies for dealing effectively with a past or current sexual assault. All participants completed measures of sexual victimization, rape myth acceptance, alcohol use, risky dating behaviors, sexual communication strategies, sexual assertiveness, and self-efficacy. Results revealed significant differences between the bibliotherapy and wait-list control groups, with bibliotherapy participants reporting significantly less participation in risky dating behaviors and a greater ability to communicate their sexual intentions to their dating partners. However, results suggested that the self-help book was no more effective than the wait-list control in reducing rates of sexual victimization.

Methodological and Conceptual Problems with Current Prevention Programs

While sexual assault prevention researchers have made a concerted effort to develop effective programs, the vast majority of these interventions have been effective only at producing self-reported attitude change, with few programs demonstrating any effectiveness at decreasing actual rates of sexual assault (Gidycz, et al., 2001; Marx, et al., 2001). These studies possess several methodological shortcomings, such as relatively short prospective periods, lack of standard outcome measures, different definitional uses of the term *sexual victimization*, and poor assessment of demand characteristics and socially desirable response sets (Blackwell, et al., 2004; Yeater & O'Donohue, 1999). These are important limitations to note; however, one problem receiving little attention pertains to the content included in these interventions.

Implicit in most program content is the idea that *information* about sexual assault, as well as information about how to prevent victimization, will change behavior, thus reducing a woman's risk of sexual

victimization. There is nothing inherently wrong with this approach; indeed, research in other areas, such as drug abuse prevention has taken similar approaches (Gottfredson & Wilson, 2003). Like sexual assault prevention programs, information-based approaches to drug abuse prevention have failed to change high risk behavior (Gottfredson & Wilson, 2003). By comparison, drug abuse prevention programs that target parental contingency management, effective decision making, and behavioral rehearsal of adaptive responses have shown some effectiveness in changing behavior (Catalano, Gerlund, Ryan, Lonczak, et al., 2002; Perry, Komro, Veblen-Mortenson, Bosma, et al. 2003). Thus, these programs appear to have moved toward a contingency-based model of behavior change, one which specifies that teaching parents to shape and reinforce sober behavior, providing adolescents with replacement behaviors for responding to high risk situations, and facilitating the rehearsal of these behaviors will reduce drug use.

Despite evidence in related areas demonstrating the effectiveness of a contingency or behavior-based approach, the majority of sexual assault prevention programs continue to provide information that primarily targets attitude change (e.g. challenging rape myths, encouraging victim empathy) rather than behavioral change (e.g. behavioral rehearsal of assertive responses to high risk sexual situations). To the best of our knowledge, researchers have not specified how providing this information will change actual behavior, despite research evidence in related areas which demonstrates that providing participants with corrective information about a danger that they are biased about does little to correct that bias (Foa, Mathews, Abramowitz, Amir, et al. 2003; Treat, McFall, Viken, & Kruschke, 2001). Given that previously victimized women have demonstrated difficulties identifying sexual risk (e.g., Wilson et al., 1999), it is unclear how providing information alone will change women's behavior.

The recent program developed by Marx et al. suggests that the information-only approach to sexual assault prevention may be changing. Although not described by the authors in behavior-analytic terms, participants were asked to identify environmental antecedents related to their own sexual assault, as well as to generate and rehearse behavioral responses to prevent victimization in future high risk situations. Despite the potential utility of such an intervention, this remains a nomothetic approach, and one that implies that each participant's behavior is controlled by the same set of contingencies. While lack of discriminative control and behavioral deficits may be related to some participants' responses difficulties, they are likely to be unrelated to others.

Often absent in the development of these interventions is an ideographic analysis of the functional domains that may related to women's risk of sexual victimization. Consider for a moment, the four-term contingency. One might hypothesize, for example, that some women might be at an increased risk for sexual victimization because of antecedent, behavioral, or consequent difficulties. Antecedent difficulties could include *lack of appropriate antecedents* (i.e., the woman's peer environment includes primarily sexually aggressive men), *lack of discriminative control* (i.e., the woman experiences difficulty identifying the conditions under which a positive, non-sexually coercive interaction will occur with a man, rather than negative, sexually coercive interaction), or *problematic motivational states* (i.e., the woman uses drugs and alcohol when dating or interacting socially with men, which reduces her ability to notice discriminative stimuli that 'signal' sexual risk). Behavioral difficulties might include *behavioral deficits* (i.e., the woman has a deficient response repertoire for asserting herself with men, which makes it difficult for her to refuse sexual requests that ultimately increase her risk for sexual victimization) or *interfering behaviors* (i.e., the woman uses drugs and alcohol in social situations with men, which interferes with her ability to emit behaviors that would protect her from harm). Finally, consequent difficulties could be due to *lack of consequences* (i.e., the woman has not been reinforced by others for behaviors that decrease her sexual risk with men) or *inappropriate consequential control* (i.e., the woman finds risky behavior reinforcing despite the potential response cost of the behavior).

Naturally, one or several of these problems might characterize the response difficulties of any given woman. A prevention program that was ideographically, rather than nomothetically-based, would focus on

identifying specific functional domains that were problematic for each participant. Of course, this is easier said than done. First, such a functional analysis has yet to be conducted with women. Second, these analyses, and the interventions that would follow, would make prevention efforts on college campuses unwieldy. Nonetheless, it seems reasonable to assume that prevention efforts will need to be tied to each participant's response difficulties if we hope to reduce women's risk of sexual victimization. In the section that follows, we discuss the use of one method which could result in the development of such interventions.

An Alternative Approach – A Social Information Processing (SIP) Model

Because the etiology of sexual assault remains unknown, deciding what content to include in these programs in inherently complex. One solution to this difficulty may be for researchers to first test theoretical models that specify the potential processes involved in sexual victimization, thus allowing the results of these studies to logically and empirically inform the content included in prevention programs. As mentioned, such models have been largely absent from the sexual assault prevention literature.

In our research program, we use McFall's (1976; 1982) social information processing (SIP) model to conceptualize the potential processes involved in risk for sexual victimization and revictimization. This model posits that effective responding to a social task involves three sequential components: (1) *decoding skills* – receiving, perceiving, and interpreting incoming stimuli accurately; (2) *decision skills* – generating and selecting a response choice for the task; and (3) *enactment* – performing the chosen response and evaluating the correspondence between the intended and actual effects of the response. Difficulties at any stage in the model may increase the likelihood of ineffective responding to a problem situation.

At first glance, the SIP model may appear to explain behavioral responses as the by-product of several mentalistic processes. Indeed, constructs such as *decoding* and *decision* skills sound as if these processes are occurring spontaneously inside the individual, without being influenced directly by either environmental contingencies or the individual's learning history. A closer look at the SIP model, however, reveals that an individual's learning history is hypothesized to be an important antecedent in the development of these behaviors (McFall, 1982). For example, an individual who has been reinforced for attending to environmental cues that "signal" sexual risk might be more adept at recognizing (i.e., decoding) these cues in future high risk environments. Additionally, if an individual's assertiveness and interpersonal problem solving skills have been shaped and reinforced by others, they are likely to be skilled at generating response options (i.e., decision skills) for dealing with high risk sexual situations, as well as responding effectively to such situations (i.e., enactment). This explanation is not meant to suggest, however, that processes such as *decoding* and *decision skills* do not require further clarification; indeed, like many psychological constructs, they too can benefit from further explication.

The SIP model posits also that the contextual features of social situations are important antecedents that affect individuals' capacity to respond to a social task. These are the stimuli that set the occasion for an individual to attend to the situational context, to generate and select a decision for responding to the task, and to perform the chosen response. Thus, the SIP model posits that context is related directly to understanding how an individual processes and responds to social tasks.

Finally, from an SIP perspective, the effectiveness of a response is viewed as a judgment about individuals' responses to specific situations, not as a stable personality characteristic observed across multiple settings. In other words, whether a given response is judged as effective depends on the particular situation, the person making the judgment, the aim of the behavior, the problem to be solved, and the criteria for effective responding in that problem situation.

The SIP model has been used successfully to identify skills difficulties in several different populations, including delinquent adolescent boys (Friedman, Rosenthal, Donahoe, Schlundt, & McFall,

1978), delinquent girls (Gaffney & McFall, 1981), incarcerated rapists (Lipton, McDonel, & McFall, 1987; McDonel & McFall, 1991), depressed undergraduate men (Fisher-Beckfield & McFall, 1982), eating disordered women (McFall, Eason, Edmondson, & Treat, 1999), maritally violent men (Holtzworth-Munroe & Anglin, 1991) and sexually-coercive males (Treat, et al., 2001). Thus, using this model to conceptualize and assess factors associated with women's risk for sexual victimization suggests that women at risk (i.e., those who report previous incidents of sexual assault) may experience difficulties in one or more of the following areas: (a) interpreting risk-relevant stimuli in the environment (i.e., decoding skills), (b) generating or selecting risk-reducing responses to problem situations (i.e., decision skills), or (c) executing the responses chosen for these situations (i.e., enactment). As a result of such difficulties, they may be less likely to respond effectively to interpersonal situations in which they are at risk of being victimized. From an SIP perspective, risk for sexual victimization is probabilistic, and functionally dependent upon the characteristics of the individuals involved, the contextual features of the situation, and the effectiveness of an individual's response to a particular situation. Thus, it may be helpful to evaluate women's responses to a broad, representative sample of situations, rather than to a select few; to test adequately whether response patterns to these situations are global or specific; to evaluate the main effects of context on ability to respond; and to assess the interactions between persons and situations in determining risk for sexual victimization.

As an initial test of the SIP model, we focused first on the decision-skills stage by assessing college women's response choices to a set of heterosexual problem situations (Yeater, McFall, & Viken, under review). Using a modified version of Goldfried and D'Zurilla's (1969) Behavior Analytic Method (BAM) for assessing social competence, we developed a 65-item inventory of written vignettes describing problem situations that undergraduate women might face when dating or interacting socially with men. This instrument, called the Roleplaying Inventory of Social Knowledge (RISK), contains items that describe diverse situations (e.g., date, party, bar, school event), types of relationships with the man described (e.g., boyfriend, acquaintance, stranger, and authority figure), and putative risk factors for sexual victimization (e.g., alcohol use, sexual activity prior to or during the date, verbal coercion and threats from the man). Thus, the RISK items are non-overlapping and independent.

One hundred and one undergraduate women reported their history of sexual victimization and provided written responses to the Roleplaying Inventory of Social Knowledge (RISK). A coding system was developed to collapse these responses into response categories. A group of raters (i.e., undergraduate men and women) then evaluated the effectiveness of responses in these coding categories for decreasing women's risk of having an unwanted sexual experience (i.e., defined as an experience she would feel bad about, be hurt by, or regret later).

Results revealed that victimized and non-victimized women did not differ in either their overall response effectiveness, suggesting that across multiple situations, both groups of women gave similar responses. However, the results of the HLM analyses revealed that victimized and non-victimized women's response effectiveness were affected differentially by the presence or absence of certain contextual features in the RISK items. Specifically, previously victimized participants' responses were rated as less effective at decreasing sexual risk in situations that involved (a) familiar men, (b) alcohol use, (c) sexual activity, (d) actual or potential romantic involvement with the man described, and (e) a risk to popularity or social acceptance by men.

These results suggest that women provide very different responses to the same situations. Some women's responses are more effective when certain contextual features are present, some are less effective, and some are unaffected by the presence of these features. If supported by additional research, the RISK, as well as the coding system developed for its use, might have important prevention implications. For example, women could first be asked to provide responses to the RISK; these responses then could be evaluated (using the coding system) for their effectiveness at decreasing sexual risk. Finally, women could be provided with specific, individualized feedback (as opposed to the generic intervention common to most prevention

programs) about the decisions they made to these situations, as well as how they might select different decisions and behaviors that are likely to decrease their risk. Specific replacement behaviors would be readily available, as all of the responses collected in our initial study were rated for their effectiveness in reducing risk. Behavioral rehearsal then could be used to ensure that women learned the effective responses to the situations that caused them the most difficulty. Indeed, past research suggests that similar approaches may reduce women's risk for sexual revictimization (e.g., Marx, et al., 2001).

While our initial findings suggest that victimized women may experience difficulty with the decision skills stage of the social information-processing model, this stage requires further testing. We are currently investigating where in the decisions skills stage women might experience difficulties by asking undergraduate women to: (a) generate as many solutions as possible to set of RISK items, (b) rank order a set of solutions from best to worst, (c) evaluate their own ability in carrying out a proposed solution, and (d) rate how likely they would be to carry out a proposed solution, as well as how successful they would be in doing so. The results of this study will likely have different prevention implications. For example, if we find that women at risk experience difficulties generating solutions to these situations, then the appropriate intervention would be to help women develop a repertoire for effective responding. However, if we discover that these women can effectively negotiate every step in the decision making process, but feel nonetheless that they would be unsuccessful in these situations, then the intervention might focus instead on identifying the variables which prevent women from choosing the most effective solutions.

Of course, additional research is necessary before we can translate these results into a meaningful intervention. Our initial study does not answer, for example, whether previously victimized women experience more difficulties than non-victimized women in either identifying sexual risk (decoding skills in the SIP model) or performing chosen responses (enactment skills in the SIP model) to these situations. Related research suggests that the use of cognitive science paradigms, such as simple classification and learning tasks, may be useful in exploring to these questions. For example, past research using photo stimuli in classification tasks has been successful at identifying decoding skills differences between groups of eating disordered and non-eating disorder women (Viken, Treat, Nosofsky, McFall, & Palmeri, 2002) and sexually coercive and non-coercive men (Treat, et al., 2001). These tasks are considered superior to self-report or explicit tasks, as they allow researchers to assess what are considered to be unconscious processes.

Currently, we have several studies underway that use these paradigms to test the decoding skills stage of the SIP model. For example, we have investigated the effects of men's physical attractiveness on women's perception of sexual risk by developing a photo stimuli set of men that vary in physical attractiveness, pairing these photos with a subset of RISK items, and asking undergraduate women to imagine themselves in these situations and provide an estimate of their sexual risk. In addition, we are exploring the effects of acute alcohol intoxication on women's sexual risk perception and capacity to respond to high risk situations by assigning women randomly to an alcohol or no-alcohol condition, and asking them to estimate the degree of sexual risk depicted in a subset of RISK items, as well as to chose a response to each item. Finally, we have used the RISK items in both an implicit classification task and a learning task. For the implicit task, participants were asked first to view two prototype RISK items, which varied on the two underlying dimensions present in the items, sexual risk and impact on popularity. They then were asked to view a series of other RISK items and judge whether they were more like the first or second prototype. In the learning task, participants viewed another series of RISK items and were asked to judge whether each was either a Type V or Type N situation. Participants were told that these labels were arbitrary, and that they would be given feedback about whether or not their decision was correct; they were not, however, given the basis for this feedback. Their task was to discern what the feedback was based on, meaning what category structure (i.e., sexual risk vs. impact on popularity) they are being asked to attend to in the task. The results of this study will allow us to evaluate participants' the perceptual organization, as well as to assess whether previously victimized women attend more than non-victimized women to one of the dimensions present in the stimuli.

The final step in our research program will be to begin testing the enactment phase of the SIP model by testing whether victimized women demonstrate difficulties performing actual responses to the situations described in the RISK. Such research might involve providing participants with a response to each item, asking them to perform the specified response, videotaping their responses, and asking relevant judges to evaluate the effectiveness of these behaviors in reducing their risk for sexual victimization.

The results of these, as well as related studies, will allow us to identify where in the social information processing sequence difficulties occur for women at risk for sexual victimization. As indicated, these findings have important prevention or intervention implications that can be tailored to each participant's response difficulties. If we find that a woman experiences difficulties decoding environmental stimuli (which would, according to the model, affect both decision skills and enactment), then prevention efforts can target improving attention, perception, and interpretation of key stimuli signaling risk. If instead, we find that a woman demonstrates difficulties with either decisions skills or enactment, then the intervention can focus on improving either a decisional or behavioral repertoire for responding to risky situations.

Conclusion

In sum, we believe that future research must focus on obtaining more specific information about sexual victimization by testing theoretical models that specify the causal mechanisms involved in the sexual victimization of women. Only when we are able to identify these etiological processes can we hope to develop interventions that will reduce women's risk of sexual victimization.

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Behavioral Approaches to Educating Young Children and their Parents about Child Sexual Abuse Prevention

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Abstract

Child sexual abuse (CSA) is a widespread social problem that negatively affects victims, families, communities, and society. In response to the urgent call for primary prevention strategies to prevent CSA from ever occurring, educational interventions have targeted children and parents, providing them with knowledge and skills to avoid sexual victimization. This article reviews primary prevention efforts directed at children and parents, with a specific goal of determining the potential of behavioral approaches to educating these two groups. Challenges to this approach and suggestions for expansion of these interventions are presented.

Keywords*:* Child sexual abuse, prevention, behavioral skills training, behavioral intervention.

Introduction

Child sexual abuse (CSA) has been defined as "contacts or interactions between a child and an adult [or older child/adolescent] when the child is being used for the sexual stimulation of the perpetrator or another person" (NCCAN, 1978, p. 2). Whether perpetrated by adults or teenagers, sexual abuse involves the exploitation of children's naïveté, trust, and obedience. CSA can include experiences of physical contact between a perpetrator and victim (e.g., fondling, intercourse) and also "interactions" where there is no physical contact (e.g., voyeurism, photographing or videotaping a child in sexual poses or actions). Although estimates vary depending on the type of sample and definition of sexual abuse used, several studies indicate a high frequency of CSA in the United States. Results of the most recent National Incidence Study revealed that there were an estimated 78,188 confirmed cases of child molestation in the U.S. in 2003 (U.S. DHHS, 2005). According to results from the Adverse Childhood Experiences survey, one in four girls and one in six boys in the U. S. are sexually abused before they turn 18 (Dube et al., 2005). Sexual victimization can result in a broad array of problems, including emotional disorders (e.g., depression, anxiety), cognitive disturbances (e.g., poor concentration, dissociation), academic problems, physical problems (e.g., sexually transmitted diseases, teenage pregnancy), acting-out behaviors (e.g., prostitution, running away from home), and interpersonal difficulties (Berliner & Elliott, 2002; Kilpatrick et al., 2003; Noll, Trickett, & Putnam, 2003; Paolucci, Genuis, & Violato, 2001; Roberts et al., 2004; Tyler, 2002).

Along with robbing children of their innocence and causing psychological, physical, and behavioral difficulties, it also affects families, communities, and the entire United States. A 1996 report from the Department of Justice estimated that each year, the rape and sexual abuse of children costs the U. S. $1.5 billion in medical expenses and $23 billion total (Miller, Cohen, & Wiersema, 1996). Based on the magnitude of the problem and its association with a range of health outcomes, CSA has been identified as a significant public health challenge by the Centers for Disease Control and Prevention, and its prevention has been listed as a priority concern (Hammond, 2003). Several experts have recommended using a public health approach to CSA prevention (e.g., Anderson, Mangels, & Langsam, 2004; Kaufman, Barber, Mosher, & Carter, 2002; Krugman, 1998; McMahon & Puett, 1999; Mercy, 1999) .

A public health model portrays sexual abuse as a "disease" and attempts to alter the interaction between agent (perpetrator), host (victim), and environment (community, society). The public health

approach also advocates a focus on primary prevention strategies directed toward the public at large. The goal of primary prevention is to prevent a problem from ever occurring, and services are offered to everyone, regardless of risk status. One way to prevent the occurrence of sexual victimization is by educating parents, children, schools, and the community at large about CSA (Anderson et al., 2004). Unfortunately, few primary prevention interventions have been aimed at the agent or environment, although the Stop It Now! program in Vermont has shown promise for improving the public's knowledge and influencing attitudes about CSA (Chasen-Taber & Tabachnick, 1999). Instead, the majority of strategies to prevent CSA have focused on educating children, and more recently, their parents. Thus, this article reviews primary prevention efforts directed at the host (potential victims and their parents). The effectiveness of behavioral approaches with both groups will be reviewed. Although several reviews of child-focused educational efforts have been published, this analysis will critique host-focused primary prevention strategies through a behavioral lens.

Primary Prevention of CSA: Child-focused Approaches

History of Program Implementation and Evaluation

In response to the growing body of knowledge regarding the scope and consequences of CSA, many prevention programs were developed in the late 1970s and widely disseminated in the early to mid-1980s. Unlike efforts to prevent the physical abuse or neglect of children (which focus on modifying caregiver behavior), the primary focus of CSA prevention efforts has been to alter the knowledge and skills of children through group-based instruction on personal safety, usually conducted in educational settings. School systems evolved as the obvious choice for teaching children about sexual abuse, given that their primary function is to inform and educate, and also because of their ability to reach large numbers of children of every racial, ethnic, and socioeconomic group, in a relatively cost-efficient fashion. A universal primary prevention strategy also eliminates the stigma of identifying specific children or families as being at risk for sexual abuse, and thus avoids costly and intrusive interventions into family privacy.

One of the earliest programs designed for children was the Child Assault Prevention Program developed by Women Against Rape in Columbus, Ohio. Shortly thereafter, the "good touch-bad touch-confusing touch" continuum was developed by Cordelia Anderson of the Hennepin County Attorney's Office in Minnesota. Stimulated by federal funding allocated through the National Center on Child Abuse and Neglect in 1980, books, films, plays, and structured curricula targeting children started to appear. Many children participated in these programs. Over 85% of U.S. school districts surveyed in 1990 offered CSA prevention programs (Abrahams, Casey, & Daro, 1992). A 1993 telephone survey of 2,000 young people between the ages of 10 and 16 found that 67% of respondents reported having participated in a school-based CSA prevention program at some time in their educational careers (Finkelhor & Dziuba-Leatherman, 1995).

Most child-focused personal safety programs have these objectives in common: (a) helping children to *recognize* potentially abusive situations or potential abusers; (b) teaching children to try to *resist* by saying "no" and removing themselves from the potential perpetrator; and (c) encouraging children to *report* previous or ongoing abuse to an authority figure. Thus, classroom-based curricula emphasize training in these three "R's" (Recognize, Resist, and Report). Programs also attempt to enhance children's knowledge about CSA by teaching various concepts (e.g., that boys and girls can be victims; that perpetrators can be both strangers and people they know; that sexual abuse is never the victim's fault).

Shortly after wide-spread implementation, efforts to assess the efficacy of CSA prevention programs followed. A sizeable number of evaluation studies have been published, along with several

meta-analyses (e.g., Berrick & Barth, 1992; Davis & Gidycz, 2000; Rispens, Aleman, & Goudena, 1997). These published evaluations document that both school- and preschool-aged children demonstrate enhanced knowledge about CSA prevention concepts following program participation. In their meta-analysis of CSA prevention evaluation studies, Berrick and Barth (1992) reported large effect sizes for both preschool-aged children ($d = .86$) and elementary school-aged children ($d = .98$). Furthermore, knowledge gains have been shown to be maintained for up to one year (Briggs & Hawkins, 1994). Research also shows that preschool- and school-aged children can learn certain preventive skills. In their meta-analysis, Rispens et al. (1997) found a significant and considerable mean post-intervention effect size for skill gains ($d = .71$), and concluded that victimization prevention programs are successful in teaching children sexual abuse concepts and self-protection skills. The next wave of evaluation research examined the effectiveness of various types and characteristics of programs, including program format.

What Program Format is Most Effective?

Program format has varied along a continuum from those employing a didactic approach (e.g., film, play, or group discussion) and emphasizing children's understanding of the concepts to those employing an action-oriented approach (e.g., learning and rehearsing self-protection skills) and focusing on the acquisition of certain behavioral skills. A few studies have compared didactic and action-oriented approaches. For example, Woods and Dean (1986) randomly assigned approximately 4,500 third- through fifth-grade students to either participate in the action-oriented *Talking About Touching* (TAT) curriculum (Committee for Children, 1983), read the *Spiderman* comic book devoted to CSA prevention, or serve as controls. Children who were given only the comic book to read did not exhibit a significant increase in overall personal safety knowledge. The authors suggested that the dynamic process of classroom learning may have accounted for the superiority of the TAT personal safety curriculum.

Wurtele, Saslawsky, Miller, Marrs, and Britcher (1986) randomly assigned 71 children to: (a) participate in the *Behavioral Skills Training (BST)* program; (b) observe a film about sexual abuse (*Touch;* Illusion Theater, 1984); (c) participate in a combination of (a) and (b); or (d) participate in an attention-control program. The BST program provides instructions for discriminating between appropriate and inappropriate touches of the "private parts." Children are then taught (using modeling by the teacher, active rehearsal by the child, corrective feedback, and ample reinforcement) to say "no," try to get away, and tell a trusted adult in response to a potentially abusive situation. To enhance generalization of responses, descriptions of a variety of appropriate and inappropriate situations with several different types of perpetrators and victims are included. The BST program, alone or in combination with the film, significantly enhanced knowledge gain over that resulting from a control presentation, and BST children scored higher than controls on a skills measure. The BST and film programs differed both in their content and format. The BST program used an action-oriented approach, in contrast to the film program, which used a passive, didactic approach to impart information to the children. Two subsequent studies varied first the format, then the content, to identify the critical ingredients.

In an examination of format differences, Wurtele, Marrs, and Miller-Perrin (1987) compared a program that included participant modeling (PM; self-protective skills were taught through modeling and active rehearsal) with a similar program using symbolic modeling (SM; children observed as skills were modeled). Twenty-six kindergarten children were randomly assigned to one of the two programs. Findings provided evidence for the greater efficacy of PM than SM for the teaching of personal safety skills (skill scores were 93% vs. 70% correct for PM vs. SM).

