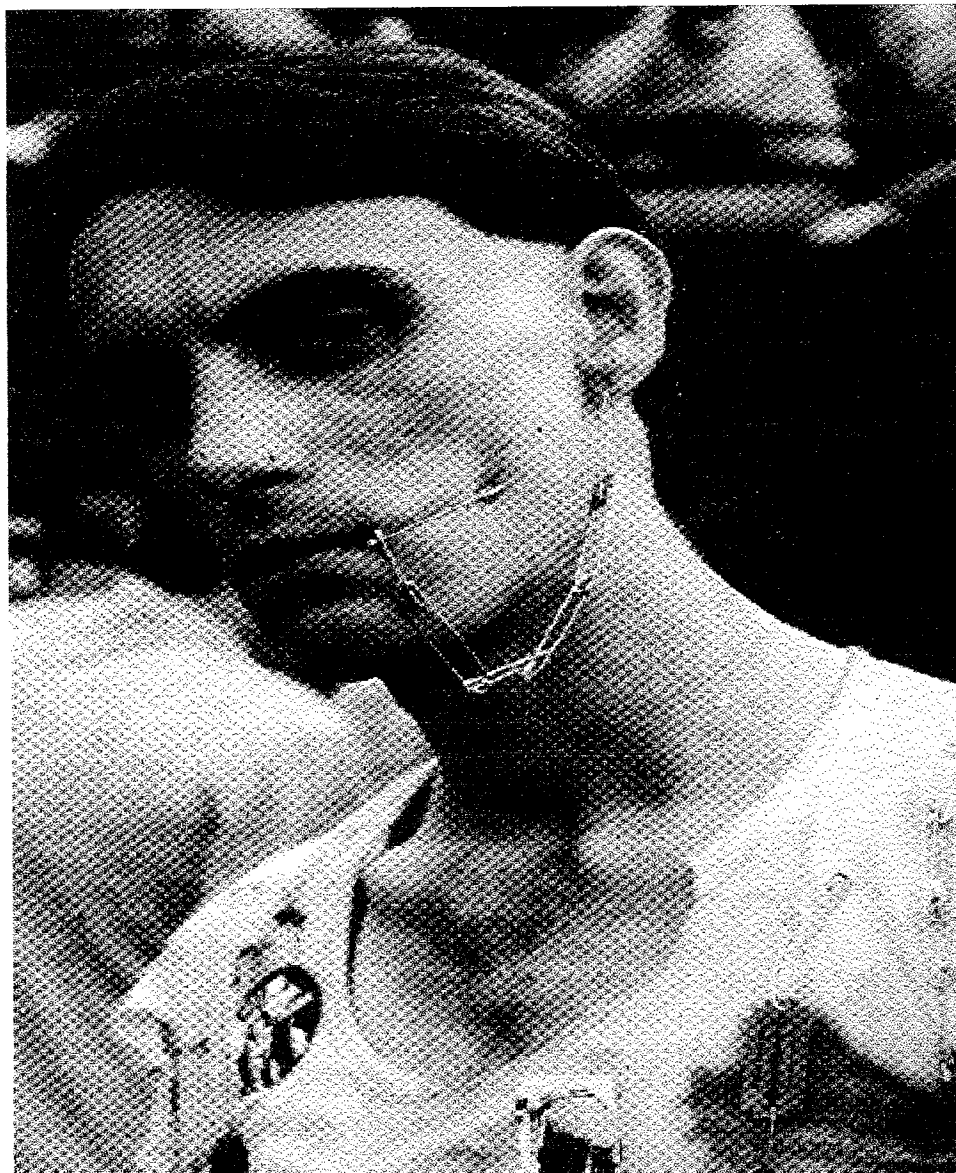


SEMINARIO SOBRE MENORES INFRACTORES



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BUILDING ON THE FOUNDATION OF GENERAL STRAIN THEORY: SPECIFYING THE TYPES OF STRAIN MOST LIKELY TO LEAD TO CRIME AND DELINQUENCY

ROBERT AGNEW

General strain theory (GST) is usually tested by examining the effect of strain on crime. Researchers, however, have little guidance when it comes to selecting among the many hundreds of types of strain and have trouble explaining why only some of them are related to crime. This article builds on GST by describing the characteristics of strainful events and conditions that influence their relationship to crime. Strains are said to be most likely to result in crime when they (1) are seen as unjust, (2) are seen as high in magnitude, (3) are associated with low social control, and (4) create some pressure or incentive to engage in criminal coping. Drawing on these characteristics, it is predicted that some types of strain will not be related to crime, including types that have dominated the research on strain theory, and that others will be related to crime, including types that have been neglected by empirical researchers.

General strain theory (GST) argues that strains or stressors increase the likelihood of negative emotions like anger and frustration. These emotions create pressure for corrective action, and crime is one possible response (Agnew 1992). Crime may be a method for reducing strain (e.g., stealing the money you desire), seeking revenge, or alleviating negative emotions (e.g., through illicit drug use). GST builds on previous strain theories in several ways: most notably, by pointing to several new categories of strain, including the loss of positive stimuli (e.g., loss of a romantic partner, death of a friend), the presentation of negative stimuli (e.g., physical assaults and verbal insults), and new categories of goal blockage (e.g., the failure to achieve justice goals). Recent research demonstrates that many of the specific strains falling under these categories are related to crime and delinquency (see Agnew 2001a for a summary; Aseltine, Gore, and Gordon 2000; Mazerolle et al. 2000; Piquero and Sealock 2000). The specification of these new categories of strain is GST's greatest strength.

This strength, however, is also GST's biggest weakness. GST is so broad that researchers have little guidance as to the specific types of strain to examine in their research. Hundreds of types of strain fall under the major categories of strain listed by GST, as reflected in recent inventories of stressful life events, chronic stressors, and daily life events or hassles (see Cohen, Kessler, and Gordon 1995; Herbert and Cohen 1996 for overviews). And even these inventories do not measure many of the strains described by GST. Furthermore, the broadness of GST makes it difficult to falsify. As Jensen (1995) stated, "if strain can be defined in so many different ways, then strain theory is virtually unfalsifiable. There is always a new measure that might salvage the theory" (p. 152).

It is therefore crucial that GST more precisely specify the types of strain most likely to lead to crime and delinquency. This article represents an attempt to do that. First, strain is defined. Although Agnew (1992) presented a general definition of strain, the term has nevertheless been used in different ways by researchers and it is important to clarify its meaning. Second, previous tests of GST are reviewed to determine what they say about the types of strain most likely to lead to crime. Third, the characteristics of those types of strain most likely to lead to crime are described. Briefly, such strains (1) are seen as unjust, (2) are seen as high in magnitude, (3) are associated with low social control, and (4) create some pressure or incentive to engage in crime. Fourth, these characteristics are then used to predict the likelihood that several types of strain will result in crime. Fifth, suggestions for empirical research are provided.

WHAT IS STRAIN?

Before discussing the types of strain most likely to lead to crime, it is first necessary to clarify what is meant by the term *strain*. Agnew (1992) stated that strain refers to "relationships in which others are not treating the individual as he or she would like to be treated" (p. 48). Even so, researchers use the term in different ways. Some refer to an objective event or condition (e.g., the infliction of physical abuse, the receipt of poor grades at school), some to the individual's evaluation of an event or condition (e.g., whether juveniles like the way their parents or teachers treat them), and some to the emotional reaction to an event or condition (e.g., whether respondents are angry at how others treat them). To help clarify the meaning of strain, the following definitions are proposed.

Objective strains refer to events or conditions that are disliked by most members of a given group. So, if we state that an individual is experiencing objective strain, we mean that he or she is experiencing an event or condition

that is usually disliked by members of his or her group. Many events and conditions are disliked by most people, regardless of group membership (e.g., physical assault, lack of adequate food and shelter). The evaluation of other events and conditions varies with group characteristics, such as gender and age (e.g., Broidy and Agnew 1997; Elder, George, and Shanahan 1996). It is, of course, important for researchers to consider the possibility of such group differences when constructing measures of objective strain.

Empirically, it is possible to determine the objective strains for group members in several ways. Observational research is one method. Anderson (1999), for example, described many of the objective strains in a poor, inner-city, African American community. Surveying a representative sample of group members or people familiar with the group is another method, and both have been employed in the stress research (Turner and Wheaton 1995). In particular, respondents can be asked whether they (or group members) would dislike a range of events and conditions. It is important to present respondents with preestablished lists of events/conditions and to ask them to list events/conditions not on the list. This helps to ensure that a complete list of objective strains is developed.¹

Subjective strains refer to events or conditions that are disliked by the people who are experiencing (or have experienced) them. So, if we state that individuals are experiencing subjective strain, we mean that they are experiencing an event or condition that *they* dislike. One of the key findings to emerge from the stress research is that individuals often differ in their subjective evaluation of the same objective strains. For example, people differ in how they subjectively evaluate such objective strains as divorce and the death of a family member. The subjective evaluation of an objective strain is a function of a range of factors, including individual traits (e.g., irritability), personal and social resources (e.g., self-esteem, self-efficacy, social support), goals/values/identities, and a range of life circumstances (for overviews, see Dohrenwend 1998; Kaplan 1996; Lazarus 1999). Wheaton (1990), for example, found that the quality of ones' prior marriage strongly influenced how people evaluated their divorce, with people in bad marriages evaluating their divorce in positive terms. It is also important to note that an individual's evaluation of an objective strain frequently changes over time as the individual copes with the strain. So, although there is a relationship between objective and subjective strain, it is far from perfect.

Most of the research on strain theory employs measures of objective strain (although see Agnew and White 1992). Researchers ask individuals whether they have experienced a certain event or condition (e.g., Did you fail any classes? Do your parents yell at you?); no effort is made to measure the individual's subjective evaluation of this event/condition. This may cause

researchers to underestimate the support for strain theory because objective strains sometimes create little subjective strain. This does not mean, however, that researchers should simply employ subjective measures of strain. It is important to examine objective strains as well because this allows us to better distinguish external events from the subjective evaluation of such events. We can then examine individual and group differences in both the exposure to external events/conditions likely to cause strain and the subjective evaluation of those events/conditions. Furthermore, we can explore the factors that influence individual and group differences in the subjective evaluation of the same external events and conditions. This is critical if we are to fully explain individual and group differences in crime. As an illustration, Bernard (1990) argued that poor, inner-city residents have higher rates of violence not only because they experience more objective strains but also because they are more sensitive to such strains (also see Thoits 1995 on individual and group differences in the "vulnerability" to stressors).

The emotional response to an event or condition is closely linked to subjective strain. Subjective strain deals with the individual's evaluation of an event or condition. There are many definitions of emotion, but most state that a central component of an emotion is an evaluation of or an affective response to some object or behavior or idea. Most theorists, however, go on to state that emotions involve more than an evaluation or affective response. For example, they also involve changes in physiological or bodily sensations (see Berkowitz 1993; Smith-Lovin 1995; Thoits 1989). Building on this argument, I would contend that subjective strain is distinct from the full emotional reaction to strain.

Two individuals may evaluate an event/condition in the same way; that is, they may both dislike it an equal amount. So, they have the same level of subjective strain. One may become angry in response to the strain, however, whereas the other may become depressed. And they may differ in the degree to which they experience certain emotions, so one may become quite angry, whereas the other may experience only mild anger. So the same subjective strain may result in rather different emotional reactions. Again, a range of individual and environmental factors influences the emotional reaction to subjective strain. The potential utility of distinguishing between subjective strain and the emotional reaction to strain is highlighted by Broidy and Agnew (1997). They argued that males and females often differ in their emotional reaction to subjective strains. Although both males and females may experience anger, the anger of females is more likely to be accompanied by feelings of guilt, depression, and anxiety. These additional emotions are said to reduce the likelihood of other-directed crime, thereby helping us explain gender differences in such crime.

*RESEARCH ON THE TYPES OF STRAIN MOST LIKELY
TO LEAD TO CRIME AND DELINQUENCY*

Agnew (1992) described those types of events and conditions most likely to be classified as objective strains and to result in subjective strain. Such events/conditions involve goal blockage, the loss of positive stimuli, and/or the presentation of negative stimuli. They are also high in magnitude (degree), recent, and of long duration. But as indicated earlier, hundreds of events/conditions meet these criteria, and so there are potentially hundreds of objective and subjective strains. Agnew did *not* discuss whether certain of these strains are more likely to result in crime than others. Rather, he treated these strains as more or less equivalent in terms of their impact on crime. He argued that whether they result in crime is largely a function of the characteristics of the individuals experiencing the strain. In particular, strain is most likely to lead to crime when individuals lack the skills and resources to cope with their strain in a legitimate manner, are low in conventional social support, are low in social control, blame their strain on others, and are disposed to crime. This article builds on Agnew by arguing that the effect of strain on crime is not only a function of individual characteristics but also of the type of strain experienced by the individual. Certain types of strain—either objective or subjective strain—are more likely to result in crime than other types.

Previous research on GST provides some information about the types of strain most likely to lead to crime, although much of this research suffers from two problems that severely limit its utility. First, most tests of GST only examine a small portion of the strains described by Agnew (1992). These tests tend to make use of existing data sets, which were not collected for the purpose of testing GST. As a consequence, many key strain measures are missing—particularly measures of the types of goal blockage described by Agnew and measures of certain types of negative treatment, like peer abuse and experiences with racial discrimination and prejudice. So we have little idea whether these types of strain are related to delinquency. Second, most tests of GST examine the effect of a single, cumulative strain measure on delinquency. In some cases, a measure of stressful life events is employed. Hoffmann and associates, for example, tested GST using a 16- to 18-item measure that focuses on events like “death, illness, or accidents among family or friends; changes in school or residence; parental divorce or separation; and family financial problems” (Hoffmann and Cerbone 1999; Hoffmann and Miller 1998; Hoffmann and Su 1997; also see Aseltine et al. 2000). In other cases, the cumulative strain measure is a composite of several scales and/or items measuring a range of different types of strain, such as neighborhood problems, negative relations with adults, the failure to achieve educational and occupational goals, breaking up with a romantic partner or friend,

and getting lower grades than you deserve (e.g., Mazerolle 1998; Mazerolle et al. 2000; Mazerolle and Piquero 1997). The use of such cumulative measures means that we lack information on the effect of the individual strain measures.

Researchers employ cumulative measures of strain because Agnew (1992) argued that it is not the effect of one specific strain or stressor that is important; rather, it is the cumulative effect of all the strains experienced by the individual. He recommended combining individual strain measures into a single scale so as to better estimate this cumulative effect (pp. 62-63). It is assumed that all or most of the individual strain measures in the cumulative scale make some contribution to crime. As will be argued below, there is good reason to question this assumption. Most cumulative measures encompass a wide range of strains, and it is likely that some contribute to crime and some do not. Given this fact, it is not surprising that most cumulative measures have only a moderate impact on crime. A consideration of different types of strain, however, might reveal that some have a strong impact on crime, whereas others have little or no impact.

Some tests of GST do examine the impact of different types of strain on crime among adolescents. Agnew and White (1992) examined the effect of eight strain measures on delinquency, including both general and specific measures. They found that negative life events, life hassles, negative relations with adults, and parental fighting are significantly associated with delinquency. Neighborhood problems, unpopularity with the opposite sex, occupational strain, and clothing strain are not associated with delinquency. Pateroster and Mazerolle (1994) examined the effect of five strain measures on delinquency. They found that neighborhood problems, negative life events, school/peer hassles, and negative relations with adults are significantly associated with subsequent delinquency, whereas a measure of educational and occupational expectations is not (see Mazerolle 1998 for information on gender differences in the effect of these strain measures). Aseltine et al. (2000) found that family and peer conflict (through anger) are related to selected types of delinquency. Agnew and Brezina (1997) found that poor relations with peers is related to delinquency, whereas unpopularity with peers is not. Piquero and Sealock (2000) found that physical and emotional abuse in the household (toward the juvenile and others) is related to delinquency (also see Brezina 1999). Tests of classic strain theory typically find that the failure to achieve educational and occupational goals is *not* related to delinquency (see Agnew 1995a). The failure to achieve economic goals, however, may be related to delinquency (Burton and Dunaway 1994).

Many other studies have not set out to test GST but have examined types of strain that fall under the theory. Several studies found that adolescent crime is

significantly related to criminal victimization; parental abuse and neglect; parental rejection; disciplinary techniques that are excessive, very strict, erratic, and/or punitive (e.g., nagging, yelling, threats, insults, and/or hitting); family conflict; parental divorce/separation; and negative experiences at school (low grades, poor relations with teachers, and the perception that school is boring and a waste of time). Summaries of these studies are provided in Agnew (1992, 1995b, 1997, 2001a, 2001b). Studies of adults suggest that crime is related to marital problems, work in the secondary labor market, unemployment in certain cases, and possibly the failure to achieve economic goals (Agnew et al. 1996; Baron and Hartnagel 1997; Cernkovich, Giordano, and Rudolph 2000; Colvin 2000; Crutchfield and Pitchford 1997; Sampson and Laub 1993; Uggen 2000). There has not been enough good research on other types of strain to draw any firm conclusions about their relationship to crime.

The above studies, then, suggested that certain types of strain are related to crime whereas others are not. At this point, it seems safe to conclude that crime is related to verbal and physical assaults, including assaults by parents, spouses/partners, teachers, and probably peers. Crime is also related to parental rejection, poor school performance, and work problems, including work in the secondary labor market. Crime is not related to the expected failure to achieve educational/occupational success or to unpopularity with peers. Beyond that, the relationship between various strains and crime is unclear.

These data pose a major problem for GST: Why is it that only some types of strain are related to crime? At present, GST offers little guidance in this area. GST, for example, does not allow us to explain why verbal and physical assaults are related to crime, but the failure to achieve educational/occupational goals and unpopularity with peers is not. All of these strains fall under the categories listed by Agnew (1992), and they are frequently high in magnitude (degree), recent, and of long duration.

Recent versions of GST do argue that certain types of strain are especially relevant to crime (Agnew and Brezina 1997; Broidy and Agnew 1997). Agnew (1997, 2001a, 2001b), for example, argued that although many types of goal blockage may lead to delinquency, the failure to achieve monetary, autonomy, and "masculinity" goals are of special importance. And he argued that although a range of negative or noxious stimuli may cause delinquency, physical and verbal assaults are of special importance. These suggestions, however, are not derived from theory. Rather, they represent ad hoc attempts to explain empirical findings or to incorporate other theoretical and empirical work into GST. Much theoretical and empirical work, for example, suggests that threats to one's status, particularly one's masculine status, contribute to

crime in certain groups (Anderson 1999; Messerschmidt 1993). Likewise, some theoretical and empirical work suggests that the blockage of autonomy goals contributes to delinquency (Agnew 1984; Moffitt 1993; Tittle 1995).

And although empirical research is starting to point to those types of strain that are and are not related to delinquency, it is not wise to depend on such research to fully resolve this issue. There are hundreds of specific types of strain; it will take empirical researchers a long while to determine their relative importance (although observational research and open-ended, intensive interviews can be of some help here). Furthermore, we would still lack an explanation of why some types of strain have a greater effect on crime than other types. The lack of such an explanation might cause us to overlook certain important types of strain. It is therefore important for GST to better explain why some types of strain are more likely to lead to crime than other types.

THE CHARACTERISTICS OF THOSE TYPES OF STRAIN MOST LIKELY TO LEAD TO CRIME

Individuals may cope with strain in a number of ways, only some of which involve crime (see Agnew 1992). Individuals may cope using a variety of cognitive strategies, most of which attempt to redefine strainful events and conditions in ways that minimize their adversity. Individuals may employ behavioral coping strategies that are intended to terminate, reduce, or escape from the strainful events and conditions. Certain of these strategies involve conventional behaviors (e.g., negotiating with the people who harass you), whereas others involve crime (e.g., assaulting the people who harass you). And they may employ emotional coping strategies that are intended to alleviate the negative emotions that result from strain. Certain of these strategies involve conventional actions (e.g., listening to music), whereas others involve crime (e.g., illicit drug use). It is argued here that some types of strain are more likely to result in crime than other types because they influence the ability to cope in a noncriminal versus criminal manner, the perceived costs of noncriminal versus criminal coping, and the disposition for noncriminal versus criminal coping. (As indicated above, these factors are also affected by a range of individual characteristics.)

The characteristics of those types of strain most likely to result in crime are discussed in this section, with the discussion referring to both objective and subjective strains. In brief, it is argued that strains are most likely to result in crime when they (1) are seen as unjust, (2) are seen as high in magnitude, (3) are associated with low social control, and (4) create some pressure or incentive to engage in criminal coping. These characteristics are derived

primarily from the stress, justice, and emotions literatures (see references below); the social interactionist theory of coercive behavior (Tedeschi and Felson 1994); defiance theory (Sherman 1993); reintegrative-shaming theory (Briathwaite 1989); frustration-aggression theory (Berkowitz 1993); techniques of neutralization or moral disengagement theory (Bandura 1990; Sykes and Matza 1957); differential coercion theory (Colvin 2000); social control theory; social-learning theory; and the routine activities perspective (Cullen and Agnew 1999). There is a discussion of why these characteristics are important and how researchers can determine whether specific types of strain possess these characteristics. In the next section, these characteristics are used to predict the likelihood that several specific types of strain will result in crime.