To determine whether content differences affect preschoolers' abilities to learn from the programs, Wurtele, Kast, Miller-Perrin, and Kondrick (1989) randomly assigned 100 preschoolers to either the BST program, a feelings-based program, or an attention-control program. The format for presenting the information was held constant (i.e., both the BST and the feelings-based programs used

instructions, modeling, rehearsal, and feedback), but the content varied between the two programs. In the feelings-based program, children were instructed to use their feelings to distinguish between "OK" touches (i.e., those that feel "good") and "Not-OK" touches (i.e., those that feel "bad" or "confusing"). In contrast, the BST program provided children with a concrete rule to protect their genitals and encouraged children to use this rule to discriminate between "OK" and "Not-OK" touches. Compared with a control presentation, both training programs were effective in enhancing children's sexual abuse knowledge and in teaching them how to respond effectively to those inappropriate-touch situations common to the two programs. The two training programs differed, however, in their relative abilities to teach children when to use their personal safety skills. Children taught to "trust their feelings" when making safety decisions were confused when asked to identify the appropriateness of two incongruous situations (i.e., when an appropriate touch feels bad and when an inappropriate touch feels good). Alarmingly, 75% of CSA programs examined by Tharinger et al. (1988) utilized these techniques. These results suggest that the commonly-used "feelings-based" approach may impede, rather than enhance, preschoolers' abilities to discriminate between appropriate and inappropriate touching of the genitals.

More recently, Boyle and Lutzker (2005) used a rules-based approach to teach children the first "R" in the personal safety process: Recognizing inappropriate touches. They taught children concrete safety rules and utilized multiple exemplars (scenarios) and modified discrete trial training to teach young children how to discriminate between appropriate and inappropriate touches of their bodies. These methods proved effective in increasing children's safety discriminations. Their results confirmed that children can learn to discriminate abusive from non-abusive situations using a rule-governed approach and by using multiple exemplars in a discrete trial teaching format.

From these evaluations we see that children's knowledge and skills increase more following participation in programs that incorporate modeling and rehearsal compared with programs that rely primarily on individual study or passive exposure. Meta-analytic and narrative reviews of the research evaluating CSA prevention programs also support the importance of active participation. For example, the U.S. General Accounting Office's (1996) summary of CSA educational programs concluded that concepts and skills are grasped better when taught with active participation (e.g., modeling, role-playing, or behavioral rehearsal techniques) than with more passive methods (e.g., films or lectures). A similar conclusion was reached by Finkelhor and Dziuba-Leatherman (1995) who asked 2,000 youth about their experiences with and responses to actual or threatened sexual assaults. Children were more likely to use self-protection strategies if they had received comprehensive prevention instruction, which included opportunities to practice the skills in class (Finkelhor, Asdigian, & Dziuba-Leatherman, 1995). In her review of personal safety education programs, Daro (1994) concluded that, "One of the most consistent recommendations from the evaluations is the need to provide children with opportunities for role play to practice new skills." (p. 212). Likewise, Roberts and Miltenberger (1999) concluded that "a behavioral skills training approach to prevention results in the greatest improvement in sexual abuse knowledge and prevention skills relative to approaches involving plays, films, lecture/discussion, and written materials" (p. 85). In their meta-analysis, Rispens et al. (1997) found that resistance skill scores were higher when children participated in active-learning programs that provided multiple opportunities for children to practice the skills during the program. In another meta-analysis, Davis and Gidycz (2000) concluded that "programs that allowed physically active participation and made use of behavioral skills training such as modeling, rehearsal, and reinforcement produced the largest changes in performance level" (pp. 261-262).

Summary and Implications for Child-Focused Prevention

In summary, ample empirical evidence exists attesting to the importance of behavioral skills training for teaching children self-protection skills (see also Hazzard, Webb, Kleemeier, Angert, & Pohl, 1991; Poche, Yoder, & Miltenberger, 1988; Wurtele, 1990; Wurtele & Owens, 1997). Behavioral

techniques that include instructions, teacher modeling of desired behavior, practice, corrective feedback, and social reinforcement produce changes in children's behavior. Such findings are of applied significance because they justify expending the time and effort necessary to provide active practice in CSA prevention programs. Indeed, these research findings have been translated into practice guidelines. The National Center for Missing and Exploited Children (NCMEC, 1999) has published guidelines for CSA prevention programs (available at www.ncmec.org). These guidelines suggest that prevention programs: (a) be developmentally appropriate with regard to language, content, and teaching methods; (b) use behavior rehearsal, role-playing, and feedback to teach skills; (c) occur on multiple occasions over several years and include periodic reviews and supplemental sessions to reinforce skills; and (d) include homework and parental involvement.

Despite empirical evidence and NCMEC recommendations to employ behavioral approaches to teach personal safety skills, a recent survey of 87 select CSA prevention programs found that only 37% of programs used role-play activities for the children to practice the skills (Plummer, 2001). Instead, children were much more likely to be shown movies or videos (74%) and the majority (63%) of programs used one-time sessions to educate youth. This inadequate programming may be driven by limited resources (a problem reported by over 70% of the programs surveyed). It may also be driven by the pressures on schools for accountability, perhaps accelerated by the No Child Left Behind Act, which has made educators focus more on improving test scores in reading and mathematics, leaving less time for implementation of "social-emotional programs" (Zins, Weissberg, Wang, & Walberg, 2004). CSA prevention programs also compete for precious time during the school day with prevention programs about other social problems (e.g., bullying, dating violence, sexual harassment). These trends suggest that schools may need assistance in teaching children the three CSA R's (Recognize, Resist, Report). A logical partnership would be with parents.

Primary Prevention of CSA: Parent-focused Approaches

Rationale for Parent-focused Prevention Efforts

Wurtele and Miller-Perrin (1992) encouraged schools to enlist parents as "partners in prevention." There are many advantages to forming a prevention partnership with parents. Parents' first role in prevention efforts is to support their child's participation in a school-based program. Parents who have concerns about these programs or believe they are harmful or not necessary may refuse to allow their children to participate. By allowing their children to participate in school-based programs, parents indirectly support prevention efforts. They can also be enlisted to provide more direct support in the role of adjunct teacher of personal safety. When parents are trained to be prevention educators, then their children receive repeated exposure to prevention information in their natural environment, thus providing booster sessions to supplement classroom presentations. Encouraging parents of preschool-aged children to discuss this topic at home may help prevent abuse which begins at early ages, before the children have an opportunity to participate in a school-based program. Educated parents would also be better able to identify child victims and respond appropriately to victim disclosures. Another advantage of targeting parents is that parents often have the ability to *limit the access of potential perpetrators to their children.* According to the public health model, by *creating safer environments* for their children, they can eliminate interactions between agents (perpetrators) and hosts (victims).

Review of Parent-focused Prevention Efforts

Preliminary research provides support for parental involvement in personal safety education. Several surveys of parents have shown that the majority of parents strongly support the education of children on this topic and that parents are receptive to learning more about CSA (e.g., Chen & Chen,

2005; Elrod & Rubin, 1993; Olsen & Kalbfleisch, 1999; Reppucci, Jones, & Cook, 1994; Tutty, 1993; Wurtele, Kvaternick, & Franklin, 1992). Results from these surveys also clearly show that they have much to learn about CSA. There are many myths about CSA held by the public in general and parents in particular; myths which may affect a parent's willingness to allow his/her child to participate in a personal safety program. For example, parents who believe that children are at low risk for sexual exploitation (Tang & Yan, 2004; Collins, 1996) or are too young to understand the topic (Wurtele, Kvaternick, & Franklin, 1992) may not support their children's personal safety education. Although many parents want to discuss CSA with their children and report that they do cover this topic (59% in 1990, Wurtele et al., 1992), *what* they are telling their children appears to be affected by a lack of knowledge about CSA and adherence to various myths. For example, parents often describe child molesters as "social misfits" (Conte & Fogarty, 1989), "dirty old men" (Morison & Greene, 1992), or most frequently, as "strangers" (Berrick, 1988, Calvert & Munsie-Benson, 1999; Chen & Chen, 2005; Wurtele et al., 1992). Few parents mention the possibility that an abuser might ask them to keep the activity a secret, or the abusers might ask a child to touch their genitals, and/or try to take pictures or videos of the child. Educational materials must inform parents about the characteristics of victims (i.e., that young children, including boys, are especially vulnerable), perpetrators (i.e., that child sexual abusers are often family members, substitute caregivers, or trusted adults who function "normally" in society), along with the methods abusers use to sexually exploit children. Encouragingly, a few researchers have successfully educated parents about the facts concerning CSA (e.g., Burgess & Wurtele, 1998; Herbert, Lavoie, & Parent, 2002).

With a few exceptions (e.g., Miltenberger & Thiesse-Duffy, 1988; Miltenberger et al., 1990), research suggests that parents can be effective instructors for their young children by teaching them to recognize, resist, and report CSA (Wurtele, Currier, Gillispie, & Franklin, 1991; Wurtele, Gillispie, Currier, & Franklin, 1992; Wurtele, Kast, & Melzer, 1992). For example, Wurtele, Kast, and Melzer (1992) compared preschool children's knowledge about personal safety skills after being taught by their parents, teachers, parents and teachers, or a teacher-taught general safety control program. Parents were provided with the same program (the Behavioral Skills Training program) that was taught at school by the teachers. The parent program included a script, stories about children in both innocuous and potentially dangerous situations with various people (e.g., baby sitters, relatives), pictures to accompany the stories, instructions to praise and encourage correct responses, and stickers to apply to a "Token Time" page when children successfully achieved the knowledge and skill objectives. Research assistants maintained telephone contact with the parents to answer questions, enhance motivation, and ensure compliance. Results showed that children who received training from their parent(s) showed greater gains in certain areas than children who received training from their teachers. Specifically, these children were better at recognizing inappropriate touch requests and also achieved higher skill scores than children taught by their teachers. At home, children received individual tutoring, with ample attention, rehearsal, and feedback. These factors may have contributed to the success of the parent-implemented program. Children in the combined group (Teacher + Parent) were better able to recognize appropriate-touch requests and had higher skill scores than children taught only by their teachers. These findings support both school- and home-based efforts to teach preschoolers about personal safety.

In a subsequent study, Burgess and Wurtele (1998) randomly assigned parents to a workshop where they viewed a commercially produced educational video ("What Do I Say Now?"; Committee for Children, 1996). In this video, actors model parents calmly talking to their children about sexuality and teaching children about safe touches. Compared with control parents, parents who viewed the video were more likely to report that they felt capable of discussing CSA with their children and reported greater intentions of talking to their children about CSA. At follow-up, the parents who had attended the workshop reported having had significantly more discussions about CSA with their children compared with control parents. Seeing parent actors demonstrate the skills proved effective in enhancing parents' self-efficacy beliefs, intentions to discuss CSA, and subsequently their CSA-related parenting behavior. Whether the children benefited from their parents' participation in the workshop was not determined.

In a follow-up study, Dickinson and Wurtele (2000) attempted to further increase parents' self-efficacy regarding CSA discussions with their children by adding a practice component to the educational video. Twelve parents were randomly assigned to watch the video and then practice (with other parents) talking to their children about various CSA concepts (e.g., appropriate names for body parts, abusive/non-abusive situations, what to do if abuse occurs). Eight parents assigned to the video alone group were given the same script to take home after the workshop but with no instructions to practice with their children at home. One month after the parents participated in the workshop, their children were interviewed using knowledge and skill assessments. Although small sample size limits the generalizability of the parent findings, the child data showed stronger effects for the video + practice group. Specifically, children whose parents were in the video + practice group obtained higher scores on safety skill scores for knowing what to say, do, who to tell, and how to report CSA.

Challenges and Implications for Parent-Focused Approaches

Even though parent surveys clearly show that most parents want to learn more about CSA and also support their children's involvement in prevention education, a major obstacle to wide-spread implementation of parent-focused CSA prevention programs is recruiting parents to attend workshops. Parent programs are typically poorly attended (e.g., Berrick, 1988; Dickinson & Wurtele, 2000). To increase parent attendance, Reppucci et al. (1994) suggested holding simultaneous workshops for children and adults and then bringing them together for a final discussion meeting to facilitate discussion between parent and child. Professionals offering child behavior management training workshops for parents also struggle with the non-attendance problem. To increase participation of parents in these workshops, Taylor and Biglan (1998) recommend the following: (a) offer groups for parents using videotaped vignettes of parents and children interacting as models; (b) design a self-administered manual to be used at home; and (c) offer training to both parents and teachers so that the effectiveness of the interventions may increase further. All three of these suggestions have been successfully implemented in the personal safety training field. Taylor and Biglan also suggested reaching parents through other channels, including: (a) use the media to influence parents to sign up for a parenting program; (b) have health care providers encourage parents to participate in workshops; and (c) encourage religious organizations to offer space, child care services, or financial support for parenting groups. These excellent suggestions should be pursued in future research, as they are consistent with the public health perspective by enhancing community (environmental) support for CSA awareness and prevention.

Parent education efforts would also benefit from research identifying which recruitment techniques work best for parents who differ in their levels of "motivation" for learning about CSA and educating their children. Preliminary work suggests that certain parents may be less likely to participate in parent-focused education and more likely to avoid discussing CSA with their children. Although demographic characteristics of education, income, age, occupation, race, or religion do not reliably predict participation, there are a few personal characteristics that have distinguished parents who discuss sexual abuse with their children from those who do not. Parents who have no personal experience with CSA are less likely to discuss sexual abuse with their children, and if they do, these parents tend to provide less accurate information with respect to the nature of CSA and potential offenders (Wurtele et al., 1992). Parents also need to believe that the educational materials are easy and convenient to use (i.e., have low response cost; Campis, Prentice-Dunn, & Lyman, 1989; Elrod & Rubin, 1993), and that they are capable of discussing CSA with their children (i.e., have high self-efficacy beliefs; Burgess & Wurtele, 1998; Campis et al., 1989).

An additional area of interest is determining what techniques are necessary to monitor parents' teachings and maintain their participation. The absence of such monitoring may explain why parents in the Miltenberger and Thiesse-Duffy (1988) and Miltenberger et al. (1990) studies were ineffective in training their children personal safety skills. In contrast, maintaining regular telephone contact with

parents during the teaching of a personal safety program was found in one study to enhance compliance with teaching instructions (Wurtele, 1993).

Conclusion

Since CSA has been recognized as a social and public health problem, prevention advocates have devoted considerable effort to the development, implementation, and evaluation of CSA primary prevention programs. The main focus has been on the potential host (children) via child-focused, classroom-based educational programs aimed at teaching children to recognize, resist, and report sexual victimization. To a lesser extent, parents have been provided with information about CSA and encouraged to instruct and practice personal safety knowledge and skills with their children.

This review has demonstrated that children best learn about personal safety from the use of active learning approaches, regardless of who is presenting the materials. Parent-focused educational studies have found some positive outcomes in terms of parents' knowledge about CSA, behavioral intentions, and CSA-related parenting behaviors. For both groups, behavioral approaches have proven effective in teaching sexual abuse knowledge and CSA-related prevention skills. Future research needs to identify effective ways to encourage attendance at parent workshops, and to develop and evaluate in-home educational materials, particularly materials describing how parents can create molester-free environments.

Encouragingly, substantiated cases of sexual abuse have decreased an estimated 47% over the past decade (Finkelhor & Jones, 2004). Although this decline cannot be definitively attributed to the sexual abuse prevention movement (see Jones, Finkelhor, & Kopiec, 2001, for other explanations), prevention efforts have most likely played a role. Conceivably, with more focus on including parents as an integral part of the prevention process, host-focused primary prevention efforts have the potential to prevent the sexual victimization of the most vulnerable members of society and to achieve the overall objective of eliminating this serious public health problem.

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Assessment and Case Conceptualization in Sex Offender Treatment

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Abstract

The assessment of sexual offenders consists of the systematic collection of clinically relevant information in order to detect clinical phenomena or problems and to provide clear treatment targets. The result of this process is a conceptual model, or case formulation, representing the client's various problems, the hypothesized underlying mechanisms, and their interrelationships. The focus of this article is on the importance of psychological assessment and case formulation in the rehabilitation and management of individuals convicted of sexual offences. First, we make a number of general points about the importance of evidence based assessment and clinical reasoning in case formulation. Second, we review key elements of contemporary sexual offender theory that highlights the heterogeneity evident among sex offenders and the implications for case formulation and treatment planning. Third, we discuss the role of case formulation for risk assessment and management. Finally, we illustrate our major points with a brief case study and conclude with a brief consideration of the value of case formulations.
Keywords*:* assessment, clinical reasoning, case conceptualization, sex offenders.

Introduction

Sexual offending is a socially significant and complex problem that is the focus of intensive research and treatment efforts. Over the last twenty to thirty years considerable progress has been made toward understanding the various causes of sexual offending and how treatment can reduce reoffending (Ward, Polaschek, & Beech, 2006). More specifically, a range of theories have been developed that identify critical distal and proximal risk factors for sexual offending and the psychological mechanisms that are hypothesized to cause an offence (see Ward, et al., 2006). Extensive treatment outcome research has shown that our best programs can reduce offenders' risk of further sexual crimes (see Hanson et al., 2002), although there is still considerable room for improvement (e.g., Hanson et al., 2002; Marques, Wiederanders, Day, Nelson, & van Ommeren 2005; Ward, Yates, & Long, 2006). In addition, the frameworks and methods developed to analyze the risk posed by offenders for future sexual offences have become more sophisticated and empirically based (see Doren, 2006). As a result of these cumulative efforts, practitioners who work with sex offenders now have a relatively large body of conceptual, empirical, and professional knowledge to help guide their rehabilitative efforts with individuals convicted of sexual offences.

Applying knowledge of the causes of sexual offending and what works to reduce offending, however, hinges on practitioners' ability to appropriately and accurately *assess* individuals who commit sexual offences. Assessment involves the systematic collection of clinically relevant information in order to detect clinical phenomena or problems and to provide clear treatment targets. Assessment is in fact the starting point of effective rehabilitation and management because without accurate assessment it is impossible to determine the suitability and focus of treatment, nor whether treatment has had any positive impact. In conducting assessments practitioners must bring evidence based knowledge of sexual offenders as a population together with knowledge about a particular offender. The result of this process is a conceptual model representing the client's various problems, the hypothesized underlying mechanisms, and their interrelationships that is clearly linked to contemporary theory and research. In essence, this clinical theory specifies how the symptoms or problems are generated by psychological mechanisms, for example, dysfunctional core beliefs or behavioral deficits. A case conceptualization then provides a rational basis for determining treatment needs that can be used to tailor interventions with offenders in the aim of achieving optimal outcomes.

In some instances, offender assessment is equated with offender classification (Blanchette & Brown, 2006). Offenders may be categorized into distinct groups on the basis of specific criteria, such as high, medium, or low risk of recidivism. Although classification is a legitimate purpose of assessment and often an important component of case formulation and treatment planning, in keeping with clinical psychology we view assessment more broadly. For us, clinical assessment is concerned with the *identification* and *explanation* of an individual's difficulties (clinical phenomena), the future implications of these difficulties, and the options for eliminating or moderating these difficulties (Ward & Haig, 1997).

The focus of this article is on the importance of psychological assessment and case formulation in the rehabilitation and management of individuals convicted of sexual offences. First, we make a number of general points about the importance of evidence based assessment and clinical reasoning in case formulation. Second, we review key elements of contemporary sexual offender theory that highlights the heterogeneity evident among sex offenders and the implications for case formulation and treatment planning. Third, we discuss the role of case formulation for risk assessment and management. Finally, we illustrate our major points with a brief case study and conclude with a brief consideration of the value of case formulations.

Evidence Based Assessment and Clinical Reasoning: The Heart of Case Formulation

Psychological assessment involves a systematic process of collecting, evaluating, and integrating relevant information about clients' phenomena (or problems) of concern to arrive at conclusions about their nature, etiology, and implications (Ward & Haig, 1997; Ward, Virtue, & Haig, 1999). An assessment is said to be complete when the assessor arrives at a clear formulation of the client's difficulties which enables the relevant referral questions to be answered, at least provisionally. Relevant questions include: What are the main presenting problems or issues? How are these problems inter-related and what etiological explanations account for their occurrence? What options for modifying these difficulties are most likely to be efficacious for this person? Assessment is also an integral part of treatment in that practitioners must monitor and evaluate the effectiveness of their work with clients. Questions here might be: Are the interventions working as anticipated? Is there improvement in the targeted areas? Are modifications to the initial treatment plan necessary to achieve better outcomes for this individual?

For sex offenders, assessments are typically focused on detecting and explaining the offender's pattern of sexual (and serious non-sexual) offences and using this understanding to assist determinations of the offender's: (i) risk of future offending, (ii) rehabilitation needs, amenability for treatment, and other issues related to risk management, and (iii) treatment progress and current risk status (Thakker, Collie, Gannon, & Ward, in press). Increasingly, assessments are also conducted to assist Courts or paralegal bodies (e.g., parole authorities) to determine whether an offender meets criteria for application of specific civil commitment or criminal sentences. A clear formulation of the nature and causes of an individual's offending is often helpful in reaching final conclusions about ongoing risk and the necessity to use various interventions such as detention or incarceration to manage that risk (Dvorskin & Heilbrun, 2001).

Assessment is substantially more than the collection of information about a client. What is critical is that information is *evaluated* and *integrated* into a clear understanding of the nature of the clients' difficulties and the probable causes of these difficulties. From the outset this requires that the assessment is appropriately focused and that the specific methods and procedures selected to gather information are psychometrically sound. Adopting evidence-based assessment practice involves using assessment data from measures with established reliability and validity to evaluate the conditions for which treatment is sought and in the evaluation of the outcome of that treatment (e.g., Chambless & Hollon, 1998; Kazdin, Kratochwill, & VandenBos, 1986; Ollendick, 2003). Ideally, research and theory should also be used as the basis for selecting the primary assessment targets and to inform the process of assessment itself (Hunsley & Mash, 2005a). Recent moves to develop guidelines for evidence based assessment of common adult disorders have been undertaken to help provide

practitioners and programme designers information about which assessment measures are more capable of producing reliable and valid information (see Hunsley & Mash, 2005b). Although sexual offending assessment has not yet been the subject of an evidence based assessment guideline, several publications include systematic reviews of assessment measures and their psychometric properties which provide some guidance about the appropriate selection of measures from those currently available (for example, see Craig, Browne, Stringer, & Beech, 2005; Kalmus & Beech, 2005; Laws & O'Donohue, in press; Seto, 2007).

One of the more vexing issues involved in conducting sexual offender assessments is obtaining accurate or truthful disclosures from offenders, who for various reasons may be highly motivated to distort or deny the full extent of their criminal behavior. Some authors have specifically commented on interviewing styles that may encourage more honest disclosure and instruments that can assess the extent of impression management or malingering (for example see Thakker, et al., in press), but as yet this area is still underdeveloped empirically with sexual offenders. The two main approaches to tackling this problem that have been empirically investigated are the use of polygraphy to facilitate truthfulness (for a review see Gannon, Beech, & Ward, in press) and the use of objective measures of sexual preferences, such as plethysmography and attentional paradigms, to bypass offender self-report all together (for a review see Kalmus & Beech, 2005). For example, research has found that sexual offenders subject to polygraph testing disclose a greater number and variety of past victims (Ahlmeyer, Heil, McKee, & English, 2000; Heil, Ahlmeyer, & English, 1998; Hindman & Peters, 2001), disclose an earlier age of onset of sexual offending (Hindman & Peters, 2001; Wilcox, Foss, & Donathy, 2005), report less personal history of victimization (Hindman & Peters, 2001; Wilcox et al., 2005), and admit to a greater level of engagement in high risk situations during community supervision (English, Jones, Patrick, & Pasini-Hill, 2003; Grubin, Madsen, Parsons, Sosnowski, & Warberg, 2004). Research into the validity of plethysmographic assessment also provides some support for its potential to identify deviant sexual preferences in child molesters (e.g., Barbaree & Marshall, 1989; Quinsey & Chaplin, 1988; Travin, Cullen, & Melella, 1988), although several authors have raised a number of critical concerns regarding ecological validity, procedural standardization, and test reliability (e.g., Kalmus & Beech, 2005; Marshall & Fernandez, 2003). In addition, plethysmograph assessment does not appear to consistently discriminate deviant sexual preferences in rapists (e.g., Barbaree, Marshall, & Lanthier, 1979; Baxter, Barbaree, & Marshall, 1986; Hall, Proctor, & Nelson, 1988; Wormith, Bradford, Pawlak, Borzecki, & Zohar, 1988).

Although there are obvious merits to using procedures that enhance the accuracy of assessment, the problem of false negatives and measurement error mean that no method can promise perfectly accurate information. Thus, the decision to include use of strategies to enhance truthfulness or bypass self-report of sexual preferences relies on careful consideration of the empirical merits and limitations of these methods with the specific offenders and questions being answered. Ethical issues and overall alignment of methods with the rehabilitative values and aims being promoted by a programme are also important considerations (Gannon et al., in press). As with all aspects of assessment, the information or data obtained needs to be critically appraised and evaluated for reliability, validity, and meaning. As a general guideline multi-method assessments are preferable as these seek to address the limitations associated with specific methods or instruments. However, as stated above, a crucial component of assessment is the *evaluation* and *integration* of information from multiple sources into a clear formulation of client's difficulties and the probable causes of these difficulties.

Although treatment planning is strongly influenced by clients' presenting difficulties, understanding a client's vulnerability and protective factors and how these manifest in the problems leading to treatment is also invaluable (Ward et al., 1999). Clinical practice implicitly assumes the existence of various causal relationships between clients' biological, psychological, and social factors and their problems of concern. Standardized treatments reflect assumptions that there is a limited array of causal variables or mechanisms for a particular problem (Haynes, 1992), while individualized treatments across clients with the same problem reflect the notion that different mechanisms can give rise to the same phenomena or that it is of benefit to take into account other individual differences that

can affect treatment (Haynes, Leisen, & Blaine, 1997). In addition, many problem behaviors present in the same client can arise from a smaller set of causal factors (Haynes, 1993). For example, negative self-schema may give rise to low self-esteem, discomfort and avoidance in adult relationships, and emotional congruence with children. Alternatively, the hedonistic, callous, and impulsive traits of psychopathic personality can lead to a wide range of antisocial and criminal acts including sexual offending (Hare, 1991). Identifying the underlying causal factors in addition to the clinical phenomena linked with sexual offending helps guide treatment planning and informs an appreciation of what factors continue to create vulnerability for sexually offending.