The Strain Is Seen as Unjust

Agnew (1992) presented unjust treatment as a distinct category of strain, classified under "the failure to achieve positively-valued goals." In particular, Agnew spoke of the disjunction between just/fair outcomes and actual outcomes. It is here argued that unjust treatment is *not* a special type of strain distinct from the other types. The issue of injustice applies to all types of strain; that is, it is possible to classify any type of strain according to the extent to which it is seen as unjust. Those types of strain seen as unjust should be more likely to lead to crime, primarily because they are more likely to provoke emotions conducive to crime like anger.

Much data from the emotions and justice literatures indicate that there is a strong link between unjust treatment and anger (see Agnew 1992, 68-69; Averill 1982, 1993; Berkowitz 1993; Hegtvedt and Cook forthcoming; Hegtvedt and Markovsky 1995; Mikula 1986; Mikula, Petri, and Tanzer 1990; Tedeschi and Felson 1994; Tedeschi and Nesler 1993; Tyler 1994; Tyler et al. 1997). And limited data suggest that anger increases the likelihood of crime, particularly violent crime (Agnew 1985; Aseltine et al. 2000; Berkowitz 1993; Brezina 1998; Mazerolle et al. 2000; Mazerolle and Piquero 1998; Piquero and Sealock 2000; Tedeschi and Felson 1994; Tyler et al. 1997). Anger fosters crime because it disrupts cognitive processes in ways that impede noncriminal coping; for example, it leads individuals to disregard information that may help resolve the situation, and it reduces the ability to clearly express grievances. Anger also reduces the actual and perceived costs of crime; for example, angry individuals are less likely to feel guilt for their criminal behavior because they believe that the injustice they suffered justifies crime. Finally, anger energizes the individual for action, creates a sense of power or control, and creates a desire for revenge or retribution—all of which lead individuals to view crime in a more favorable light (see Agnew

1992; Averill 1982, 1993; Cloward and Ohlin 1960; Gottfredson and Hirschi 1990; Tedeschi and Felson 1994; Tedeschi and Nesler 1993; see Tyler et al. 1997 on retributive justice).

Measuring injustice. There are several ways to measure the perceived injustice of particular strains. The perceived injustice of objective strains can be estimated by (1) researchers, with such researchers drawing on the justice and attributions literature (see below) and their knowledge of the group being examined; (2) a panel of judges familiar with the group being examined, with such judges being asked to estimate the likelihood that various strains will be seen as unjust by group members; and/or (3) a representative sample of group members, with such members being asked to rate the injustice of various strains (see Mikula 1993; Mikula et al. 1990). The ratings of judges and group members can be averaged. It is best to provide judges and group members with moderately specific descriptions of the strains being rated because the specific features of the strain can have a large impact on ratings of injustice (see below). For example, instead of asking individuals to rate the injustice of "a close friend dying," it is better to ask them to rate the injustice of "a close friend being shot to death by a rival gang." Data suggest that raters tend to underestimate the extent to which victims perceive the strains they experience as unjust (see Mikula 1986), so these measurement strategies will likely provide conservative estimates of perceived injustice.

The perceived injustice of subjective strains can be estimated by asking victims to rate the injustice of the strains they have experienced. Such ratings will reflect both the characteristics of the strains and the characteristics of the victims. Most notably, victims with attributional biases of the type described by Dodge and Schwartz (1997) will be more likely to rate given strains as unjust. Studies focusing on subjective strains should therefore control for relevant individual characteristics when examining the effect of the perceived injustice of strain on crime (see Herbert and Cohen 1996; Turner and Wheaton 1995).²

Factors influencing perceptions of injustice. It is important for GST to describe why some strains are more likely to be perceived as unjust than others. This allows researchers to better explain individual and group differences in perceptions of injustice, better predict whether given strains will be seen as unjust, and better develop policies that address perceptions of injustice. Several literatures devote much attention to the factors influencing perceptions of injustice, with the justice and attributions literature being most relevant (for overviews, see Crittenden 1983, 1989; Hegtvold and Cook forthcoming; Hegtvold and Markovsky 1995; Mikula 1986, 1993; Tedeschi and Felson 1994; Tedeschi and Nesler 1993; Tyler 1990; Tyler et al. 1997).

These literatures suggest that a strainful event or condition is most likely to be seen as unjust when individuals believe that it involves *the voluntary and intentional violation of a relevant justice norm*. This belief is influenced by a range of individual characteristics, most of which are described in the justice and attributions literature *and* by the nature of the strainful event or condition. Most strainful events and conditions involve a perpetrator who does something to a victim in a particular setting or collection of settings. The likelihood that a strainful event will be seen as unjust partly depends on the characteristics of the perpetrator and victim, what the perpetrator does to the victim, what the victim does to the perpetrator, the relationship between the perpetrator and victim, and the setting(s) in which the strain occurs. Perceptions of injustice are also influenced by the interpretation of the event/condition provided by others, especially trusted others, and by (sub)cultural beliefs associated with the event/condition. The contribution of these factors is described below, with the central point being that some strainful events and conditions are more likely than others to be perceived as unjust—holding individual characteristics constant.

Voluntary/intentional. Strainful events and conditions are most likely to be attributed to the voluntary, intentional behavior of others when the following occurs:

1. There is good evidence that the victim's strain was in large measure caused by the behavior of others (as opposed to being caused by the victim's own behavior, bad luck or chance, natural/impersonal forces, or forces of uncertain origin). Such evidence includes the following: A perpetrator directly inflicts the strain on the victim (e.g., punches or insults the victim), a perpetrator is identified by trusted others, and/or (sub)cultural beliefs attribute the victim's strain to the behavior of others.
2. There is good evidence that the perpetrator voluntarily intended to inflict the strain (i.e., freely chose to treat the victim in a way that they knew would probably be disliked). Conversely, there is little evidence that the behavior of the perpetrator was the result of constraint, reasonable accident, or reasonable ignorance. Such evidence includes the following:

Behavior of the perpetrator. The perpetrator states his or her intention to inflict strain, as sometimes happens in cases involving physical and verbal assault. The perpetrator devotes much effort to or incurs high costs in inflicting the strain. The perpetrator violates normative expectations in inflicting strain. The perpetrator does not excuse, apologize for, or express remorse over the harm he or she has caused. Conversely, the perpetrator expresses pleasure or pride over his behavior (see Averill 1993; Tedeschi and Felson 1994; Tedeschi and Nesler 1993).

Severity of harm. Attributions of intent are more likely the greater the actual or intended harm to the victim (see Tedeschi and Felson 1994; Tedeschi and Nesler 1993).

Characteristics of the perpetrator and the relationship between the perpetrator and victim. The perpetrator has the personal and social resources to voluntarily and intentionally inflict the strain (e.g., has sufficient power, is aware of the harmful consequences of his or her behavior). The perpetrator has a known history of intentionally harming the victim or others. The perpetrator is disliked by the victim or has a negative reputation, making attributions of malicious intent more likely. This dislike/negative reputation may be related to the characteristics of the perpetrator (e.g., race, gang membership; see Tedeschi and Felson 1994; Tedeschi and Nesler 1993).

Audience reaction. Others, especially trusted others, tell the victim that the harm inflicted by the perpetrator was intentional.

(Sub)cultural beliefs or causal schema. (Sub)cultural beliefs or causal schema define the strainful event or condition as one that is usually the result of intent.

Criterion 1 is necessary for attributions of intent, and the factors under criterion 2—although not necessary—substantially increase the likelihood of attributions of intent.³

The violation of relevant justice rules. Voluntary and intentional efforts to inflict strain are not necessarily seen as unjust. For example, parents, teachers, employers, and the police voluntarily and intentionally inflict strain on a routine basis, but the victims of such strain often do not view the actions of these others as unjust. The intentional infliction of strain is most likely to be seen as unjust when it is believed to violate a relevant justice norm. We must consider norms related to distributive, procedural, interactional, and retributive justice (for overviews, see Hegtvedt and Markovsky 1995; Mikula 1993; Mikula et al. 1990; Tedeschi and Felson 1994; Tyler et al. 1997).⁴ Drawing on the justice literature, as well as the related literature on the techniques of neutralization/rules of moral disengagement (Bandura 1990; Sykes and Matza 1957), it can be argued that the voluntary and intentional infliction of strain is likely to be seen as unjust to the extent that

- A. Victims believe their strain is *undeserved*. In the United States, victims are more likely to believe that their strain is deserved if it is the result of negatively valued behavior on their part (e.g., a child is punished for misbehaving) or if it is the result of the possession of certain negatively evaluated characteristics—usually achieved characteristics—deemed relevant in the particular situation (e.g., a job applicant gets turned down because he or she does not possess

relevant work experience). Furthermore, the strain must not be excessive given the negatively evaluated behavior or characteristics of the victim. Violations of these conditions foster the impression that strain is undeserved.

- B. Victims believe their strain is *not in the service of a higher cause or authority*—such as God, country, or gang. The infliction of strain is often justified by appeals to higher purposes or authorities; for example, nations may ask individuals to serve in combat to protect their country or gangs may ask members to risk injury for the protection of “turf.”
- C. Victims believe their strain *will result in much net harm to them*. The infliction of strain is often justified by claiming that the strain was minor or negligible—in absolute and/or relative terms. Victims, for example, may be told that they suffered little actual harm or that they suffered much less harm than similar others. Perpetrators may also justify the strain they inflict by claiming that victims will achieve a net benefit from it. Parents, for example, may claim that they need to limit the autonomy of their children to protect them from greater harm. Such claims are most likely to be made and accepted in settings in which personal welfare and development are major goals.
- D. Victims believe that the *process used to decide whether to inflict their strain was unjust*. Victims are more likely to make attributions of procedural injustice when (1) they have no voice in the decision to inflict their strain, (2) they do not accord legitimacy to those who inflict their strain, (3) they do not trust those who inflict their strain—believing they are biased or dishonest, (4) they believe that those inflicting their strain do not make use of accurate or complete information, (5) they believe that different procedures are followed for similar others, (6) they are not treated in a polite or respectful manner, (7) the decision-making process is incompatible with fundamental moral and ethical values, (8) no rationale is given for the decision that was made, and/or (9) there are no mechanisms available to correct bad decisions.
- E. The strain involves treatment perceived as disrespectful, inconsiderate, or aggressive.
- F. The strain violates strongly held social norms, especially those embodied in certain criminal laws (see Tyler et al. 1997).

Perceptions of injustice are likely if criteria A, B, *and* C are satisfied (having to do with distributive justice); criterion D is satisfied (procedural justice); criterion E is satisfied (interactional justice); *and/or* criterion F is satisfied (retributive justice). The characteristics of the strainful event/condition often allow us to roughly judge the likelihood that victims will hold the beliefs listed in criteria A through E. For example, a criminal victimization is more likely to generate the beliefs outlined above than is the failure of a poorly educated person to obtain a highly paid job. In addition, the justice literature suggests that we pay special attention to the following factors when trying to estimate the likelihood that individuals hold the above beliefs (e.g., believe their strain is undeserved or involves disrespectful treatment):

1. Do (sub)cultural beliefs define the strain as just or as unjust for one or more of the reasons listed in A through F? Laws defining the strainful treatment as illegal are especially relevant, particularly when the treatment involves the violation of criminal laws with severe penalties.
2. Do others, especially trusted others, support or hinder the adoption of the above beliefs (e.g., tell the victim that their negative treatment is undeserved or disrespectful)? The actions of family and friends, audience members who witness the negative treatment, and the perpetrator of the negative treatment are especially important. For example, victims are less likely to adopt the above beliefs if the perpetrator is a trusted other who offers a convincing justification for their behavior (see Crittenden 1989).
3. Is the victims's negative treatment very different from their past treatment in similar circumstances and/or from the treatment of similar others? Comparisons to past treatment and to the treatment of similar others are especially important in situations in which there are no strong standards defining what is just or fair. Comparison others may include specific others, groups, or more generalized others or "referential structures" (see Hegtvedt and Markovsky 1995). Unfortunately, it is often difficult to predict the comparison others that are selected and the nature of the comparison process—although some progress is being made in this area (see Hegtvedt and Cook forthcoming).

The Strain Is Seen as High in Magnitude

A second factor influencing the likelihood that strainful events and conditions will lead to crime is the perceived magnitude of the strain. Strain that is high in magnitude influences the ability to cope in a noncriminal manner, the perceived costs of noncriminal versus criminal coping, and the disposition to engage in criminal coping. It is more difficult to cognitively minimize the impact of severe strain, emotional coping techniques of a noncriminal nature may be less effective, and behavioral coping of a noncriminal nature may be more difficult (e.g., it is more difficult to legally cope with a large rather than small financial problem). Furthermore, not only is it more difficult to legally cope with severe strain, but such strain often reduces the ability to cope. For example, the victims of severe strain are more likely to suffer from depression, which impedes their ability to cope. Finally, severe strain generates more anger and so also influences the perceived costs of crime and the disposition to engage in crime.

Measuring magnitude. The magnitude of *objective* strains can be estimated by (1) researchers, with such researchers taking account of the factors listed below; (2) a panel of judges familiar with the group, with these judges being asked to estimate the extent to which various strains are likely to be disliked (or seen as undesirable, harmful/threatening, etc.); and/or (3) a

representative sample of group members, with such members being asked to rate the extent to which they dislike various strains. Again, it is best to provide individuals with specific information about the strains being rated.

The magnitude of *subjective* strains can be estimated by asking victims to rate the extent to which they dislike the strains they have experienced. These ratings will reflect both the characteristics of the strains and the characteristics of the victims. In particular, the same strainful event/condition might be seen as high in magnitude by one victim but low by another—depending on such things as the victim's goals/activities/identities, coping ability and resources, and level of social support (see Cohen et al. 1995; Kessler et al. 1995; Lazarus 1999; Taylor and Aspinwall 1996; Thoits 1995; Wheaton 1996). Studies focusing on subjective strains should therefore control for relevant individual characteristics when examining the effect of the perceived magnitude of strain on crime (see Herbert and Cohen 1996 and Turner and Wheaton 1995 for a fuller discussion).

Factors influencing perceptions of magnitude. Drawing on Agnew (1992) and the stress literature, there is reason to believe that several features of the strainful event/condition influence perceptions of magnitude. These include the degree or amount of strain inflicted; the duration and frequency of the strain, including the expected duration into the future; the recency of the strain; and the centrality of the strain, which refers to the extent to which the strain threatens the core goals, needs, values, activities, and/or identities of the victim. At present, it is unclear how these factors combine to influence overall judgments of magnitude.

Degree of strain. The degree or amount of strain inflicted influences judgments of magnitude. As Agnew (1992) pointed out, it is sometimes possible to measure the degree of strain inflicted in terms of a standard metric, like the severity of the physical injuries inflicted or the amount of money lost. This is not possible for many types of strain, however. Furthermore, the metrics used to measure the degree of strain vary from one type of strain to another, making it difficult to make comparisons across types of strain. These problems can be dealt with using techniques from the stress research. Individuals can rate the degree or amount of strain inflicted for different types of strain using a common scale. Such ratings likely reflect the objective characteristics of the strain (e.g., amount of money lost, injury inflicted), (sub)cultural beliefs regarding the degree of strain (e.g., beliefs regarding what is a small versus large financial loss, a minor versus serious insult), audience reactions to the strain (where applicable), and individual characteristics (especially when dealing with subjective strains).

Duration/frequency of strain. The duration and frequency of strain are also likely to influence the perceived magnitude of strain. As Agnew (1992) pointed out, data suggest that strains of long duration (chronic stressors) and/or high frequency have a greater negative impact on the individual (also see Lepore 1995; Turner and Wheaton 1995). Furthermore, data from the stress literature suggest that unresolved strains have a much greater impact on the individual than resolved strains (Herbert and Cohen 1996; Turner and Avison 1992). It is therefore important to determine whether the strain has been resolved. If the strain has not been resolved, it is also important to estimate its expected duration. That is, will the strain be resolved shortly or continue for some time, perhaps increasing in frequency and/or degree? The importance of estimating the expected duration of strain is illustrated in the work of Anderson (1999). As Anderson emphasized, seemingly trivial strains like a negative remark or a stare often generate much distress among inner-city residents, partly because they signal future conflicts of a more serious nature.

Recency. As Agnew (1992) noted, the impact of strains or stressors dissipates over time. Therefore, recent strains should have a larger impact on judgments of magnitude than older strains. At the same time, it is important to note that severe childhood strains may sometimes contribute to later criminal behavior (Elder et al. 1996; Kessler et al. 1995, 1997; Widom 1998).

Centrality of strain. Two individuals might be similar to one another in the degree, duration/frequency, and recency of their strain; yet they may differ dramatically in the perceived magnitude of their strain. One reason for this has to do with the centrality of the strain: Does the strain threaten the core goals, needs, values, activities, and/or identities of the individual? For example, two individuals may perceive the same monetary loss differently because they differ in the value they place on money.

Centrality is conceived of in different ways depending on the researcher and/or research tradition. Classic strain theorists, frustration-aggression theorists, and certain stress researchers focus on the importance of the goals, needs, or terminal values that are blocked or threatened (Berkowitz 1993; Cloward and Ohlin 1960; Cohen 1955; Dohrenwend 2000; Kaplan 1996; Lazarus 1999; Merton 1938; Wethington, Brown, and Kessler 1995). Certain stress researchers focus on the extent to which the strain leads to change (or negative change) in the usual or core activities of daily life (e.g., Dohrenwend 1998; Wheaton 1996). Still others—including strain, stress, social interactionist, and identity theorists—focus on the extent to which strains threaten the core identities of individuals or threaten efforts to establish positive identities (e.g., Berkowitz 1993; Burke 1996; Cohen 1997; Kaplan 1996;

Tedeschi and Felson 1994; Thoits 1991; Tyler 1994; Tyler et al. 1997; Wheaton 1996). These perspectives overlap to a large degree (see Burke 1996; Dohrenwend 1998; Kaplan 1996). For example, one's core identities are in large measure defined in terms of one's goals, values, and activities. In any event, GST can accommodate all these perspectives: Strain is central to the extent that it threatens core goals, needs, values, activities, and/or identities.

Judgments regarding the centrality of strain are partly influenced by the characteristics of the strain. For example, certain strainful events/conditions are such that they threaten a broad range of goals, values, needs, identities, and activities, so they are likely to be high in centrality for the overwhelming majority of people who experience them. Examples include "extreme stressors" (Dohrenwend 1998, 2000) and "traumatic events" (Wheaton, Roszell, and Hall 1997). As Dohrenwend (2000) stated, extreme stressors are such that "all usual activities are disrupted and all of the individual's goals are in jeopardy" (p. 8). Judgments regarding centrality are also influenced by the (sub)cultural beliefs associated with the strainful event/condition and how the event/condition is interpreted by others (e.g., whether audience members define an insult as trivial or a serious challenge to one's manhood).

The Strain Is Caused by or Associated with Low Social Control

A third factor affecting the likelihood that strain will lead to crime is the level of social control associated with the strain. Certain strains are caused by or associated with low social control, such as the strain caused by erratic parental discipline (low direct control), parental rejection (low attachment), work in the secondary labor market (low commitment), or homelessness (low direct control, attachment, and commitment). Such strains are more likely to result in crime because the low social control associated with them reduces the costs of crime. Also, low social control may reduce the ability to cope in a noncriminal manner. Individuals low in direct control, conventional attachments, and conventional commitments generally lack the social supports and resources that facilitate noncriminal coping.

Conversely, certain strains stem from or are associated with high social control. For example, much adolescent strain stems from the efforts of parents to supervise their children (direct control), much parental strain stems from the demands associated with childcare (attachment), and much occupational strain stems from the long working hours and difficult tasks associated with many professional/business jobs (commitment). Such strains are less likely to result in crime because the high social control associated with them increases the costs of crime. High social control may also increase the ability to cope in a noncriminal manner. High control is frequently associated with

the provision of social support and the possession of personal and financial resources that facilitate noncriminal coping.

An excellent illustration of the association between strain and social control is provided in Hirschi's (1969) and Kornhauser's (1978) discussion of classic strain theory. Classic strain theorists focus on one type of strain: the inability to achieve conventional success goals—like educational and occupational success—through legitimate channels. Hirschi and Kornhauser argued that the pursuit of such goals implies some level of social control. As Kornhauser stated,

if the child is sufficiently socialized to have a strong desire for conventional goals, he should be well enough socialized also to have the internalized values governing the conventional means of achieving them. . . . He should also be strongly enough attached to conventional persons and institutions to resist the temptation to use nonnormative means. (P. 47)

The pursuit of conventional success goals therefore implies at least moderately high levels of attachment, commitment, and belief (in conventional norms). And this may explain why the inability to achieve educational and occupational goals is unrelated to crime in most studies (Agnew 1995a).

Measuring social control. Researchers should estimate the extent to which the type of strain being examined is associated with (1) supervision or direct control by conventional others, (2) attachment to conventional others, (3) commitment to conventional institutions, and (4) the acceptance of conventional beliefs, especially beliefs condemning crime. This is easily done in certain cases; for example, the strain being examined stems from or is associated with employment in prestigious, well-paid jobs that indicate a strong commitment to conventional society. In other cases, researchers can employ observational or survey research to determine the association between strain and social control. For example, survey data can be used to determine whether individuals who desire educational and occupational success are high in such types of social control as attachment to conventional others and beliefs condemning crime.

*The Strain Creates Some Pressure or
Incentive to Engage in Criminal Coping*

A final factor affecting the likelihood that strain will lead to crime is the extent to which the strain creates some pressure or incentive to engage in criminal coping. Drawing on social-learning and routine activities theories, it can be argued that the type of strain experienced influences the availability

and appeal of noncriminal and criminal coping options—thereby affecting the pressure/incentive to engage in crime. Certain types of strain are associated with exposure to others who model crime, reinforce crime, and/or present beliefs favorable to crime (e.g., child abuse, being bullied by peers). More directly, certain types of strain are associated with exposure to others who model criminal coping to that type of strain and present beliefs favorable to criminal coping *to that type of strain*. Furthermore, criminal coping may be the only or the most effective way to address the perceived injustice and reduce the perceived magnitude of that type of strain (see Brezina 2000). Anderson's (1999) discussion of life in a poor, inner-city community provides an example.

Anderson (1999) argued that young males in this community are under much pressure to respond to one type of strain—disrespectful treatment—with violence. The perpetrators of disrespectful treatment and others in the community frequently model and present beliefs favorable to criminal coping. And violence is often the only effective way to respond to disrespectful treatment. Efforts to ignore disrespectful treatment or reason with the perpetrators of such treatment often result in further abuse—by both the perpetrator and others in the community. Victims cannot rely on the police or others to intervene on their behalf (also see Black 1983). And the efforts of victims to cognitively reinterpret their strain or engage in emotional coping are also ineffective. The perpetrators of the strain typically escalate their level of abuse, others regularly remind the victim of the disrespectful treatment they have experienced, and subcultural beliefs define such treatment as unjust and high in magnitude. Cognitive reinterpretation is therefore difficult. Violent coping, however, reduces feelings of injustice, reduces the likelihood of further disrespectful treatment, and allows the victim to protect or enhance their identity/status.

Measuring the pressure or incentive for criminal coping. Researchers should consider the following factors when determining whether a particular instance of strain creates some pressure or incentive for criminal coping.

1. Does the strain stem from or is it associated with exposure to others who model, reinforce, and/or present beliefs favorable to crime?
2. What behavioral options of a noncriminal and criminal nature are available to members of the group experiencing the strain in question? Are these options frequently modeled by others? Do they have (sub)cultural support? How effective will these options be in reducing the perceived injustice and magnitude of the strain?
3. What cognitive options of a noncriminal criminal nature are available to members of the group experiencing the strain? Efforts to cognitively cope with

strain usually involve attempts to minimize the injustice, degree, duration/frequency, recency, and/or centrality of the strain. It is more difficult to cognitively minimize the injustice and/or magnitude of some types of strain than others. In particular, minimization is more difficult when (1) the victim receives clear and frequent information on the injustice and magnitude of their strain, with this information coming from such sources as trusted others, witnesses to the strainful event or condition, and members of the community; (2) (sub)cultural beliefs define the strain as unjust and high in magnitude; (3) there is strong (sub)cultural and structural support for the goals, needs, values, activities, and/or identities being challenged; and (4) the strain is unresolved, perhaps increasing in frequency and/or degree.

Information in the above areas can be obtained from observational studies, intensive interviews, and surveys.

*CLASSIFYING TYPES OF STRAIN ACCORDING
TO THEIR LIKELIHOOD OF LEADING TO CRIME*

In sum, strainful events and conditions are most likely to lead to crime when they (1) are seen as unjust, (2) are seen as high in magnitude, (3) are associated with low social control, and (4) create some pressure or incentive for criminal coping. At present, I would argue that all four of these characteristics are roughly equal in importance and that the absence of any one characteristic substantially reduces the likelihood that strain will result in crime—unless the strain is seen as extraordinarily unjust and high in magnitude (see below). These characteristics are next used to predict the relative likelihood that different types of strain will result in crime. Drawing on the existing research where possible, I roughly estimate the likelihood that these strains are seen as unjust, are seen as high in magnitude, are associated with low social control, and create some pressure or incentive for criminal coping. It would of course be desirable to verify my judgments using the research strategies described above.

It is not possible in this short article to make predictions for all types of strain. Instead, I consider several broad types of strain. These types of strain were selected for several reasons: They encompass many of the major types of strain that people face—including family, peer, school, and work-related strains; they include most of the strains examined in tests of classic and GST, as well as certain strains neglected by empirical researchers; and most of these strains can be examined with currently available data sets. The focus on broad types of strain, however, does reduce the accuracy of the predictions. As indicated, it is more difficult to classify broadly defined types of strain on

the above characteristics. For example, it is difficult to predict whether unemployment will be related to crime. As many researchers argue, the relationship between unemployment and crime depends on the circumstances associated with the unemployment. Limited evidence suggests that unemployment is most likely to lead to crime when it is persistent (i.e., high in magnitude) and blamed on others (i.e., seen as unjust) (see Baron and Hartnagel 1997; Box 1987; Colvin 2000; Hagan and McCarthy 1997; Uggen 2000). As a result, the strains below are simply sorted into two groups: those predicted to be unrelated or weakly related to crime and those predicted to be more strongly related to crime.

Types of Strain Unrelated or Weakly Related to Crime

The first condition (strain seen as unjust) allows us to predict that a wide range of strains will be unrelated to crime. At the most general level, these include those types of strain that are clearly the result of reasonable accident or chance, reasonable ignorance, reasonable constraint, the victim's own behavior, or natural causes like extreme weather and disease (as opposed to those types of strain resulting from the voluntary and intentional violation of justice norms). Many of the strains commonly included in the stressful life events scales used to test GST likely fall into this category, like accident, serious illness or injury, serious illness or injury of brother or sister, brother or sister leaving home for college or a job, and family member dying.

The second condition (strain seen as high in magnitude) allows us to predict that strains that are low in magnitude will be unrelated to crime. Certain types of strain are more likely to be seen as low in magnitude than other types. For example, those strains that threaten peripheral goals are more likely to be seen as low in magnitude than those that threaten core goals. There are data ranking the importance of various goals in the United States as a whole and among certain groups (e.g., Rokeach 1973). Such data can be used as a guide in predicting the likelihood that specific strains will be seen as low or high in magnitude (more below). At the same time, it is important to note that many seemingly serious strains—like the death of a family member—may be perceived as low or high in magnitude depending on the circumstances (see Wethington et al. 1995; Wheaton 1990). So, it is important for researchers to estimate the magnitude of the strains they are examining, something that is rarely done in the criminology research.

Considerations of injustice and magnitude—as well the third and fourth conditions (the strain is associated with low social control and creates some pressure or incentive for criminal coping)—allow us to predict that several

other types of strain will not be related to crime. These include types of strain that have dominated the research on strain theory.

The failure to achieve those goals that result from conventional socialization and that are difficult to achieve through illegitimate channels. These goals include educational success, occupational success, and middle-class status. Although the inability to achieve these goals may result in strain of high magnitude, such strain is unlikely to be seen as unjust. Among other things, the failure to achieve such goals is typically blamed on the victim. As Merton (1968) stated, the cultural system in the United States conveys the message that "success or failure are wholly results of personal qualities; that he who fails has only himself to blame" (p. 222; also see Merton 1968:191, 201-03). And much research on the legitimation of stratification suggests that people tend to accept responsibility for their place in the stratification system (see Agnew 1992; Hegtvedt and Markovsky 1995; see below for the argument that minority-group members in the United States may sometimes blame others for their failure to achieve conventional success goals). Furthermore, as argued above, the pursuit of conventional success goals implies some level of social control. Finally, the inability to achieve these goals is not likely to create strong pressure for criminal coping. In particular, these goals are not easily achieved through criminal means, like theft and violence. In fact, criminal behavior may undermine the achievement of these goals. Therefore, criminal coping is not likely to be reinforced. These arguments may help explain why empirical research typically finds that crime is unrelated to the disjunction between educational and/or occupational aspirations and expectations (see Agnew 1995a for an overview; Jensen 1995).⁵

Supervision/discipline by parents, teachers, criminal justice officials, and other conventional authority figures that is (1) not overly strict, (2) consistent, (3) contingent on negative behavior, (4) not excessive given the infraction, and (5) not verbally or physically abusive. Such supervision/discipline may generate much strain (e.g., juveniles being grounded, offenders being arrested and sent to prison). But this strain is not likely to be seen as unjust because it is deserved, is administered in a fair way by legitimate authority figures, and is not aggressive or disrespectful. Furthermore, such supervision/discipline creates a high level of direct control and reduces the likelihood of association with delinquent others. Much data demonstrate that parental and school supervision/discipline of the above type is associated with lower levels of delinquency (Agnew 2001b; Sampson and Laub 1993). And some data suggest that this may be true for supervision/discipline by criminal justice officials as well (Lanza-Kaduce and Radosevich 1987; Sherman 1993, 2000; Tyler 1990).

The burdens associated with the care of conventional others to whom one likely has a strong attachment, like children and sick/disabled spouses. Although such care may create great strain, it is not likely to be viewed as unjust. There is a strong cultural expectation that one is supposed to care for children and sick/disabled spouses, an expectation likely to be supported by others in the person's network. In fact, one is usually labeled a bad parent or spouse if such care is not provided. This type of strain implies at least a moderate level of social control: the "victim" may be closely supervised by others inside and outside the family, the victim likely has a strong emotional bond to conventional others, and cultural beliefs strongly support the provision of adequate care. This type of strain also does not create much pressure or incentive for most forms of criminal coping. Caregivers have little opportunity to engage in crime, except for family violence, neglect, certain types of illicit drug use, and possibly shoplifting. Crime is not an effective solution to this type of strain. And the burdens associated with care giving limit association with criminal others.

The impact of this type of strain on crime has not been well examined. Data from the stress literature, however, indicate that females are more likely than males to experience this type of strain (see Broidy and Agnew 1997). This may partly explain gender differences in crime. It may also help explain why such differences are smallest for the crimes of family violence, larceny, and certain types of illicit drug use, such as the misuse of prescription drugs.

The excessive demands associated with conventional pursuits that provide rewards like high pay, prestige, and/or intrinsic satisfaction (or that have a strong likelihood of providing access to such rewards in the future). The prime examples of such pursuits are work in prestigious and/or well-paid jobs (or work in the primary labor market) and attending college. Excessive demands include long working (or studying) hours and work on difficult tasks. Such strain may be seen as high in magnitude, but it is not likely to be seen as unjust. The voluntary or quasi-voluntary nature of these conventional pursuits contributes to self-blame, and the victims of such strain may feel that the excessive demands made on them are justified or offset by the rewards they receive. Such strain is frequently caused by or associated with high social control, including commitment to conventional activities (e.g., one's job or educational pursuits) and supervision (i.e., much time is spent on structured tasks that are closely monitored). And such strain does not create pressure or incentives for criminal coping. The excessive demands limit the opportunity for association with criminal others. Furthermore, crime is typically not an effective solution to such demands (with the exception of cheating and certain types of white-collar crime). This type of strain has not been

well examined, although we do know that time spent studying is negatively related to crime (Agnew 2001b; Hirschi 1969).

Unpopularity with or isolation from peers, especially criminal peers. Such strain may be high in magnitude and may also be seen as unjust. In particular, individuals may blame their unpopularity/isolation on peers who unfairly reject them or on parents who unfairly limit their social life. Such strain, however, may contribute to an increase in social control by increasing time spent with parents or other conventional figures. Also, such strain does not create much pressure or incentive for crime. Little time is spent with peers who may reinforce crime, model crime, and foster beliefs conducive to crime. And related to this, there are fewer opportunities for crime. Data support this prediction: Crime is less common among juveniles who report that they are unpopular with peers, have few close friends, have few delinquent friends, never or seldom date, or seldom engage in unsupervised social activities with peers (Agnew 2001b; Agnew and Brezina 1997; Agnew and Petersen 1989; Osgood et al. 1996).

Isolation from those situations or environments conducive to crime. Such strain is closely related to strain from unpopularity or isolation from peers because these situations/environments are typically settings where unsupervised peers gather. Likewise, this type of strain often stems from peer rejection and the efforts of parents to supervise their children (e.g., setting curfews, prohibiting attendance at parties). This type of strain is unlikely to lead to crime for the reasons indicated in the previous paragraph. Data support this prediction (Agnew 2001b; Agnew and Petersen 1989; Osgood et al. 1996). And the fact that females are more likely to experience this type of strain than males may help explain gender differences in crime (Broidy and Agnew 1997; Jensen and Brownfield 1986; Osgood et al. 1996).

Extreme instances of the above types of strain. Certain of the above types of strain may lead to crime in extreme cases. Extraordinary demands at work or school and extraordinary demands for the care of conventional others may be viewed as unjust because they are far outside the range of past experience or the experience of similar others, they may severely tax efforts at conventional coping, and they may eventually undermine conventional attachments and commitments. As such, these extraordinary demands may lead to crime. This argument finds indirect support in the work of Wells and Rankin (1988), who found a curvilinear relationship between parental supervision and delinquency. Increases in parental supervision up to a point reduce delinquency, but very strict supervision increases delinquency.

Types of Strain More Strongly Related to Crime

As indicated, strainful events and conditions are unlikely to lead to crime *unless* they are (1) seen as unjust, (2) seen as high in magnitude, (3) associated with low social control, *and* (4) create some pressure or incentive for criminal coping. Such strains are likely to include (but are not limited to) the following.

The failure to achieve core goals that are not the result of conventional socialization and that are easily achieved through crime. Such goals include money—particularly the desire for much money in a short period of time (as opposed to the gradual accumulation of savings), thrills/excitement, high levels of autonomy, and masculine status (see Agnew 1997, 2001a, 2001b; Agnew et al. 1996; Anderson 1999; Cernkovich et al. 2000; Colvin 2000; Katz 1988; Matza and Sykes 1961; Messerschmidt 1993; Moffitt 1993; Tittle 1995). These are core goals for at least certain segments of the population. It is difficult to predict whether the failure to achieve these goals will be seen as unjust, although it has been suggested that this is the case where barriers to success are visible and such barriers involve discrimination based on acquired characteristics—like “the mere fact of birth into a particular race, religion, social class, or family” (Cloward and Ohlin 1960:119; also see Anderson 1999; Blau and Blau 1982; Messerschmidt 1993). The pursuit of these goals does *not* imply conventional socialization or high social control. Rather, the pursuit of these goals frequently stems from the possession of certain individual traits, like sensation seeking (White, Labouvie, and Bates 1985), exposure to “subterranean” traditions or subcultural groups (see Matza and Sykes 1961), and structural conditions—like poverty in the midst of plenty (see Kornhauser 1978). In this area, Cernkovich et al. (2000) demonstrated that the desire for material success does not function as a form of social control. Furthermore, these goals—unlike educational and occupational success—are easily achieved through crime. Crime is frequently used to get money (Agnew et al. 1996; Cernkovich et al. 2000; Colvin 2000), obtain thrills/excitement (Katz 1988), demonstrate or obtain autonomy (Agnew 1984; Moffitt 1993; Tittle 1995), and “accomplish” masculinity (Anderson 1999; Messerschmidt 1993).

Parental rejection. Parents who reject their children do not express love or affection for them, show little interest in them, provide little support to them, and often display hostility toward them. Parental rejection is likely to create much strain because it may seriously threaten many of the child’s goals, values, needs, activities, and/or identities. Parental rejection is likely to be seen

as unjust given cultural expectations and the experiences of other children. Parental rejection is associated with very low rather than high social control. And rejection creates some pressure or incentive to engage in crime, largely because rejected children are more likely to be exposed to deviant/aggressive behaviors by their parents and associate with delinquent peers. Data indicate that parental rejection is strongly related to delinquency (Agnew 2001b; Sampson and Laub 1993).

Supervision/discipline that is very strict, erratic, excessive given the infraction, and/or harsh (use of humiliation/insults, threats, screaming, and/or physical punishments). Such supervision/discipline is likely to be seen as high in magnitude, particularly if the individual is exposed to it on a regular basis by parents, school officials, criminal justice officials, or others. It is likely to be seen as unjust because it violates one or more justice norms. It is associated with low social control; sanctions administered in the above manner do not function as effective direct controls, and they frequently undermine attachments and commitments to conventional others and institutions. Such supervision/discipline also creates some pressure or incentive for crime because the sanctioning agents frequently model aggressive behavior, implicitly or explicitly foster beliefs conducive to aggression, and sometimes reinforce aggression (see Patterson, Reid, and Dishion 1992). This type of discipline is also likely to promote association with delinquent peers. Data indicate that parents, school officials, and possibly criminal justice officials who employ this type of discipline/supervision increase the likelihood of crime (Agnew 2001b; Colvin 2000; Lanza-Kaduce and Radosevich 1987; Patterson et al. 1992; Sampson and Laub 1993; Sherman 1993, 2000; Tyler 1990).

Child neglect and abuse. Child neglect and abuse represent extreme forms of parental rejection and harsh parental discipline, and abuse/neglect should be related to crime for all the reasons listed above for these forms of strain. Data support this prediction (Smith and Thornberry 1995; Widom 1998).

Negative secondary school experiences. Negative school experiences include low grades, negative relations with teachers (e.g., teachers treat unfairly, belittle/humiliate), and the experience of school as boring and a waste of time. These experiences are likely to be seen as high in magnitude given the central role that school plays in the lives of juveniles. They may be seen as unjust. The compulsory nature of school and the dependent status of juveniles contribute to external blame. Also, juveniles may feel that school personnel ask much of them (several hours of their time and attention each

day) but give little in return—which contributes to feelings of distributive injustice. Feelings of injustice are especially likely when students believe they are discriminated against because of ascribed characteristics. Negative school experiences are associated with low rather than high social control. And negative experiences may foster association with delinquent peers. Data indicate that negative school experiences are related to delinquency (Agnew 2001b; Sampson and Laub 1993).

Work in the secondary labor market. Such work commonly involves unpleasant tasks (e.g., simple, repetitive work; physically demanding work; work that requires a subservient stance), little autonomy, coercive control (e.g., threats of being fired), low pay, few benefits, little prestige, and very limited opportunities for advancement. Furthermore, such work is often intermittent in nature. Such work is likely to create much strain, especially given the central role of work for adults. Such work may be seen as unjust. Although individuals often accept responsibility for their position in the stratification system, the high demands and meager benefits of such work are likely to be seen as unjust by many. Such work is associated with low rather than high social control (Crutchfield and Pitchford 1997). And such work may create some pressure or incentive for criminal coping. Crime is often an effective remedy to the problems associated with work in the secondary labor market. And such work often increases the likelihood of exposure to others who are disposed to crime (Colvin 2000; Crutchfield and Pitchford 1997). Data suggest that work in the secondary labor market is associated with crime (Colvin 2000; Crutchfield and Pitchford 1997).

Homelessness, especially youth homelessness. This type of strain is likely to be seen as very high in magnitude because it represents a major challenge to a broad range of goals, needs, values, activities, and identities. Furthermore, homelessness dramatically increases the likelihood that many other types of strain will be experienced, particularly conflicts with and victimization by others (Baron and Hartnagel 1997; Davis 1999; Hagan and McCarthy 1997). Homelessness may be seen as unfair, particularly among youth—whose homelessness is often the result of parental abuse and neglect (Davis 1999; Hagan and McCarthy 1997). And homelessness is strongly associated with low social control and the social learning of crime, as demonstrated in several recent studies (Baron and Hartnagel 1997; Davis 1999; Hagan and McCarthy 1997). Data indicate that homelessness and its attendant problems are associated with crime (Baron and Hartnagel 1997; Hagan and McCarthy 1997).

Abusive peer relations, especially among youth. Peer abuse has been neglected as a type of strain, although data suggest that it is widespread and that it often has a devastating effect on victims (e.g., Ambert 1994; Lockwood 1997). Such abuse may involve insults/ridicule, gossip, threats, attempts to coerce, and physical assaults. Peer abuse is likely to be seen as high in magnitude, especially among youth, where peers are of central importance. Peer abuse is likely to be seen as unjust because it frequently violates one or more justice norms (e.g., is excessive given the infraction, is disrespectful or aggressive, is not administered by legitimate sanctioning agents). Peer abuse is not associated with high social control. Peer abuse among juveniles, in particular, often occurs away from sanctioning agents like parents and teachers. And such abuse is often associated with some pressure or incentive to engage in crime. Peer abuse is especially common in delinquent peer groups and gangs, where the victim is regularly exposed to others who model crime, present beliefs favorable to crime, and reinforce crime (see Agnew 2001b; Colvin 2000). Furthermore, peers often model criminal coping in response to abuse, present beliefs that encourage criminal coping in response to abuse, and differentially reinforce criminal coping in response to abuse.