In essence, case formulation involves developing an individualised theory about a client's problems, their interrelationships, and their primary causes. This theory then becomes the rational basis for determining treatment targets, considering the likelihood of treatment obstacles or treatment interfering behaviors (as well as strengths), and ultimately gaining a deeper understanding of the client that facilitates development of an empathic and constructive therapeutic alliance. Case formulation is a challenging task that involves a complex chain of clinical inferences, judgments, and decisions, otherwise known collectively as *clinical reasoning* (Ward & Haig, 1997). Using empirically based assessment methods brings standardization to the collection and interpretation of client information which can help achieve greater certainty in case formulations, yet the process of assessment and case formulation remains an inherently a clinical reasoning task involving an iterative practice of hypothesis development and evaluation (Hunsley & Mash, 2005a; Ward & Haig, 1997).

The accuracy of clinical judgment and decision-making has been the subject of considerable research within psychological science as well as other health related disciplines. Much of this research has underscored the potential for practitioners to make erroneous judgments and conclusions about their clients (for reviews see Garb, 1998, 2005; Hunsley, Lee & Wood, 2003; Wedding & Faust, 1989; Wood et al., 2002). For example, unstructured or routine clinical diagnoses typically underdiagnose some conditions compared to structured clinical interviews (e.g., Basco et al., 2000; Kranzler et al., 1995; White, Nichols, Cook, & Spengler, 1995). Others have also found that over-pathologizing clients can arise when practitioners use assessment instruments with poor validity, or inappropriately apply psychometrically sound instruments to areas for which there is no psychometric data (Garb, 1998; Hunsley, Lee & Wood, 2003). In the sex offender area, research about the accuracy of practitioner judgement has focused predominantly on the methods used to arrive at predictions of sexual recidivism. Actuarial (or mechanical) assessments which combine information in a prescribed way have typically been compared to unstructured clinical judgements and shown to provide a more reliable and valid evaluation of recidivism over a medium to longer timeframe (e.g., Hanson & Bussiere, 1998; Grove, Zald, Lebow, Snitz, & Nelson, 2000). However, although research studies have tended to present the choice of risk assessment method as a dichotomy, in practice risk assessment method can be conceptualised as existing along a continuum with pure actuarial measures and pure unstructured clinical judgements anchoring each end (Doren, 2006; Dvorskin & Heilbrun, 2001). In between these purist forms are intermediate options that combine the structure of actuarial methods alongside the flexibility of some clinical judgement. Adjusted actuarial methods initially ground risk assessment using an actuarial instrument but judiciously adjust that assessment following consideration of other relevant factors. Whereas, structured professional judgement involves conducting risk assessment according to structured guidelines based on theory and research but with the ultimate decision about risk level remaining a clinical summation or judgement. Clearly the degree of flexibility and therefore potential influence of clinician introduced 'error' is least with pure actuarial methods and most with unstructured clinical judgement. The adjusted actuarial and structured professional judgement methods are designed to capitalise on the benefits of both methods while incorporating safeguards against error.

A challenge for practitioners', like all humans, is that reasoning is subject to a range of information processing limitations including cognitive heuristics and biases (see Garb, 1998, 2005; Schwarz, 1994). Use of evidence based assessment methods and protocols are advocated as a means to obtain reliable and valid assessment data and guard against common errors in decision making (Hunsley & Mash, 2005a). In turn, use of formal models of case formulation is advocated as a means

to accurately translate assessment data into treatment recommendations (Nezu, et al., 2003; Ward et al., 1999). Several models of case formulation have been developed, most embedded within a particular branch of psychotherapy prefacing particular causal factors (e.g., Haynes, Leisen, & Blaine, 1997; Nezu & Nezu, 1989). However, the process of clinical assessment and case formulation is usefully depicted in *phases* (Hunsley & Mash, 2005, Ward et al., 1999). The first major task involves *phenomena detection*; that is identifying and describing the client's primary complaints or clinical problems, such as pattern of sexual offending. Once these descriptive hypotheses have been developed, the next task involves *inferring causal psychological mechanisms* that account for the clinical phenomena. The causal mechanisms or explanatory hypotheses can be construed as the client's psychological vulnerability which interacts with situational factors to produce the client's presenting problems. The choice of potential explanatory hypotheses ought to be guided by relevant research literature and reasoning about how this nomothetic information can be idiographically applied to this particular client (Nezu et al., 2003; Ward et al., 1999). A useful resource to help guide this level of reasoning was developed by Beech and Ward (2004; Ward & Beech, 2004) who integrated key empirical findings on sexual offender risk assessment with theoretical work and clinical experience to produce a schematic of a case formulation. The case formulation considers *developmental factors*, *vulnerability factors* (i.e., historical risk markers and stable-dynamic risk factors), *triggering risk factors*, and *acute-dynamic risk factors*. Using this model, Beech and Ward Beech make a distinction between psychological dispositions or *vulnerabilities* that cause sexual offending (e.g., sexual interests, offense-supportive beliefs, socio-affective functioning, and self-regulation) and variables they believe act as markers or signals for these underlying causal variables (usually labeled *historical* or *static* variables). The vulnerabilities that cause sexual offending are typically described as *stable dynamic* factors in the risk assessment area.

The next step in clinical formulation ideally involves fleshing out the proposed explanatory mechanisms to produce an *integrated clinical theory* representing the interrelationships between the clinical conditions, their causal mechanisms, and the various contributing distal and proximal factors. The benefits of developing an integrated causal model include being able to identify or prioritise the most appropriate target for treatment. One or two causal mechanisms may be at the core of the client's difficulties and therefore exhibit a strong relationship to other causal mechanisms and many clinical phenomena. For example, deviant sexual interests may be at the core of associated problems with offence-supportive beliefs and poor socio-affective functioning in adult intimate relationships. The integration of causal mechanisms depends on the practitioners' understanding of relevant psychological theories and clinical experience, particularly regarding the combinations of causal mechanisms that are implicated in clusters of clinical phenomena.

The final stage of clinical reasoning involves the *careful evaluation* of the case formulation according to its empirical adequacy alongside other important criteria, such as explanatory power, simplicity, and clinical utility. The importance of adequate evaluation cannot be overstated. Knowledge of the potential for error in human decision making should alert practitioners to the temptation to simply accept a case formulation as a clinical reality. In any clinical situation, there may be a number of plausible conceptualisations of the key issues and ways to refine the assessment (Ward et al., 1999). Careful attention to the quality of assessment information or data, a thorough understanding of contemporary sex offender theory and research, and use of a local scientist-practitioner model and attitude are all valuable attributes for construction and refinement of case formulations. At a practical level, clinical supervision and peer review of preliminary formulations, and systematic review and revision of case formulation during treatment are processes that can support the quality of clinical reasoning and formulation.

In summary, clinical case conceptualization involves multiple judgments about clients' behaviour problems and their causes. It is an integrated array of treatment relevant clinical reasoning that links clinical assessment data to the design of individually tailored treatment programs. Use of formal and systematic models of case formulation that draw on client information obtained using evidence based assessment practice provide the best means of minimizing clinician error and enhancing the benefits that case formulation offers.

Sexual offender theory

A good understanding of relevant theory ensures clinicians' assessments reflect contemporary knowledge of the causes of sexually aggressive behaviour and associated phenomenology. Although theories don't replace the need for evidence based assessment methods or clinical reasoning, assessment practices that are tightly linked to relevant theory helps guard against idiosyncratic assessment and conjecture about the causes and treatment needs of individuals who have offended (Collie & Ward, 2007; Hunsley & Mash, 2005). In this next section we discuss some key elements of contemporary sexual offender etiological and rehabilitation theories and highlight some of the implications for assessment and case formulation. Our objective is to show the heterogeneity evident among sex offenders, in order to argue for the utility of tailored or individualized formulations, rather than to critically review this large area.

Etiological theories

A number of single and multifactoral etiological theories have been proposed to account, primarily, for child molestation and rape (see Ward et al., 2006). Although the various theories emphasise different aspects of the phenomenon of sexual offending, together they suggest a core set of problem areas are evident in sexual offenders (Beech & Ward, 2004). These core areas can be summarised as (i) deviant sexual arousal, preferences or scripts (e.g., sexual arousal to children, arousal to rape stimuli), (ii) offence supportive cognition (e.g., cognitive distortions, child molestation and rape supportive beliefs, negative socio-cultural attitudes, hostility toward women), (iii) deficits in socio-affective functioning (e.g., intimacy deficits, social skills deficits), and (iv) self-regulation deficits (e.g., impulsivity, poor emotional regulation). Empathy deficits are common in sexual offenders but are hypothesized to arise from core problems in cognition and emotion regulation (Ward & Beech, 2006).

Although a core range of problems are indicated in sexual offending, theoretical accounts, research, and clinical experience tells us that the extent to which each problem area drives sexual offending varies from individual to individual (e.g., Hall & Hirschman, 1991; Hanson & Harris, 2000; Ward & Siegert, 2002). Some risk factors appear to play a stronger casual role than others. Hall and Hirschman's (1991) account of sexual offending, for example, proposed that one risk factor may be primary and intensify or elicit other risk factors (e.g., antisocial and distorted cognition may be the primary problem that elicits use of coercion during sex). Similarly extensive empirical work with rapists indicates that the primary motivation to offend may be classified taxonomically (Knight & Prentky, 1990). It is therefore important in the assessment and clinical reasoning process that practitioners identify the presence and manifestation of the various dysfunctional mechanisms that lead to sexual offending and the causal significance of each problem area. To illustrate, although deviant sexual arousal are arguably present in all coercive sexual offences it is a mistake to conclude that all sex offenders are *primarily* motivated by deviant sexual arousal (Lackie & de Man, 1997; Marshall, 2006). For some offenders, antisocial attitudes can lead to a sense of entitlement to sex and lack of concern about the harm caused through use of force or coercion to achieve this goal, while for others intimacy deficits may be the primary problem with deviant sexual arousal evolving from inappropriate sexualization of attachment to a child. The important point is that an individualised case formulation that is informed by contemporary theory and research provides a sound rationale for tailored treatment planning. If a client who sexually offends has otherwise normal sexual preferences and scripts, then extensive treatment to rectify deviant sexual preferences is misguided. Instead such a client primarily requires therapy to modify his (or her) entrenched maladaptive interpersonal strategies and beliefs about themselves and other people.

Rehabilitation and Treatment Theories

The *Relapse Prevention (RP)* model has been the dominant approach to understanding the sexual recidivism and offence processes of sex offenders over the last twenty years and in many

instances was used as the organizing therapeutic framework for sexual offender programmes (Laws, 2003, Laws, Hudson, & Ward, 2000; Ward, 2000; Ward & Hudson, 1996). Offence process theories describe the temporal sequence of psychological and situational factors that occur in offending (behavior chain analysis). They provide a clear account of *how* an individual offends and constitute the conceptual basis that underpins the self-management focus of cognitive-behavioral interventions with sex offenders (Hudson & Ward, 2000). According to the RP model, sexual offending follows a predictable pattern that (1) unfolds over time, (2) may be explained by a number of important concepts and principles (such as high risk situations, problems of immediate gratification), and (3) involves a self-regulation failure. In essence the RP model conceptualises sexual offenders' relapse process as a failure to control impulses sufficiently to avoid further offending.

Despite the clinical appeal and wide adoption of the RP sexual offence relapse model, the model and its application with sexual offenders has been criticised on a number of counts (see Laws et al., 2000; Ward & Hudson, 1998). Perhaps most significantly, research shows that sexual recidivism does not occur only through the traditional RP pathway but via multiple pathways. For some individuals the core problems are not self-regulatory failure but instead conscious and purposeful decision-making enacted in the pursuit of pro-offending goals (Laws et al., 2000; Ward, Louden, Hudson, & Marshall, 1995; Ward, Yates, & Long, 2006; Webster 2005).

Ward and Hudson (1998, 2000) developed the *Self-Regulation Model (SRM)* to better account for this heterogeneity in offenders' sexual goals and self-regulation style. The SRM contains four offence pathways that represent various combinations of avoidance and approach offence goals and self-regulation styles. Two avoidance pathways characterise individuals who wish to abstain from sexual offending. The *avoidance-passive* pathway describes individuals who lack sufficient coping skills and self-awareness to achieve their offence avoidance goal. The *avoidant-active* pathway describes individuals who use ineffective or counter-productive strategies that are ultimately unsuccessful (i.e., they have a misregulation style). In contrast, two approach pathways characterise individuals who wish to offend. The *approach-automatic* pathway describes individuals who have impulsive and poorly planned behaviour (i.e., they have an under-regulation style) and thus their offending happens in a somewhat automated, unconscious manner. The *approach-explicit* pathway describes individuals who use effective self-regulation (e.g., careful planning, emotional regulation, and problem solving) to create and exploit opportunities to sexually offend.

Compared to the traditional relapse prevention model, the SRM allows a more sophisticated evaluation of offenders' motivations, goals, and skills. Successful validation studies conducted with child molesters (Bickley & Beech, 2002; Proulx, Perreault, & Ouimet, 1999), rapists (Yates, Kingston, & Hall, 2003), and sexual offenders as a general group (Keeling, Rose, & Beech, 2006; Webster, 2005) indicate that most sexual offenders are quite easily classified to one of the four pathways. In addition, in stark contrast to the RP model's predictions, the most commonly identified pathway to sexual offending appears to involve approach goals. In terms of assessment the SRM facilitates the development of a more accurate and individualized picture of offending which moves away from a 'one size fits all' approach to treatment and risk management. In the avoidant-passive pathway, for example, the primary problems manifesting in sexual recidivism are inadequate coping skills and lack of offence process awareness. Thus treatment planning should include significant focus on increasing awareness of the steps in the offending chain and developing a range of skills to more appropriately deal with problems (Ward et al., 2006). In contrast, in the approach-automatic pathway a core problem resides in the offenders' positive beliefs about sexually abusive behavior. Although approach-automatic individuals also show self-regulation failures, enhancing these skills should only occur *after* achieving some fundamental shift in motivation to offend. Improving self-regulation ability in the absence of changing positive beliefs about sexual offending runs the very serious risk of increasing offenders' ability to achieve their pro-offence goals (i.e., facilitating their learning an approach-explicit pathway). Of the few studies investigating the pathways to recidivism of previously treated sexual offenders, also suggests that approach goal offenders present higher risk of repeat sexual offending and thus this information is valuable for community monitoring and supervision (Webster, 2005).

Attention to the nature of offenders' goals is also emphasized in the Good Lives Model (GLM) of offender rehabilitation (Ward, 2002; Ward & Gannon, 2006; Ward & Marshall, 2004; Ward & Stewart, 2003). The GLM is based on the notion that humans are active, goal-seeking beings whose actions reflect attempts to meet inherent human needs or *primary human goods* (Emmons, 1999; Ward, 2002). Primary human goods are actions, states of affairs, or experiences that are inherently beneficial and sought for their own sake (Arnhart, 1998; Deci & Ryan, 2000; Emmons, 1999; Schmuck & Sheldon, 2001). In other words, primary human goods are linked to psychological wellbeing, and as well a sense of meaning and purpose in life. Examples of primary human goods include autonomy, competence, and relatedness (Deci & Ryan, 2000). According to the GLM, individuals achieve primary human goods through engagement in secondary or instrumental goods. For example, intimacy (a subclass of the good of relatedness) may be met via romantic relationships or close friendships. In the case of sexual offenders, sexual crimes can result either through the direct pursuit of primary human goods by sexual abuse of a child or adult, or as an indirect effect of problems pursuing goods in a normally socially acceptable way. In the direct route, for example, sexual offending may be an offender's main means of obtaining intimacy, mastery, competence, or sexual satisfaction. In the indirect route, an intimate relationship may be the main means of obtaining sexual satisfaction but when blocked or frustrated sexual offending may arise. For example, some individuals sexually offend only in the context of significant life stressors, such as relationship dissolution, and when their coping skills are inadequate. The major point is that for some individuals offending constitutes their main source of essential human goods whereas for other individuals offending represents a deviation from an otherwise non-offending lifestyle.

Although this is a cursory review of the GLM, it is apparent that the GLM expands on the conceptualization of offence goals proposed in the SRM. Rather than limiting the focus to whether the offender attempts to avoid or seek out sexual offence opportunities, the GLM asks what human goods sexual offending provides or meets for the offender? The implications for assessment and case formulation include a need to determine what goods are being sought via offending and what problematic conditions give rise to offending. Treatment planning must then give consideration to the internal conditions (e.g., competencies, beliefs) and external conditions (e.g., opportunities, social environment) required to enable the client to achieve his primary goods in a personally satisfying and socially acceptable manner (see Ward, Mann, & Gannon, 2007, for a detailed discussion). At this stage empirical investigation of the GLM is only beginning to be undertaken (e.g., Whitehead, Ward, & Collie, in press), however, the approach is more generally based on large bodies of research relating to general human functioning and strengths based treatment.

In summary, theory and research with sexual offenders has developed sufficiently to arrive at a number of important understandings about several common core problems and pathways that are associated with recidivism. Equally theory and research highlights that the presence and manifestation of these factors varies between offenders. In addition, unique factors can always play a part or come to bare on the causes of sexual offending and clients' treatment needs. Individualized case formulations provide a means to recognise, understand, and address this heterogeneity in treatment.

Risk Assessment

Risk assessment is an important consideration in sex offender treatment. Risk level provides valuable information about the intensity of treatment that is appropriate, as well as the suitability of different treatment contexts (e.g., community, residential, and custodial settings). Furthermore, the overarching aim of treatment is to reduce the risk of harm to future victims through the provision of treatment and ongoing support and monitoring. In this regard, risk management is an important outcome of treatment.

There is currently a consensus in the assessment field that risk of sexual recidivism can be predicted with a useful level of accuracy, and that there is a need to empirically identify the best measures and methods to use (Abracen et al., 2004; Borum, 1996; Miller, Amenta, & Conroy, 2005).

Although there is continuing debate over the optimal utilization of static and dynamic risk factors in risk assessment (see e.g. Quinsey, Harris, Rice & Cormier, 1998, vs Hanson & Harris, 2001; Craig, Browne & Stringer, 2004), actuarial measures have demonstrated a statistically significant level of predictive accuracy regarding the risk of sexual reoffending, and consistently outperform clinical judgment (Hanson, 1998; Hanson & Thornton, 1999, 2000). Actuarial measures function by placing individual offenders into groups with known reconviction rates, so that individual risk estimates are based on observed group outcomes. Examples of such measures with research evidence of predictive validity include the Violence Risk Appraisal Guide (VRAG) (Harris, Rice & Quinsey, 1993), the Sex Offender Risk Appraisal Guide (SORAG) (Quinsey, Harris, Rice, & Cormier, 1998), the Rapid Risk Assessment of Sexual Offense Recidivism (RRASOR) (Hanson, 1997), and the Static-99 (Hanson & Thornton, 1999). With regard to the Static-99, for example, Doren (2004) notes that there have been at least 22 studies of the Static-99's predictive validity beyond the Hanson and Thornton (2000) developmental study, where they originally reported a correlation with sexual recidivism of .33 and a receiver operating characteristic (ROC) area under the curve (AUC) of .71.

Actuarial measures such as these form the foundation of the best-validated risk assessment procedures currently available. One of their characteristics, however, is their almost exclusive reliance on static (unchangeable) risk factors. Thus it is now standard practice in sexual offender recidivism risk assessment to also include consideration of dynamic factors, that is, those factors that can change over time and influence the degree of risk for reoffending. One of the most common measures for dynamic variables currently in use is the Sex Offender Need Assessment Rating (SONAR) an actuarially based measure of dynamic risk factors empirically related to rates of sexual recidivism (Hanson & Harris, 2000a, 2000b). The SONAR scores variables across two domains – stable dynamic and acute dynamic. Stable dynamic factors are those present for a month or more that affect an offender's functioning (namely, intimacy deficits, negative social influences, attitudes tolerant of sex offending, sexual self-regulation, general self-regulation). Acute dynamic factors are those that may be present for only a short time prior to an offence and have a precipitating affect on the offending (namely, substance abuse, negative mood, anger, victim access).

Recent research on sex offenders has supported the inclusion of dynamic variables into risk assessment to give a fuller picture of individualized risk (Craig, Browne, & Stringer, 2004; Craissati & Beech, 2005). Studies have shown that including an assessment of dynamic factors can strengthen the predictive ability of static actuarial measures designed to measure sexual recidivism (Beech, Friendship, Erikson, & Hanson, 2002; Thornton, 2002). A recent review of the effectiveness of sexual recidivism risk assessments found that structured clinical judgment, where a clinician makes a prediction of risk guided by an appropriate actuarial measure, combined with dynamic variables individual to an offender, showed good predictive accuracy (Hanson & Morton-Bourgon, 2005).

In summary, there is now a substantial body of research literature to guide the practice of risk assessment with sexual offenders. Well validated actuarial measures are available that can help distinguish between higher and lower risk offenders. Research findings are beginning to emerge that more clearly address the risk presented by specific subgroups of offenders such as child molesters. Findings based on static actuarial measures, which by definition cannot detect changes in risk status over time, are now being augmented by standardized approaches to assessing dynamic or changeable risk factors. These dynamic risk measures are themselves currently undergoing a process of empirical validation through research studies. What we believe is needed is an individualized risk assessment which provides an *etiological* understanding of the factors contributing to sexual offending in a given case, but that is primarily grounded in the relative risk of reoffending based on a recognized actuarial measure such as the Static-99. Such an approach will also incorporate other factors known to be associated with risk of sexual reoffending.

An advantage to thinking about risk variables in etiological terms is that it encourages clinicians to consider a wider range of vulnerability factors that correspond to different types of risk markers (Beech & Ward, 2004). This enables practitioners to develop case formulations more clearly linked to the different risk domains. In a sense, it could improve the quality of risk assessment and

help to tailor risk assessment procedures to the unique set of causes relevant to individual offenders. This approach also suggests, perhaps, a novel approach to risk assessment. Rather than taking a clinically adjusted actuarial approach, it might be better to start with a dynamic risk assessment and then adjust the level of risk based on the levels of historic risk based on actuarial risk instruments.

Case Study

Thus far we have attempted to overview the important conceptual elements of assessment and case formulation, and draw on current knowledge of the causes of sexual offending to construct an argument for the need and value of individualized case formulation in sexual offender rehabilitation and management. We include a short case vignette and discussion in this section to provide a more concrete illustration of the goals, skills, and underlying vulnerabilities that appeared relevant to an individual's pattern of offending and formulation of his case. The client was extensively interviewed and collateral information reviewed by one of the authors (RC) as part of a research study investigating the role of personality variables on offence processes. The client was just entering a prison based sexual offender treatment programme that provided standardised modules to all participants. The outcome of his treatment is not known unfortunately.

Client A

Client A is a twenty-four year old man who was convicted of sexual offences against two boy victims aged between 10 and 14 years of age. He offended against the boys independently. Client A's pattern of offending involved fondling the victims and progressed quickly to masturbation, oral sex, and anal intercourse. He met the boys locally, identifying them as lonely kids due to the absence of their fathers and having no siblings of a similar age. He gained the trust of their mothers over time and subsequently orchestrated opportunities for each boy to visit at his house or for him to visit when their mothers were out. Client A groomed the boys via friendship, providing items that their mothers could not such as pocket money and access to computer games, and by giving them access to pornographic magazines. He reported enjoying the boys company and their sexual "relationship". Client A regarded the abuse as consensual as it included him performing sexual acts on the boys and did not involve physical violence. He claims he would have stopped had the boys protested. He discouraged the boys disclosing their abuse by saying they would all get into very serious trouble and he would be sent to jail.

Client A has a prior conviction for sexual offending at nineteen years of age against his 11 year old male cousin. However, he disclosed that the offending began when his cousin was 8. He said it occurred mostly when he was babysitting the victim. Again he believed the abuse was consensual and mutually beneficial. Client A also disclosed a history of personal sexual abuse by an uncle between 9 and 17 years of age, which he came to believe represented a consensual relationship. He also has a history of sexually activity with same aged male peers, and on occasion female peers, from 12 years of age. On at least one occasion this involved Client A being raped. Client A reported seeking out opportunities for sex as this represented one of the few positive and pleasurable things in his life.

Some of the prominent features of Client A's case formulation are that he follows an approach-explicit sexual recidivism pathway as he desired to sexually offend and uses explicit planning to achieve this goal. In keeping with his pro-offence orientation and active use of goal attainment strategies, Client A has committed a large number of offences against at least three victims. He takes advantage of opportunities within his family and community to befriend children and manipulate adults to have access to children for his own sexual gratification. Core problems for Client A are his deviant sexual preference for pre-pubescent and pubescent boys, as indicated by his offence pattern and self-report. Such a preference is likely to have its origins in his own experience of sexual abuse as a child and adolescence, which appears to have been reinforced by early sexual experiences with his peers. Client A also evidences entrenched beliefs about the appropriateness of sexual relations between adults and children, and children's ability to consent to and benefit from sex.

These attitudes appear to have been developed and reinforced since an early age. As a result Client A does not regard his offending as problematic or harmful. Rather, he explicitly approaches offending to directly seek certain goals via the sexual abuse of boys (e.g., pleasure, relatedness) and he believes that his actions provide benefits to his victims.

Client A has a number of identified risk factors for sexual recidivism. Static risk factors include that he is single, young, has prior charges/convictions for sexual offences, and that he has offended against victims who are male and unrelated. Assessment with an actuarial measure designed to assess the risk of sexual and violent recidivism in offenders already convicted of a sexual offence, namely the Static-99 (Hanson & Thornton, 1999), indicate that he is at medium-high risk of sexual recidivism over a five or more year period. Dynamic risk factors based on case-specific factors assessed using the Stable 2000 (Hanson & Harris, 2000) include his intimacy deficits, lack of positive social influences, attitudes supportive of sexual offending, and sexual regulation problems. In addition, Client A appears to have emotional congruence with children.