Criminal victimization. Victimization is typically seen as unjust and high in magnitude. Victimization is not associated with high social control; in fact, victimization is most likely to occur in settings in which social control is low—such as settings where young, unsupervised males gather (Jensen and Brownfield 1986; Lauritsen, Sampson, and Laub 1991; Meier and Miethe 1993). Furthermore, victimization may reduce concern with internal and external sanctions because criminal victimization often provides a justification for crime in the eyes of the victim and others. Finally, criminal victimization is often associated with the social learning of crime. Victimization is more common in delinquent peer groups and gangs, and victimization by definition involves exposure to a criminal model (Lauritsen et al. 1991). Limited data suggest that criminal victimization is strongly related to criminal offending (see Dawkins 1997; Esbensen and Huizinga 1991; Jensen and Brownfield 1986; Lauritsen et al. 1991; Lauritsen, Laub, and Sampson, 1992; Sampson and Lauritsen 1993).

Experiences with prejudice and discrimination based on ascribed characteristics, like race/ethnicity. Data indicate that racial prejudice and discrimination are quite common in the United States (Ambert 1994; Forman, Williams, and Jackson 1997). This type of strain is likely to be seen as unjust and high in magnitude, particularly given the strong cultural emphasis in the United States on egalitarianism. Prejudice/discrimination may reduce social control, particularly attachment and commitment to those individuals and

institutions associated with the prejudice and discrimination. Prejudice/discrimination may also create some pressure or incentive to engage in crime because the victim is exposed to others who violate strongly held social norms. Data indicate that experiences with prejudice and discrimination contribute to psychological distress (Finch, Kolody, and Vega 2000; Schulz et al. 2000), and certain qualitative studies have linked prejudice and discrimination to crime (e.g., Anderson 1999). Quantitative studies, however, have not devoted much attention to experiences with prejudice and discrimination.

Summary

The above list represents the most comprehensive attempt to identify those types of strain that are and are not related to crime. It incorporates and extends the work of classic and contemporary strain theorists. Building on the classic strain theorists, it argues that the inability to achieve certain success goals—particularly educational and occupational goals—is not related to crime, whereas the inability to achieve other success goals—like the rapid acquisition of much money—is related to crime. The list also includes many of the strains that contemporary researchers have identified—like the denial of autonomy needs (Moffitt 1993; Tittle 1995); threats to masculine status (Anderson 1999; Messerschmidt 1993); disrespectful, unfair, or abusive police practices (Sherman 1993, 2000); and the types of coercion discussed in Colvin's (2000) theory of differential coercion.⁶ The list also contains types of strain that have not been extensively discussed in the strain literature—noting which are related to crime and which are not. The general principles listed in the previous section allow us to group all of these strains under one theoretical umbrella.

HOW DO WE TEST THE ABOVE ARGUMENTS?

Strain is most likely to lead to crime when it is seen as unjust, is seen as high in magnitude, is associated with low social control, and creates some pressure or incentive to engage in criminal coping. If these arguments are correct, types of strain that meet these conditions should be more strongly related to crime than types that do not (although the precise relationship between strain and crime is a function of the characteristics of *both* the strain and the people experiencing the strain). So at the most basic level, researchers should test the above arguments by classifying strains on the above characteristics and then examining the relative impact of these strains on crime. The classification of strains just presented can be used as a starting point for such research. Ideally, researchers should compare the criminal behavior of

people who have experienced the above strains. As an alternative, researchers can present people with vignettes describing these types of strain and then ask how likely they or others would be to respond to them with crime (see Mazerolle and Piquero 1997 for a model).

The Cumulative Effect of Strain

This strategy for testing strain theory differs from the approach now taken by most researchers, who examine the impact of cumulative measures of strain on crime—with these cumulative measures often containing types of strain that differ widely on the above characteristics. Although researchers should not ignore the argument that strains may have a cumulative effect on crime, it is most important at this point to determine which types of strain are most strongly related to crime. Once this is determined, researchers can then explore the cumulative impact of strain on crime. Cumulative scales can be created by combining those types of strain that have a significant impact on crime—perhaps weighting them by their regression coefficients. A similar strategy has been successfully employed in the stress literature (Herbert and Cohen 1996; Turner and Wheaton 1995; Wheaton et al. 1997; also see Agnew and White 1992). Or researchers can determine whether strains interact with one another in their impact on crime through the creation of interaction terms (see Wheaton et al. 1997; note the argument that moderate levels of prior stress sometimes *reduce* the negative effects of current stressors).

Distinguishing Strain from Social Control and Social Learning

Researchers testing GST all confront a major problem: Many of the “strain” measures they use—like low grades or harsh parental discipline—can also be taken as social control or social-learning measures. Researchers usually deal with this problem by assigning some measures to the strain camp, some to the social control camp, and some to the social-learning camp. They then try to justify these assignments, although their arguments are often less than convincing. Agnew (1995c) explained why this is so, noting that most variables have implications for strain, social control, *and* social-learning theories. Harsh discipline, for example, is often classified as a type of strain, but some claim that it leads to crime by reducing attachment to parents or implicitly teaching the child that violence is acceptable under certain conditions (see Brezina 1998). It is therefore difficult to classify an independent variable as a purely strain, social control, or social-learning variable. This article makes the same argument: Most types of strain have implications for social control and the social learning of crime. Furthermore, it is argued that

those types of strain most likely to lead to crime are those that are associated with low social control and the social learning of crime.

This argument raises a major problem: If those types of strain most strongly related to crime are associated with low control and the social learning of crime, how do we know whether these strains affect crime for reasons related to strain, social control, or social-learning theories? Agnew's (1995c) solution to this problem was to examine the intervening processes described by these theories. Although these theories have many of the same independent variables in common, they differ in terms of their specification of intervening processes. Strain theory argues that these variables increase crime through their effect on negative emotions, control theory argues that they lower the perceived costs of crime, and social-learning theory argues that they influence the perceived desirability of crime. A few studies have attempted to examine such intervening processes, and they typically find that the processes associated with all three theories are operative (see Agnew 1985; Brezina 1998).⁷ Unfortunately, most existing data sets do not allow for the proper examination of these intervening processes (see Schieman 2000 and Stone 1995 for discussions of certain of the problems involved in measuring the key negative emotion of anger).

There is a second strategy that may be employed to determine if a strain measure affects crime for reasons related to strain, social control, or social-learning theory. Certain strain measures may affect crime because they reduce social control and/or foster the social learning of crime. As indicated, harsh discipline is said to reduce attachment to parents and foster beliefs conducive to violence. In such cases, we can examine the effect of the strain measure on crime while controlling for the relevant social control and social-learning variables. For example, we can examine the effect of harsh discipline on crime while controlling for parental attachment and beliefs conducive to violence. Or we can examine the effect of teacher conflicts while controlling for attachment to teachers, attachment to school, and grades. If the strain measure still affects crime after such controls, support for strain theory is increased. This strategy cannot be followed in all cases, however. Certain strain measures—like low grades—directly index the respondent's level of social control or social learning. Therefore, it is not possible to control for the relevant control or social-learning variables. Also, there is some risk in arguing that the *direct* effect of the strain measure on crime is best explained by strain theory. Researchers may have failed to control for or properly measure all relevant social control and social-learning variables. And it is possible that the strain measure affects crime for reasons other than those offered by strain, social control, and social-learning theories (e.g., genetic factors may influence both exposure to strain and levels of crime).

Finally, a third strategy sometimes allows us to determine whether strain variables affect crime for reasons distinct from those offered by social control theory. According to the logic of control theory, neutral relationships with other individuals and groups should have the same effect on crime as negative relationships. For example, a juvenile who does not care about her parents should be just as delinquent as a juvenile who dislikes or hates her parents. Both juveniles are equally free to engage in delinquency; that is, both have nothing to lose through delinquency. According to the logic of strain theory, however, the juvenile who hates her parents should be higher in delinquency than the juvenile who does not care about her parents. This is because the juvenile who hates her parents is under more strain. Her hatred likely stems from unpleasant relations with her parents, and it is stressful to live with people you hate. This prediction is easily tested with certain data sets, but researchers rarely compare juveniles who dislike/hate their parents with juveniles who neither like nor dislike their parents (see Nye 1958 for an exception). Similar analyses can be conducted in other areas. For example, researchers can compare the criminal behavior of individuals who hate their grades or jobs with those who do not care about their grades or jobs. If strain theory is correct, individuals who hate their grades or jobs should be higher in crime.

None of these strategies allows us to perfectly determine whether strain variables affect crime for reasons related to strain, social control, or social-learning theories, but taken together they can shed much light on this problem.

Measuring Strain

Many current measures of strain are quite simplistic; single-item measures of specific strains are often employed, with these measures providing little information about the magnitude, injustice, or other dimensions of the strain. A similar situation characterizes the stress literature, although stress researchers are starting to collect more detailed information on stressors to better estimate things like their magnitude. For example, some stress researchers have abandoned simple checklist measures and are employing intensive interviews with semistructured probes (see Herbert and Cohen 1996; Wethington et al. 1995; Wheaton 1996). Such techniques were developed because respondents often report trivial stressors when checklist measures are used—even when such checklists attempt to focus on serious stressors (Dohrenwend 2000; Herbert and Cohen 1996; Wethington et al. 1995). Also, many stress researchers now recognize that the circumstances associated with the stressor have an important effect on its impact. It is difficult to employ intensive interviews in the large-scale surveys often conducted by

criminologists, but criminologists can do a much better job of measuring strain in such surveys. As an illustration, one need only compare the measures of economic strain typically employed by criminologists with those commonly used in the family research. Economic strain is not simply measured in terms of low income or a two- or three-item index of socioeconomic status. Rather, family researchers examine such things as (1) family per capita income; (2) unstable work history, which includes changing to a worse job, demotions, and being fired or laid off; (3) debt-to-asset ratio; and (4) increases or decreases in family income in the past year. Furthermore, researchers recognize that these types of economic strain do not affect all families in the same way. So, more direct measures of economic strain are sometimes employed as well. For example, parents are asked about the extent to which the family has enough money for clothing, food, medical care, and bills. They are also asked about the changes they have had to make to cope with economic hardship, like moving, taking an additional job, canceling medical insurance, and obtaining government assistance (e.g., Conger et al. 1992; Fox and Chancey 1998; Voydanoff 1990; also see Agnew et al. 1996; Černkovich et al. 2000).

CONCLUSION

GST is usually tested by examining the effect of selected types of strain on crime. Researchers, however, have little guidance when it comes to selecting among the many hundreds of types of strain that might be examined. And they have trouble explaining why only some of the strains they do examine are related to crime. This article builds on GST by describing the characteristics of strainful events and conditions that influence their relationship to crime. As indicated, strains are most likely to lead to crime when they (1) are seen as unjust, (2) are seen as high in magnitude, (3) are associated with low social control, and (4) create some pressure or incentive to engage in criminal coping. Based on these characteristics, it is argued that certain types of strain will be unrelated or only weakly related to crime. Such strains include the failure to achieve educational and occupational success, the types of strain that have dominated the research on strain theory. Such strains also include many of the types of strain found in stressful life events scales, which are commonly used to test GST. And it is argued that other types of strain will be more strongly related to crime, including types that have received much attention in the criminology literature (e.g., parental rejection; erratic, harsh parental discipline; child abuse and neglect; negative school experiences) and types that have received little attention (e.g., the inability to achieve selected goals, peer abuse, experiences with prejudice and discrimination).

The arguments presented in this article should have a fundamental impact on future efforts to test GST because they identify those types of strain that should and should not be related to crime. And in doing so, these arguments make it easier to falsify GST. Furthermore, these arguments help explain the contradictory results of past research on strain theory; for example, they help explain why the failure to achieve educational and occupational success is usually not related to crime, whereas verbal and physical assaults usually have a relatively strong relationship to crime.

These arguments also have important policy implications. Agnew (1992) argued that two major policy recommendations flow from GST: reduce the exposure of individuals to strain and reduce the likelihood that individuals will cope with strain through crime (by targeting those individual characteristics conducive to criminal coping). This article suggests a third recommendation: alter the characteristics of strains in ways that reduce the likelihood they will result in crime. Despite our best efforts, many individuals will be exposed to strain. For example, parents, teachers, and criminal justice officials will continue to sanction individuals in ways that are disliked. We can, however, alter the ways in which these sanctions are administered so as to reduce the likelihood that they will (1) be seen as unjust, (2) be seen as high in magnitude, (3) reduce social control, and (4) create some pressure or incentive to engage in crime. In fact, this is one of the central thrusts behind the restorative justice and related movements (see Bazemore 1998; Briathwaite 1989; Sherman 1993, 2000; Tyler 1990). These movements point to ways in which criminal justice officials can increase the perceived justice of sanctions, reduce the perceived magnitude of sanctions, sanction in ways that increase rather than reduce social control, and sanction in ways that create little pressure or incentive for crime. Recommendations in these areas include treating offenders with respect; making them aware of the harm they have caused; giving them some voice in determining sanctions; tempering the use of severe, punitive sanctions; and reintegrating offenders with conventional society through a variety of strategies—like reintegration ceremonies and the creation of positive roles for offenders. Certain parent-training and school-based programs are also structured in ways that reduce the likelihood that strains like disciplinary efforts will be administered in ways that increase the likelihood of criminal coping (see Agnew 1995d, 2001b).

This article, then, extends Agnew's (1992) GST in a way that substantially improves its ability to explain and control crime. Although Agnew (1992) argues that the reaction to strain is largely a function of individual characteristics, this article argues that the reaction to strain is a function of both individual characteristics and the characteristics of the strain that is being experienced. Strain is most likely to lead to crime when individuals possess characteristics conducive to criminal coping (as described in Agnew 1992)

and they experience types of strain conducive to criminal coping (as described above). This extension of strain theory parallels recent developments in the stress literature. Like Agnew (1992), stress researchers argued that the impact of stressors on outcome variables was largely a function of individual characteristics like coping skills and social support. Stress researchers, however, have increasingly come to realize that stressors do not have comparable impacts on outcome variables. Certain stressors are significantly related to outcome variables—most often measures of mental and physical health—whereas others are not (e.g., Aseltine et al. 2000; Aseltine, Gore, and Colten 1998; Brown 1998; Wethington et al. 1995; Wheaton et al. 1997; Dohrenwend 1998). So we must consider both the nature of the stressor and the characteristics of the individual experiencing the stressor.

Like Agnew's (1992) original statement of GST, however, the arguments in this article are in need of further research and elaboration. The predictions regarding the impact of specific types of strain on crime are tentative. Researchers should use the methods described in this article to better determine the extent to which these and other types of strain are seen as unjust, are seen as high in magnitude, are associated with low social control, and create some pressure or incentive for crime. Such research should improve the accuracy of the predictions that are made. Furthermore, researchers should pay attention to the impact of group membership in such research. For example, it is likely that there are group differences in the extent to which certain strains are seen as unjust or high in magnitude.⁸ In addition, researchers should examine whether particular strains have a greater impact on some types of crime than other types. For example, some research suggests that certain strains are more strongly related to aggression/violence than to other types of crime (e.g., Agnew 1990; Aseltine et al. 1998, 2000; Mazerolle et al. 2000; Mazerolle and Piquero 1997). (Likewise, the stress research reveals that some stressors are more strongly related to some types of negative outcomes than to others.) The arguments presented in this article, then, are still in need of much development, but that does not diminish their central thrust—some strains are more likely than others to result in crime.

NOTES

1. Most of the research in criminology simply assumes that certain events or conditions are disliked by most of the people being studied. This is probably a reasonable assumption in most cases (e.g., criminal victimization), although it is a more questionable assumption in other cases (e.g., changing schools). A potentially more serious problem with the criminology research is that researchers rarely employ a complete or comprehensive list of objective strains. Researchers usually only examine a few types of objective strain—often overlooking many of the most important types. For example, interviews with adolescents suggest that peer conflict and abuse

are among the most important types of objective strain in this group, but such conflict/abuse is rarely considered by researchers (although see Agnew 1997; Agnew and Brezina 1997; Ambert 1994; Aseltine, Gore, and Gordon 2000; Seiffge-Krenke 1995). Likewise, experiences with racial prejudice and discrimination are seldom considered by researchers, despite evidence that such experiences are a major type of objective strain among African Americans and others (Ambert 1994; Anderson 1999). Recent research suggests that the failure to examine the full range of stressors can lead researchers to substantially underestimate the effect of stress or strain (Turner, Wheaton, and Lloyd 1995).

2. This is much less of a problem when judges or group members are rating the injustice of objective strains because these ratings are averaged across judges or group members.

3. Attributions of recklessness and negligence may also lead to perceptions of unjust treatment, although they result in less blame than attributions of intent. See Tedeschi and Felson (1994) and Tyler et al. (1997) for discussions in this area.

4. The distributive justice literature focuses on norms governing the distribution of outcomes, with outcomes broadly defined. Such outcomes include the types of strain considered in general strain theory (GST): the blockage of goal-seeking behavior, the removal of positively valued stimuli, and the presentation of negatively valued stimuli. Several rules govern the distribution of outcomes (e.g., equity, need, equality). And a range of factors influences the choice of the most relevant rule(s) and the determination of whether the rule(s) has been violated—with self-interest being a major factor (Hegtvedt and Cook forthcoming; Hegtvedt and Markovsky 1995; Tyler et al. 1997). The procedural justice literature focuses on the process by which people decide how to distribute outcomes. Several factors have been found to influence judgments about the fairness or justice of this process, although the relative importance of these factors varies by type of situation and other variables (Hegtvedt and Markovsky 1995; Lind and Tyler 1988; Sherman 2000; Tyler 1994; Tyler et al. 1997). The interactional justice literature focuses on the norms governing interaction between people, with data indicating that people have a strong desire to be treated in a polite, respectful, considerate, nonaggressive manner (Mikula 1986, 1993; Mikula, Petri, and Tanzer 1990; Tedeschi and Felson 1994). The retributive justice literature focuses on the factors that influence the reaction to people who break social rules, with research indicating that people feel a need to sanction those who intentionally violate rules and with the sanction being proportional to the harm intended or inflicted (Tedeschi and Felson 1994; Tyler et al. 1997). Violations of distributive, procedural, interactional, and retributive justice norms may each influence overall evaluations of justice, although the relative importance of each type of justice varies according to several factors (Tyler et al. 1997).

5. Agnew (1992) argued that the inability to achieve educational and occupational goals would be related to crime if researchers focused on the disjunction between expectations or expected goals and actual achievements. He claimed that expectations are taken more seriously than aspirations. An empirical study by Jensen (1995), however, failed to find support for this argument—although further tests would be useful.

6. Colvin's (2000) theory of differential coercion essentially described a general type of strain—coercion—said to be especially conducive to crime (the theory also presented excellent discussions of the many ways that coercion may contribute to crime and the cultural and structural sources of coercion). Coercion involves “the use or threat of force and intimidation aimed at creating compliance through fear,” including the “actual or threatened removal of social supports,” and “pressure arising from structural arrangements and circumstances that seem beyond individual control,” creating “a sense of desperation that seems to compel an individual toward immediate action.” This broad definition includes most or all of the types of strain said to lead to crime but may also include many of the strains not predicted to affect crime—such as the inability to achieve conventional success goals, demands for the care of conventional others, and isolation from peer groups and situations conducive to crime.

7. One should also take account of the possibility that anger may indirectly affect crime by reducing the perceived costs of crime and increasing the perceived desirability of crime, as indicated earlier in this article.

8. Explaining the origins of such differences is, of course, central to any effort to develop the macro-side of GST (see the excellent discussions in Anderson 1999; Bernard 1990; Colvin 2000; and Messerschmidt 1993).

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ETIOLOGY AND TREATMENT OF CHILD AND ADOLESCENT ANTISOCIAL BEHAVIOR

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Evidence is presented showing that aggression is functional. The reinforcers provided vary as a function of age and setting. During the toddler years, negative reinforcing contingencies supplied by the caretaker and family members control the occurrence of overt forms of antisocial behavior. Beginning during school years, positive reinforcers supplied by members of the deviant peer group shape and control the occurrence of covert forms. Boys who move through both of these developmental stages are at risk for early police arrest, and in turn for chronic juvenile and adult offending. Studies in the early 1970s showed that training parents to alter these contingencies effectively reduced rates of antisocial behavior. These behavioral approaches have been tested in numerous studies that employ randomized trials, objective measures and follow-up designs. The intervention components have also been extended for use by foster parents trained and supervised in the use of these procedures with chronic offending adolescents. Prior to the adolescents return to their homes, the biological parents are also trained and supervised. Follow-up data show significant reductions in police arrest and rates of institutionalization. Taken together, these findings clearly support the efficacy of behavioral strategies in constructing etiologic models and a set of strategies for effective intervention with antisocial behaviors.

In many respects aggressive behavior is ideally suited to study by behavioral procedures. Antisocial behavior is readily observable in most settings. Observers can be trained to be highly reliable in coding such behavior (Jones, Reid, & Patterson, 1975). It is also a facet of behavior that is highly stable over time. For example, Olweus (1979) showed measures of antisocial behavior to be at least as stable over time as are measures of intelligence. There is modest support for the finding that measures obtained during preschool years are significant predictors for measures obtained as young adults (Kagan & Moss, 1962; Stattin & Magnusson, 1991). Several studies have shown that, given preschool identification as antisocial, then the odds are about 50% to 60% of being so classified as adolescents (Kazdin, Mazurick, & Bass, 1993; Tremblay, Boulerice, Pihl, Vitaro, & Zoccolillo, 1996). One interesting finding from studies such as these is that during late childhood, there are only very small numbers of new cases added. It seems then that most chronic antisocial individuals begin the trajectory during preschool years (Fergusson, Horwood, & Lynskey, 1995; Nagin & Tremblay, 1999; Patterson, Shaw, Snyder, & Yoerger, 2001). Epidemiologists estimate that about 8% of boys and fewer than 3% of girls might fit the definition of demonstrating early emerging and persisting extreme antisocial behavior

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(Offord, Boyle, & Racine, 1991).