In this case, a formulation that identifies A's offence pathway, his prominent causal factors (dynamic risk variables), and overall level of risk was arrived at utilizing psychometric, interview and psychological measures. This formulation, albeit brief and incomplete, points to a number of treatment issues. Given Client A's relatively high risk of sexual recidivism (due to his actuarial assessment and the presence of a number of dynamic risk factors), he will require a high intensity treatment program with maintenance programming in the community. It is necessary to provide Client A with alternative means of securing the goods associated with his offending (which appear to include friendship, sexual satisfaction, and agency). This will involve providing him with the capabilities and opportunities to establish meaningful relationships with adults, including intimate relationships, to find other means of obtaining sexual satisfaction, and more generally sources of pleasure.

Conclusion

Case formulation requires systematic clinical reasoning about an offender's sexually abusive actions and their causal underpinnings. The result of such a clinical analysis is a (micro) clinical theory containing a set of interrelated descriptive and explanatory hypotheses about a particular individual. Ultimately, the value of constructing individual case formulations needs to be ascertained and their role in routine clinical work established. If researchers such as Garb and Wilson are right (Garb, 1998, 2005; Wilson, 1996), then the fact that human beings are poor decision makers will always exclude significant reliance on the judgment of individual clinicians in determining the structure of treatment. Professional discretion may be exercised in exceptional circumstances, but this will be a rare occurrence. According to this perspective, the way of the future will be more flexible and refined manual based treatment programs with patients' needs determining what interventions they receive. These will be identified using reliable and valid measures, and arguably, clinical algorithms.

We disagree with this position and believe that disciplined clinical judgment is an irreducible element of sound practice, although the reasoning processes resulting in clinical decisions should be arrived at through the application of a systematic and articulated method. It will simply not do to rely on unchecked intuition or vague generalizations concerning underlying causes. Every link in the chain of reasoning should be defensible and rooted in established theory and data. Furthermore, the model of case formulation used needs to be clearly identified and its efficacy researched. Ethical and scientific values dictate that the best model should be used, and if this has not been settled empirically, then a case should be made on conceptual and pragmatic grounds. Either way, a defense should be mounted that constructing an individual case formulation can help clinicians tailor treatment to individual offenders and result in more appropriate therapy. In brief, our natural tendency to theorize about the world, if sufficiently disciplined by an explicit attention to method, can be a benefit rather than a burden.

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Cox Proportional Hazards Regression Analysis as a Modeling Technique for Informing Program Improvement: Predicting Recidivism in a Boys Town Five-Year Follow-up Study.

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Abstract

The objective of this study was to demonstrate the utility of time-to-event analysis as a means of developing a feedback loop from researchers to program staff for the purpose of quality improvement and program evaluation. Data collected in a five-year follow-up study of 188 youth discharged from Boys Town residential care programs across the United States were treated with Cox Proportional Hazards Regression analysis with time-to-criminal behavior as the criterion variable. The most explanatory and parsimonious model included history of criminal behavior at the time of intake and score on the *Departure Success Scale* at the time of discharge. The results suggest that increasing attention be focused on addressing developing criminal tendencies and intensive aftercare for youth with a high risk of offending. Review of cases of youth expected to offend but who did not offend indicate that those high risk youth had formed and maintained healthy bonds with their caretakers during and after treatment.

Keywords: Cox Regression, Follow-up Studies, Residential Care, Program Evaluation.

Introduction

Evaluation of criminal justice programs has been characterized by considerable controversy (Corrado, 1981; Glaser, 1980; Palmer, 2002). The question of whether treatment and rehabilitation reduces recidivism has engendered an intense, and, at times, acrimonious debate. For instance, claims of efficacy by developers of some of the better known young adult and juvenile offender programs have been questioned by social scientists (Lipton, Martinson & Wilks, 1975; Martinson, 1974; Wilson & Herrnstein, 1985).

For the past several decades, an influential group of social scientists and government officials have questioned the value of programs designed to treat and, consequently, to rehabilitate youthful offenders (c.f., Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Morris & Braukmann, 1987; Quay, 1986; U.S. Department of Health & Human Services ,1999; Wilson & Herrnstein, 1985; Wolf, Braukmann, & Ramp, 1987). Conversely, considerable evidence has been presented in credible scientific literature that purportedly demonstrates the efficacy and effectiveness of treatment programs for juvenile delinquents (c.f., Curry, 1991, 1995; Dodge, Dishion, & Lansford, 2006; Kirigin, Wolf, Braukmann, Fixsen, & Phillips, 1979; Larzelere, Daly, Davis, Chmelka, & Handwerk, 2004; Larzelere, Dinges,

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Schmidt, Spellman, Criste, & Connell, 2001; Lipsey, 1992, 1995, 1999; Lipsey & Wilson, 1998; Phillips, Phillips, Fixsen & Wolf, 1973; Thompson, Smith, Osgood, Dowd, Friman, & Daley, 1996; Palmer, 2002).

These opposing views are well-represented by contradictory claims concerning the impact of the Teaching Family Model (TFM), an applied behavior analysis approach to treatment.   Early studies of the model have suggested that the community-based approach on which it was based resulted in a much lower recidivism rate than incarceration in the form of detention or confinement in a juvenile prison setting (Phillips, et al., 1973; Kirigin, et al., 1979).

Contrary to these positive views of the TFM, two studies, which purported to show a lack of efficacy of the model, have had a negative impact on support for behavior modification programs in particular, and have led to an increasingly harsh juvenile justice system in practically all states (Zimring, 2005). Ironically, one of the studies was published by University of Kansas faculty responsible for design and development of the TFM (Kirigin, Braukmann, Atwater, & Wolf, 1982). The other study was an unpublished, nationwide evaluation of the model (Jones, Weinrott, & Howard, 1981). Although most of the literature pertaining to the model suggests a strong positive effect in reduction of recidivism, and although the validity of both of these studies has been recently shown to be flawed (Kingsley, 2006), they are, nevertheless, responsible for a widespread misperception of the efficacy of the TFM. When researchers evaluate programs in their early stages of implementation and provide a judgment of their merit for continued funding and support, productive and ongoing staff-evaluator interaction is unlikely. Because of the high stakes nature of evaluation projects, program staff members are likely to have a fearful and conflicting relationship with researchers as they are often not focused on helping them use data for program improvement.

It is vital to measure outcomes, even in programs shown to be efficacious. Nevertheless, the initial question should not be "Does the program work?" Rather, it should be "How was the program implemented?" This leads to modifications and working out of "glitches" and shortcomings (Rogers, 2000). Ongoing feedback from data collection and analysis efforts to program staff is essential for working through barriers to proper implementation (Palumbo & Sharp, 1980). Furthermore, no program is effective for all types of youth or individuals. There is always a need for program modification and continuous quality improvement. Process evaluation and continuous quality improvement require an effective working relationship between researchers/evaluators and program staff.

This article provides a rationale and techniques for evaluation as ongoing process with the purpose of continuous quality improvement**.** Although the data have been collected in an application of the Teaching Family Model, the approach discussed is applicable to other juvenile justice programs, whether they be community-based or detention/confinement-based. As a useful modeling technique for this purpose, application of Cox Proportional Hazards Regression analysis to post-treatment data as a means of developing a feedback loop from researchers/evaluators to program staff will be demonstrated.

In addition to an event, such as a criminal act, "time-to-event" is an important factor in determining the effects of treatment. Cox Regression is an advanced technique for time-to-event analysis (Hosmer & Lemeshow, 1999; Norusis, 2005; Steinberg, 1999). Where the event of interest is success or failure (e.g., life or death, retention or termination, continued marriage or divorce, etc.), it has become common to refer to time-to-event analysis as "survival analysis" (Hosmer & Lemeshow, 1999). As will be demonstrated, it is also a modeling technique that can support continuous quality improvement.

Data collected in a five-year follow-up study of youth that departed Boys Town long-term residential programs across the United States were treated with Cox Regression. Criminal behavior is the post-treatment variable of interest. For some youth, criminal behavior is recidivism – they have been in trouble before. For some, it is an initial "brush with the law." The purpose of this article is to suggest

techniques for moving beyond the "it works – it doesn't work" debate. This paper is a case study in how a prediction model can be developed, tested, and used for quality improvement.

Method

Study Description

The principal objective of the study was to measure functional outcomes of former Boys Town residential youth five-years post-departure. In addition to survey data, several measures of the youth's pre- and post-discharge well-being were utilized in the data collection process. One measure, the *Departure Success Scale* has several instruments were embedded within and will be discussed below.

The Intervention

The intervention used by this residential program is the Family Home Program (FHP), a modification of the Teaching Family Model. The FHP is based on behavioral theory and is characterized by five key elements: building and maintaining healthy relationships, developing interpersonal and life skills, moral and social development, family-style living, and self-government and self-determination (Davis and Daly, 2003). Youth in this program live with a married couple, along with a full-time assistant, in a home with five to seven other girls or boys, ages 10 to 18. On average, youth stay in the program about 18 months.

Survey

The survey had 85 items and was administered either by telephone, mail or via the internet, depending on the participant's preference. The goal was to measure social functioning and quality of life domains. The seven practical indicators assessed were: (1) living environment, (2) family, relationships, and social supports, (3) religion, health, and well-being, (4) crime and legal system, (5) substance use, (6) education, (7) employment and income. An eighth indicator, current perspective of the impact of the program, was also assessed. Most surveys were completed between January 2005 and May 2006. The phone interview took approximately 30 minutes, and participants were reimbursed $25 for their time.

National Data

Although comparisons are not reported in this paper, one study objective was to compare the results from study participants with information from the U.S. population across a broad variety of outcome measures. Where possible, the survey questions were selected from various national normative surveys. Preference was given to questions from national studies whose purpose was to describe the general population. The national data sets used were: the National Longitudinal Survey of Youth (Bureau of Labor Statistics, U.S. Department of Labor, National Longitudinal Survey of Youth 1997, 2003), the National Health and Nutrition Examination Survey (Centers for Disease Control and Prevention, National Health and Nutrition Examination Survey Data, 2002), and the National Survey on Drug Use and Health (U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. NATIONAL SURVEY ON DRUG USE AND HEALTH, 2002). The data pulled from each national dataset mirrored the age, sex, and racial proportions of the participants in the study.

Participants

All participants were former residential youth who left the Boys Town Home Campus program (N= 215) or residential programs around the country (N= 124). The age range for these 339 former youth at the time of the study was between 16 and 24 years of age. Confirmed contact was made with 196 of the 339 potential participants (13 refused to participate, 1 was deceased), and 188 completed the survey resulting in a 55.5% response rate. Participants were equally distributed between male and female and just

over half were Caucasian (N = 109, 58%). The average length of stay in the program was 17.7 months (range= 7 days to 116.7 months). Over one-half (54.9%) reported having committed a criminal act prior to being admitted to the program.

Departure Success Scale

The *Departure Success Scale* was based on the summation of 6 measures completed by clinical supervisors at the time of the youth's discharge from the program. The range on the *Departure Success Scale* was 5 to 34 (*M* = 25.4, *SD* = 7.6) and Cronbach's alpha was .92, indicating excellent internal reliability. The six items included in the *Departure Success Scale* are:

1) Overall Behavior (*M*=5.3, *SD*=1.7). This 7-point rating (7=Very Positive to 1=Very Negative) is intended to reflect the youth's entire program stay. In other words, if one or more negative behaviors immediately precede an unplanned departure those behavior(s) alone should not determine the rating.

2) Favorableness of Departure Conditions (*M*=4.9, *SD*=2.0). This 7-point rating (7=Very Successful to 1=Very Unsuccessful) reflects the conditions and behaviors that immediately precede departure. Information considered includes graduation, running away, and departing living environment.

3) Treatment Goal Achievement (*M*=5.2, *SD*=1.6). This 7-point rating (7=Very Successful to 1=Very Unsuccessful) represents how successful the youth was in achieving individual treatment goals.

4) Predicted Future Success (*M*=4.9, *SD*=1.5). Clinical supervisors complete this 7-point scale (7=Very Successful to 1=Very Unsuccessful) based on how successful they predict that youth will be in the future. Some areas that they consider include: academic progress, overall behavior, independent living skills (if appropriate) and social skill attainment.

5) Program Completion. This indicates whether the youth either graduated from high school while in the program or if they successfully completed their treatment program. Those who complete the program receive a score of 1 (56.9%), those who do not receive a 0 (43.1%).

6) Restrictiveness of Living Environment Scale (ROLES; Hawkins, Almeida, Fabry, & Reitz, 1992). The ROLES identifies 25 categories which include highly restrictive (e.g., jail, detention) to independent living settings (e.g., living independent by self or with a friend). Each category is assigned a rating (i.e., 1 = ja il to 25 = independent living by self) indicating level of restrictiveness. Lower ratings indicate more restrictive placement categories. This scale was converted to a 6-point scale (*M*=4.3, *SD*=1.3): (1 thru 4=1) (5 thru 9=2) (10 thru 12=3) (13 thru 16=4) (17 thru 23=5) (24, 25=6).

Results

This article focuses on Cox Regression as a technique for program evaluation. Cox Regression is multi-faceted, and is generally the most widely used model for "time-to-event" (or "survival") analysis when both categorical and equal interval measures are entered (Norusis, 2005, p. 135). Several important features of Cox Regression are germane to the discussion of analysis and results of this study as well as other studies utilizing similar data:

1. Both the time to recidivism and the fact of recidivism (it happens or it doesn't happen) are combined as a criterion variable. It is assumed that the period of time a youth refrains

from criminal behavior is an important factor in planning the structure and intensity of pre and post treatment.

2. For many cases, the event of recidivism does not occur by the end to the study or by the time they are lost to the study. Cases that "survive" to the end of the study or until researchers lose contact with them are "censored." Hence, cases are coded as 0 (the event did not occur) or as 1 (the event did occur before the end of the study or prior to last contact).

3. Data for all censored cases contribute to the analysis. If a case is lost at six months without recidivism, it is assumed that the individual survived at least six months. Censoring cases enhances the value of data collected – even the data from individuals lost to the study.

4. Hazard and survival models are produced. Coefficients in the hazard model can be interpreted as "relative risk" ratios. Because it is assumed that relative risk remains constant at all levels of the predictor variable over time, the hazard model is known as the "Cox proportional hazards regression model." This assumption is critical to the diagnostic checking of a model in which differences between levels of predictor variables in predicted hazard of recidivism are not time-dependent. This simply means that the differences in relative risk based on prior criminal activity or the *Departure Success Scale* score will be the same at one month, two months, six months, or by the end of the study.

5. A predicted hazard rate, based on values of predictor variables, is generated for each case at each time interval. In the case of youth in the BT five-year follow-up study, the hazard of recidivism at each month for each youth is based on the *Departure Success Scale* score and whether or not the youth had a criminal offense prior to entering treatment. This feature is critical to relating evaluation analyses back to an individual youth.

6. Trickle in and trickle out of youth in the study can be accommodated. For instance, data pertaining to a youth who has left treatment two months prior to end of treatment makes a partial contribution to the analysis. If the youth has not committed an offense by the end of treatment, the case is censored.

7. Qualitative methods can be combined with quantitative (regression) techniques. Indeed, SPSS output resulting from the Cox Regression procedure can be utilized in staffing specific cases, interviews with youth, and observation. When a regression model is produced, there may be outliers. Certainly, there will be some youth whose outcomes are far different than expected based on the model. In the discussion of results presented below, qualitative research pertaining to a small proportion of youth who defied expectations will be included.

In summary, Cox regression as applied to the BT five-year follow-up study is characterized by time to event, censored cases, predicted hazard for each case at each interval of time, and time constant proportional relative risk between levels of the predictor variable. These features of modeling are crucial to a shift in focus from summative and impact evaluation to a formative approach to evaluation

Fitting a model for practicality and usefulness

As will be demonstrated in this section, Cox regression analysis results in a model that can be useful in identifying subsets of youth who may need modifications to their treatment. The model can be utilized to relate data back to individual youth. This approach can be useful for applying sophisticated statistical modeling to real world data as well as to decision-making about individual youth or small subsets of youth with specific characteristics. The resulting process will also stimulate a much needed dialogue and team-building between researchers/evaluators, therapists, and program managers.

Data modeling ideally results in the best set of predictor variables related to a specific outcome. The best set of predictors not only explains the greatest amount of variance in an outcome of interest, but it also is the most parsimonious set known to the researcher/evaluator.

A variety of techniques is available to analysts for determining which potential predictors actually constitute the best set. Based on prima facie knowledge gleaned from program staff, a few variables can be entered into an initial model. *SPSS* and other statistical packages generally have several options such as "forward," "backward," and "forced" entry. "Forward" and "backward" are known as "stepwise" entry. In stepwise entry, the computer program, in effect, makes decisions based upon the contribution of each variable in the entered combination.

As opposed to stepwise techniques, the analyst can run successive models by eliminating and adding variables based on results. A thorough discussion of stepwise versus forced entry modeling with *SPSS* is beyond the scope of this article. Suffice it to say that the model demonstrated below was derived by a combination of stepwise and forced entry.

Discussion with program staff led to the identification of variables for which data were collected and which were believed to be predictive of recidivism. For instance, length of stay, age at entry into treatment, gender, ethnicity, criminal activity prior to entering treatment, and score on the *Departure Success Scale* were entered in a variety of combinations that included interactions. In the final analysis, analysts must make decisions based on input from program personnel.

The model presented in Tables 1 through 4, includes two predictor variables: (1) prior criminal activity, and (2) score on the D*eparture Success Scale*. The criterion variable is "time to offense." Prior criminal behavior is a dichotomous, categorical variable, coded 0 or 1 – the youth either did not have a prior criminal conviction (coded 0) or did have such a record (coded 1). *Departure Success Scale* score was treated as a metric, equal-interval scale variable. The "time to recidivism" criterion variable was measured in monthly units.

Approximately 55% (.549) of the youth in the data set indicated some prior criminal activity upon entering the program. The average score on the *Departure Success Scale* was 25.36. Reporting the average time to recidivism (criterion variable) is not appropriate. A large portion of youth in the study did not commit an offense during the course of the study (they are censored cases). Hence, the expected time to recidivism will be explained in terms of probability of recidivism and illustrated with hazard and survival curves.

Of the youth in the study, 44.6% are known to have experienced the event (recidivism) while 55.4% were had not committed an offense by the end of the study. A total of 184 of the 188 cases in the data file were available in the analysis while four were dropped due to missing data.

Hazard Function

Most researchers are familiar with logistic regression. If time to event were ignored, the criterion variable would merely be a 1 or a 0 – a youth either committed a crime or did not commit a crime. The coefficient would be interpreted as the increase in odds for each unit increase in the predictor variable. The odds divided by 1 + the odds would provide the probability.

Whereas logistic regression estimates the probability of committing a crime or not committing a crime, Cox regression estimates the relative risk of one category of the predictor variable committing the crime versus another category (or level). In addition to the relative risk, this modeling technique produces a hazard function. The hazard function estimates the increase or decrease in risk from one interval of time to the next. The hazard of experiencing an event increases as a function of the coefficient or "log hazard for a unit increase in the predictor" (Steinberg, 1999 page 286).

Coefficients for estimating relative risk of offending are presented as "B" (see Table 3). These coefficients can be interpreted as the log relative risk. For instance, AnyCrim (prior criminal activity) is .373. When exponentiated (its base is e or approximately 2.71828), it is 1.451 (Exp(B) in Table 3). This can be interpreted as, holding *Departure Success Scale* score constant, a 45% greater risk of offending for youth with prior criminal activity. Hence, having a coding of 1 results in a 45% greater risk for youth in category 1 versus youth in category 2.

The coefficient for *Departure Success Scale* is -.037. When exponentiated, the relative risk is .964, which suggests that, holding AnyCrim constant, risk decreases as the *Departure Success Scale* score increases. For every ten-point increase in the *Departure Success Scale*, the risk of offending would be reduced by 37%. The cumulative hazard function can be represented by $h(t) = \left[h_0(t) \right]^{(BX)}$. In this function, h_0 is the baseline hazard function when X is set to 0, t is the time component, and BX represents the coefficient and variable (*e* raised to the power of .373 X 1 in the case of prior criminal activity). Another way to interpret $h(t) = \left[h_0(t) \right]^{(BX)}$ is to divide both sides by $h_0(t)$, which results in $\frac{h(t)}{h_0} = e^{BX}$. Exponentiation of e^{BX} becomes the relative hazard or the hazard ratio. It is the change in risk due to the application of a specific treatment or the presence of a condition (prior criminal activity) or the change in an assessment score, age, or some other continuous variable. When multiple covariates are included in a model, $\frac{h(t)}{h_0(t)}$ is estimated by $e^{B_1X_1 + B_2 X_2 + ... + B_P X_P}$. In the model displayed in Table 3, $\frac{h(t)}{h_0(t)}$ is equivalent to $e^{((.371 * priorcrim) + (-.036 * DepartSuccScale))}$.

Assessing the model

As in regression modeling in general, Cox regression is intended to improve explanation of an event over the baseline. In other words, a model without predictor variables or, equivalently, a model with the predictor variables set to 0. Table 1 displays the -2 log likelihood without the contribution of the predictor variables.

Table 1. -2 Log Likelihood of the Cox Regression Model Excluding Predictor Variables.

Omnibus Tests of Model Coefficients

-2 Log Likelihood
781.397

Table 2 displays the change in -2 log likelihood with *Departure Success Scale* score and prior criminal activity variables added to the baseline (intercept only) model. As indicated by Table 2, the model with the two explanatory variables reduced the -2 log likelihood from 781.4 to 771.8 – an improvement of 9.6, which is treated as a chi-square statistic with two degrees of freedom. The improvement was significant (p < .01).

Table 2. -2 Log Likelihood of the Cox Regression Model With the Predictor Variables *Departure Success Scale* and Prior Criminal Activity Included.

Omnibus Tests of Model Coefficients [a,b]

Log Likelihood	Overall (score)			Change From Previous Step			Change From Previous Block		
	Chi-square	df	Sig.	Chi-square	df	Sig.	Chi-square	df	Sig.
771.815	10.100	2	.006	9.583	2	.008	9.583	2	.008

a. Beginning Block Number 0, initial Log Likelihood function: -2 Log likelihood: 781.397

b. Beginning Block Number 1. Method = Enter

Assessment of the model based on the results in Tables 1 and 2 suggests that the two predictor variables entered into the analysis are meaningful predictors of time to recidivism. Along with the statistics displayed in Table 3, these results should lead to further analysis and use of the model, as will be done in the remainder of this article.

Table 3. Coefficients (B), Standard Errors, the Wald Statistic, and Significance of the Predictors.

Variables in the Equation

	B	SE	Wald	df	Sig.	Exp(B)
AnyCrim	.373	.232	2.584	1	.108	1.451
DepSuccSc	-.037	.014	6.720	1	.010	.964

In addition to the coefficients (B), Table 3 displays important information that should be considered by analysts: standard error of the coefficient, the Wald statistic, and significance. Rigid adherence to the inclusion or exclusion of variables based on a p value of .05 is not justified. A variable many not appreciably improve -2 log likelihood and may have a p value considerably larger than .05. Nevertheless, as will be shown, examination of individual cases and plots may suggest that the variable is of value in diagnosing a youth's outcome or in alerting treatment professionals to a major risk factor.

Plots & Diagnostics

Some of the discussion in this article concerning model fitting is fairly mathematically complex and may not interest policymakers, program managers, therapists and lay persons in general.

Nevertheless, it has been necessary to explain the analysis for evaluators and researchers interested in this technique. The plots and examination of cases discussed below are, however, easily grasped for use in reviewing treatment and in searching for needed modifications.

Figure 1, for instance, displays the hazard function at the mean of the covariates. At the mean of the *Departure Success Scale* (25.4) and with 55% of youth having a prior offense, slightly over 50% would be expected to commit a post-treatment offense by the end of 60 months. It is interesting to note that the curve appears to start rising at a steeper rate at about 20 months and continues to rise at a consistent rate until approximately 40 months, when it begins to flatten out somewhat. Closely perusing these types of plots can be helpful in detecting transitional points.
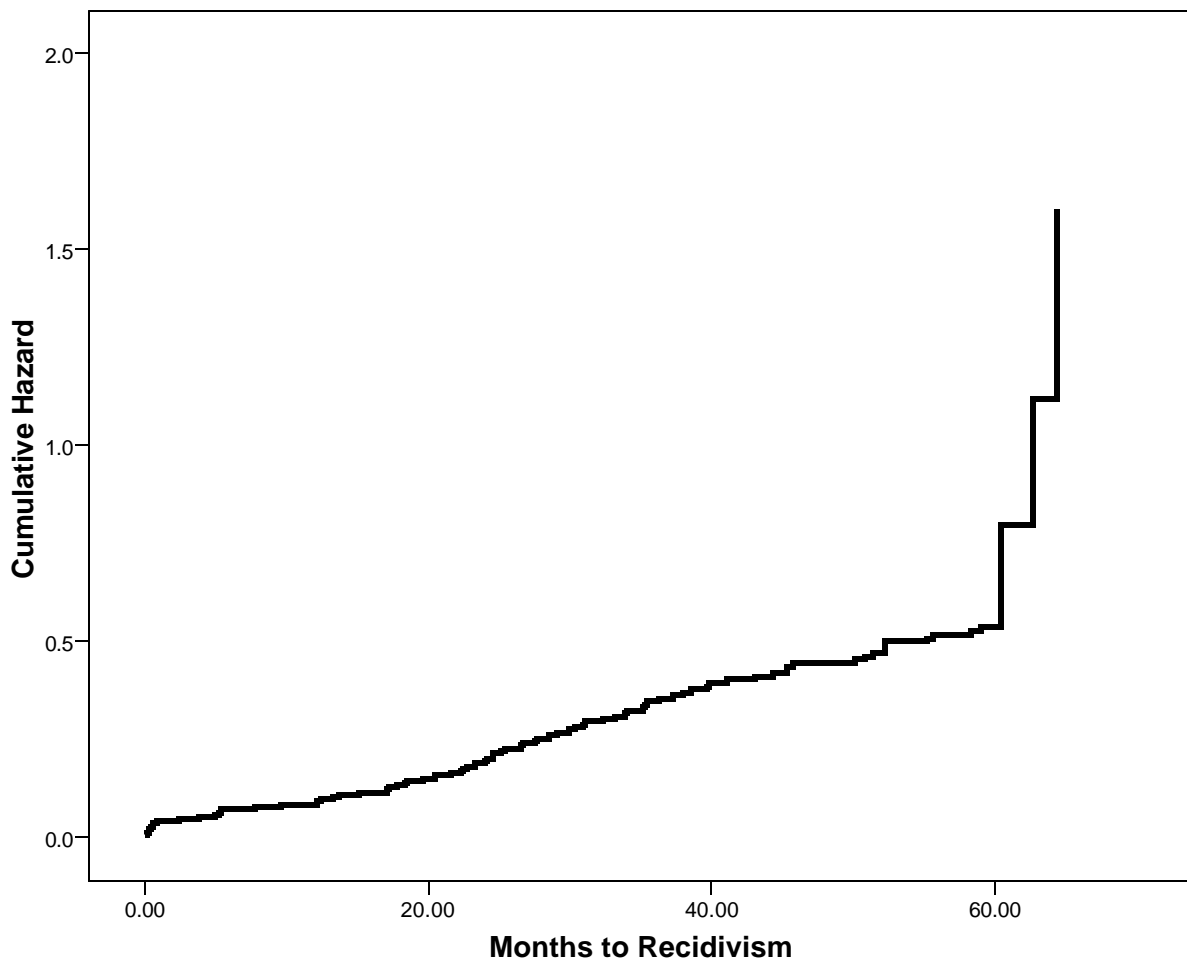
Figure 1. Hazard Function at the Mean of the Covariates.

Figure 2 displays the hazard function for the two levels of the categorical predictor variable (prior criminal offense or no prior criminal offense). It appears as though the curve rises at a much steeper rate with acceleration in the rise at about 20 months. The two lines diverge at a constant rate to the end of the study period. It is important to note that the lines do not cross. By switching positions, they would indicate a time-dependent covariate, in which case a time-constant model would not be appropriate.

Figure 3 displays a graphic of the log-minus-log function the categorical variable with the two levels. This is a major diagnostic tool. An assumption of time-constant Cox proportional hazards regression analysis is that these lines will be parallel. The lines in Figure 3 are clearly parallel.

Figure 2. Hazard Function for Prior Criminal Activity

Figure 3. Log Minus Log Function for Prior Criminal Activity

Table 4. Results for Twenty-Six Cases That Did Not Fit the Cox Regression Model

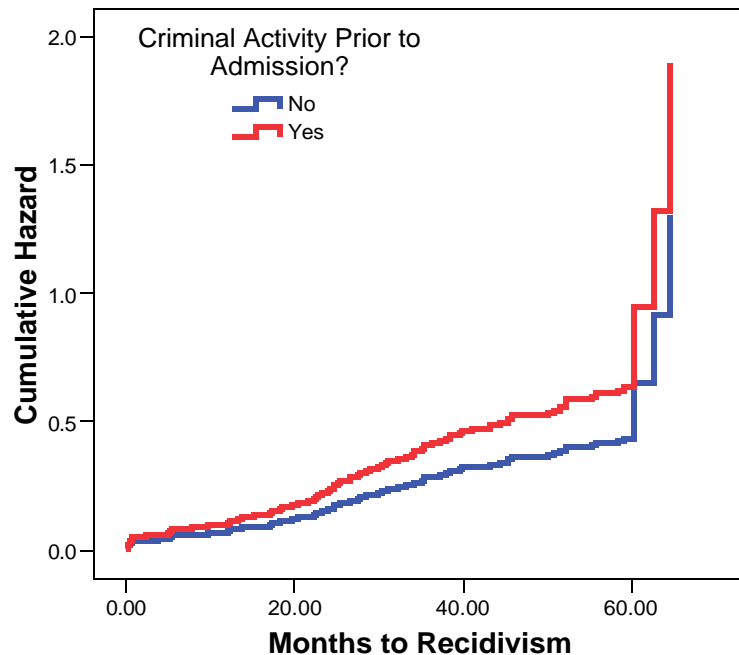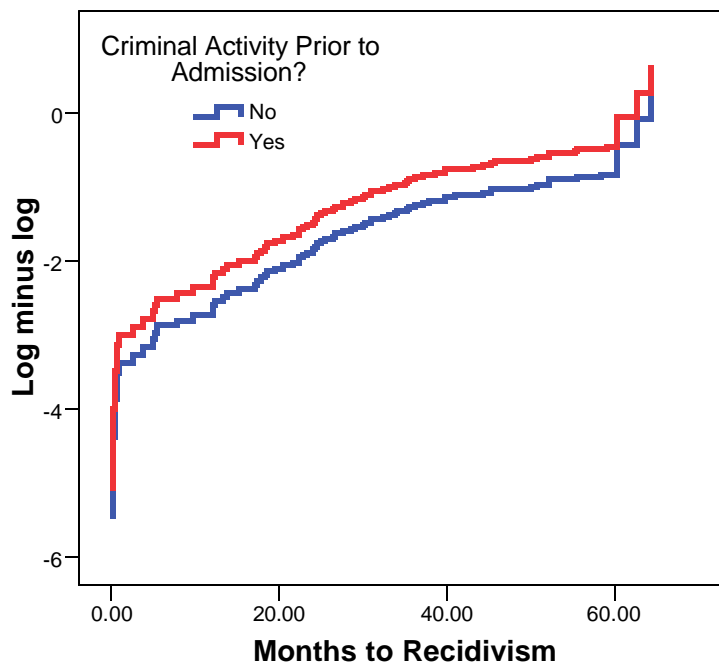| Case	Mos to Recidivism	AnyCrim	Depart. Scale Score	Survival	Hazard	Partial Resid 1	Partial Resid 2
1	.15	0	31	.99	.01	8.11	-.65
2	60.00	1	20	.46	.77		
3	29.00	0	31	.84	.18	7.94	-.63
4	60.00	1	17	.42	.86		
5	60.00	1	21	.48	.74		
6	60.00	1	26	.54	.62		
7	12.40	0	34	.94	.06	10.9	-.63
8	39.40	0	31	.77	.26	6.99	-.60
9	60.00	1	17	.42	.86		
10	60.40	0	30	.58	.55	6.11	-.67
11	60.00	1	16	.41	.89		
12	.79	0	34	.98	.01	10.9	-.63
13	60.00	1	20	.46	.77		
14	35.40	0	31	.79	.23	7.02	-.61
15	32.30	0	30	.81	.21	6.58	-.61
16	60.00	1	10	.33	1.11		
17	60.00	1	17	.42	.86		
18	9.63	0	34	.95	.05	10.9	-.63
19	60.00	1	16	.41	.89		
20	60.00	1	15	.40	.92		
21	60.00	1	22	.49	.72		
22	60.00	1	16	.41	.89		
23	62.60	0	30	.46	.77	7.33	-.80
24	60.00	0	18	.56	.57		
25	60.00	0	18	.56	.57		
26	23.90	0	33	.89	.12	9.70	-.64

DISCUSSION

This article has made the case for utilization of long-term follow up for program improvement rather than making judgments about the inherent worth of a program. In this endeavor, Cox Regression as a means of identifying the level of risk for youths with specific characteristics has been demonstrated. For instance, when prior criminal behavior and the D*eparture Success Scale* are entered as predictor variables, data modeling suggests that relative risk for offending decreases by nearly 4% for each one unit increase in the *Departure Success Scale* score. It has also been shown that past involvement with illegal activity increases risk by 45% relative to no involvement.

The purpose of this study was to demonstrate a modeling technique that would result in a productive relationship between evaluation/research professionals and treatment staff. It is suggested that the modeling process assists staff with identification of youth who might need additional treatment, enhanced after-care, or some other program modification. This process of "taking results back to individual" is the essence of evidence based practice (Katz, 2001). For example, we found that those who had engaged in criminal behaviors prior to admission and who had lower scores on the *Departure Success Scale* were more likely to be arrested after discharge. Thus, these results can be utilized by program administrators to modify treatment plans accordingly. Administrators may decide to provide more intense intervention which focuses on criminogenic attitudes for those youth that present with known criminal

backgrounds. Further, there are aftercare implications for *those* that leave with lower *Departure Success Scale* scores. As resources for aftercare are scarce, this data can be used to assist aftercare personnel to identify those who are at the most risk and thus present the greatest need.

With that being said, analysts are mostly interested in how well cases "fit" a model. Indeed, the objective of modeling is to find the variables which explain as much variance as possible. The researchers in this study are no less interested in a good model to which the data fit well. There is, however, another dimension to the analysis and its uses. This dimension involves the "messy" side of modeling. Every individual is unique. Behavior can only "more or less" be predicted. In some cases, the outcomes can be wildly off of the predicted outcome.

SPSS produces output for individual cases. Expected survival and hazard rates, standard errors, and, for uncensored cases, partial residuals can be saved. Table 4 displays various types of information for 26 of the 188 cases. These cases were listed because they seemed to stand out as having the most unexpected outcomes.

Case number 1 survived for a partial month (one fifteenth of one month). Cases such as number 1 with no prior offenses and a *Departure Success Scale* score of 31 would have had a 1% risk (hazard of .01) of committing an offense at this time period following treatment. Conversely, case 2 is censored. This youth had not committed an offense by the end of the study. This result defies expectation. The hazard rate for the case at 60 months was .77. With a prior offense and a low *Departure Success Scale* score, this youth had a rather low chance of survival.

To investigate those former youth who did not fit the model, we qualitatively examined the 6 cases most likely to re-offend but didn't and the six cases most likely not to re-offend but did. This process involved contacting those involved with these youth while in our care (e.g., the married couple that they lived with, Clinical Supervisors) and conducting a free flowing interview with them. Interviews last about 15 minutes and participants were briefly informed of the study and were asked to simply provide any information or insights about the particular youth in question.

Common themes about those who did not fit the model surfaced during the interviews. For those who were expected to re-offend but did not, it seems that many had formed a close bond with someone while in the program. In many cases, this bond resulted in the youth staying in contact with someone in the program after departure. Many reported that "She seemed to find a sense of family while she was here". On the other hand, for those not expected to re-offend but did, the main theme to emerge was that many struggled with substance use/abuse prior to admission, often times during their stay (e.g., usage during a home visit), and after departure. Many of those interviewed stated that it didn't surprise them to see the person in trouble. Overall, the model did well in predicting those most likely to re-offend from those who were not (only 26 out of 188 did not fit the pattern). Qualitatively examining those who do not fit the model provides another opportunity to use data for program improvement. In this case, the data suggests that connecting with kids in a family-oriented manner and placing more emphasis on substance abuse education and intervention may serve as a protective factor against recidivism.

Limitations

Not all 339 youths who left the Boys Town program at the beginning of the study were included in the final analysis. Adequate data were available for only 188 discharged youths. Hence, the model can be generalized to those youths who were in the study at a specific starting point and were still in the study five years later.

Ideally, a "survival analysis" of the type presented in this article would commence at a particular point in time and end at a particular point in time but subjects would flow in and out of the study as they

left treatment and/or as researchers lost contact with them. Youths lost to the study at any point could be included. Also data for youth who left treatment at any point prior to the end of the study and stayed involved until the end date (e.g. at the end of five years) could be included. Both of these circumstances result in "censored cases." The partial regression feature of Cox regression, censored cases can be handled in the analysis.

Summary

Youth with serious life problems are typically placed at Boys Town. It is notable that a substantial number of youth in the study had not offended during the five year study. Many youth who had been in trouble prior to placement were able to maintain an "offense free" lifestyle five years post-discharge. Nevertheless, prior criminal behavior appears to be a significant predictor of post-treatment offending. This suggests that youth with a history of criminal behavior should have treatment goals related to criminogenic attitudes.

Results of the study suggest that aftercare interventions should be provided to high risk kids. *Departure Success Scale* score and history are indications of the necessary level of post-treatment involvement with on-going support and treatment. These indicators of risk will be helpful in planning programs for youth at discharge.

Although the model presented in this article pertains to a particular placement and modality, the techniques demonstrated are applicable to any program serving troubled youth. Whether a placement is detention/confinement, community-based, or some other setting, long-term follow-up with the objective of modification and improvement, survival analysis techniques is a means of analyzing processes and examining effects on individuals.

As programs are implemented, more attention should be given to formative evaluation that can lead to treatment modifications, otherwise premature summative evaluations may lead practitioners and policy makers to drop interventions, which may otherwise be successful. Programs may have considerable merit and promise for improving the handling of youthful offenders, and be discarded due to poor implementation or flawed evaluations.

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Coping with post-ceasefire violence[1]

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Abstract

Much has been said about the specific psychological, physical, social, and cultural consequences of years of violent conflict and war, however little is known about the effects of post-ceasefire violence. In this paper, we take the individual case as unit of analysis and consider how two women cope with post-ceasefire violence in Northern Ireland. Quantitative as well as qualitative data show that while, on the surface, these women seem to 'put on a brave face', their psychological health is deeply affected by personal circumstances and fluctuating levels of post-ceasefire violence. This micro-level analysis is discussed in relation to the assertion in previous psychological literature that coping with the conflict in Northern Ireland was predominantly based on resilience, avoidance, and denial (Cairns & Wilson, 1984). Findings are discussed from a behaviour analytic view.
Keywords: post-ceasefire; violence; Northern Ireland; behaviour analysis; contingencies of reinforcement; coping.

Introduction

The effects of violence and war on the physical, psychological, social, and cultural health of a nation are the focus of intense international research efforts (Mollica, 2000). However, recent events in post-war societies have shown that while patterns may change, violence does not stop with ceasefires and peace accords (e.g. Moser & McIllwaine, 2001; Rodgers, 2002; Grillot, Paes, Risser, Stoneman, 2004; Alison, 2004; Healey, 2004; Jarman, 2004). Clearly, once established, the 'behavioural momentum' (Mace & Belfiore, 1990; Nevin, Mandell, & Atak, 1983) of violence carries on past peace agreements. Yet, development as well as effect of post-ceasefire violence is not well understood.

In Northern Ireland, community conflict and violence have a long and protracted history. One of the most intense and prolonged periods of violent conflict, colloquially known as *The Troubles*, started in 1969 (Darby, 1995; Kee, 1980). The Troubles meant the death of over 3,600 people and the injuries of over 40,000 individuals. Thousands lost close relatives and friends, witnessed bombs and shootings, or were intimidated out of their homes (Bloomfield, 1998).

The pattern of violence in Northern Ireland across time and space was not uniform (Fay, Morrissey, & Smyth, 1999). Obviously, violent behaviour was contingent on a range of complex interrelated contingencies and schedules of reinforcement and punishment (Ferster & Skinner, 1957; Catania & Reynolds, 1968; Ford & Couture, 1978; Staddon & Cerutti, 2003). The early 1970's and 1980's were times of extreme social deprivation in Northern Ireland (Gerhardt, 1972), and bombings and shootings were nearly everyday occurrences. In the late 1980's and early 1990's, when next door, in the Republic of Ireland, the economy was starting to recover and the Celtic Tiger was beginning to rise (Dorgan, 2006), the rate of violent incidents in Northern Ireland began to decrease. At the same time, violence intensified annually at certain predictable times, i.e., around July and August when anniversaries

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of historical events, such as the Battle of the Boyne in 1690 (July 12) or the activation of internment law in 1971 (August 9), were (and still are) commemorated. For the most part, intense violence was concentrated in the Greater Belfast area, and did not generalise across settings (Maguire, 2007), but, while rural areas saw fewer incidents, they were not exempt from hostility.

This fluctuating pattern of violent behaviour was reinforced by a wide range of material as well as social reinforcers; including money (Holland, 1988); individual peer acceptance and street creed (Cochrane & Dunn, 2002); and national and international media attention (Cairns, 1987). As would be expected under such strong and effective contingencies, a behavioural momentum (Plaud, Plaud, & von Duvillard, 1999) built up, that did not simply disappear with the ceasefires or the peace agreement.

However, with the ceasefires, contingencies changed and, predictably, patterns of violence changed as well. While some violent behaviour patterns were put on extinction, other behaviours, previously at low frequency, increased; for example, the number of murders decreased substantially, but paramilitary-style 'punishment' beatings or shootings (i.e., shots into knee cap), sectarian attacks, and inter-paramilitary feuding intensified (Healey, 2004). According to police figures, 594 attacks on symbolic properties (e.g. meeting halls, clubs, and churches or chapels) occurred between 1994 to 2002, and 6,623 incidents of criminal damage, assault, riot, and disturbances happened in interface areas in North Belfast between 1996 and 2004. According to figures of the Northern Ireland Housing Executive, nearly 14,000 people sought re-housing due to sectarian or racist intimidation between 1994 and 2004 (Jarman, 2005). In Belfast, episodes of inter-paramilitary feuding were particularly intense and localised and a general deterioration of community relations occurred; for example, during the summer of 1996, more plastic bullets were fired, than in any other year since 1981, the year of the hunger strikes (Jarman, 2004). Four years after the ceasefires, the Omagh bomb on 15th August 1998 was the worst single incident of the Troubles (29 people and two unborn twins were killed).

At the same time as patterns of violence changed, reinforcers such as local, national, and international recognition and political esteem (Hennessey & Wilson, 1997), and national and international funding (McDougall, 2006) became available to those who steered away from sectarian violence and for those who had suffered from the violence of the past 35 years. Government as well as academic researchers began to pay increasing attention to the effects of violence on individuals and communities during the Troubles. For example, Cairns and colleagues (Cairns & Darby, 1998; Cairns, & Wilson, 1984) had argued that during the Troubles, people generally coped with astonishing resilience and they attributed this to strategies that involved denial, defence mechanisms, and avoidance. However, amongst those affected by the Troubles more specifically, poor psychological adjustment was found one year after the Enniskillen bomb (Curran, Bell, Murray, Loughrey, Roddy & Rocke, 1990), 25 years after Bloody Sunday (Hayes & Campbell, 2000), and up to 30 years after violent conjugal bereavement (Dillenburger, 1992; Dillenburger, & Keenan, 2005). Muldoon, Schmid, Downes, Kremer, and Trew (2005) reported that 12% of their Northern Irish respondents experienced Troubles-related symptoms that warranted a diagnosis of PTSD, compared to 6% in Border counties. Thus, while it has been argued that the Troubles affected society much more deeply than previously reported (O'Reilly & Stevenson, 2003), it remains unclear if these results are related to pre- or post-ceasefire violence, ineffective service provision, and unstable political situation, or unresolved justice, truth and reconciliation issues.

In the behaviour analytic literature, issues of violence and coping have only relatively recently attracted attention (Dillenburger & Keenan, 1994/2001; Nevin, 2001; Shane, 2001; Spates, 2002). Clearly, the experience of violence affects an entire repertoire of behaviours. In fact, Dillenburger and Keenan (2005) contend that attempts at understanding or explaining these kinds of complex behavioural responses need to harness most, if not all, known behavioural principles, in particular operant and respondent conditioning and extinction, stimulus equivalence, and establishing and abolishing effects (Michael, 2000), to name but a few.

Until the ceasefires in 1994, there was little help for those affected by violence (Darby & Williamson, 1978), but since then, large scale European and local funding has been targeted specifically on the needs of victims of the Troubles (McDougall, 2006). As a result, the number of voluntary self-help victims' organisations has increased dramatically (Dillenburger, Akhonzada, & Fargas, 2007; Kulle, 2001; Morrissey & Smyth, 2002). Frequently, individuals who had been affected by Troubles-related violence set up these groups. The groups generally aim at offering support or therapeutic intervention, achieving political change or recognition of suffering, or providing advocacy for victims; many aspired recognition, acknowledgement, and justice for their members' suffering (Hamber, 2003).

For the most part, four kinds of therapeutic services are offered by victims' organisations, namely community-based services, such as befriending, self-help groups, or social events and trips; education-based services, such as advice, information, and courses (e.g. computer courses, essential skills, digital photography); philosophy-based services, such as complementary therapies (e.g. reflexology, aromatherapy or yoga); and psychology-based services, such as counselling, group therapy, and psychotherapy (Dillenburger, Akhonzada, & Fargas, 2007). These services are generally not behaviour analytic and their effectiveness has been questioned (Dillenburger, Akhonzada, & Fargas, 2006), although recent evidence suggests that interventions that offer immediate practical support, such as befriending, social support, or aim at physical wellbeing (e.g., reflexology) may have a positive impact on psychological health of victims (Dillenburger, Fargas, & Akhonzada, 2007).

Behavioural treatment, in particular exposure-based treatments such as Exposure and Response Prevention, or therapeutic interventions, such as Acceptance and Commitment Therapy, Dialectic Behaviour Therapy, Functional Analytic Psychotherapy, or Eye Movement Desensitization and Reprocessing have been applied with victims of trauma (Follette, Ruzek, & Abueg, 1998), however there is not much published research to evidence their effectiveness (Baer, 2006), and these interventions are generally not available for trauma victims in Northern Ireland, where traditionally psychoanalytically-oriented approaches prevail.

This paper aims to redress this imbalance by addressing the question of how pre- and post-ceasefire violence affected individuals on a micro-level of analysis, and if these effects can be ameliorated by effective service provision. To explore these issues, case studies are presented that describe the lives of two women who have lived in interface areas within Belfast for most of their lives. Over the years, they experienced intense pre-and post-ceasefire violence and, most recently, they were affected by inter-paramilitary feuding. Both women availed of services offered by a voluntary sector victims' organisation.

Methodology

Participants

Two women, Sarah and Anne (not their real names), took part in this study. Both women were part of a larger study (n=75) exploring the effectiveness of services delivered to victims of the Troubles (Dillenburger, Fargas, & Akhonzada, 2007). Participants were identified using a gatekeeper approach (Erickson, 1982), in which chairpersons of victims' organisations asked members to participate in the research. Sarah and Anne were selected for the micro-level analysis reported here because their experiences of pre- and post-ceasefire violence and their socio-demographic data were similar, and thus allowed for parallel analysis. Moreover, they had provided the most complete data sets of participants who had experienced post-ceasefire violence.

Sarah was a middle-aged, married woman, who worked full-time as a support worker in a voluntary agency. She enjoyed a fair state of physical health and at the time of the study, she was not on any kind of medication.

Anne was an older woman who was not employed. She described her state of health as fair, although she saw her doctor more than six times in the past six months and was on prescribed anti-depressants and heart tablets.

Both women lived in an interface area in Belfast that was regarded as socio-economically deprived and had been subject of numerous pre-ceasefires bombings and shootings. Since the ceasefires, specifically since 2000, the area had been the focus of intense inter-paramilitary feuding which included street violence, attacks on homes and businesses, and 'punishment' beatings or shootings.

Both, Anna and Sarah, availed of a range of services offered by a local victims' organisation. These services included psychology-based, community-based, education-based, and philosophy-based services, as described above.

Research inventory

Quantitative data were collected using a multi-faceted research inventory.

1. *Personal Experience and Impact of the Troubles Questionnaire* (PEIT-Q) (Dillenburger, Fargas, & Akhonzada, 2007) was specifically designed to gather socio-demographic data regarding age, gender, and family background. In addition, participants were asked to give details of traumatic experience(s) and outlined details of services received. The PEIT-Q includes a 7-point Likert scale to assess social validity of services (i.e., social significance of goals, social appropriateness of procedures, and social importance of intervention (cf. Foster & Mash, 1999), where low scores indicate high validity.

2. The 30-question version of the *General Health Questionnaire (GHQ-30;* Goldberg, McDowell, & Newell, 1996) is a brief self-administered inventory that assesses general psychological health. It uses a standard binary scoring scale of 0-0–1-1, and scores over 5 are considered *'cases'*, indicative of levels of tension, anxiety, and depression that have an adverse effect. There is a 95% probability that respondents who score 10 or more are suffering severe psychological distress, emotional, or psychiatric illness.

3. The *Beck Depression Inventory – Second Edition* (BDI-II; Beck, Steer, & Garbin, 1988) is a 21-item self-report rating inventory (each question scored between 0-3). Responses are rated *normal* ups and downs (scores of 5-9), *mild to moderate depression* (scores of 10-18), *moderate to severe depression* (scores of 19-29), and *severe depression* (scores of 30-63) (Gillespie, Duffy, Hackmann, & Clark, 2002).

4. The *Posttraumatic Stress Diagnostic Scale* (PDS; Foa, Cashman, Jaycox, & Perry, 1997) is a self-administered inventory that indicates symptoms and severity of posttraumatic stress disorder (PTSD). Responses were rated as *mild PTSD symptoms* (scores of 1-10), *moderate symptoms* (scores of 11-20), *moderate to severe PTSD symptoms* (scores of 21-35), and *severe PTSD symptoms* (scores of 36-50).

5. The *Stressful Life Events Scale* (or *Social Readjustment Rating Scale*) (SLES; Holmes & Rahe, 1967) is a list of 41 ranked stressful life events that assesses overall stress levels that are due to specific life events. Life events are ranked in order from the most stressful (death of spouse) to the least stressful (minor violations of the law). A shortened and slightly modified version of SLES was used in this study.

Qualitative data were collected using semi-structured interviews that allowed participants to talk about their personal experiences in some detail, with open questions referring to coping responses, the experience and effects of violence, and services received.

Procedure

Ethical approval for the study was granted by the Office of Research Ethics Committees (Northern Ireland). The study was conducted under the research governance procedures of Queen's University of Belfast.