There is also an interconnectedness among the different forms of antisocial behavior. Children who engage in high rates of noncompliance are at significant risk for also engaging in higher rates of hitting, fighting, and stealing (Patterson, Reid, & Dishion, 1992). Adolescents who engage in high rates of trivial delinquent acts (e.g., petty theft) also tend to engage in high rates of violent delinquent acts (Capaldi & Patterson, 1996). This suggests that although each antisocial behavior may be maintained by its own set of contingencies, there may be some general sense in which they are all part of the same system.

Childhood forms of antisocial behavior have been shown to be significant predictors for lifetime failures in achievement as shown in the pioneering longitudinal study by Huesmann, Eron, and Yarmel (1987). In keeping with this assumption, Olweus

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(1983) studied a large sample of Norwegian boys and found a significant path from antisocial behavior to poor grades. In an at-risk Oregon sample, a structural equation model showed a path coefficient of $-.57$ from a latent construct for antisocial behavior to a latent construct for achievement (Patterson et al., 1992). We view antisocial behavior as a major mechanism causing not only academic failure but also failure in such key domains as social relationships (Shortt, Capaldi, Dishion, Bank, & Owen, 2002), health (Patterson & Yoerger, 1995), and work history (Wiesner, Vondracek, Capaldi, & Porfeli, 2002). For example, antisocial individuals persist in their use of aversive events to alter the behavior of others. This leads to rapid rejection by normal peers as shown in two experimental manipulation studies by Dodge (1983) and Coie and Kupersmidt (1983).

Several features of antisocial behavior brought it to center focus for the National Institute of Mental Health (NIMH) funding beginning in the late 1960s. From half to two thirds of all referrals for child clinical agencies consisted of externalizing type problems, such as antisocial and hyperactive behavior. At that time, there were no interventions shown to be effective by well-designed (randomized trial, objective measures) studies. The NIMH began funding research destined to fill the gaps in building more effective models for both theory and intervention.

EMPIRICALLY BASED MODELS FOR CHILDREN'S ANTISOCIAL BEHAVIOR

We assumed the extent to which aggressive responses are selected by a child reflect, in some sense, the extent to which they were reinforced. Within this framework, children who engage in aggressive behaviors do so because they are reinforced for it. However, in the mid-1960s, we had no idea about the nature of the reinforcer, who delivers it, or what determines when it will be provided. At that time, we and other developmental psychologists carried out dozens of laboratory studies where children were reinforced with M&M candies or praise contingent on their punching a rubber clown. The findings from these studies were totally irrelevant to understanding questions of how aggression functioned in the real world.

We decided to send observers into natural settings to provide a basis for carrying out a functional analysis of children's antisocial behavior. A simple code system described each episode in which a nursery school child was aggressive to another (Patterson, Littman, & Bricker, 1967). The other child's reaction to the attack was also coded, together with the attacker's subsequent reaction. The data showed that roughly 80% of the 2,583 aggressive events were followed by such outcomes as "victim cries" or "victim gives up toy." From the attacker's view, these would be positive outcomes. The outcomes seldom involved such negative outcomes as teacher intervenes or victim retaliates.

The findings suggested that for young children in a nursery school setting, antisocial acts were indeed functional. Given lax control from adults, the reinforcers for child aggression seemed to be supplied by the victim. If the consequences supplied by victims served as reinforcers, then it should be the case that during the same episode the aggressor is more likely to continue attacking the same victim. It could also be that the aggressor would continue the same form of attack. Given punishing consequence (victim hits back), then the aggressor would be more likely to select a different victim and/or a different form of attack. A 2-(positive or negative consequences) by-2 (continue or stop attack) table was constructed for each of the nine most aggressive boys. Seven of the nine chi-square values were significant. These findings showed that consequences judged a priori to be positive or negative were reliably related to the future attacks.

Snyder and Patterson (1986) extended the strategy to demonstrate that given a sequence mother behavior X and child reaction pattern Y followed by termination of the bout increased the probability that in the future when mother behavior was X, the child was significantly more likely to react by Y. Notice that even in these complex social interaction situations, contingencies supplied by one person altered the future behavior of another. Notice, too, that these simple correlational strategies were useful in identifying those consequences in interactional sequences that might function as reinforcing contingencies when subjected to experimental tests. Relevant experimental manipulation studies will be reviewed in a later section.

Historically, developmental theorists assumed

that the genesis for children's aggression would be found in family process (Maccoby & Martin, 1983). However, a decade's effort to use self-report measures failed to establish a reliable connection between parenting practices and child aggression (Maccoby & Martin; Schuck, 1974). We hypothesized that the failure reflected a failure in measurement. Presumably, multimethod and multiagent measures of family process, particularly those based on observation data, would provide more reliable and valid predictors to child outcomes. We spent 3 years developing a code system that described sequential family interactions among family members (Jones et al., 1975; Reid, 1978). The code was later updated so that data could be collected in real time and stored in a small hand held computer (Dishion, Gardner, Patterson, Reid, & Thibodeaux, 1983). Up to 10 hours of baseline observations were collected in the homes of both normal and clinical families.

The home observation data provided a turning point in our thinking about children's aggression (Patterson & Cobb, 1971, 1973). Hundreds of hours spent observing in the homes of normal and clinical families identified an unexpected reinforcer for children's aggressive behavior. The data showed that children from families referred for treatment of aggression must learn to cope with very high rates of irritable behaviors. All family members, including the identified problem child, learn to employ aversive behaviors to terminate conflict bouts with other family members (Patterson, 1982). The data showed that in clinical families, conflict bouts occurred about once every 16 minutes. In these problem families, 10% to 15% of their interactions with each other tended to be aversive (Patterson et al., 1992). The most likely antecedent for a problem child's aversive response was the aversive behavior of other family members (Patterson, 1976). There were, in fact, specific networks of aversive stimuli found in many families that reliably produced outcomes such as child hitting and teasing. Those two responses, in turn, formed a functional response class that reliably produced hitting, teasing, and yelling reactions from family members (Patterson, 1982). Hitting and teasing formed a functionally defined response class.

In normal families, conflict bouts occurred at much lower rates and might be successfully terminated when the child displayed either prosocial (e.g., talking, negotiating, or using humor) or coercive (e.g., yelling, arguing, or hitting) reactions (Snyder &

Patterson, 1995). However, in clinical families, the process was markedly different. In these families, it was primarily coercive reactions that were reinforced by termination of conflict bouts.

The observation studies showed that training for aggression begins in the home, and it occurs primarily during conflict bouts. The contingencies provided fit the definition for negative reinforcement. For example, a sequence may begin with the aversive behavior of another family member. The child reacts aversively and may escalate to a higher amplitude aversive behavior (Snyder, Edwards, McGraw, Kilgore, & Holton, 1994). Given this sequence in clinical families, the child's coercive reaction is significantly more likely to be followed by termination of the conflict bout.

We designed a series of laboratory experiments to test for the efficiency of parent negative reinforcement in shaping child outcomes (reviewed in Patterson, 1982). For example, a study by Devine (1971) used mother nonavailability as an aversive event. In the trial, mother availability could be made contingent on either child prosocial or deviant behavior. These pairings could be used to significantly increase either child prosocial or deviant targeted behaviors in as few as four trials. Woo (1978) used observation data collected in the home to identify, for each of three dyads, a functional relation between an aversive mother behavior and a child coercive reaction. Negative reinforcing contingencies produced massive increases in pre-existing coercive patterns for all three dyads. Neither of these studies employed reversal or multiple baseline designs. Therefore, some uncertainty remains about the status of these contingencies as reinforcers. Even more importantly, we had no information on the overall contribution of negative reinforcement to individual differences in aggression.

Edward Carr carried out a series of classroom studies with children with disabilities that explored the coercion mechanism (negative reinforcement) in elegant detail. Observation data were used for a precise identification of the aversive stimuli. The experiments manipulated such child outcomes as self-destructive and aggressive behavior (Carr, Newsom, & Binkoff, 1976, 1980). For example, adult requests and commands were associated with an increase in

risk for child aggressiveness. Reversal designs showed dramatic changes in aggressiveness as a function of how effective it was in escaping from adult requests. Carr developed the idea that too little or too much adult attention could function as aversive stimuli for some children with disabilities (Carr, 1988). In his later studies, he demonstrated that it was possible to train the child to use communication skills as a replacement for deviant behavior. Horner and Day (1991) and Piggot (1995) have continued this research with studies showing that negative reinforcement serves as a key mechanism for a wide spectrum of deviant child behaviors.

The studies reviewed thus far show that parents can manipulate negative reinforcement contingencies, and in so doing, change both prosocial and coercive child behaviors. The classroom studies showed that there are behaviors in children with disabilities that are shaped by negative reinforcers provided by adult staff. However, these studies do not tell us whether the negative reinforcement mechanism accounts for the wide spectrum of behaviors typically ascribed to antisocial problem children.

To answer these questions, we should be able to measure negative reinforcement in problem and non-problem families to show that the mechanism accounts for the bulk of the variance in measures of antisocial childhood behavior. However, it has been known for decades that covariation between measures of reinforcement density and measures of response strength are asymptotic (nonlinear; Herrnstein, 1961). However, in his studies of the matching law, Herrnstein (1974) went on to demonstrate that in a highly controlled laboratory setting, there was a strong correlation between the relative rate of reinforcement and the relative rate of responding.

Snyder and Patterson (1995) hypothesized that the strategy could be applied to the study of children's aggression. Presumably, the relative rate of reinforcement for child coercion during conflict bouts would correlate with measures of the child's relative rate of aggression. Observation data assessed the relative rate of negative reinforcement provided during conflict bouts for an at-risk sample of kindergarten-aged boys interacting with their mothers. The key variable was the proportion of successful outcomes (mother terminates conflict) that involved child coercion. The relative rate of negative reinforcement for child coercion was found to

correlate .83 with the child coerciveness observed in the home a week later.

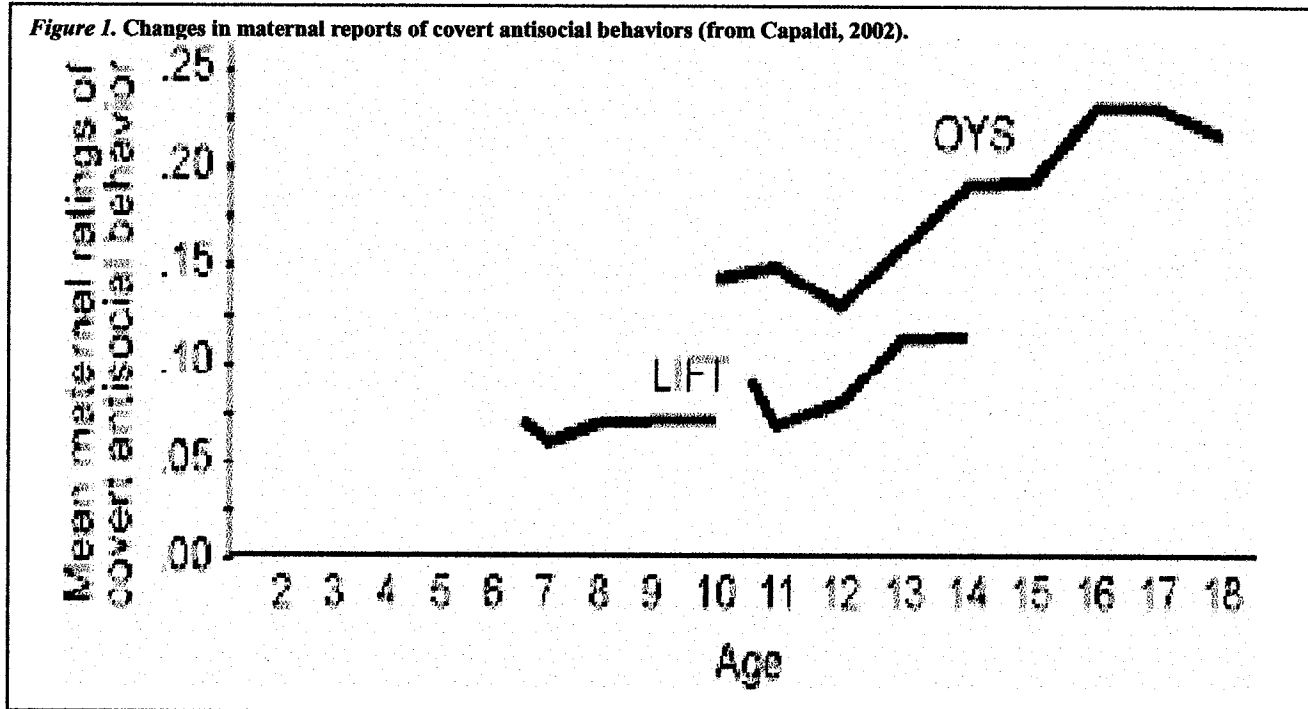
In a clinical sample, the reinforcement variables were used to predict a composite (police arrest and out-of-home placement) clinical outcome 2 years later (Snyder, Schrepferman, & St. Peter, 1997). Those boys who received higher relative rates of reinforcement for coercive behaviors when interacting with family members were at greater risk for police arrest and for out-of-home placement 2 years later. It seems then that the coercion mechanism (negative reinforcement) may be a highly generalized mechanism that applies to a wide spectrum of young aggressive boys performing a wide spectrum of antisocial acts.

In the model, it is assumed that parents who use reinforcing contingencies more effectively tend to be those that are generally socially skilled. To test this assumption, we developed four measures of parenting skills. In the hierarchically nested model, contingencies supplied by family members were thought to be the most proximal causal mechanism for coercive and antisocial child outcomes. It is assumed that parenting practices, such as monitoring, discipline, problem solving, and involvement, determine family contingencies. Multimethod, -agent definitions of parenting skills were developed (Patterson et al., 1992) to test the hypotheses that parenting practices should also predict child outcomes. Forgatch (1991) examined structural equation models from three different samples to show that the latent constructs for parenting practices accounted for 30% to 52% of the variance in latent constructs measuring child antisocial behavior. The implication of these findings is that intervention strategies must include provisions for altering parenting practices. Presumably changes in parenting will be associated with changes in the contingencies for coercive behavior found in family interactions.

The third level in the hierarchical model consists of measures of the context in which the family lives, for example, quality of neighborhood, social disadvantage, divorce, and parental depression. It is assumed that the effect of context on child outcomes is mediated by its impact on parenting practices. For example, not all post-divorce families produce antisocial children. The data show that if divorce is accompanied by disrupted parenting, then the family is at risk to produce an antisocial child (Forgatch, Patterson, & Ray, 1996; Forgatch,

Patterson, & Skinner, 1988). Models testing the impact of context on child outcome provide consistent support for the mediating role of parenting practices (Conger, Patterson & Gé, 1995; Larzelere & Patterson, 1990).

and is quickly rejected by members of the normal peer group (Dishion, Andrews, & Crosby, 1995). The problem child responds to this by selecting a peer group that is similarly deviant (Cairns, Cairns, Neckerman, Gest, & Garipey, 1988). Observations of



A developmental model must address the fact that children's antisocial behaviors change in form as the child matures (Patterson, 1993; Patterson et al., 2001). Longitudinal studies show that pushing, hitting, kicking, and biting are in evidence as early as 2 years of age (Tremblay et al., 1999). Findings from longitudinal studies show a consistent negative slope for these overt antisocial behaviors from age 2 to early adolescence. The data from longitudinal studies show little evidence of covert antisocial behavior during the elementary grades (Capaldi, 2002).

✓ However, as shown in Figure 1, there was a dramatic increase in maternal reports of covert antisocial behavior beginning in early adolescence (Patterson et al., 2001; Patterson & Yoerger, 1995). A longitudinal study showed that individuals who display high rates of overt antisocial behavior plus later growth in covert forms are most at risk for early-onset delinquency (Patterson & Yoerger; in press).

Studies of the etiology of covert forms of antisocial behavior are just beginning. The evidence that we have thus far shows that deviant peers may be the primary source for this training. Apparently the process begins when the antisocial child starts school

these interactions show that problem child and deviant peer interactions are characterized by rich schedules of positive reinforcement for deviant behavior (Dishion, Duncan, Eddy, Fagot, & Fetrow, 1994; Snyder, West, Stockenmer, Gibbons, & Almquist-Parks, 1996). This process continues during adolescence where the antisocial individual carefully selects both friends and romantic partners to match (and reinforce) his own deviancy. Deviant peers both model and provide positive reinforcement for covert forms (e.g. substance use, stealing, cheating, lying, truancy, health-risking sexual behavior) of antisocial behavior. Programmatic observation studies (Dishion et al., 1995) showed that the relative rates of positive reinforcement for deviant talk reliably predict future delinquency. Current studies of deviant peer interactions with at-risk samples of antisocial boys in elementary grades suggest that deviant peers may make a similar contribution to the development of new forms of antisocial behavior as early as the first grade (J. Snyder, personal communication, December 2001). This implies that interventions focus in part on controlling access to deviant peer culture.

The coercion model for antisocial behavior

addresses a complex web of relationships that imply status as causal mechanisms (e.g., the relation of inept parenting to the development of antisocial behavior, the relation between parenting practices and involvement with deviant peers, and the relation between deviant peer involvement and the acquisition of covert forms of antisocial behavior). These hypotheses raise the necessity for designing experimental manipulations that can directly test these assumptions.

Recent developments in prevention science have made it possible to subject hypothesized causal mechanisms to experimental tests (Forgatch, 1991). In a series of four of these studies, randomized trials assign some families to experimental conditions that include training in parenting practices and comparison groups who do not receive this training. The findings from all four studies completed thus far are consistent with the hypothesis that changes in parenting cause changes in child outcome (Chamberlain & Reid, 1998; Dishion, Patterson & Kavanagh, 1992; Forgatch & DeGarmo, 1999; Reid, Eddy, Fetrow, & Stoolmiller, 1999). For example, in a prevention trial involving single mothers, DeGarmo and Forgatch (2000) showed a significant reduction in delinquent behavior for the experimental but not for the comparison group. In keeping with the early-onset delinquency model, the effect on child outcome was mediated by improved parenting practices and by reductions in involvements with deviant peers. The fact that investigators in other research settings obtain similar results makes these findings even more convincing. Tremblay and his colleagues at Montreal have included parent training (PT) as one of the key components in their effectiveness trial. Their long-term follow-up data show significant reductions in antisocial behavior (Vitaro, Brendgen, & Tremblay, 1999). The mediating variables were changes in parenting practices.

EMPIRICALLY BASED ✓ INTERVENTIONS

Early efforts to treat antisocial children were based on derivatives from psychoanalytic theories (Kessler, 1966). By mid-century a number of large-scale, well-designed studies (randomized trials) had been carried out. It was becoming clear that the therapies practiced in child guidance clinics were ineffective (Levitt, 1971). For example, the classic Cambridge Somerville study (Powers & Witmer,

1951) involved a risk sample of boys thought to be delinquency prone. Those assigned to the experimental group received intensive counseling, monthly caseworker contacts, involvement in boys clubs, and summer camps. The counselor ratings showed significant improvement. However, long-term follow-up by McCord (1976) showed that as adults, the boys in the experimental group actually showed significantly higher rates of crime, alcoholism, and psychiatric illness. The intervention had produced an iatrogenic effect. Similar results were obtained from five other large-scale projects reviewed in Patterson (1979).

A behavioral approach to treating aggressive children emerged in the mid to late 1960s. The research was based on inputs from four different groups: (a) R. Wahler at Tennessee (Wahler, Winkle, Peterson, & Morrison, 1965); (b) S. Bijou through his influence on R. Hawkins (Hawkins, Peterson, Schweid, & Bijou, 1966); and then Christopherson (1990), (c) Bijou also influenced the Eugene, Oregon, group as they attempted to apply operant techniques to parent-child interaction (Johnson & Eyberg, 1975; Patterson & Brodsky, 1966) (d) C. Hanf (1968) had a major impact on the field through her training such outstanding students as R. Forehand and C. Webster Stratton.

The various research groups met often at formal conferences and in informal working groups. Even in the early beginnings, PT had acquired two very salient features. All of us relied heavily upon observation data to provide regular feedback to the therapists. The data were literally pinned to the wall and updated on a daily basis. The second characteristic was a strong conviction that, contrary to the psychoanalytic perspective, the problem was not assumed to be "IN" the child. Alternatively, we believed that the problem was "IN" the social environment. If we were to change child aggressive behavior, we would have to find some means for changing the environment in which the individual lived. Early on, we decided that we should begin by training the parents to change their reactions to the problem child.

We noticed that there was little or no correlation between maternal reports of improvements during intervention and the reports from observer data. We viewed parent global ratings of

improvement as a reinforcement trap (Patterson & Narrett, 1990). For example, we found that if the parent assumed intervention was occurring they reported improvement even though intervention had not begun.

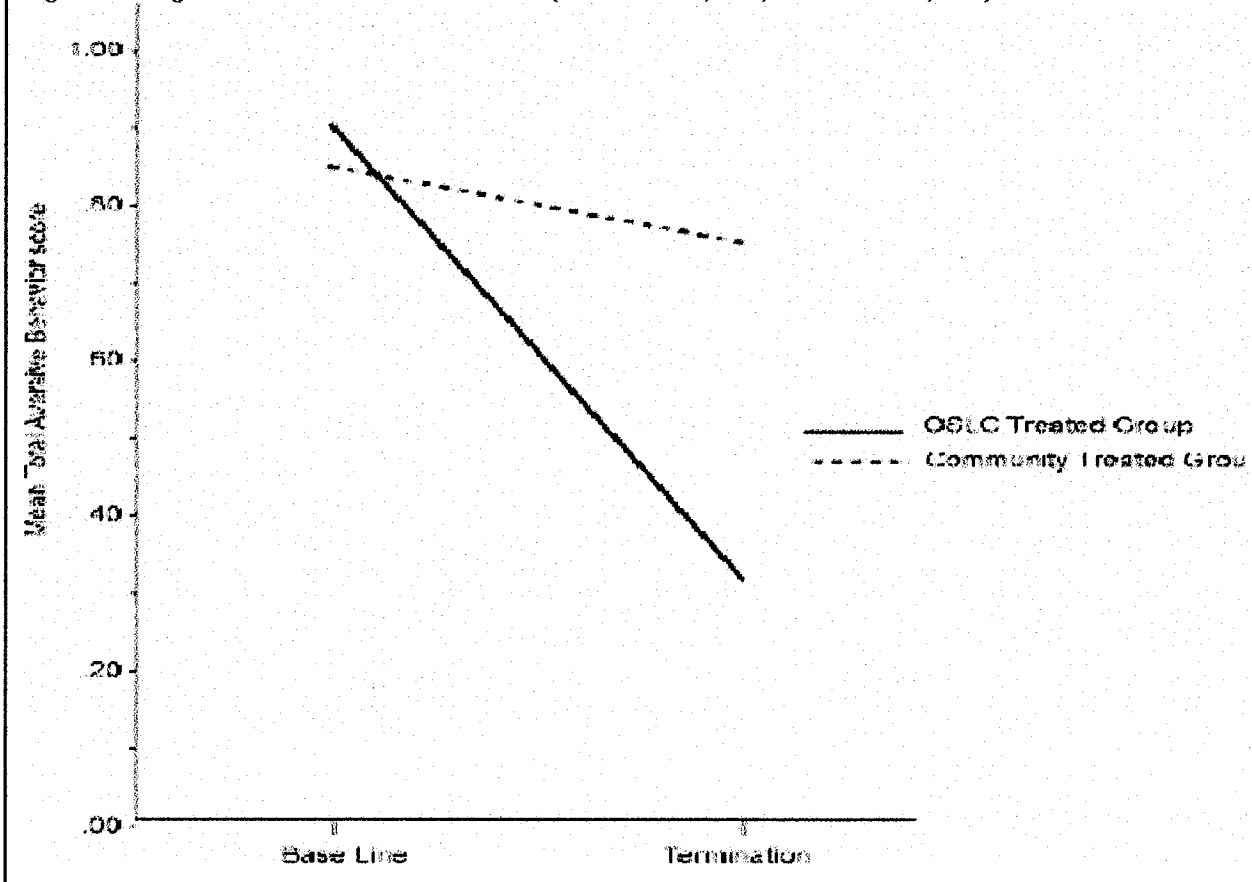
In the early stages we assumed that parents could be trained to simply reinforce responses that competed with aggression (e.g., cooperation, sharing, listening, etc.). The observation data showed that first cases treated in this fashion did not improve. We began to experiment with nonviolent forms of limit setting, such as time out and work chores, as negative consequences. The data showed very rapid changes in observed rates of deviant child behavior. Teaching parents effective limit setting (discipline) has come to be at the core of PT procedures.

We had observed the parents' failure to positively support the child's prosocial behaviors. Typically, the first week or two of intervention was totally invested in tracking and in reinforcing a wide spectrum of socially competent behaviors. For most

families of problem children, the procedures almost invariably included programs for accelerating academic achievement. The parent would be encouraged to track homework assignments and arrange a time and place for doing homework. Parenting skills, such as monitoring and family problem solving, were also emphasized. The parents were contacted by telephone once or twice a week to critique the problems that naturally arise in such an enterprise.

Even in the first clinical cases studied the follow-up observations showed that when the intervention was terminated, the mean level of child (and parent) deviancy did not return to baseline (Patterson, 1976). Systematic analyses showed the treatment effect persisted for at least 12 months (Patterson & Fleischman, 1979). ABAB reversal designs were not going to be an effective means for analyzing treatment outcome. We planned instead to eventually rely upon randomized trials with data collection at pre-, post-, and follow-up. The published findings for the first 27 treated cases

Figure 2. Changes in observed child deviant behavior (from Patterson, Reid, & Chamberlain, 1982).

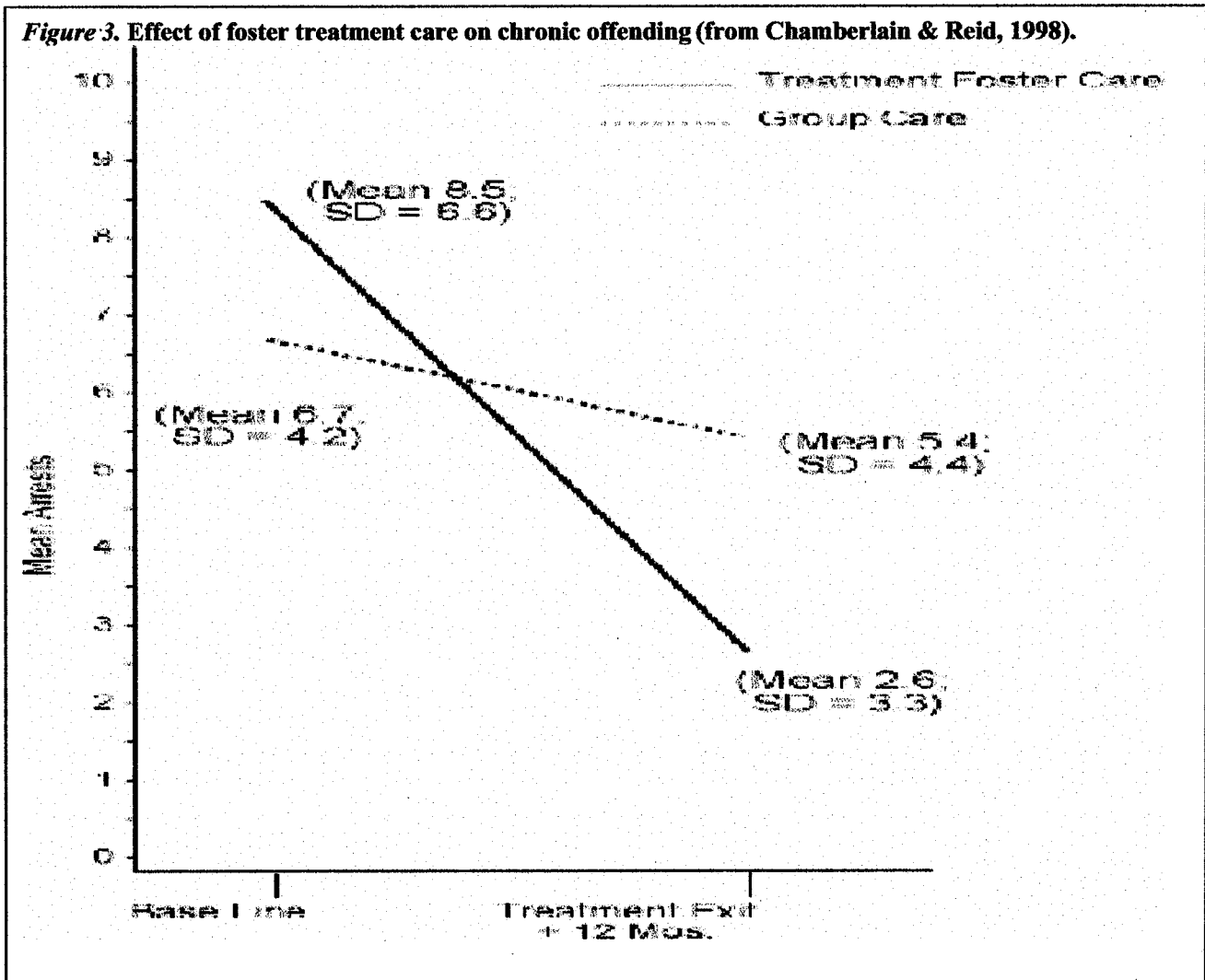


showed significant changes from baseline to termination (Patterson, 1974a, b). The effect was replicated with the next 28 cases treated by a new group of therapists and observed by a newly trained set of observers (Patterson, 1979). We were pleased to find that slopes for the observed pre and post child deviancy scores from the two samples were nearly identical.

In the early 1970s, we designed studies that used randomized trials to demonstrate that the effects

randomly assigned participants to a placebo or a parent-training group (Walters & Gilmore, 1973). The placebo group involved leaderless group discussions. At the end of the trial, the parents' ratings showed that most of them perceived the placebo procedure was effective in decreasing child problems. However, the observation data showed the children were worse. Observation data showed the children in the parent-training group significantly reduced their rates of deviancy.

Figure 3. Effect of foster treatment care on chronic offending (from Chamberlain & Reid, 1998).



were due to effectively training parents and not some extraneous factors. The first study randomly assigned referred families to wait list control group or to an experimental group receiving PT procedures (Wiltz & Patterson, 1974). The observation data showed a significant decrease in the problem children's observed total deviancy score in the PT group and no change for the wait list control group. The next study

Finally, a sample of 19 cases was referred to either licensed private practitioners or to PT (Patterson, Chamberlain, & Reid, 1982). At termination, 70% of the boys in the experimental group functioned within the normal range, whereas 33% of the boys in the comparison group were in the normal range. Comparisons of the pre- and post-observed deviant behavior scores produced a

significant group by phase interaction term.

In the studies that followed, most of the treated cases ranged in age from 4-12 years; the majority were from socially disadvantaged families. The intervention seemed more effective for younger as compared to older boys. The amount of time required varied a good deal, ranging from 4 to over 70 hours; with the average around 20 hours, including telephone calls and visits to the school. A study of cases referred for treatment by Phillips (1984) strongly suggests that limiting intervention to less than 20 hours increases the risk for treatment failure.

During the 1970s and 1980s, literally hundreds of studies were carried out examining the application of PT to children's antisocial behavior. A recent meta-analysis found an average effect size of .86 for these types of studies (Serketich & Dumas, 1996). Sanders and McFarland (2000) report similar levels of success in working with Australian families; and Tynan, Schuman, and Lampert (1999) found an effect size of .89 for preadolescent cases referred to a psychiatric community clinic.

We were pressured by the NIMH to apply the PT procedures to chronic offending adolescent delinquents (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991). The sample was randomly assigned to intensive traditional community treatment or to PT. Prior to treatment, the adolescent boys averaged about eight offenses per individual. The families treated by therapists with several years of experience at the Oregon Social Learning Center (OSLC) averaged about 40 hours of professional time per family. The community group received about 50 hours. During the year following intervention, there was a significant reduction in police arrests for the boys in the experimental as compared to the community group. They also spent significantly less time in institutions over the 3-year follow-up. During the follow-up interval, both groups showed significant reductions in (nonstatus) offenses. The group-by-years interaction term was significant reflecting a larger drop for the experimental than for the control group.

Our treatment staff was convinced that the delinquency project, while a statistical success, was not an effective procedure for treating chronic adolescent delinquent children. It remained for one of the original therapy staff, Patricia Chamberlain, to develop a more feasible approach (Chamberlain &

Reid, 1998). In this approach, adolescent chronic offenders were placed in foster homes in which the foster parents have been carefully selected, trained (in PT procedures), and supervised (on a daily basis). All boys attended public school. As the adolescents adapted to the highly structured environment they were returned to their biological families for brief intervals. During this stage the biological families received training and supervision in PT procedures. The details of the program were outlined in Chamberlain (1994).

The first study--a random assignment design--involved 79 boys, 12-17 years of age, referred for community placement. They averaged 14 previous referrals. The boys in the comparison group were placed in Group Care (GC) facilities characterized by variations of positive care philosophy. In those settings, each residence contained 6 to 16 boys. Most of them participated in group therapy sessions, and many also participated in family therapy with their biological parents.

As shown in Figure 3, there were reductions in offending for both groups. However, the reductions were significant for the group receiving Treatment Foster Care (TFC) but not for the GC group. The data also showed significantly less time spent in institutions for the TFC group. Currently, the program is being evaluated in several different locations. Most of us at OSLC believe that for chronic adolescent delinquents, TFC is far more effective than PT alone.

If one has an empirically based theoretical model and an empirically based intervention, then it should be possible to mount effective prevention trials. As noted earlier, there are now four prevention trials that employ PT procedures, five if one includes the Montreal project. In each of these at-risk samples, training parents in more effective practices produced long-term changes in future risk for antisocial behavior. Askeland, Duckert, & Forgatch (in press) and her staff completed a 2-year training program for 30 therapists working with families in Norwegian community clinics. This generation of therapists is currently training a new cadre. A randomized trial design is being used to evaluate the program.

Four decades of empirical studies provide a solid beginning for understanding the etiology and interventions for children's antisocial behavior. We have a good understanding of the key contingencies

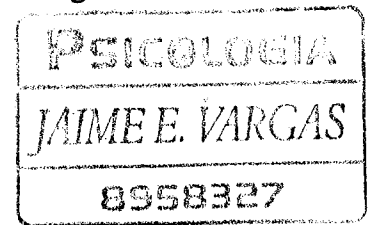
involved in children's aggression. We also have at least a partial understanding of who provides the reinforcers and in what settings. The theory about etiology is closely tied to the means for effective intervention. The close tie between theory and practice gives additional strength to the framework. Also, information from etiology and intervention studies can be used to design effective prevention trials. We now understand that experimental manipulations embedded in prevention studies can serve the useful purpose of testing for causal status of key mechanisms in the theory. This, in turn, implies that we may be in a position to move from a correlation-based science to one based upon experimental manipulations.

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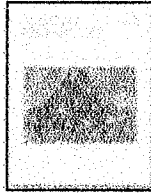
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When Interventions Harm: Peer Groups and Problem Behavior

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Abstract

This article explored developmental and intervention evidence relevant to iatrogenic effects in peer-group interventions. Longitudinal research revealed that "deviancy training" within adolescent friendships predicts increases in delinquency, substance use, violence, and adult maladjustment. Moreover, findings from 2 experimentally controlled intervention studies suggested that peer-group interventions increase adolescent problem behavior and negative life outcomes in adulthood, compared with control youth. The data from both experimental studies suggested that high-risk youth are particularly vulnerable to peer aggregations, compared with low-risk youth. We proposed that peer aggregation during early adolescence, under some circumstances, inadvertently reinforces problem behavior. Two developmental processes are discussed that might account for the powerful iatrogenic effects.

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Adolescent problem behavior is a concern for educational, mental health, and juvenile corrections agencies across the nation, each of which provides a range of intervention strategies designed to reduce such behavior, or at least support alternative positive behaviors.

The intervention philosophy, ideology, and strategies vary widely, but science can contribute to the understanding of which intervention strategies help, which are benign, and which actually have negative effects on youth (i.e., iatrogenic effects). It would seem that a priority of science would be to study and understand those interventions with negative effects. An important contribution would be to cull iatrogenic interventions from the social policy armamentarium in the effort to improve the outcomes for children and families in communities (Biglan, 1992).

Hundreds of controlled intervention studies have focused on adolescent problem behavior; an estimated 29% show negative effects (Lipsey, 1992). This may be an underestimate, given the file drawer problem: Intervention researchers are probably unlikely to publish null effects and, least of all, negative effects (see Dawes, 1994; Glass & Smith, 1978). Some researchers, however, have reported negative effects on certain forms of adolescent problem behavior, secondary to running the intervention in peer groups. For example, group counseling and guided group interaction produced a negative effect on delinquent and antisocial behavior (Berger, Crowley, Gold, Gray, & Arnold, 1975; Feldman, 1992; Gottfredson, 1987; O'Donnell, 1992).

In this article, we tested the hypothesis that high-risk young adolescents potentially escalate their problem behavior in the context of interventions delivered in peer groups. To examine this hypothesis, we first invoked studies on adolescent social development, indicating the processes that might account for problem behavior escalation. Second, we reviewed two controlled intervention studies involving peer aggregation that produced negative short- and long-term effects on high-risk young adolescents. Finally, we discussed the developmental and intervention studies and proposed conditions that might increase the likelihood of negative effects with respect to underlying developmental processes. We also proposed directions for future intervention research to both accurately detect and understand iatrogenic effects associated with peer aggregation.

Peer Influences

Longitudinal studies on the development of adolescent problem behavior provide compelling evidence that such behavior is embedded within the peer group (Elliott, Huizinga, & Ageton, 1985; Gold, 1970; Hawkins, Catalano, & Miller, 1992; Short & Strodbeck, 1965). Patterson (1993) used latent growth modeling to show that association with deviant peers in early adolescence was uniquely associated with growth in problem behavior. If peers support growth in adolescent problem behavior, what is the influence process? For some time, this question has interested psychologists (Hartup, 1983; Parker & Asher, 1987), psychiatrists (Sullivan, 1953), and sociologists (Short & Strodbeck, 1965).

Contrary to historical assumptions about the beneficial effects of friendships on children's social development, adolescence is also a time when such relationships can undermine healthy development (see Hartup, 1996). We have spent the past five years studying the subtle but powerful influence of deviant friendships on escalations in problem behavior during adolescence. Much of this research was conducted using the Oregon Youth Study (OYS) boys (Capaldi & Patterson, 1987; Patterson, Reid, & Dishion, 1992).

The 206 OYS boys and their friends were videotaped in 25-minute problem-solving discussions at ages 13–14, 15–16, and 17–18. Topics were coded as either rule-breaking or normative; reactions were coded as either laugh (or another positive affect or gesture) or pause. Trained observers, using event-duration coding, codified the boys' topics and reactions from the videotapes.

We used two analytic frameworks (matching law and sequential analysis) for understanding the function of rule-breaking talk among boys and their friends. Using matching law (McDowell, 1988), the relative rate of reinforcement (i.e., positive affect) was found to be highly associated with the rate and duration of the boys' deviant discussions. Sequential analyses revealed that delinquent dyads react positively primarily to deviant talk, whereas nondelinquent dyads ignore deviant talk in favor of normative discussions (Dishion, Spracklen, Andrews, & Patterson, 1996).

We defined the term "deviancy training" as the process of contingent positive reactions to rule-breaking discussions. The next step determined how well deviancy training predicted future problem behavior (controlling for prior levels). We recently completed three studies that focus on this question (findings are summarized in Figure 1).

Among boys who were abstinent at age 13–14, Dishion and colleagues found a statistically reliable, increased probability of tobacco, alcohol, and marijuana initiation by age 15–16, if the boys' friendships were characterized by deviancy training.

Similarly, deviancy training accounted for increases in self-reported delinquency from ages 14 to 16 (Dishion, Capaldi, Spracklen, & Li, 1995). Finally, deviancy training throughout adolescence was associated with violence, controlling for the boys' histories of antisocial behavior and parental use of harsh, inconsistent, and coercive discipline (Dishion, Eddy, Haas, Li, & Spracklen, 1997).

These findings are striking when considering that the prediction of two-year increases in problem behavior could be made from 25 minutes of videotaped interaction. Possibly, the antisocial boys were especially reactive in showing off for the camera in an artificial situation. Regardless, it seems that deviant talk is a tool high-risk youth use to formulate and establish friendship networks, especially during adolescence (Cairns & Cairns, 1994).

More recently, Patterson, Dishion, and Yoerger (1999) examined the impact of the deviancy-training process on young-adult adjustment, as defined by sexual promiscuity, substance abuse, relationship problems, and adult convictions. These analyses revealed that the deviancy-training process accounted for 35% of the variation in young-adult maladjustment five years later. These developmental findings suggest that adolescent friendships based on deviance provide a context in which problem behavior escalates from adolescence through adulthood. The process seems to be functional where deviant talk and behavior elicits positive social reactions, compared with prosocial or normative behavior.

Data such as these suggest a variety of implications for interventions targeting high-risk youth. One interpretation might be that the powerful influence of peers could be harnessed in a positive direction, leading to reductions in problem behavior or, perhaps, increases in prosocial behavior. The second interpretation is that high-risk peers will support one another's deviant behavior, so group affiliations should be avoided during retraining periods. We now turn to experimental evidence that indicates the latter interpretation is the stronger possibility. The data reviewed thus far are, admittedly, merely correlational.