Meetings with the participants were arranged in the groups' drop-in-centres. Those who agreed to participate were given a participant information and consent sheet. Only those who signed the consent sheet took part in the study. Questionnaires were handed to each participant by the researcher, completed in the presence of the researcher, and collected immediately after completion. The researcher was available to answer questions and help with completion of the inventories. At baseline assessment, participants completed the PEIT-Q, the GHQ-30, the BDI-II, and the PDS. Subsequent to baseline, in 3-4 monthly intervals across a one-year period, respondents repeatedly completed all three psychometric inventories; the shortened version of the PEIT-Q to identify services received; and (in assessments 3 and 4) the SLES to identify stressful life events between assessments (total of 4 assessments). While there was some predictable drop-out in the larger study, both Anne and Sarah participated in all four assessments.

In addition, semi-structured interviews were carried out with a small sample of participants in the larger study (n=20). Interviews lasted an average of 20-25 minutes, were tape-recorded, and transcribed, with transcripts verified by participants prior to inclusion. Both Anne and Sarah participated in the interviews.

Results

Case 1: Sarah

Recall of traumatic event

In Sarah's case the traumatic events that affected her most severely had occurred some six years prior to the study, when inter-paramilitary feuding and related violent riots raged in the area. The feud was related to territorial disputes, drug dealing, and other criminal activities; seven people lost their lives and 239 families were intimidated out of their homes (Jarman, 2004). Sarah recalled how the events affected her and her family:

"Two of my brothers was put out of their homes, very violently put out of their homes. One of my brothers, and his wife and the two children were lucky to escape from the house actually. They got out the back door just in time. They set their car on fire, they wrecked the house. It was a bad time, all and all."

Changes to life

Sarah witnessed some of the violence and heard about other details of events from relatives. Her immediate reaction was shock. She explained that the events had changed her life and how she felt about herself in a number of ways:

"[I felt] very nervous about even walking on the road. You were scared to talk to people because you didn't know which organisation they were from. You tend to sort of keep yourself to yourself and you weren't as open with people as you usually were. And that's the thing that has affected me the most

because I am a very open person, and I like to talk to everybody. It just makes you aware 'should I be talking to this person?'. You've lost your trust really, more than anything else, that's what I found, what happened to me was I lost my trust in people."

However, she stated in the PEIT-Q that she considered that she had coped fairly well with the violence. While her religious views did not help her, she reported that she could talk freely with her family. She blamed society for what happened.

Psychological health

Sarah's psychological inventory scores showed poor general psychological health, high levels of depression, and high PTSD symptom severity. Figure 1 shows the mean inventory scores for four assessments over a 9-12 month period of time.
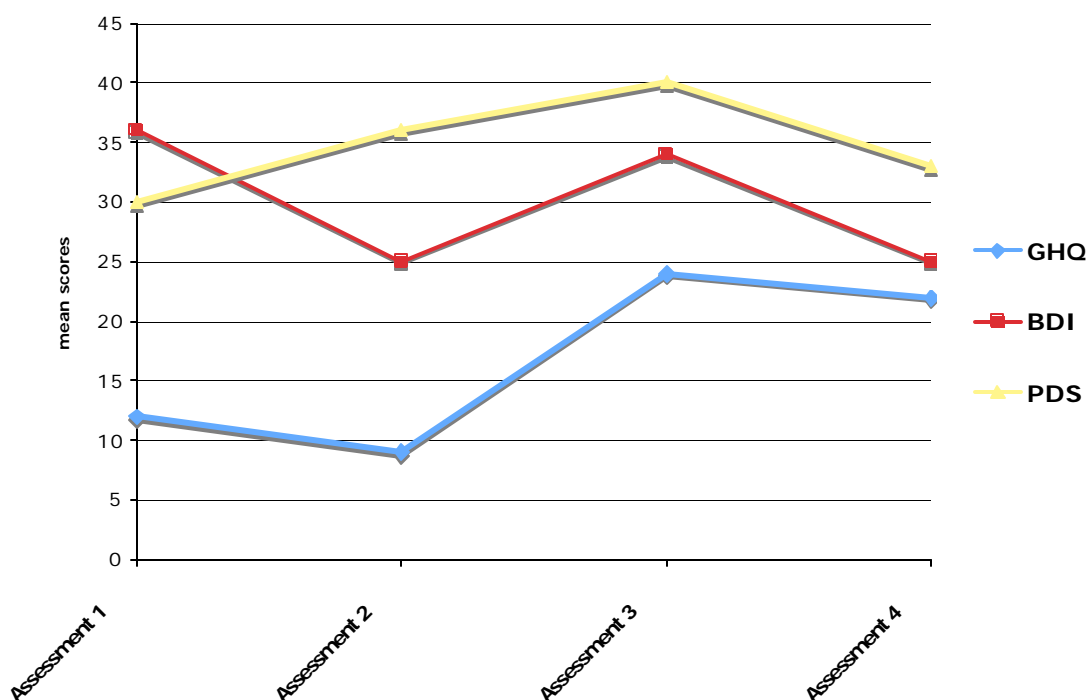
Figure 1: Sarah's GHQ-30, BDI-II, and PDS scores for four assessments

Although Sarah scored relatively high on all three measures across the assessment period, considerable variations were observed. While GHQ-30 and BDI-II scores dropped between Assessment 1 and Assessment 2, they rose in Assessment 3 and dropped again in Assessment 4. The PDS mean scores rose from Assessment 1 to Assessment 2 and again to Assessment 3; they fell in Assessment 4.

Use of self-help group services

Sarah was involved with a variety of services of a voluntary self-help group over the past two years. She reported that she perceived these services as significant (social significance value = 1); appropriate (appropriateness value = 1); and that they were helping her cope with what happened (perceived importance value = 1).

"Well, first of all, I would have done essential skills and child theory and ceramics, things like that. And then, in the last couple of years, I've actually done a lot of things that I have got certificates for. So, there's Microsoft Excel, and Mail Merge, I got all certificates for that."

Figure 2 shows the services Sarah used at baseline assessment and between subsequent assessments.

Assessment 1	Assessment 2	Assessment 3	Assessment 4
Befriending	Befriending	Befriending	Befriending
Self-help groups	Self-help groups	Self-help groups	Self-help groups
Youth work	Youth work	Youth work	Youth work
Counselling	Narrative work	Counselling	Narrative work
Group therapy	Group therapy	Group therapy	Counselling
Reflexology	Reflexology	Art therapy	Psychotherapy
Massage	Massage	Advice & info	Reflexology
Aromatherapy	Aromatherapy		Massage
Reiki	Reiki		Indirect services
Art therapy	Yoga		(e.g. courses)
Music therapy	Advice & info		
Advice & info			
Indirect services			
(e.g. courses)			

Figure 2: Services used by Sarah

Stressful life events

Sarah experienced a range of stressful life events between assessments. Between Assessment 1 and Assessment 2 (particularly close to Assessment 2), extremely violent riots occurred in the area and in other parts of Belfast that were related to routing of a parade and degenerated into serious street violence. Sarah recalled:

"…there was a few incidents that happened on the road there, … which affected me pretty badly, because a lot of the stuff happened outside ... And I was standing out there thinking, 'is my work going to go on fire? … And I actually sat there … and cried, because of the state of the place, you were coming down and you were having to wash the doors before even get in. … and I was really, really depressed for a couple of weeks. … it brought everything back again. … Your nervousness. Erm… weary of people again. … it did affect me badly."

Between Assessment 2 and Assessment 3, Sarah experienced the death of a close family member, major personal illness, a major change in health of a family member, the death of a close friend, and gained a new family member. Between Assessment 3 and Assessment 4, Sarah was concerned about the return to Northern Ireland of a prominent leader of a paramilitary group and stated that the *"political situation feels unstable"*. She also experienced a major change in health of a family member, and took on a significant mortgage.

Perceived victimhood

When asked if she identified herself as a victim or as a survivor (Dillenburger, Fargas, & Akhonzada, 2005), Sarah explained:

"… there's times that I do feel, I was a victim. A victim, because what happened to my family affected me. And then what happened last year affected me pretty badly. I felt a victim when the feud was going on. When the feud is over, I gather myself together and feel like I'm a survivor. But then, if something happens tomorrow, I would feel like a victim again, you know. So, you are moving from one to the other."

Adversarial growth

Despite the traumatic experiences over the years, Sarah felt that not all the changes in her life were negative:

"Well, I think it means a lot, [the group] means a lot to me, because I came here for company and to take part in things and I ended up actually changing my life. … And now I have my own wage coming in and was able to get my own mortgage. So coming here first of all as a timid wee thing and taking part in all the classes and meeting everybody … So, this place has completely changed my life, completely changed my life."

Case 2: Anne

Recall of traumatic event

Anne was affected by the same post-ceasefire violent events as Sarah, approximately six years before taking part in this research. She explained what happened as follows:

"And the rioting started. And they tried to kill my son, and my daughter-in-law and two granddaughters. But they barely got out of their house alive, actually. There was a gang, about fifty and they had baseball bats, guns and… machetes. And they bashed their way, they set their car on fire, first. That was the noise they heard, and they looked through the back window and saw the mob. So, he got the two girls and shouted to his wife, 'Run out the front'. As they were running to the front of his house, the gang was coming in the back, smashing everything … and they ran into her house and up her stairs. … And we got to their home and I saw the smoke and I thought it was their home that was in fire. But it was the car. … Now, they wrecked the whole house. Wrecked it. They murdered … the wee bird, there was a bird. They lifted a gold fish bowl and threw it through the window. And so… [my son and his family] got out and

they ran towards… my home. But … I was, I was running down towards their home. And I was half way down, when I saw them coming towards me."

Changes to life

Anne reacted to these events with shock and numbness. She thought that she coped fairly well, with the help of friends, but her religious views did not help. She felt that she could talk freely with her family, however she found it difficult to talk about the feud. Anne blamed society for what happened and felt that the events had made her lose confidence and also made her more cautious. She explained:

"At the start, it was fear. Fear, the fear was always there. And then, the man that caused it all got arrested. So, the fear eased off a bit. But, in the last … years,, it's there constant. I think about it all the time, what might have happened, what could have happened. And I think that we were lucky that we didn't lose part of our family. Because there's some people did. … I had, I never slept, I was scared to sleep. Then, if I did finally get asleep, the least wee noise, and I was up. Because you didn't know what the noise was, who it was, where it was coming from. And, in the end, my doctor put me on anti-depressants. I'm still on them. And I can't do without them."

Psychological health

Anne's mean scores for the psychological assessments were very high at the first assessment, showing poor general psychological health, high levels of depression, and high PTSD symptom severity. Mean assessment scores across 9-12 months period varied considerably (Figure 3).
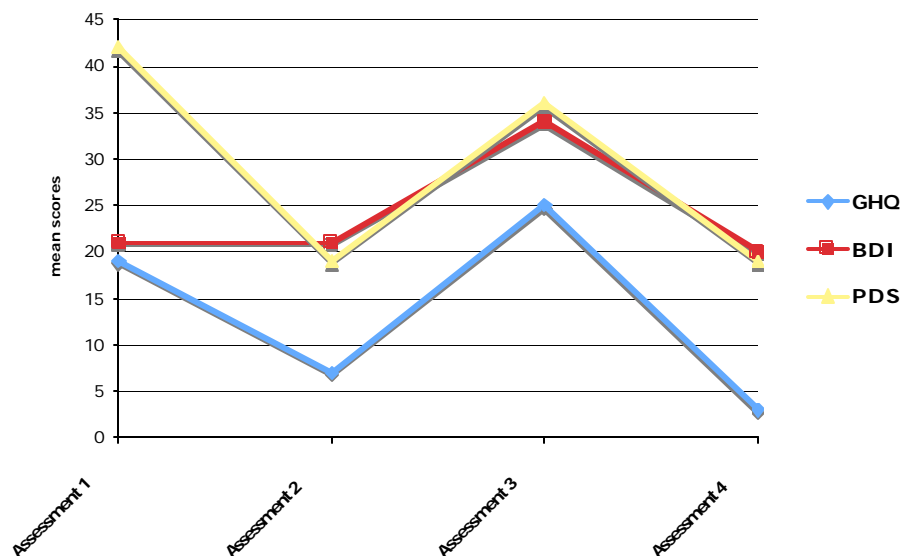

Figure 3: Anne's GHQ -30, BDI-II, and PDS scores for each assessment

PDS mean scores were extremely high in Assessment 1, while GHQ-30 and BDI-II mean scores were somewhat lower at the beginning of the study. All three mean assessment scores dipped between Assessment 1 and Assessment 2, but rose sharply in Assessment 3 and reduced dramatically in

Assessment 4. In fact, GHQ-30 score fell below the threshold of 5 for 'cases' in need of full psychological assessment.

Use of self-help group services

Anne availed of a range of different services offered by the victims' organisation. Like Sarah, she believed that the services she received were significant (social significance value = 1); appropriate (appropriateness value = 1); and were helping her cope with what happened (perceived importance value = 1). Figure 4 shows which services and activities Anne was involved with before and at baseline assessment (A1) and which services she availed of between subsequent assessments.

Assessment 1	Assessment 2	Assessment 3	Assessment 4
Befriending	Befriending	Befriending	Befriending
Self-help groups	Narrative work	Group therapy	Self-help groups
Youth work	Counselling	Indirect services	Narrative work
Counselling	Reflexology	(e.g. courses)	Group therapy
Group therapy	Indirect services		Reflexology
Reflexology	(e.g. courses)		Massage
Aromatherapy			Indirect services
Art therapy			(e.g. courses)
Advice & info			
Indirect services			
(e.g. courses)			

Figure 4: Services used by Anne

Anne explained how these services helped her:

"... after it was all over, I heard about this, it was further up the road and it was [name of a group] at the time, that was helping the people. And I went up to one of the meetings and they asked me to tell the story. I told the story on the television. And they asked me would I like to join the group. And I've been in ever since. And it has changed me very, very much. I'm more outspoken. I've got cheeky. And I was never a cheeky person. And I would face anybody now, where I'd have run and hid [pause] years ago."

Apart from courses, Anne also availed of respite trips or weekend residential trips:

"We go to residentials. We've been to [name of place] for weekends. We are going to [name of place]. And we've already been to [same name of place], last year. We've been to quite a few residentials. We've been to [name of place], ... We've been there with people from the [name of place]. ... we've been there twice. And... the meetings in it are very good. ... We talk about everything, actually. We talk about our

classes and… We meet women from other parts of the country and... The last one there was people over from England… at [name of place]. And their lives are as much the same as ours really. We think everybody has an easier life, they haven't (laughs)"

Stressful life events

Anne recalled having experienced diverse stressful events between assessments. She explains how media reporting constantly reminded her of traumatic events she had experienced:

"Well, now, every time you open the newspaper, this particular person is in it. And it doesn't go away. He's in [name of location] at the minute. And I opened the Sunday newspaper yesterday, and there was two pages. And he's always… When you try to… forget about it, he comes up."

Between Assessments 2 and 3, she experienced the death of a close family member, a marriage, a major change in health of a family member, the death of a close friend, she gained a new family member, took on a significant mortgage, and moved home. Between Assessments 3 and 4, she reported having experienced a major change in health of a family member, and the victims' organisation moved to another location.

Perceived victimhood

Her perception of victimhood changed over the past few years:

"Well, at the start, I thought that I… my whole family and maybe the rest of the families, we were all victims. Well, we are not victims anymore. We are survivors now."

Adversarial growth

Anne felt that availing of services offered by the victims' organisation increased her confidence. She outlined other positive outcomes:

"I learned an awful lot in this group … I went to courses. We talked about what happened. We've been to [name of University] and talked about what happened. And… now I'm more positive than I ever was. Sometimes, the fear is still there. But not the way it was at the beginning."

She recounted some of the courses and activities organised by the victims' organisation she had taken part of over the years, and how specific programmes helped her and the other women:

"… it's learning you to be positive, to be strong as a woman. … We've done digital photography. Our photos is on the wall. We have done art. We do ceramics every [certain day of the week]. We love it to bits. We do English every [certain day of the week]. … Now, the courses we've done has really helped us. It helped us to be stronger. … But the courses has made me more outspoken (pause) more… I always sat at the back of a room, now I sit in the front of a room."

Discussion

In this paper, the effects of post-ceasefire violence on the lives of two women were explored in some details. This micro-level analysis showed that while both women had been exposed to over 30 years of pre-ceasefire violence, more recent post-ceasefire violence as well as personal circumstances seemed to have affected them both powerfully and destructively.

Despite the experience of recurrent and recent post-ceasefire traumatisation, in qualitative interviews both women came across as coping relatively well with adverse circumstances and even reported a certain level of adversarial growth.

Quantitative measures painted a somewhat different picture. At the initial assessment point, psychometric mean scores were extremely high on the GHQ-30 for general psychological health, the BDI-II for depression symptoms, and on the PDS for PTSD symptom severity. This indicated the generally detrimental effects of living with violence over many years. Yet, over the ensuing 9-12 months, psychometric mean scores fluctuated considerably. Scores went down somewhat for both women in A2, despite the fact that intense post-ceasefire violence had been experienced. Scores went up in A3 when both women had experienced the death of a close family member and other stressful life events. Scores for both women reduce in A4, when there had been stressful political post-ceasefire events.

The discrepancy between qualitative and quantitative data is intriguing. While both women verbalise good coping and even adversarial growth in the interviews, their scores on the psychometric assessment inventories tell another story; they tell of severely traumatised vulnerable individuals whose coping was affected by post-ceasefire violence, and largely depends on households, family, and friends, as well as services provided by voluntary support organisations.

For the behaviour analyst, these findings may not be surprising. After all, we know about the lack of say-do correspondence (Lloyd, 1994). Data reported here confirm that verbal reports of what has been or is going to be done often do not correspond with observable behaviour. In this case, public behaviour (i.e., do) was measured by standardised psychometric tests that include questions about behavioural patterns, e.g., with regard to crying, sleeping, meeting friends. Of course, it would have been desirable to have direct observational data (Calkin, 1990), but for obvious reasons, this was not available. Verbal reports (i.e., say) that were given in the interviews, where largely based on open questions that allowed participants to talk about their coping with post-ceasefire violence.

It is entirely possible that the kind of positive verbal responses given by Anne and Sarah were shaped by the lack of provision for victims over the years, when no-one listened to what victims were saying and only positive 'coping' talk was reinforced (Dillenburger, 1992). The lack of correspondence between saying and doing was predictable (Luciano, Herruzo, & Barnes-Holmes, 2001) and behaviourally based therapeutic approaches that have been developed to increase say-do correspondence (e.g., Anderson & Merrett, 1997) could be usefully deployed with victims of violence.

Even more importantly, since most psychological research about coping with violence in Northern Ireland relies on interviews and verbal reports (i.e., say), previous reports of resilience and denial have to be viewed with caution. At the end of the day, only actual verifiable observations of behaviour can evidence coping with post-ceasefire violence (Calkin, 2001).

These observations will unearth the differences between behaviour that is contingency-shaped versus behaviour that is rule-governed. In a sense, it could be argued that in the study reported here, quantitative measures tapped into contingency-shaped behaviours, and that qualitative interviews were based on verbal reports and as such could be classified as reporting on rule-governed behaviours. The difference in outcome was predicted by Skinner (1969) when he said that rule-governed behavior "is in any case never exactly like the behavior shaped by contingencies … [because] the controlling variables are different, and … behaviors will not necessarily change in the same way in response to other variables" (p. 150-151).

The questions raised by the study reported here obviously require further attention. In the meantime, we conclude that the two individual case analyses presented here shed important light on what

goes on in post-ceasefire situations. When political opponents come to agree a ceasefire or peace accord, this does not mean that violence and traumatic experiences stop. Individuals who live in post-ceasefire societies might still be affected by the effects of pre-ceasefire conflict and, in addition, might have to cope with post-ceasefire violence. They cannot absorb the cumulative effects of these experiences unless households and community services are fully supported, and the political situation eventually stabilises.

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Medication Management Skills for Mentally Ill Inmates: Training is not Enough

Sally J. MacKain & Tracy Baucom

Abstract

Despite the fact that the population of incarcerated offenders with severe, persistent mental illness (SPMI) has exploded in recent years, few correctional facilities provide empirically supported behavioral training in illness or medication management. This study examines symptoms and global functioning for 33 male SPMI inmates before receiving intensive training in medication self-management skills, and approximately 10 months after transfer to other prisons. Medication self-management knowledge and skill acquisition were assessed at 3 points: pre- and post-training, and after transfer. We found that inmate symptoms and global functioning post-transfer appeared to be fairly mild and stable. Personalized knowledge of medications was maintained after transfer, but skills related to medication self-management declined. Future programming throughout the criminal justice continuum should maximize opportunities for continued skill rehearsal and reinforcement to promote illness-management skill maintenance and generalization. Keywords**:** mental illness, prison, medication, skills training .

The proportion of incarcerated offenders with severe mental illness has doubled in five years; 15% of state prison and 24% of jail inmates meet criteria for a psychotic disorder (James & Glaze, 2006). Lack of community mental health services, fewer hospital beds, a more punitive political climate, homelessness, drug use, and other social problems have resulted in what is referred to as the "criminalization of the mentally ill," where the responsibility to treat people with mental illness has been shifted from the shoulders of mental health agencies to correctional settings. Unfortunately, the criminal justice system lacks the resources and sometimes the inclination to provide evidence based mental health services for offenders with psychotic and other persistent disorders. After all, the mental health system— not the correctional system--was established to meet these needs. While some innovative systems have been initiated to identify, house, medicate, and provide treatment for offenders with severe mental illness, (National Institute of Corrections, 2001/July; Beck & Maruschak,, 2001) the lack of specificity in reports of these "treatments" makes it difficult to analyze the quality or appropriateness of services (Mueser & MacKain, 2006). If proper supervision and treatment are provided, mentally ill offenders are less likely to re-offend (Lovell & Jemelka, 1998). Given that up to 95% of State prisoners will someday be released (Hughes, Wilson & Beck, 2001), the public would be well served by seeing that effective treatments are delivered.

Mentally ill inmates often find it difficult to adjust to prison life and are more likely to have behavior problems, be victimized by higher functioning inmates, and have trouble understanding and following rules (Adams, 1986; Jemelka, Trupin & Chiles, 1989, Ditton, 1999). Disciplinary problems of inmates with mental illness cost the system dearly, especially in terms of staff time spent on processing infractions and increase in total time of incarceration due to loss of "good time" (Lovell & Jemelka, 1996).

Adherence to medication regimens has been shown to play a central role in reducing symptom severity, relapses and rehospitalization, at least in community-based populations (Hunt, Bergen, & Bashir, 2002). Services that provide medication education and skills to minimize side effects and maximize medication benefits can enhance patient satisfaction (Prince, 2006) and promote positive treatment

outcomes (Chue, 2006). Although evidence supports teaching symptom and medication self-management in hospitals and communities (Wallace et al., 1992, Mueser, et al. 2002), little is known about the use and effects of such efforts in the criminal justice system. Programs in this spirit would be designed to teach target skills directly related to improving the offender's global mental health status, including such skills as medication self-management and problem solving, rather than to teach skills directed at reducing criminal behavior.

Several uncontrolled studies indicate that medication and illness management skills training programs hold promise. The Mental Health Program at McNeil Island Corrections Center in Washington offers psychoeducational classes such as symptom recognition and relapse prevention. In one study, comparisons of pre-program and post-program behavior in inmates with at least 3 months of treatment showed reductions in symptom severity, behavioral infractions, and assignments to higher levels of care. Former participants also had higher rates of job and school assignments and lower levels of symptom severity when transferred or released, compared to their level at treatment entry (Lovell, Allen, Johnson & Jemelka, 2001). Lovell and colleagues later interviewed 61 former program participants after they had been transferred to other prison facilities. Seventy percent were housed among the general population of inmates, and 30% were assigned to special housing units because they were deemed not to be coping well. In general, participants showed lower levels of symptom severity and expressed praise for the program (Lovell, Johnson, Jemelka, Harris & Allen, 2001).

The California Medical Facility at Vacaville provided medication and symptom management skills training to inmates with severe mental illness through acute and day treatment programming (MacKain & Streveler, 1990). Of the 9,000 beds in the facility, 210 were designated for the Mental Health Program. Inmates engaged in illness management and independent living skills training, and skill integration and generalization activities. The Medication Management and Symptom Management modules from the Social and Independent Living Skills (SILS) series (Kopelowicz & Liberman, 1994), served as the core of the curriculum. A preliminary study of 45 inmates that received the Medication Management module indicated that those who had at least 18 sessions of training knew more about their medications than participants with fewer sessions, and could perform role plays of medication-related skills more accurately. For example, inmates with training scored significantly higher on a role play test item requiring them to demonstrate the steps (e.g., reading the medication label aloud) involved in taking medications safely and correctly. Medication compliance for both groups was 100%, probably due in no small part to unit policies requiring medication compliance. More research was planned for the facility, but was not completed due to administrative changes.

Brown Creek Correctional Institution Program

A longstanding, comprehensive skills training program in a medium security North Carolina prison provided services based on the SILS model used at the California Medical Facility at Vacaville. The Social Skills Day Training program at Brown Creek Correctional Institution was closed after 11 years in 2004 due to budgetary issues, nursing staff shortages and other logistical problems as reported by the prison Central Administration.

Described in detail elsewhere (MacKain & Messer, 2004), the Day Training Program was established in 1992 to prepare inmates with a severe mental illness for successful integration into lower cost, regular prison units (the "general population"). Program services were based on psychiatric rehabilitation principles and used behavioral techniques to teach medication and symptom management, problem solving, communication, recreational and community re-entry skills. The 78-bed program within the 850-bed institution was designed for inmates with relatively stable but serious mental illness who were able to tolerate dormitory-style housing but were unable or deemed unlikely to function well among the general population of inmates. Over an 11-year period, the Day Training Program admitted over 700

inmates. Participants were typically referred by psychologists from processing units shortly after sentencing, or by psychologists at outpatient, residential, or inpatient programs within the prison system.

Inmates received group training in four of the SILS modules: Medication Management (administered first), Symptom Management, Basic Conversation Skills, and Recreation for Leisure skills. Mental health staff was trained to prompt and reinforce the use of specified skills on and off the units. Inmate-participants were housed in dormitories of 26 beds each, which was much less costly than special housing units at residential and inpatient prison units. When not in scheduled classes, Day Training inmates were considered to be part of the general population, allowing for participation in larger institutional activities such as religious programs, Alcoholics Anonymous, and night classes. Participation in institutional activities was thought to be instrumental in facilitating the transition to the general population. Typically, the program took 6-8 months to complete.

To be eligible for transfer to other prison (general population) institutions, inmates were expected to be able to: (1) understand how their medications work, (2) recognize symptoms, (3) identify their warning signs of relapse, (4) develop a relapse prevention plan, (5) adhere to prescribed medications, (6) communicate effectively, and (7) use leisure skills. These skills were typically assessed by program staff, rather than researchers, and were evaluated as the training progressed and goals were met, rather than at predetermined intervals that would allow for more systematic and standardized measurement.

Approximately 2 years before the Day Training Program was dissolved, a collaborative relationship was established between DOC and a researcher from the University of North Carolina Wilmington. Correctional staff and researchers collaborated to add several measures to the existing data sources and protocols to assess clinically relevant variables such as symptom severity, and medication-related knowledge skill. Data for a small subset of the 700 inmates who had been admitted to the program over its 11 year operation was captured during this two-year window. While long term follow-up of former program participants is on-going, this study reports on within-subject/participant symptoms and functioning before receiving the Medication Management Module, and approximately 10 months after transfer to other prison units. In an effort to assess illness management knowledge and skill acquisition, within-subject information and performance test scores are presented for inmates at three points: before and after training, and after transfer to other units.

Method

Participants. Participants were 33 male state prison inmates (22 black; 11 white) with a mean age of 37.81 years ($\underline{SD}$ = 6.99; Range = 26-53). All had been diagnosed by prison psychiatrists as having a psychotic disorder. All had completed at least 4 months of the Day Training Program ($\underline{M}$ = 8.07 months; $\underline{SD}$ = 4.30; Range = 4 – 35 months) and had been subsequently transferred to other State prisons. A majority of participants (27 of 33) had been in the Day Training program 12 months or less. The mean time between transfer to another institution and time of follow-up ("post-transfer") was 10.54 months ($\underline{SD}$ = 5.87; Range = 0 – 21 months). All post-transfer units were "general population" facilities, offering outpatient mental health services but not continued skills training programming. Only former program participants who were still in the North Carolina prison system were included due to logistical difficulties in locating and securing informed consent from former participants who were released. Participants were not required to consent to participate in the research because it was part of a Department-approved program evaluation. Only participants who had completed the Medication Management module in the SILS series while at the Day Training Program were included.

Medication Management Module. The manualized curriculum was developed to provide people with a psychotic disorder basic information about symptoms, medication effects and side effects, and to train self-monitoring and social skills to maximize the benefits of medications. The module consists of a

trainer's manual, videotape that models the skills, and participant workbooks. Controlled research shows that clients who participate in the Medication Management module acquire and retain the targeted information and skills over one year (Wallace, et al., 1992), compared to other non-skill interventions (Eckman et al., 1992; Wirshing, Marder, Eckman, Liberman, & Mintz, 1992). The Trainer's Manuals are designed to be structured and specific such that virtually anyone, regardless of special training or educational degree, can teach them. A study of the SILS modules adopted in 16 programs indicated that residential care facility owners, corrections officers, and psychiatric technicians were as effective as mental health professionals in teaching the skills, and that fidelity to the module as written was more important than background of the trainer (Corrigan, MacKain & Liberman, 1994).

The module is divided into four skill areas:

(1) Information about medications: To learn how they work to treat symptoms and prevent relapse
(2) Medication self-administration and self-monitoring of effects: To learn proper procedures for taking medications and how to evaluate the body's response on a daily basis
(3) Monitoring and coping with side effects: To learn to identify specific side effects that can sometimes result from taking medications, to monitor side effects and what to do for those that are less serious (e.g., dry mouth) and more serious (e.g., body tremors).
(4) Negotiating medication issues with health providers: To learn how to communicate effectively with physicians and other people involved in care (e.g., reporting side effects, describing body's response to medications).

The information and skills were taught via 7 highly structured "learning activities" or teaching strategies, based on social learning principles. Prompting, cuing, modeling, and praise are central to each activity.

1) **Introduction to the skill area**: The trainer describes the skill that will be taught and the benefits that can result from its use.
2) **Videotaped Demonstration**: Actors model the specified skills and trainers ask prepared questions to maintain attention and to assess participants' comprehension.
3) **Role-played Practice**: Participants practice the skill they have observed in the previous leaning activity. The trainer shapes skill performance through modeling and coaching.
4) **Resource Management:** Participants learn a 7-step method to anticipate and obtain the resources needed to perform the skill.
5) **Outcome Problems**: Participants uses the 7-step method to overcome obstacles that might impede use of the skill or spoil its expected outcome.
6) **In-vivo Assignments**: Participants practice the skill in their living environments with trainer's assistance, to promote generalization of the skills. A number of assignments consist of self-monitoring worksheets and/or planned interactions with peers, care providers or support persons.
7) **Homework Assignments**: Without trainer assistance, participants practice skills assignments in their living environments to enhance the chances for skill generalization.

The module training was conducted in groups of 6-10 inmates by trainers who were two master's-level correctional behavior analysts (job title, not certification). Meeting four days a week for one hour, the module typically took four months to complete.

Materials

Inmate functioning at admission to the Day Training Program and post-transfer to other prison units was assessed by psychologists using the Global Assessment of Functioning (GAF), and the Clinical Global Impression Scale (CGI). Brief Psychiatric Rating Scale (BPRS) ratings for inmates were also assigned by psychologists at the post-transfer units to assess symptom severity.

The Global Assessment of Functioning (GAF), from the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR) is a means of assessing the overall functioning of an individual (American Psychiatric Association, 2000). Part of the multiaxial diagnostic system, the GAF rating (Axis V) ranges along a continuum, from 1 (persistent danger to self or others) to 100 (no symptoms/superior functioning) and represents the clinician's judgment of the individual's psychological, social, and occupational functioning. The scale is divided into ten different 10-point ranges. For example, a clinician might identify the 51-60 range of ratings as most descriptive of a particular patient ("Moderate symptoms, e.g., flat affect and circumstantial speech, occasional panic attacks, OR moderate difficulty in social, occupational, or school functioning, e.g., few friends, conflicts with peers or co-workers." p. 32), and then would specify a single number within that range to best represent the person's symptoms and functioning (e.g., 56). The use of the DSM and multiaxial diagnostic procedures are part of standard education and training for mental health professionals, as it serves as the official psychiatric diagnostic system in the U.S. Thus, the GAF is likely to be the most widely used measure of psychosocial functioning, but there are significant concerns about its validity (e.g., Moos, Nichol & Moos, 2002). . Psychologists at the post-transfer units in this study were familiar with the GAF from their graduate training, but did not use the GAF routinely in their work with the Division of Prisons. The psychologists received the GAF reproduced from the DSM IV-TR) and were asked to rate the inmate's current condition.

The Severity of Illness rating from the CGI (National Institute of Mental Health, 1970) was used to assess functioning of inmates both before admission and after leaving the program. The Severity of Illness scale (CGI-1) asks the respondent to assign a rating of 0 (not rated) to 7 (among the most extremely ill patients) the severity of mental illness the patient is experiencing is at the present time. A brief, simple measure of change and is one of the most widely used scales due to its brevity and high face value. The CGI has been used in clinical trials for treatment of mood, anxiety, and psychotic disorders, but it's validity has been questioned due to its lack of specificity (Kadouri, Corruble & Falissard, 2007).

The BPRS, a widely used and well-researched measure of clinical change (Overall & Gorham, 1962), was used to assess symptom severity post-transfer. The BPRS (Expanded version) is a 24-item scale that combines patient self report and clinician observation. Each item is scored on a seven-point severity scale, ranging from 1 (not present) to 7 (extremely severe). BPRS ratings are not typically done in the North Carolina Prison system and were not available for inmates before or during the Day Training Program but were done by psychologists for former Program participants at the post-transfer units. Inter-rater reliability was not calculated for the symptom and functioning measures in this study.

To evaluate changes in participant knowledge about medications and performance of specific skills taught in the modules, the Medication Knowledge test (Wallace, 1986) and Medication Management Module test –Research Version (Wallace & Liberman, 1986) were administered at three points: before training, after training, and post transfer to other units. These tests are administered individually using an interview format and have been used in other studies of the SILS modules (e.g., Wallace et al. 1992).

The Medication Knowledge Test examines the inmate's knowledge and understanding of his own medication ("What are the names of the medications you are talking?" "What is the dosage for each medication?"), administration ("When should you take it?"), potential hazards of using other drugs in conjunction with their medications ("what would happen if you drank alcohol while taking your medication), and basic medication maintenance issues ("What should you do if you skip a dose?")

Two researchers trained in the administration and scoring of the test scored a subset of 6 medication knowledge test protocols independently. Each of these 6 protocols contained 8 items, thus

creating a total of 48 items. Interrater agreement was 93.75%, calculated by dividing the number of items the two raters agreed on by the total number of items being rated.

To assess module-specific learning, the Medication Management Module was also administered at three points: before and after training and post-transfer to other prisons. The test consists of items that tap into content and skills taught in each skill area. Questions include objective information, ("Why might someone need to take more than one type of medication?") role-plays ("Show me from beginning to end all the steps you would take to take your medication safely and correctly"), and problem solving ("Let's say you wanted to ask your doctor about a problem you were having with your medication. What kind of resources would you need to have in order to negotiate with your doctor?").

Interrater agreement was assessed for the Medication Management module test by having two researchers trained in the administration and scoring of the test score a subset of 6 test protocols independently. Each of the 6 protocols contained 14 items, thus creating a total of 84 items. Interrater agreement, determined by dividing the number of items the two raters agreed on by the total number of items being rated, was 92%.

Procedure

Each eligible participant (diagnosis of psychotic disorder, minimum of 4 months in the Day Training Program, completion of the Medication Management module, transfer to other State prison unit) was identified and located at a post-Program transfer prison unit using a computer based tracking system that documents inmate movement. Psychologists at each post-Program transfer unit completed a packet of "follow-up" materials for the identified inmate, consisting of the GAF, CGI-1, BPRS, and Medication Knowledge and Medication Management Module tests. The psychologists met with each participant within 30-60 days of receiving the materials. The mean time between transfer to another institution and time of post-transfer interview/assessment was 10.54 months (SD = 5.87; Range = 0 – 21 months). Verbatim responses on the Medication Knowledge and Medication management tests were later scored by the researchers.

For a measure of comparison in functioning from pre-training to post –transfer, pre-training GAF and CGI-1 ratings were derived for participants *post-hoc*. A psychologist unfamiliar with the participants reviewed the intake evaluation written at the time of admission to the Day Training Program, to assign the ratings. Because the BPRS requires patient self-report, it was not possible to get pre-training scores after the fact. Only Post-transfer BPRS scores are presented.

Pre and post Module training scores on the Medication Knowledge tests existed for 18 of the participants, allowing for comparisons at all three points: pre-training, post-training, and post-transfer. Medication Management Module test scores were available for six participants at the three data collection points.

Results

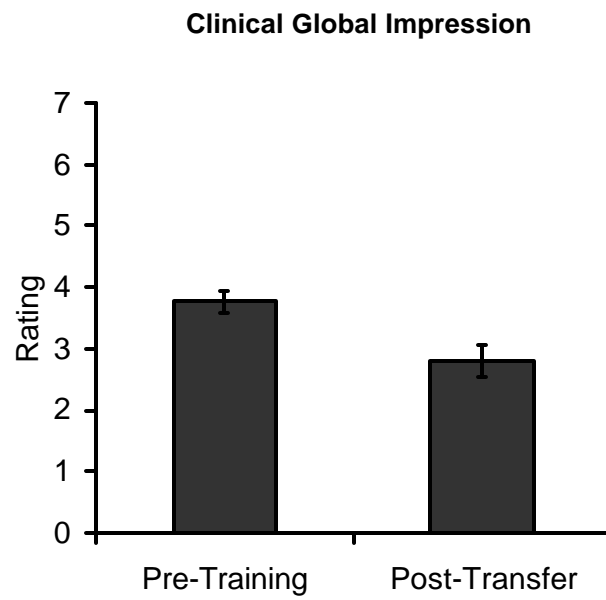**Symptoms & Functioning.** Functioning appeared to improve from pre-training to post-transfer.

Clinical Global Impression

Figure 1. Clinical Global Impression
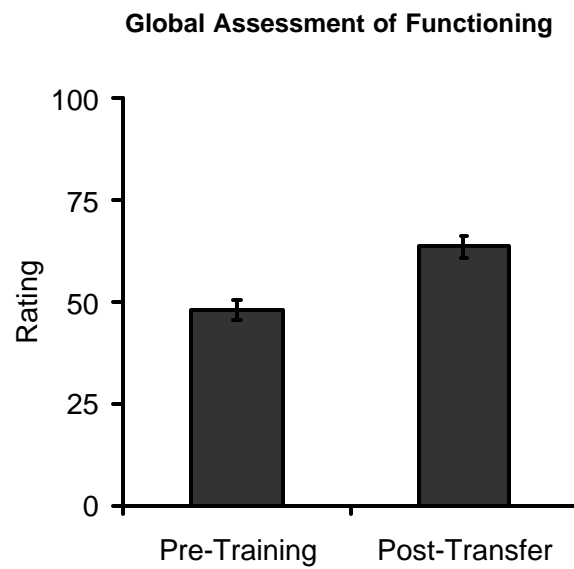
Global Assessment of Functioning

Figure 2. Global Assessment of Functioning

Ratings decreased on the Clinical Global Impression scale (Severity of Illness subscale) from pre-training ($\underline{M}$ = 3.76, $\underline{SE}$ = .18) to post-transfer ($\underline{M}$ = 2.79, $\underline{SE}$ = 1.5); $\underline{t}$ (31) = 2.87, $\underline{p}$ = 0.007. Global functioning ratings increased on the GAF from pre-training ($\underline{M}$ = 48, $\underline{SE}$ = 2.60) to post-transfer ($\underline{M}$ = 63.53, $\underline{SE}$ = 2.47); $\underline{t}$ (30) = 5.02, $\underline{p}$ < 0.0001. At post-transfer, total BPRS score for the 33 participants placed them in the mildly to moderately ill range ($\underline{M}$ = 36.54; $\underline{SE}$ = 2.27). The pattern of data for the four participants who stayed in the Day Training Program longer than 12 months (n = 4) did not differ from those who received less than 12 months of training,

Med Knowledge & Medication Management Skills. For eighteen participants, Med Knowledge test scores were available at three data collection points: pre-training, post-training, and post-transfer. A within-subjects one-way factorial ANOVA, indicated that Medication Knowledge scores increased from pre-training to post-training ($\underline{p}$ < 0.0001) and remained stable after transfer to other institutions.
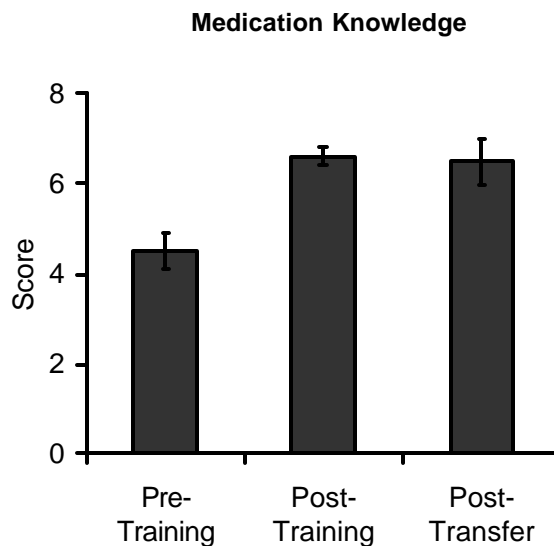
Medication Knowledge

Figure 3. Medication Knowledge

However, for the six participants who had Medication Management Skill scores for all three points, ANOVA indicated that post-training scores were significantly higher than pre-training scores, but that post-transfer scores were not significantly different from pre-training scores.
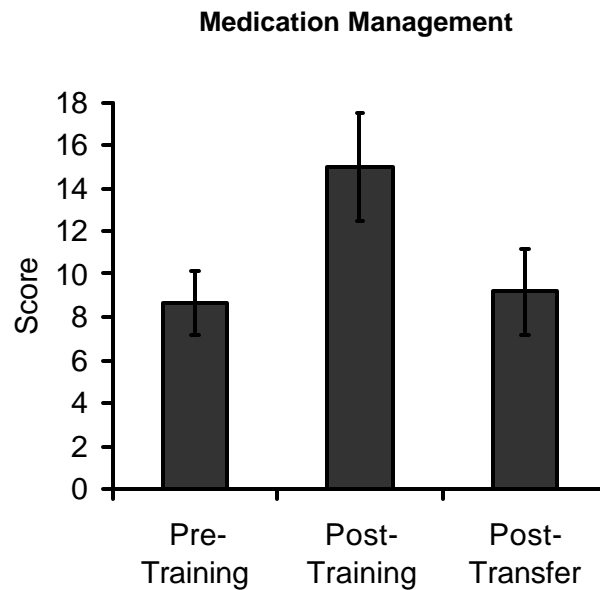
Medication Management

Figure 4. Medication Management

Thus, problem solving, skill-related information and performance appeared to erode, while personal knowledge of one's own medications did not. Elapsed time since transfer and post-transfer scores on both measures were not correlated (Medication knowledge $p = 0.58$; Medication management $p = 0.51$).

Discussion

Overall, inmate clinical functioning at the post-transfer units, at least at this relatively early point after leaving the Day Training Program, appeared to be fairly stable with mild to moderate symptoms and mild functional impairment. However. Moos, Nichol & Moos (2002) found that clinicians in their study tended to underreport impairment using the GAF, and that GAF ratings and treatment outcome were only minimally related. Concerns about the validity of the GAF and the CGI-Severity scale in other studies, coupled with the lack of training to reliability in the use of these and the BPRS mean these findings should be viewed with caution.

Scores on tests of knowledge and skill suggest that inmates acquired the relevant information and skill, but only the knowledge about one's own medications was retained. This is not surprising, given that skill maintenance requires continued opportunities for training, rehearsal and reinforcement. None of the prison units to which the participants in this study were transferred offered structured programming in medication management skill acquisition or maintenance. A controlled study of the maintenance of skills and information in the SILS modules, (including the Medication Management Module) found that scores for the 35 participants significantly increased from pre- to post-training and had not declined at follow-up one year (Wallace et al., 1992). However, participants in that study remained at the facility in which the training was conducted and were prompted to continue to complete medication self-monitoring sheets they had been trained to use in the Module. The inmates in this study went to settings that lacked the natural maintaining contingencies that would promote skill maintenance.

The in-vivo and homework exercises used to teach the skills in the SILS modules are designed to promote generalization of skills. Rather than "train and hope" the skills will generalize to other support

people and settings (Stokes & Baer, 1977), module developers wrote exercises that require participants to practice the acquired skills in settings outside the classroom, with people from the "natural environment." Although state prison policies apply in all settings, the same (behavioral) rules do not operate in all units or institutions. It was not possible to tailor the module exercises to sufficiently approximate situations the inmates ultimately faced.

It is notable that participants retained accurate information about their own medications, as measured by the Medication Knowledge test. Participants, after transfer to other prison units, met monthly with a staff psychologist for a case management conference during which medication information was often reviewed. The rehearsal of personal medication information during these conferences may have been sufficient to maintain correct verbal responses to direct questions on this topic. Without additional expense, these meetings could serve as "booster sessions" and could also include practice and reinforcement of medication and illness management-related skills.

Because of the lack of control afforded in terms of data collection methods (e.g., lack of measure-specific training and interrater agreement in clinical and symptom assessments) and the type and quality of available data (*post hoc* data derivation) the ability to draw firm conclusions is limited. However, the work represents an effort to document a promising practice (knowledge and skills were acquired), and findings point to the need to implement technologies that will promote generalization (skills were not maintained in other settings).

To the extent that illegal behaviors are related to poor symptom control, medication and symptom management skills training interventions have the potential to reduce the chances of reincarceration by teaching SPMI offenders how to better manage symptoms that can impair judgment (e.g., theft), lead to disorganization (e.g., disorderly conduct) and increase substance abuse (e.g., "self-medication"; Mueser & MacKain, 2006). Evidence-based, manualized practices for training medication and symptom management skills have been available for decades. However, these skills training interventions are rarely implemented in criminal justice settings. The programs should be available for SPMI offenders across the criminal justice system, including those in diversion programs, jails, prisons, and peer support programs. Medication and illness-management skills training programs could provide consistency in contingencies the "glue" that would promote continuity of care.

Rare is the correctional program that was designed with research in mind. For people who do the hard work of treating offenders with mental illness, designing or conducting research is a luxury they can ill-afford. In a search of published studies of medication or illness-management training programs for SPMI offenders, only three were located, and two of the three programs have been closed since the articles were published. It is likely that other promising skills training programs are operating, but corrections professionals often have neither the time nor the resources to write up or present their work to others outside the immediate service setting. It is essential that researchers collaborate with correctional service providers to help to evaluate potential impact of treatments, develop and improve cost-effective programs, and provide data to support needed policy changes.

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Parameters that Affect Compliance with Recommendations in Forensic Evaluations for Child Sexual Abuse

Samantha P. Miller & Angela Crossman

Abstract

Background: Given the impact that child sexual abuse (CSA) can have on a victim, any lack of compliance with professional recommendations made in these cases should be taken seriously by the legal system, medical field, and mental health practice. **Aim:** The current paper proposes a process model that explores the parameters affecting compliance with recommendations following forensic evaluations of suspected child sexual abuse (FECSA). **Commentary:** The proposed model hypothesizes likely relations among child and family, abuse, agency, and forensic evaluation (FE) characteristics, relying on a review of existing compliance research. While future research should establish the practical utility of this model, it offers insight into the process of compliance, which may serve to highlight cases most in need of tracking to ensure compliance. In addition, it provides a guide for future research on child advocacy centers (CACs), which is sorely lacking in the literature.
Keywords: Sexual Abuse evaluations, evaluation model, compliance research.

According to the U.S. Department of Health and Human Services (USDHHS), Child Protective Services (CPS) agencies in the United States currently receive about 60,000 referrals, or notifications, of alleged abuse or neglect each week and approximately 250,000 reports of alleged CSA are filed each year (2006). State or county child welfare agencies screen initial referrals, verifying the abuse or risk of maltreatment; these agencies then file reports in cases where there is enough information to allow for an investigation. In 2004, 62.7% of referrals became the subject of reports. About one half of reports are evaluated by CPS caseworkers; of the remaining reports, it is estimated that tens of thousands of cases are evaluated by mental health workers not affiliated with a CPS agency (USDHHS, 2006).

Many of these outsourced evaluations are conducted by CACs around the country, the first of which was founded in 1985. Through multidisciplinary collaboration, CACs work to reduce the effects of childhood trauma, increase services to families, and increase arrest and prosecution rates of child abuse perpetrators. In a child-friendly environment, CACs facilitate joint interviews and formal collaboration between professionals (such as CPS workers and law enforcement) during investigations of criminal cases of child abuse and neglect (Newman & Dannenfelser, 2005a). The National Children's Alliance (NCA) was developed as a not-for-profit membership organization that accredits, provides services to, and sets standards of operation for CACs, and for multidisciplinary teams and professionals who are performing evaluations and providing treatment to abused and neglected children across the country (Jackson, 2004).

The NCA has 280 member CACs in 44 states and the District of Columbia.

According to the NCA, the defined purpose of a forensic evaluation (FE) is to:

(1) determine… whether or not the child has been abused, and to identify suspected perpetrators (2) gather forensically sound facts necessary for child protection and law enforcement officials to understand what …has happened (3) allow the child to disclose over time in a non-threatening environment and to assess the extent and nature of the alleged abuse (4) gather information regarding the child's social and behavioral functioning…to make treatment recommendations,

and to establish a foundation for effective treatment if needed. (National Children's Advocacy Center, NCAC, 2006)

Hence, recommendations made in FEs ideally will indicate the best course for ensuring the alleged victim's safety and wellbeing.

To better meet these child protection goals, the NCA mandates that CACs "develop and implement a system for monitoring case progress and tracking case outcomes" (Office of Justice Programs, 2006, p.1). The purpose of case tracking is to ensure the continued safety of children in general, particularly by preventing further incidents of abuse from occurring. CAC volunteers and staff workers contact families and professionals to determine if the recommendations have been followed and assist in the follow-through of recommendations when needed and practicable. CACs do not track all of the cases referred for a FE, and the determination of which cases to track is usually based on case specific variables, such as the severity of the alleged abuse (Office of Justice Programs, 2006), if a child presents with severe trauma symptoms, if multiple forms of abuse are discovered, or if a family presents as particularly at risk (e.g., siblings acting out sexually with one another).

Case specific variables also influence the types of recommendations that are made following a FE. Surviving victims of abuse and neglect can suffer from fear, pain, and loss of normal attachment relationships, as well as disturbed cognitive and socio-emotional development, physical growth, social interactions, and academic experiences (MacNaughton & Rodrigue, 2001; Saywitz, Mannarino, Berliner, & Cohen, 2000). As a consequence, a forensic evaluator may suggest an array of recommendations, including home or foster placement; reunification and visitation arrangements; academic, medical, and psychotherapeutic services; and social service follow-up. It is important, however, to note the paucity of research on empirically supported psychotherapeutic interventions specifically geared toward abused and/or neglected children. This is partially a consequence of the wide variety of responses such children experience. Forensic evaluators and therapists are left only with symptom-based treatments (e.g., addressing one child's depression, another child's externalizing symptoms) and theory to develop recommendations and treatment plans (Melton, Petrila, Poythress, & Slobogin, 1997). Moreover, while it is well established that proficient FEs can further the prosecution of perpetrators and facilitate the protection of victims (Carnes, Wilson, & Nelson-Gardell, 1999; Cronch, Viljoen, & Hansen, 2006), there is little to no research on whether the recommendations resulting from FEs are effective, in terms of child outcomes.