The Adolescent Transitions Program Study

The Adolescent Transitions Program (ATP) study was designed to test a theoretical model of adolescent problem behavior. Two developmental processes (parent and peer influences) were systematically targeted in the intervention trial (Dishion, Reid, & Patterson, 1988). The parent focus component emphasizes parenting skills shown to be effective in reducing problem behavior and increasing peer support for prosocial behavior (Kazdin, 1987, 1988; Lochman, 1985; McMahon & Wells, 1989; Patterson, Dishion, & Chamberlain, 1993). The teen focus component emphasizes prosocial goals and self-regulation, using peer reinforcement as one means to promote completion of home exercises, as well as compliance with session activities. Both

interventions, delivered in a group format, lasted for 12 weeks.

To examine the relative efficacy of the different intervention conditions, we randomly assigned 119 high-risk youth (boys and girls) and their families to one of four intervention conditions: (a) parent focus only; (b) teen focus only; (c) both parent and teen focus; and (d) an attention placebo group, referred to as self-directed change, which included free access to videotapes and written materials. We recruited a quasi-experimental control group ($n = 38$) to evaluate the extent to which the self-directed intervention reduced problem behavior. Outcome analyses combined the self-directed and control groups for comparisons with the relative effects of the teen and parent focus groups. Dishion and Andrews (1995) compared the characteristics of the participants, as well as the outcomes for the two groups, and found them virtually equivalent.

We hypothesized that the optimal intervention would be the combined condition, involving both the parent and teen focus curriculums (Dishion et al., 1988). Consistent with this hypothesis, many of the short-term effects were quite positive. For example, both teen and parent focus participants showed more curriculum-specific knowledge following the intervention (Dishion, Andrews, Kavanagh, & Soberman, 1996). More important, both interventions resulted in statistically reliable reductions in observed negative family interactions (Dishion & Andrews, 1995). Parent reports of family conflict suggested that the teen and parent focus cognitive-behavioral intervention considerably reduced family tension and conflict.

Unfortunately, more complete long-term analysis revealed that negative effects were associated with the teen focus curriculum. Three months after random assignment, we noted an increase in tobacco use among the teen focus participants. One year following the families' involvement in the ATP study, increases in tobacco use and teacher report of externalizing behavior were found to be reliably higher for the teen focus groups, compared with problem behavior within the control conditions (Dishion & Andrews, 1995). The effect sizes were strong enough to undermine the short-term positive gains of the parent focus intervention (Dishion & Andrews, 1995; Dishion, Andrews, et al., 1996). The combined parent and teen focus intervention programs did not reduce risk for substance use and delinquency, as hypothesized.

Three-year follow-up assessments suggest that the iatrogenic effects of the teen focus conditions persisted for tobacco use and delinquency (Poulin, Dishion, & Burraston, in press). As shown in Figure 2, random assignment to teen focus, regardless of the accompanying intervention with parents, was associated with long-term increases in tobacco use.

A reasonable argument might be that the long-term effects are attributable to changes in youth-reporting strategies, representing

an Intervention \times Assessment interaction (Campbell & Stanley, 1963). Contrary to this hypothesis were the results of the analysis on the Delinquency scale of the teacher version of the Child Behavior Checklist (Achenbach, 1991). During the intervention study, teachers were unaware of each student's intervention condition. They knew even less of the ATP study in later years of follow-up. As shown in Figure 3, teachers reported higher levels of delinquent behavior in youth randomly assigned to teen focus, compared with controls; these levels persisted over the three-year follow-up period.

Additional analyses revealed that older (i.e., postpubertal) youth, with the highest initial level of problem behavior, were most susceptible to the iatrogenic effect (Poulin et al., in press). To better understand the processes that accounted for this effect, we are currently coding the videotaped intervention sessions, as well as examining the ratings provided by the participants and therapists following each of the 12 teen focus sessions.

Although the intervention groups were closely supervised to prevent direct encouragement of problem behavior, perusal of the videotapes suggests that the older children mobilized more group attention than their younger, less deviant counterparts. Attention in the group may have been elicited, not so much by the content of the discussions, as by dress, behavior, and nonverbal expressions. These ideas will be explored in future analyses.

The Cambridge–Somerville Youth Study Evaluation

The Cambridge–Somerville Youth Study (CSYS) used a comprehensive approach to crime prevention, based on knowledge that high-risk children lacked affectionate guidance (Healy & Bronner, 1936; Powers & Witmer, 1951). The study broke new ground in several ways: (a) random assignment to treatment or control group; (b) the use of a matched-pair design, so that pairwise comparisons for effects of treatment differences, age, and family structure could be analyzed; (c) comparison of treatment and control groups three years after random assignments began and shortly after the beginning of treatment, in order to ascertain that characteristics known to be relevant to delinquency had not been unequally distributed by chance; (d) inclusion of both normal and difficult boys, although all lived in congested, run-down neighborhoods, to avoid potential stigmatizing; (e) high participation; (f) treatment provided comprehensive help to boys and their families; (g) study began when the boys were too young to have been labeled delinquents; and (h) treatment lasting several years.

Particular attention was given to assuring that the intervention and control boys were equivalent on all known correlates of delinquent behavior. The matching variables included intelligence, age, source of referral, neighborhood crime ratings,

home stability, quality of parental discipline, family histories of crime and alcoholism, the boys' aggression, and the boys' acceptance of authority.

After matching pairs of boys, random assignment determined the boy from each pair who would receive treatment. An analysis of the sample revealed the pairs of boys to be quite similar at the beginning of treatment. In particular, the treatment group was neither more nor less at risk for delinquency than the control group. Treatment was individualized; different boys and their families received different mixtures of assistance, although most received academic tutoring, medical treatment (e.g., psychiatric help, eye glasses, and so forth), and general mentoring.

Treatment began when boys were, on average, 10.5 years old and terminated shortly after they reached the age of 16. Although the intensity of treatment varied, boys were visited an average of twice a month in their homes. Counselors encouraged their participation in local community groups and took the boys to sporting events, taught many of them how to drive, helped them obtain jobs, and served their families in a variety of ways (including help with finding employment, assisting in the care of younger children, counseling, and providing transportation).

An evaluation shortly after the program ended failed to turn up differences between the treated and untreated boys (Powers & Witmer, 1951). Many suggested that judgment be delayed until the boys fully matured. When the CSYS participants reached middle age, an intensive effort was made to find them and assess the effects of their treatment; that search resulted in 98% retention by 1979. Vital statistics, the courts, mental hospitals, and alcohol treatment centers provided objective evidence by which to evaluate effects of the program. Distressingly, as reported earlier, the treatment program apparently had harmful effects (McCord, 1978, 1981).

In order to better understand the processes by which treatment affected the boys, each man was given a single outcome rating. That rating was "undesirable" or "bad" if he (a) died prior to reaching age 35, (b) was convicted for a serious (Index) crime, or (c) was diagnosed as an alcoholic or labeled as psychiatrically impaired (e.g., schizophrenic, manic depressive). Otherwise, he was classified as "not having an undesirable outcome."

Using this dichotomy, each member of the treatment group was compared with his matched mate in the control group. If the treatment program had no effect, pairwise comparisons would show both or neither member had undesirable outcomes. Treatment effects would be shown among those pairs in which the outcomes were different for the treatment and control group representatives. Successful treatment would be shown through finding, in a minority of differentiated pairs, that only the men who had been in the treatment group had undesirable outcomes.

Conversely, iatrogenic effects would be shown by finding, in a majority of differentiated pairs, that only the men who had been in the treatment group had undesirable outcomes. Among 150 pairs, results showed the treatment and control boys turned out similarly, with either both or neither having an undesirable outcome.

Overall, however, there was a statistically reliable iatrogenic effect. In 39 pairs, only the control boy had an undesirable outcome; for 64 pairs, only the treatment boy had an undesirable outcome. The likelihood that a difference of this size would occur by chance is .02 in a two-tailed test (McCord, 1981).

Two analyses indicated that the iatrogenic effects came from the treatment program. First, boys who received the most attention over the longest period of time were the most likely to have iatrogenic effects. A dose-response analysis showed those in treatment longer, and those who received more intense treatment, were most likely to have turned out worse than their matched controls (McCord, 1990). Second, the iatrogenic results occurred only in the cooperative families. Among those, 27 pairs of treatment boys turned out better, but 52 pairs turned out worse. Among the pairs in which the treatment family was uncooperative, the control and treatment boys were equally likely to turn out badly (McCord, 1992).

Attempts failed to find subgroups for whom treatment had been beneficial. Those who started treatment at very early ages were not less likely to have bad outcomes than their matched controls. Nor was there evidence to show that some particular variation of treatment had been effective. Moreover, when comparisons were restricted to those with whom a counselor had particularly good rapport, or those whom the staff believed they had helped most, the objective evidence failed to show the program had been beneficial (see McCord, 1981, 1990, for details).

We explored the possibility that placing high-risk youth into group interventions could account for the iatrogenic effects. Many of the boys were encouraged to participate in YMCA and Boy Scout activities. Among almost half of the boys with counselors who focused on group activities ($n = 125$), there were no differences in outcome between the treated and the control case. For 20 pairs, only the control case turned out worse; for 35 pairs, only the treatment case turned out worse. The results of this focus were not worse, however, than a focus on academic problems, personal problems, or family problems. That is, the iatrogenic effects of the CSYS program do not appear to be attributable to an emphasis on encouraging boys to participate in group activities.

In addition to group activities, arrangements were made to send 125 of the boys to a variety of summer camps in the region. About half of this number went to camp for one summer ($n = 59$) and the remainder were sent for more than one summer ($n = 66$).

Scattered throughout New England, these summer camps were not dominated by participation of high-risk youth. We reasoned that participation in such camps could permit the type of "audience" and selective attention for misbehavior studied in the OYS videotapes, and perhaps the teen focus groups, and that the audience, attention, or stated effects would be particularly pronounced among those who went to summer camp more than once.

The comparison of outcomes among matched pairs of boys shows that although none of the groups benefited from treatment, most of the damaging effects of the CSYS program appeared among the boys who had been sent to summer camp more than once (see Figure 4) and who turned out considerably worse than their matched mates. Among these pairs, the risk ratio for bad outcome was 10:1. In 20 pairs, only the treatment boys had bad outcomes, whereas the control boys had bad outcomes only in two pairs.

To check whether the outcome from summer camp might be related to a selection of particularly difficult cases, summer camp placement was an early prediction of delinquency. Among those not sent to summer camp, 33% had ratings strongly predicting delinquency. Among those sent to summer camp once and those sent at least twice, 41% had similar ratings. The difference is not statistically reliable.

Of those sent to summer camp at least twice, 11 of the 20 pairs (55%) in which only the treatment boy had a bad outcome, and none of the pairs in which only the control case had a bad outcome, were strongly predicted to become delinquent. Among those sent to summer camp at least twice, only the treatment boy had a bad outcome in nine pairs without a strong negative prediction, and only the control boy had a bad outcome in two pairs. Thus, a negative effect of summer camp appeared to be general across the treatment group, though the effect was slightly stronger among those at highest risk for becoming delinquent.

We emphasize that the comparisons are based on random assignment within pairs matched prior to the treatment. Because each boy in treatment had been matched to a particular boy in the control group, equal outcomes for the pairs in the absence of treatment might be expected. Indeed, a majority of the pairs, regardless of whether the treatment boy attended summer camp, turned out equally in the measure of outcome 40 years after the program began. So, although the effect of multiple summer-camp placement appears to have been harmful, it should be noted that not all boys showed negative outcomes.

Discussion

A series of studies were reviewed addressing the hypothesis that peers can contribute to escalating trends in problem behavior among young adolescents. Developmental research suggests peer

deviancy training is associated with subsequent increases in substance use, delinquency, and violence, as well as adjustment difficulties in adulthood. Two randomized intervention trials experimentally corroborated this basic idea.

ATP studies showed statistically reliable three-year negative effects on the youth report of smoking and teacher report of delinquent behavior. The CSYS study showed that pervasive, 30-year negative effects were associated with repeated experiences in summer camps in the early adolescent years. In short, aggregating peers, under some circumstances, can produce short- and long-term iatrogenic effects on problem behavior.

There are two advantages to jointly considering the developmental and intervention evidence. First and foremost, using experimental, controlled intervention research to test developmental hypotheses is a powerful tool for building models that guide future clinical work and intervention science (Cicchetti & Toth, 1992; Cook & Campbell, 1979; Dishion & Patterson, in press; Forgatch, 1991). In this sense, experimental research is critical for inferring causality. For example, one possible developmental counterargument against the causal status of the deviant peer influences is that genetically vulnerable children seek peer environments consonant with their genotype (Scarr & McCartney, 1983).

From this perspective, deviant peer influences and deviancy training could be seen as an epiphenomena of genotypic expressions that emerge within the adolescent developmental phase. The intervention research reviewed in this article, however, indicates that random assignment to such peer environments actually contributes to increases in problem behavior. Thus, combining developmental and intervention research builds a case for a causal connection between peer environments and escalation in problem behavior in early adolescence.

The second advantage is that developmental research can be used to understand the outcomes of intervention research or to provide direction as to the design of alternative intervention strategies. For instance, one might expect the younger, less deviant children to be negatively influenced by the older, more deviant group members. However, the data from both intervention studies suggest that the older, more deviant children were the most vulnerable to iatrogenic effects from peer aggregation. This fact is consistent with recent developmental research on the influence of friends.

In early adolescence, youth with moderate levels of delinquency, and who had deviant friends, were those who escalated to more serious forms of antisocial behavior (Coie, Miller-Johnson, Terry, Maumary-Gremaud, & Lochman, 1996; Vitaro, Tremblay, Kerr, Pagan, & Bukowski, 1997). Poulin, Dishion, and Haas (1999) found that boys with the poorest relationships and highest delinquency were most vulnerable to deviancy training, with

respect to increasing delinquent behavior.

We offer two possible processes that might explain the converging evidence from intervention and developmental research on the influence of peers on social development: (a) youth being actively reinforced through laughter, social attention, and interest for deviant behavior are likely to increase such behavior (Dishion et al., 1995; Dishion et al., 1997; Dishion, Spracklen, et al., 1996); and (b) high-risk adolescents derive meaning and values from the deviancy training process that provides the cognitive basis for motivation to commit delinquent acts in the future (i.e., construct theory; McCord, 1997, 1999).

Both processes suggest that repetition of contact within the peer-group intervention would create the iatrogenic effect observed in these two intervention studies, especially among those youth likely to engage in deviant talk and behavior primarily in the company of peers. We hypothesize that the reinforcement processes within the peer groups are quite subtle and potentially powerful. For example, Buehler, Patterson, and Furniss (1966) found that within institutional settings, peers provided a rate of reinforcement of 9-to-1, compared with adult staff, suggesting that the density of reinforcement from peers can be so high it seriously undermines adult guidance.

In our analysis of therapist and client behavior predicting the magnitude of the iatrogenic effect, we found that observer impressions of therapist effectiveness were positively associated with growth in subsequent problem behavior (Dishion, Poulin, Hunt, and Van Male, 1998). Apparently, the more troublesome youth elicited more skillful behavior in the therapist, which did not appear to provide a corrective influence.

Based on the studies reviewed, there is reason to be cautious and to avoid aggregating young high-risk adolescents into intervention groups: Some conditions might further exacerbate the iatrogenic effect. The age of the child is certainly relevant, as younger and older children may be less affected by the processes described above. For example, a peer-training program, in which boys in third through fifth grades were trained to attend to behavioral cues of intentions, reduced the amount of aggression displayed by aggressive, unpopular boys (Hudley & Graham, 1993).

A two-year program, combining family interventions with peer training of boys identified as aggressive by their kindergarten teachers also resulted in reduced antisocial behavior and increased school success in subsequent years (McCord, Tremblay, Vitaro, & Desmarais-Gervais, 1994; Tremblay, Pagani-Kurtz, Masse, Vitaro, & Pihl, 1995). However, these peer-training groups were designed to include a mix of prosocial and aggressive youth, which may be the desired strategy. Feldman (1992) also found that mixing antisocial youth with prosocial youth in interventions was an effective strategy in reducing their problem behavior. Aggregation

of high-risk youth, then, may be helpful in middle childhood or when groups also enforce interactions with prosocial children who do not respond with interest to talk of deviance.

Age of the child and format of the peer aggregation may impact the risk of producing negative effects on problem behavior. Research with older adolescents (e.g., high school) has shown mixed results. Eggert et al. (1994) found promising trends for reducing problematic drug use and deviant peer bonding and increasing school bonding. On the other hand, Catterall (1987) experimentally evaluated an intensive group counseling program for low-achieving high school students and found a general trend for negative outcomes, compared with control youth. Careful measurement of possible side effects provided some insight: Mutual bonding among the low-achieving high school students appeared to be prognostic of increases in school alienation.

Another factor to influence the risk of an iatrogenic effect is the kinds of youth included in the groups. Peer aggregation of depressed adolescents into cognitive-behavioral interventions, for example, produces positive effects and statistically reliable reductions in adolescent depression (Lewinsohn & Clark, 1990). Of note, however, is that in this research, youth with comorbid disruptive behavior disorders were not included in the study. Therefore, interventions aggregating youth in the treatment of depression, including those with antisocial behavior, may unwittingly produce increases in problem behavior. A broad view of the developmental and intervention literature would suggest that early adolescence is an especially vulnerable time for peer effects on social development, at least for children at high risk for delinquency.

In another study, we tested the hypothesis that clustering into deviant peer groups is an adaptation that has a positive function with respect to a young person becoming functionally autonomous from adult caregivers, as well as for achieving sexual maturity (Dishion, Poulin, & Medici Skaggs, in press). For this reason, many clinical researchers who focus on adolescence (e.g., Dishion & Kavanagh, in press; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Patterson et al., 1993) have argued that interventions targeting high-risk youth need to have a family focus. Those interventions should also mobilize caregivers and other relevant adults to structure environments that do not aggregate youth into peer-group settings, which may inadvertently promote deviance.

Research by Chamberlain and colleagues revealed that mobilizing adult caregiving is a critical and viable intervention target for even the most severe adolescent delinquent (Chamberlain & Moore, 1998; Chamberlain & Reid, 1998). Her research compared a treatment foster care model with group home treatment, finding that the former resulted in reductions in deviant peer contact and subsequent self-reported and court-documented delinquency,

compared with group home placement.

Moreover, interventions with high-risk parents have shown results in improved parenting, concomitant reductions in child and adolescent problem behavior (Dishion et al., 1995; Dishion, Spracklen, et al., 1996; Webster-Stratton, 1990), and improvement in academic skills (Forgatch & DeGarmo, in press). Therefore, the cost-effectiveness of group interventions is retained if focus is on the parents and aggregating young adolescents is avoided.

Clearly, more research is needed to understand the processes that account for the iatrogenic effects of interventions targeting high-risk youth—not all interventions using peer groups with difficult children have had iatrogenic effects.

To really understand the impact of interventions with adolescents, researchers will have to assess a variety of short- and long-term outcomes (Kelly, 1988) addressing expected intervention outcomes (e.g., targeted skills) with real-world outcomes (e.g., behavior in the natural environment). The scientific and professional community must be open to the possibility that intentions to help may inadvertently lead to unintentional harm.

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Figure 1
Three Studies on the Predictive Validity of Deviancy Training to Adolescent Problem Behavior

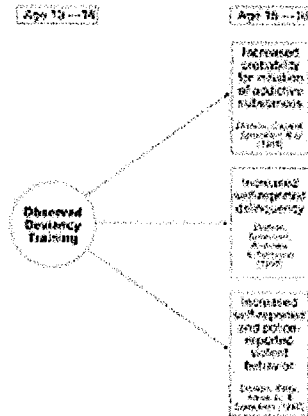
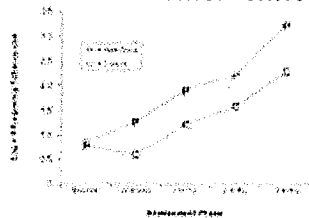
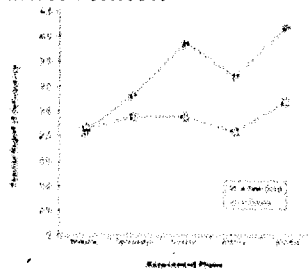


Figure 2
Frequency of Self-Reported Tobacco Use as a Function of the Teen Focus Intervention



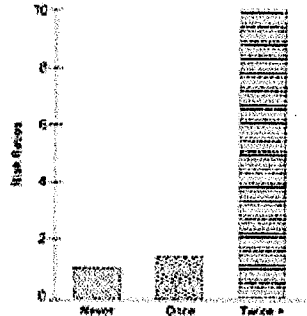
Note. Yr = year; FU = follow-up.

Figure 3
Teacher Report of Delinquency as a Function of the Teen Focus Intervention



Note. Yr = year; FU = follow-up.

Figure 4
Bad Outcomes Associated With Attending Summer Camp



THE "EARLY RISERS" FLEX PROGRAM: A FAMILY-CENTERED PREVENTIVE INTERVENTION FOR CHILDREN AT-RISK FOR VIOLENCE AND ANTISOCIAL BEHAVIOR

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We provide a public health prevention context for reviewing the Early Risers "Skills for Success" Program. The program is presented as the prototype of a theory-driven, developmental approach to the prevention of antisocial behavior in elementary school-aged children who display early aggressive behavior complicated by skill deficits in academic and social functioning. Early Risers is compared to other targeted prevention programs, and the benefits of its flexible family support component (FLEX) are discussed in relation to its standardized education and skills training component, CORE. Following an outline of the FLEX implementation procedures, the program's empirical bases are reviewed. We conclude by candidly discussing some pragmatic research challenges associated with tailoring interventions to family's assessed needs.