Nevertheless, at least one study suggests the potential effectiveness of such recommendations. Three months after receiving services from CACs, Jenson, Jacobson, Unrau, and Robinson (1996) showed that parents reported being less demanding of their children and that their children experienced lower levels of problem behaviors, and less trouble with peer interactions and with falling asleep at night than before receiving services. To have such an effect, of course, recommendations must first be implemented. Unfortunately, despite tentative recognition of the positive clinical consequences of CAC services, no formal research has examined rates of compliance with recommendations made in FEs, nor is it clear when recommendations are most likely to be followed. This could have practical implications for ensuring children's safety, as it may be most useful to track cases that are least likely to comply with the recommendations. Research on these recommendations, therefore, bears theoretical significance for current debates about best agency practice; it also may inform legal decision-making and has implications for programs designed to ensure the best interests of the child.

Given the lack of research on compliance with forensic recommendations, insight might be gained by considering the barriers to psychological treatment for children in general. This research suggests poor rates of compliance. For example, approximately 70% of minors with mental health

problems in the U.S. do not receive the necessary services (Kazdin & Wassell, 2000). Even in a clinic-based parenting program that defined treatment completion as attending five of nine sessions, 28% of mothers at risk for child maltreatment dropped out (Danoff, Kemper, & Sherry, 1994). Hence, this research is considered below.

Compliance

Inefficient and costly health care and resource utilization are common societal consequences when childhood psychological problems are left untreated. For example, 31% of incarcerated women report abuse in childhood (U.S. Department of Justice, 1991), while some estimate that as many as 95% of teenage prostitutes were sexually abused (Faulkner, 2006). Adolescents with a history of CSA have higher rates of sexually transmitted diseases (Brown, Lourie, Zlotnick, & Cohn, 2000). Women who suffered CSA may be three times more likely than non-victims to develop a psychiatric or substance use disorder in adulthood (Kendler, Bulik, Silberg, Hettema, Myers, & Prescott, 2000). These outcomes might be related to insufficient treatment access. Hence, both early evaluation and treatment following CSA are crucial to decreasing rates of persistent social, emotional, and occupational difficulties into adulthood (MacNaughton & Rodrigue, 2001).

Given that recommendations in forensic evaluations of child sexual abuse (FECSA) prescribe a variety of treatment interventions, and that the "quality of the… environment has a profound and lasting effect on health, well-being, and competence [in children]" (Wilson & Williams, 1998, p.247), exploring barriers to recommendation compliance is important for ensuring children's ongoing safety and well-being. However, the primary focus of research on therapeutic adherence is on adult patients' compliance, not on caregivers' (e.g., biological, foster, or adoptive parents'; hereafter "Caregivers") or agencies' (e.g., child welfare, child protection, foster, or adoption agencies'; hereafter "Agencies") compliance with prescribed treatment for children. Yet, parents' compliance with their children's treatment and is not necessarily a function of the same factors that affect parents' compliance with their own treatment (Morrissey-Kane & Prinz, 1999). Moreover, that research has little relevance here, as the majority of the children evaluated by CACs are foster children whose Caregivers are likely to be motivated by external factors, including legal mandate, to comply with treatment plans. The current review is thus concerned with compliance with children's treatment, not with adult treatment.

Barriers-to-Treatment Compliance Model

To date, research on treatment compliance has been premised primarily on the barriers-to-treatment model, in which compliance is thought to hinge on the barriers patients face that deter treatment (Kazdin, 1996). According to this model, potential barriers may be objective or perceived by the patient or patient's parent. The assumption is that engaging in treatment is inconvenient, a demand on resources and time, its value can be a source of contention within a family, and even can be a source of stress as therapeutic changes are achieved (Kazdin & Wassell, 2000). In other words, the model proposes that multiple barriers interfere with families' participation in, adherence to, and benefiting from treatment. Indeed, consistent with the model's premises, low levels of perceived barriers can serve as a protective factor against terminating a child's therapy (Kazdin & Wassell, 2000; Nock & Ferriter, 2005).

One example of a potential barrier to treatment compliance is demographics, such as race (Cheung, 1991; Flaskerud, 1986). In an effort to account for the increased psychotherapy dropout rate of Black families as compared to White families, Kazdin, Stolar, and Marciano (1995) considered certain aspects of service delivery that may make it less attractive to minority groups. They found that most clinical services are in geographical areas that are less accessible to minority families and that mental health professionals are often non-minorities. It is possible that a lack of access to treatment and cultural

differences between provider and patient may be additional barriers that create a negative perception, or even distrust, of providers.

In addition, socioeconomic disadvantage, single parent homes, and large households (over four) contribute to treatment dropout (Webster-Stratton & Hammond, 1990; Dierker, Nargiso, Wiseman, & Hoff, 2001). Yet, low socioeconomic status alone is not the determinant of compliance (Kazdin & Wassell, 2000). Certain parental characteristics also create barriers to treatment. That is, "higher levels of parent psychopathology and lower levels of quality of life predicted the subsequent emergence of [parents'] perceived barriers… and therapeutic changes among the [antisocial] children… these effects were not explained by socioeconomic disadvantage or… child dysfunction" (p. 27). For Kazdin, Holland and Crowley (1997), treatment dropout was predicted by parents' high levels of perceived barriers, such as time limitation and transportation difficulty. Other barriers included an inadequate therapeutic alliance and perceptions that treatment was too demanding and not relevant to the child's problem.

While predicting treatment adherence is important, the literature does not adequately address factors that prevent Caregivers from *initiating* treatment for children. However, for those who do initiate psychotherapy, there seems to be approximately 50% adherence to recommendations from routine psychological evaluations (Garfield, 1980; Joost, Chessare, Schaeufele, Link, & Weaver, 1989; King, Hovey, Brand, Wilson, & Ghaziuddin, 1997; Meichenbaum & Turk, 1987; Sirles, 1990). For those who do not adhere, the barriers most frequently reported by parents in one study were their problems accessing treatment locations and their negative attitudes (MacNaughton & Rodrigue, 2001). Yet, only the total number of reported barriers was significant in predicting adherence. That is, it was not *which*, but rather, *how many* barriers were perceived that predicted adherence to psychological, school-based, professional non-psychological, and self-help recommendations. While this study did not include a forensic sample, the findings are informative because FECSA recommendations are often not limited to child psychotherapy. Nevertheless, the recommendations are only useful insofar as Caregivers are able to obtain the recommended services, which might vary as a function of recommendation.

For example, in the only study found on compliance with FE recommendations, Lane, Dubowitz, and Harrington (2002) surveyed parents of victims of CSA to determine their recollection and implementation of recommendations for child therapy, parent therapy, and medical follow-up. Of the three, 79% of parents recalled child therapy, 43% recalled parental therapy, and 9% recalled medical follow-up as recommendations. These results suggest that parents are not equally likely to implement each type of recommendation. Moreover, as the FE took place only four months prior to the survey, they suggest that Caregivers and Agency workers may need copies of the FE recommendations to increase compliance.

Compliance with Forensic Recommendations

Given the salient lack of research on recommendations made in FEs, it is useful to consider how psychological evaluations in a forensic context differ from psychological evaluations in the general mental health settings mentioned in the research above. For example, to avoid ethical issues, FEs are not conducted by the same mental health worker who would administer the recommendations (Committee on Ethical Guidelines for Forensic Psychologists, 1991; Shuman, Greenberg, Heilbrun, & Foote, 1998; Strasburger, Gutheil, & Brodsky, 1997). This may affect compliance with recommendations in that, right from the start, the case is transferred to another mental health professional with whom rapport must be established. Often this other professional will do their own evaluation, which can be burdensome for a child and family who have already disclosed their trauma in a prior FE.

In addition, unlike referrals for general psychological evaluations or therapy, referrals for FECSA are not often due to the misbehaviors or psychological difficulties of the child; therefore, the

recommendations may be wide ranging in topic (e.g., custody arrangements). The broad nature of the recommendations may affect compliance, in that mental health professionals may know how to best help families comply with psychotherapeutic recommendations; however, mental health professionals may not be able to assist families to the degree necessary to achieve comprehensive compliance. Maximal compliance therefore may require the collaboration and communication of an interdisciplinary team of legal, social work, and psychological professionals that may often be difficult to achieve consistently.

Another difference is that, like all children in treatment, children referred to CACs for FEs cannot personally implement the recommendations made for them; instead, they rely on the guidance, structure, and support of adults. This reliance on children's Caregivers has implications for barriers to compliance, as Caregivers' perceptions of children's symptoms and opinions about the alleged CSA may influence their motivation to comply with recommendations. In addition, several adults (e.g., foster parents, social workers) may concurrently be responsible for children referred for FEs, each assigned with (though not necessarily coordinating the execution of) the duty of facilitating implementation of forensic recommendations. It, therefore, seems imperative to expand on the existing literature, which has focused on biological parents' compliance with psychotherapy, by examining the compliance of *all* responsible parties (including foster and adoptive parents and Agency workers) with the recommendations made in FEs.

Indeed, many parents, though distraught over their child's psychological difficulties (Deater-Deckard, Dodge, Bates, & Pettit, 1998; Dumas, Wolf, Fisman, & Culligan, 1991; Nock & Kazdin, 2002), may not be prepared for, nor desire to be active participants in their child's treatment (Nock & Kazdin, 2001), which includes compliance with recommendations. This circumstance profoundly undermines some of the most effective child therapy interventions (e.g., Parent Training for Defiant Children; Barkley, 1997). It would be useful to know specific variables in cases of CSA that make compliance with recommendations less likely. This knowledge would allow Agency workers and treatment providers to devote scarce resources more wisely. Rather than or in addition to tracking cases by the severity of the alleged crime, cases could be tracked where compliance is less likely.

Based on the research reviewed here, a model is proposed that may predict compliance with FE recommendations (see Figure). The model includes ten case-specific factors that fall into four categories (i.e., evaluation, abuse, agency and child and family factors). What follows is a further description of these case specific factors and a rationale for their inclusion in the model.

Evaluation Factors Associated with Increased Compliance

Disclosure during the Evaluation and Recantation

Recall that a perceived barrier to treatment is parents' view that treatment may not be necessary (Kazdin & Wassell, 2000). If a child discloses sexual abuse during a FE, Caregivers and Agency workers may be more likely to view recommendations as salient and necessary and be more likely to comply, especially when the disclosure results in legal proceedings. Using the NCAC model protocol for conducting FEs, one study found that 47% of referred children ultimately disclosed in a manner that was useful for legal proceedings, which occurred in 71% of those cases (Carnes, Wilson, & Nelson-Gardell, 1999). Also, Haidar (2006) found that children who disclosed abuse during a FECSA showed greater positive change on the Global Assessment of Functioning from intake to termination than those who did not disclose. Improved functioning may reinforce compliance, as Caregivers perceive the recommendations as useful. It also is possible that a child's disclosure may prompt more active intervention and support, perhaps in the form of more urgent recommendations and increased recommendation compliance.

However, some children who disclose abuse also recant (London, Bruck, Ceci, & Shuman, 2005). It is likely that recantation is associated with lower rates of compliance. The absence of recantation would not only make a child's claim more credible (i.e., easier to legally prosecute), but also may make Caregivers more likely to perceive recommendations as necessary, providing the continued motivation for compliance.

Active Legal Proceedings

If there are active legal proceedings regarding CSA at the time of, or after an FE, or if a court has confirmed the allegations of abuse, Caregivers and Agency workers may perceive forensic recommendations as more relevant, urgent and necessary. For instance, Lane et al. (2002) showed that parents were more likely to remember the recommendations made in FECSA if there was more persuasive evidence for the abuse. In addition, legal proceedings may add an extra layer of child supervision, possibly adding to the motivation for Caregivers to comply. This combination of factors may increase compliance.

Timely Completion

In children's mental health clinics, the time between referral and scheduling the first appointment predicts patients' treatment adherence (Greeno, Anderson, Stork, Kelleher, Shear, & Mike, 2002). If appointments were made three or more weeks after referral, the probability that children would be returned for therapy sharply declined. This insight has imminent practical relevance since clinic appointment waiting lists have grown in the overworked and under-compensated field of child protective services. Indeed, recommending that there "needs to be as much focus on quick turnaround time as there is on detail and thoroughness of reports" (p. 176), Newman and Dannenfelser (2005b) found that CACs could be more helpful if delays in scheduling interviews, medical exams, and dispatching reports were reduced.

Hence, the rate at which FEs are completed and recommendations dispensed may influence compliance. As time between the FE and the completion of the written forensic report decreases, compliance with FE recommendations will likely increase. If this is the case, then CACs may be partially responsible for noncompliance with their own recommendations.

Factors about the Nature of the Alleged Abuse Associated with Increased Compliance

Severe abuse allegations

Some research suggests that abuse severity might relate to compliance with FE recommendations. Child victims who suffered multiple forms of abuse were 65% more likely to receive child protection services than those who suffered physical abuse alone (USDHHS, 2006). Also, Mogge (2000) found that child patients in a mental health center were more likely to dropout of treatment if the abuse occurred over a shorter period and was less severe. While continuation of therapy and receiving child protection services differ from compliance with FE recommendations, there may be an analogous lack of initiative to adhere to recommendations in CSA cases that present with allegations that are less severe. Accordingly, it is important to operationalize abuse severity and to note whether multiple forms of abuse were inflicted. Also, more severe CSA is likely to be related to the timeliness of the FE completion, as more severe cases may require multiple interviews with the child, Caregivers, and Agency workers, and require the formulation of more recommendations (which may also decrease compliance).

Male and relative perpetrators

Evidence suggests that reporting of CSA perpetrated by females is vastly under-reported (Kite & Tyson, 2004). In part, this may reflect Western society's view of female perpetrators. For example, female teacher Debra LaFave recently received house arrest as opposed to jail-time for having intercourse with her under-age students. Similarly, American college students view a relationship between a student and female teacher as less serious than one between a student and a male teacher (Smith, Fromuth, & Morris, 1997). In New Zealand, it is not even a crime for women to have sex with under-aged individuals, though it is for men (Cowley & Wires, 2003).

Social workers and police officers are not immune to such biases. One study gave these professionals four vignettes in which the gender of the perpetrator and victim varied. CSA perpetrated by males was viewed as more serious and punishable with imprisonment than CSA perpetrated by females (Hetherton & Beardsall, 1998). Similarly, nurses and medical students deemed incest perpetrated by the father as more serious than when perpetrated by the mother (Eisenberg, Owens, & Dewey, 1987). Given more lenient societal attitudes toward female perpetrators, their victims may be reluctant to disclose their abuse and therefore less likely to receive services. In addition, even if these victims do receive services, their cases may be treated as less serious and urgent than those of male perpetrators. Thus, in cases where the perpetrator of CSA is male, there may be increased compliance with recommendations.

Increased compliance may also be seen in cases where perpetrators are family relatives. For example, Mogge (2000) found that when CSA perpetrators were extra-familial (i.e., non-relatives), patients were more likely to dropout out of psychotherapy. Increased proximity and a closer relationship to the abuser were associated with continuing therapy. Similarly, the USDHHS (2006) found that children abused by non-parental perpetrators were 60% less likely to receive child protection services than children abused by their mothers. Thus, it is likely that compliance will increase when the perpetrator is a family relative, as such cases may be perceived by Caregivers and Agency workers as more serious. In addition, Caregivers, especially when biologically related to the victim, may feel more betrayed if the perpetrator was a relative, and thus more outraged and possibly more motivated to comply with the recommendations. It is important to note, however, that in most cases where the perpetrator is related, the child will be removed from the home. Thus, it will not be possible to discern whether compliance is a result of relation to the perpetrator or being taken out of the home and placed into foster care.

<center>Agency Factors Associated with Increased Compliance</center>

Which Agency is in Charge

Dierker et al. (2001) found equal treatment attrition rates in patients from different referral sources, such as schools, hospitals, residential facilities, and the Department of Child and Family Services. None of these referral sources, including the Department of Child and Family Services, which handles child protection matters, had consequences for patients' discontinuation of treatment. This, however, may not be the case for referring parties to CACs for FECSA. While this case parameter is not depicted in the Figure below, it may be prudent to know whether there is disparate performance on the part of specific agencies. For example, certain agencies, especially those involved with criminal or civil investigations of CSA, may be more vigilant in following through with the prescribed recommendations.

Lighter Caseload and Fewer Transfers

The USDHHS (2006) estimates that the average number of open investigations per CPS worker is approximately 66 per year, a three case increase since 2003. These investigations do not include other

activities required of these workers, and thus it is no surprise that CPS workers often feel overburdened. In fact, Newman and Dannenfelser (2005a) suggest that for law enforcement and CPS workers, "insufficient resources [and] [t]oo many cases… [hinder] the potential for well-coordinated effective investigations" (p. 104). In addition to their heavy workload, low pay contributes to CPS workers' frequent turnover (Newman & Dannenfelser, 2005a). As a consequence of this turnover, cases frequently get reassigned to new Agency workers who have to familiarize themselves with the details of yet another case, and families must again build a relationship with a new Agency worker. Thus, it might be expected that Agency workers with heavier caseloads and cases that are transferred a higher number of times will be associated with less compliance with the recommendations made in the CAC's FEs.

<div align="center">Child and Family Factors Associated with Decreased Compliance</div>

In Foster Care at the Time of Evaluation

Children may be removed from their homes and placed in foster care on an emergency, short-term basis, or more permanently, during or after a CPS investigation. As a result of a child maltreatment investigation, approximately 268,000 children (4% as a result of CSA and 14% as a result of multiple forms of maltreatment) were removed from their homes and placed in foster care in 2004 (USDHHS, 2006). For children who are removed, several factors influence whether they receive services. According to one analysis, children are more likely to receive services when they have a disability (70% more likely), are victims of multiple forms of abuse (65% more likely), are of an undisclosed or unknown race (66% less likely compared to White victims), and when the perpetrator is not a parent (60% less likely) (USDHHS, 2006). Moreover, Melton et al. (1997) estimate that 34% of foster children do not receive immunizations and 32% have at least some unmet health need, emphasizing the fact that:

> 'Foster children are among the most vulnerable individuals in the welfare population. As a group, they are sicker than homeless children and children living in the poorest sections of the inner cities.' Tragically, however, the fact that maltreated children are unlikely to receive adequate therapeutic services is just as clear as the fact that they are likely to have special health, mental health, and educational needs. (p. 453-454)

Thus, being in the foster care system is likely to have an effect on a child's immediate behavior and emotions as well as a child's long term well being. Evidence suggests that foster children are frequently deprived of services in general, and hence it is likely that when an alleged victim is in foster care at the time of a FECSA, there will be less compliance with the recommendations than if the child was not in foster care.

Negative Attitudes of the Child's Current Caregiver

Most of the literature on the influence of patients' expectancies, or anticipatory beliefs, about therapy on treatment attendance has focused on adult participants (Nock & Kazdin, 2001). In fact, only 1% to 2% of studies on treatment participation focused on child therapy (Pekarik & Stephenson, 1988). While children's expectancies may influence therapeutic change during the course of treatment, parents' expectancies influence children's attendance at the initial and ongoing sessions. Nock and Kazdin (2001) found that significant predictors of lower parent expectancies for child therapy included socioeconomic disadvantage, ethnic minority status, severity of child dysfunction, child age, and parental stress and depression.

Patients' beliefs and attitudes that influence compliance with ongoing treatment may also be predictive of compliance with recommendations made in FEs. Medical research about the health-belief

model suggests that patients will comply with treatment if the benefits of the treatment outweigh the costs (Kelly, Mamon, & Scott, 1987). According to this model, adherence is more likely if four criteria are met: patients view themselves as susceptible; patients view their ailment as severe; patients are confident in the benefits of the treatment plan; and patients perceive few barriers in completing the treatment plan (Delgado, 2000; Kelly et al., 1987). In fact, patients' confidence in the treatment plan predicted medication-regime compliance better than other clinical or socio-demographic information (Davidson & Fristad, 2006). While this positive attitude may predict medical treatment compliance, Cohen, Parikh, and Kennedy (2000) suggest that, for adults with mood disorders, the quality and stability of services and patients' social influences and beliefs have greater predictive validity for compliance with psychotherapy.

Indeed, parent's attitudes, beliefs, and lack of understanding about the nature of treatment recommendations (thinking they were irrelevant to the referral problem or too demanding) predicts early termination of children's therapy (Johnston & Fine, 1993; MacNaughton & Rodrigue, 2001; Meichenbaum & Turk, 1987). This is important because patient satisfaction is predictive of better mental health outcomes and is associated with improved service delivery (Gray, Elhai, & Frueh, 2004). Thus, a Caregiver's beliefs and attitudes may be related to many important factors associated with compliance. Although, parents' expectations about recommendations made in FEs have not been examined in previous research, it nevertheless seems plausible that the presence of a Caregiver with negative attitudes towards Agencies and treatment providers would decrease overall compliance with FE recommendations. It is also possible that explaining the need and importance of the forensic recommendations to Caregivers and Agency workers may increase their understanding, satisfaction, and ultimately compliance.

Child's Mental Health and Behavior

While the prevalence of mental health problems related to childhood trauma remains unclear, youth exposed to trauma and violence are "more likely to develop psychological problems…have poor functioning at home and school…. [and] can develop depression, other anxiety disorders, substance abuse, and problems with school performance" (Kataoka et al., 2003, p. 312). Also, as emphasized above, parents' compliance with treatment for their children is influenced by many variables, including, but not limited to, the parent's locus of control (perceived ability to handle their child's problems) and the parent's perceptions of their child's problems, such as attributing the cause of the child's problems to factors within the child's control and viewing problems as stable (e.g., dispositional) and unchangeable (MacNaughton & Rodrigue, 2001). In their review of the literature, Morrissey-Kane and Prinz (1999) summarize the impact that such parental perceptions can have on treatment outcome:

> Overall… parental attributions influence help seeking, treatment engagement, and treatment outcome. Parents with an external locus of control have been shown to use a more authoritarian parenting style, be more dissatisfied with treatment, perceive behavioral parent management strategies to be less relevant and acceptable, and have poorer treatment outcomes. Conversely, parents who believe they can exert control over their environment, their children in particular, are more likely to remain involved in the treatment process and demonstrate greater therapeutic success. (p.195)

Note that parental perceptions of a child's pathology (as measured by the Child Behavior Checklist) are positively correlated with the actual severity of the child's pathology (as measured by interviewer-administered Research Diagnostic Interview) (Kazdin, Mazurick, & Bass, 1993).

Similarly, while compliance with recommendations made in psycho-educational assessment was not predicted by parents' perceptions of the seriousness of their child's problem (Pinto, 2003), children's psychotherapy dropout was predicted by parents' perceived severity of children's pathology, actual

severity of the pathology, and educational difficulties (Kazdin, Mazurick, & Bass, 1993). It will be important, therefore, to inquire about Caregivers' and Agency workers' beliefs about the children who have received FECSA, as these adults' attributions about the child's behavior may determine whether there is compliance with the recommendations.

On the other hand, mothers who report the greatest difficulty parenting and have critical and hostile views of their children tend not to bring their children to outpatient mental health services (Calam, Bolton, & Roberts, 2002). It is interesting to note here the intricate relationship between mothers' hostile attributional tendencies, harsh disciplinary measures, and children's persistent externalizing behavioral problems as measured by parent and teacher reports (Nix, Pinderhughes, & Dodge, 1999). Parents' perceptions of their children's problems may differ significantly depending on the type of referral problem. For example, parental attributions about the severity and importance of their child's problems may be more positive if the problems are a result of a learning difficulty, and more negative if the presenting problems are a result of CSA.

A large proportion of the referrals for children's mental health services is for behavior problems (Calam et al., 2002). In fact, Dierker et al. (2001) reported that families who described their children as having more chronic mental health problems (lasting at least six months) were more likely to seek services than those with short-term problems. Also, the presence of persistent behavioral problems in CSA victims increased the likelihood that parents would remember the recommendations made after a FE (Lane et al., 2002). It is likely that if Caregivers and Agency workers report children's behavioral and mental health difficulties, they may be more likely to perceive these symptoms as problematic, and therefore may be more likely to follow through on recommendations made in a FECSA.

In addition, children who have been sexually abused have highly variable symptom expressions, ranging from severe psychiatric symptoms to no expression of immediate negative effects (Saywitz et al., 2000). Yet, preventative services are useful to prevent maladaptive coping strategies even for asymptomatic children who may, for example have an avoidant coping style or adequate support system (Saywitz et al., 2000). Case tracking may be especially important for these children as a way to monitor for signs of deterioration or symptom emergence, in which case proper treatment can be readily implemented. Thus, it is especially important to understand whether Caregivers' and Agency workers' perceptions and reporting of children's symptoms are associated with compliance.

Conclusion

Much of the CSA research to date has focused on developing interventions for children (Nock & Ferriter, 2005). However less attention, especially in the forensic literature, has been directed toward identifying barriers to optimal service delivery in forensic settings. This paper proposes a model for considering the utility of recommendations made in FECSA, by studying several case specific factors that may affect compliance. The model offered may aid researchers in determining the frequency with which recommendations are followed. While many relationships between the above factors and recommendation compliance have been explored, the question of causality cannot be resolved from this paper. It will be important for future research to determine which variables predict compliance and to establish a base rate of failure to comply with forensic recommendations, which will contribute to our understanding of the functioning of FEs within the child welfare and legal systems. Given the impact that CSA can have on a victim, any lack of compliance should be taken seriously by the legal system, medical field, and mental health practice. Practically, this model has implications for caregivers and professionals (e.g., educators, social workers, mental health and legal professionals) working with children who are interested in fostering compliance. Also, CACs will benefit from a greater understanding of how their case tracking and FE can be most effective. Exploring the potential factors that influence compliance will inform

forensic practice, relevant treatment and safety responses in cases of CSA, and supplement theoretical understanding of government agency follow-up in CSA cases.

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