The public health approach to prevention seeks to decrease base rates of violence in the general population. When applied to youth in the general population, this is a universal intervention approach. Applied to youth at higher degrees of risk, this is considered a selective or indicated intervention approach (Munoz, Mrazek, & Haggerty, 1996). Interventions used to achieve universal prevention goals typically focus on enhancing protective factors in the general population in order to buffer low-risk youth from deviant influences that might encourage antisocial behavior. Examples of interventions designed to achieve universal prevention include media-based public health messages, school-wide discipline policies, and classroom curricula that teach conflict resolution, anger management, assertiveness, and self-management skills.

However, the universal approach is less appropriate for high-risk youth who display a life-course persistent pattern of aggressive behavior associated with academic problems, socioemotional skill deficits, damaged peer

relationships, and harsh and ineffective parenting practices (Moffitt, 1993). These high-risk youth require targeted (i.e., selective or indicated) preventive interventions. These interventions include early initiation to prevent crystallization of troublesome behaviors and a comprehensive focus that targets risk and protective factors across multiple systems of influence. These interventions also require an extended duration in which to provide protection through multiple stages of risk.

A number of targeted preventive-interventions are currently in various stages of empirical validation, including Early Risers (August, Realmuto, Hektner, & Bloomquist, 2001), Early Alliance (Dumas, Prinz, Smith, & Laughlin, 1999), Fast Track (Conduct Problems Prevention Group, 1999; 2002), Linking the Interests of Families and Teachers (LIFT: Reid, Eddy, Fetrow, & Stoolmiller, 1999), the Baltimore Developmental Epidemiologists Project (Kellam, Rebok, Ialongo, & Mayer, 1994), Seattle Social Development Project (Hawkins, Catalano, Kosterman, Abbott, & Hill 1999), and the Montreal Longitudinal-Experimental Program (Tremblay, Pagani-Kurtz, Masse, Vitaro, & Pihl, 1995). Although these programs share a common perspective on the developmental pathways that high-risk children traverse, they differ in the emphasis given to various program components designed to meet public health goals.

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The Early Risers “Skills for Success Prevention Program

The Early Risers “Skills for Success” Program is a prototype of a theory-driven, developmental approach to the prevention of violence and antisocial behavior. This program is designed for elementary school-aged children whose risk is indicated by a constellation of aggressive, oppositional and disruptive behavior. Implementation requires two years of intensive intervention with an optional year of booster intervention. The program can be implemented in a variety of community venues, including, schools, community and faith centers. The intervention design includes a coordinated set of child- (CORE) and parent/family-focused (FLEX) intervention components that map onto the early-starter model of antisocial behavior (Moffitt, 1993; Patterson, DeBaryshe, & Ramsey, 1989). These components are crafted with needs assessment technologies that allow tailoring of the intervention content and intensity to match the unique characteristics of individual families. CORE consists of a set of evidence-based developmental skills curricula fused with a technology of behavioral support procedures that seek to ameliorate *child-level* risk by promoting competence in social skills, academic achievement and school bonding, as well as behavioral self-regulation. The CORE package includes (a) a 6-week Summer School experience, (b) a “Check & Connect” School Engagement Program, and (c) a Family Program that consists of parenting education and skills delivered concurrently with child social skills training groups. Detailed descriptions of these child-focused components can be found elsewhere (see August, Realmuto, Winters, & Hektner, 2001).

Targeting Family Stress in Prevention

The Early Risers Program departs from other targeted prevention programs in its approach to family sources of risk to the child. As one of the important systems that envelop the at-risk child early in life, the family system requires special attention in a comprehensive prevention approach. This is particularly true in economically disadvantaged communities where the quality of family life is threatened by poverty, substandard living conditions, single parent households, neighborhood drug

trafficking and violence, and social isolation. In a context of chronic stress, caregivers can become easily frustrated and demoralized (Conger, Patterson, & Ge, 1995; Conger et al., 2002), leading to a variety of unhealthy behaviors and practices such as drug use and abuse (Jacobs et al., 2001), depression (Petterson & Albers, 2001), marital strife (Duncan, 1994), and health impairments (Repetti, Taylor, & Seeman, 2002). These family stressors adversely impact parents’ coping abilities, resource management, and parenting skills (McLoyd, 1998). Without the important stabilizing forces parents provide, a child’s socialization is imperiled. The result is a challenge to the child’s sense of security and capacity for emotion regulation, decreasing the likelihood that the child will successfully internalize prosocial standards of behavior, progress toward autonomy and individuation, and achieve developmentally-appropriate milestones (Davies & Cummings, 1994).

Precisely because family stress constricts family coping, adaptation, and resource management (Garrison & Hira, 1992) extrafamilial support is needed to leverage families’ strengths as they seek to cope and adapt. Thus, preventive interventions need to rise to the challenge of devising effective family support strategies that operate to empower caregivers to address family members’ needs across the multiple contexts that influence their lives. To this end, we developed our FLEX component to function as an extrafamilial brace.

The FLEX Family Support Component: Conceptual Foundations

The principles and strategies of FLEX were derived from a family-centered systems approach (Illback, 1994). Five basic tenets of the family-centered orientation are embodied in the FLEX component. These include (a) interventions are tailored to the specific needs and preferences of family members, (b) needs are addressed by building family strengths and competence, rather than focusing exclusively on repairing deficits, (c) parents function as active participants in promoting their own health, (d) the locus and management of services are grounded in a strong culturally-competent community-base; and (e) services are oriented toward the full participation and empowerment of family members such that they attribute change in part to their own efforts.

To respond to these tenets FLEX evolved over time to become a risk-adjusted family support, consultation, and empowerment intervention that is individually tailored to address unique sources of parent, child, and family needs. FLEX is delivered via home visitation. It includes a deliberate process of family and child needs assessment and assets appraisal, initiates further asset building through strategic goal setting, and accesses formal and informal community resources and services through a negotiated contract with the participants. The incipient goal of FLEX is to reduce *parent/family-level* risk by remedying the conditions that produce or perpetuate stress in the lives of families and adversely affect the parents' capacity to nurture and support their child's healthy development.

**The FLEX Family Support Program:
Implementation Procedures**

FLEX is implemented in four iterative phases: (a) assets appraisal and needs assessment, (b) goal setting and strategic planning, (c) provision of brief interventions, allocation of resources, and brokering of specialized services, and (d) monitoring of progress toward identification and goal attainment, reevaluation of needs and goals and appraisal of the intervention, resources, and services utilization.

Phase I: During the first year of intervention, the Early Risers' primary service provider (i.e., family advocate) schedules home visits with individual families. Initially the intent is to orient the family to the Early Risers Program, but ultimately the goal is to form a trusting alliance that will provide a foundation for a productive working relationship. At a time deemed appropriate, the family advocate administers a semi-structured interview that collects information about the child, parent, and family assets and risks. A major function of the interview is to assist parents in identifying strengths and needs that will subsequently be used to help motivate the family to pursue positive change. The interview includes two sections, the CH-ART (Child Assets and Risks Tool) and the P-ART (Parent Assets and Risks Tool). Each section consists of screening questions within a number of functional domains. Information taken from the interview is reviewed by the family advocate and FLEX supervisor. Related domains are clustered

within three target areas: (a) basic living needs, (b) personal health and family functioning, and (c) quality of parenting practices. The CH-ART and P-ART are re-administered on an annual basis. Based on the assessed level of functioning in each target area, families are placed into four categories of need. "No need" families express few if any domestic or practical living needs, have no serious health or family problems, are knowledgeable about basic principles of child development, and are using effective parenting practices. Such families receive annual monitoring but no formal service. "Low need" families report no significant problems with basic living needs and have no health or family problems, but do express difficulties managing their child's behavior. Family advocates are required to contact these families at quarterly intervals during the year. Families identified to be in the "moderate need" category are contacted by their family advocate on a monthly basis. The family advocate and parents engage in collaborative problem-solving that facilitates the identification of solutions and assists the family in accessing informal systems of community support, while encouraging the family to set goals that center on assuring that their domestic needs are met and that crises are avoided. "High need" families are those who are experiencing acute difficulties in one or more health or family-related domains, such as imminent eviction from homes, impending unemployment, recent separation/divorce, depression, and substance abuse. The family advocate provides these families with contact on an as-needed basis and directly connects families to county or community resources that stabilize health and family problems or terminates crises. The successful family advocate is facile in interacting with community-wide collaborative systems of care and has developed a relationship with the family that allows openness to receiving care. The successful family advocate is also perceptive about fluctuations in stress and adaptation. They have an ability to identify crises early in order to prevent the demoralization that accompanies chronic dysfunction. Excellent communication skills are needed to convey to the family, supervisor, and appropriate community agency the urgency of the situation that is creating or continuing the crisis.

Phase II: Once a family's level of need has been determined, the family advocate

encourages family members to set goals and develop action plans for goal attainment. Goal-setting is a collaborative-consultative process in which the family advocate works with families to select goals that are compatible with their profile of need. Every effort is made to listen to family circumstances and to draw out a goal relevant to a parent's perceived needs and wishes. Parents are viewed as important partners who take responsibility for deciding what is most important and in their families' best interests. The family advocate discusses the goal so that the boundaries of parent and family advocate are established. Timelines and endpoints are also discussed and negotiated. The foundation of an iterative process is emphasized, including goal setting, reviewing efforts toward goal attainment, evaluating strategies utilized, and appraising outcomes.

Phase III: During this phase of the FLEX intervention the family advocate seeks to facilitate the action plan established by the family. Action plans will vary considerably depending on a family's assessed level of need and its corresponding goals. For example, a "low need" family may set a goal that focuses on improving a child's behavior at home, noting difficulties such as child noncompliance or oppositional and defiant behaviors. The family advocate may recommend a brief intervention that addresses effective behavior management procedures. Additionally, the intervention may include reading materials or interactive sessions that address validated strategies for managing child behavior. When more serious behavioral difficulties are identified, the family advocate will work with the family to receive specialized service from an appropriate health care professional in the community. A "high need" family may be financially strapped by unemployment of the primary caretaker. In addition to providing emotional support, the family advocate may assist the family in efforts to find gainful employment by collaborating in resume writing, searching employment opportunities in the newspaper, or contacting a community employment service.

Phase IV: A variety of methods are used to actualize goal attainment. The goals are matched to a plan that is reviewed regularly. Plans developed to achieve goals may involve active participation by the family advocate, such as accompanying a parent to a governmental or social service agency or less active efforts such

as discussing the pros and cons of a current job. These actions grow out of specific knowledge of the family and community systems by the family advocate that assists in collaborating on strategies for resource management and acquisition. Responsibilities for executing the plan are defined for parents and family advocates and are another part of the FLEX system. Clearly drawing boundaries around roles and responsibilities is necessary so that accountability is clear and misgivings are avoided. Monitoring of progress is therefore ongoing, interactive and dynamic. Goals can be reviewed and realigned to more pressing needs as families come to better understand through this interactive process what is most important to their welfare. The family advocate monitors and reevaluates the adequacy of resources both family-based as well as formal and informal community resources. All relevant and appropriate resources are considered in the pursuit of goal attainment. Through this system, families may begin to learn the process of goal achievement through the steps of stating a goal, developing a plan, marshaling resources, applying effort and considering the outcome.

Finally, there is a systematic collection of data related to services utilization and the advocate's time investments in the family. These data are helpful in determining where program resources are being expended. Further analyses of these data can help identify the characteristics of families whose use of FLEX time has proven effective in improving parent functioning and child outcomes.

The Early Risers "Skills for Success Program": Empirical Bases

The efficacy of the Early Risers "Skills for Success" Program, including CORE and FLEX components, was demonstrated with a well-characterized sample of aggressive children in a prospective longitudinal study using a randomized control-group design. The study was conducted in semi-rural communities with primarily Caucasian children. Following two years of intervention, high risk program children, as compared to controls, made significant gains in academic achievement and classroom behaviors (August, Realmuto, Hektner, et al., 2001). Only the most severe aggressive children showed reductions in aggressive, impulsive, and hyperactive behaviors. Parents of program children, who

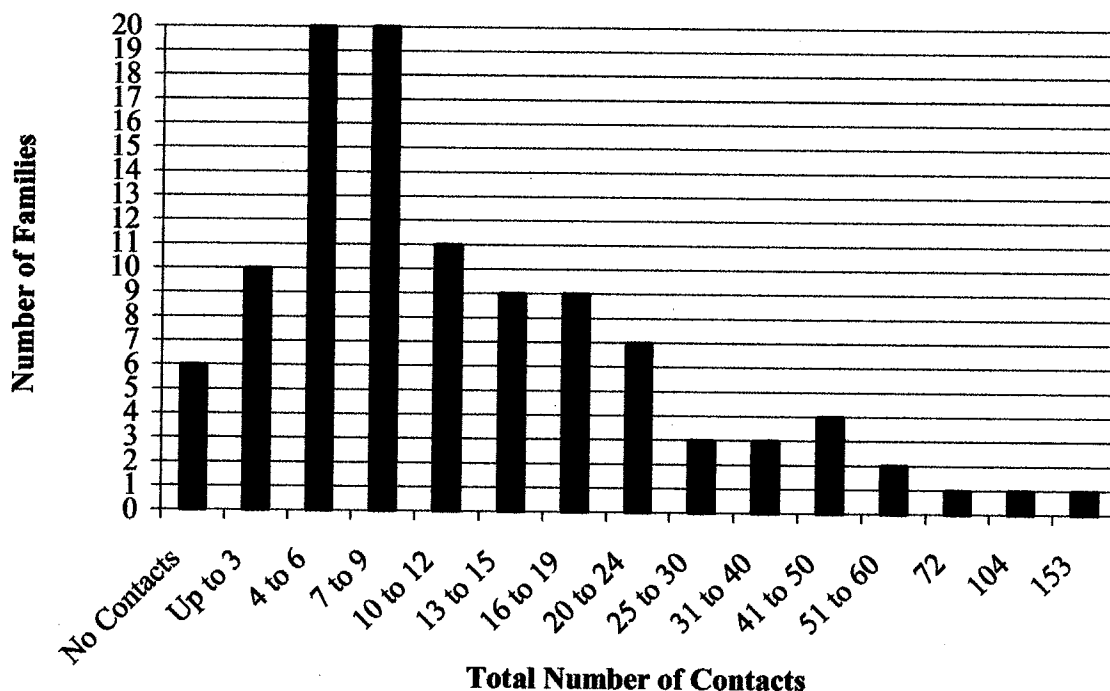
attained recommended levels of participation, reported improved discipline practices and reduced stress. These effects were maintained following a third year of intervention and complemented by gains in social skills and social adaptability (August, Hektner, Egan, Realmuto, & Bloomquist, in press).

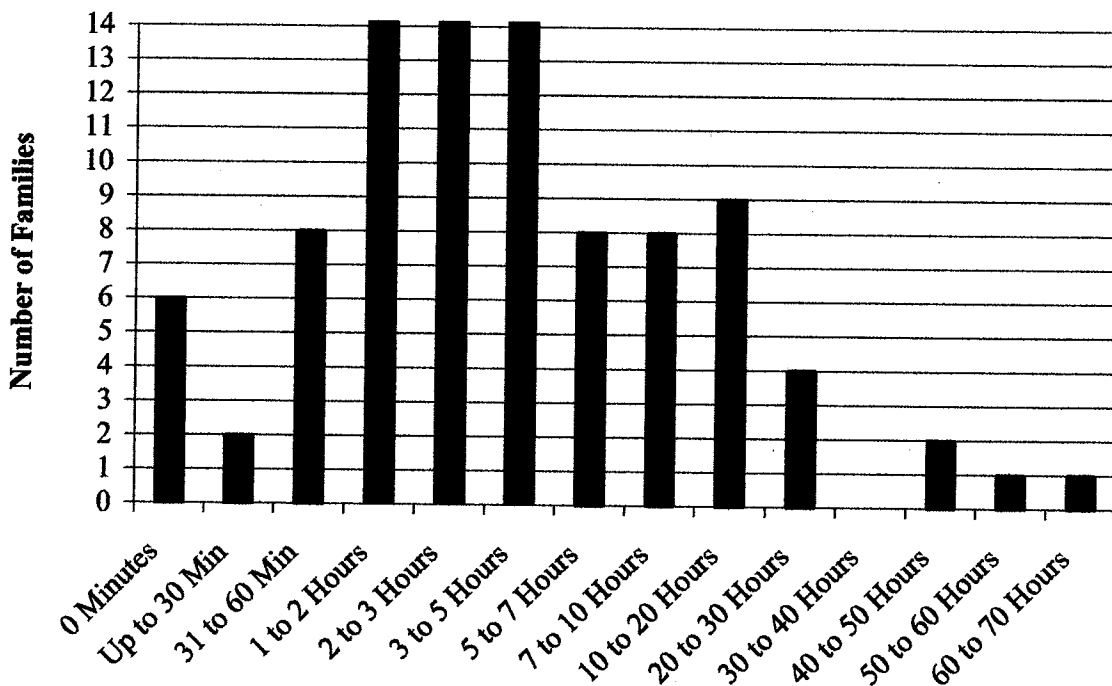
Similar program effects were subsequently replicated in a small-scale effectiveness trial when implemented by urban neighborhood family resource centers with a sample of aggressive African-American children (August, Lee, Bloomquist, Realmuto, & Hektner, 2002). Program children, as compared to randomized controls, made significant gains in social competence and school adjustment. Only the most severely aggressive children displayed reductions in externalizing behavior problems. In general, these studies demonstrated the impact of the full strength Early Risers intervention model on children's competence variables.

In subsequent studies we have begun to explore various process parameters (e.g., rates of participation across components) that explain how each of the individual Early Risers intervention components worked for subgroups of participants. It is highly probable that families

recruited for participation in a multicomponent preventive intervention (and not necessarily help-seeking), and offered a menu of intervention components, self-select which components to participate in. Moreover, it may be that participation in certain components is crucial for a program's success while participation in other components yields no significant gains for certain types of families. In a recent reanalysis of three-year program effects we explored several questions aimed at understanding the relationship of family needs, FLEX utilization, and program outcomes. Presented below in Figures 1 and 2 are data that illustrate the number of FLEX contacts between families and their family advocates and the amount of FLEX time received by families over a 30 month period. A contact could be either a telephone call, a scheduled meeting at the program office, or a personal home visit. Time was measured as the total number hours accumulated across all contacts. As expected, our needs-adjusted FLEX protocol produced considerable variability across families both in the number of contacts made by family advocates and the amount of FLEX time received by families.

Figure 1. Frequencies of total number of FLEX





contacts.

Figure 2. Frequencies of total amount of FLEX time received.

It was anticipated that that higher need families (levels 3 and 4), with significant health and quality of life difficulties (e.g., depression, substance abuse, marital discord, unemployment, social insularity) would be contacted more frequently by their family advocates and thus receive a larger portion of FLEX time and effort, since the need for these families has been identified as being greater than low need families (levels 1 and 2). As a validation test of this expectation, we independently distinguished our families in terms of ratings of parent global assessment of functioning (GAF). The GAF scale ranks an individual (low to high) from 1 to 100 based on degree of psychopathology, quality of adaptive functioning, and stability of resources. Scores of 71 or higher are considered consistent with effective and fruitful lives and the groups were divided at this cut point. Contrary to expectation, we found that high and low functioning families received equal amounts of FLEX time. Interestingly, high and low functioning families used their time in different ways. As expected,

in lower functioning families, the family advocate devoted considerable time and effort addressing basic living needs and parental health problems through a series of crisis interventions. In contrast, in higher functioning families the child's welfare was the focus of FLEX time. When the effects of other Early Risers intervention components were controlled, we found that children from high functioning homes made greater gains in social competence as participation time in FLEX increased. We further found that linked to the child's improvement was a decrease in the parent's stress. There was no relationship between rates of participation and social competence in children from low functioning homes.

To better understand the relationship between the child's social competence and level of parent functioning we evaluated possible mediators of this relationship. We speculated that a child's social competence might be influenced by some aspect of the parent-child relationship that resulted from the FLEX intervention. We tested parent nurturance as a possible mediator of this relationship. We found that for the high functioning group, parent nurturance as rated after two years of intervention was responsible for the relationship

between FLEX time spent on parent's social functioning in year 1 and child social competence assessed in year 3. For high functioning parents, increased FLEX time spent on their own social functioning in the first year accounted for increases in nurturance in the second year which led to increases in child social competence in the third year after controlling for baseline levels of child social competence. These relationships did not hold up for the low functioning group. We speculate that the enhancement of parent social functioning through FLEX resulted in a cascade of forces that fostered child social competence for the high functioning group. None of these forces came into play with the low functioning group. FLEX served as a mechanism by which family advocates could bring into focus the domain of social competence for the parent with consequent advantages for the child within the high functioning families.

The FLEX Family Support Component: Challenges and Quandaries

The FLEX system of tailored care to families of children at high risk is a complicated intervention component. To some extent, it has roots in the case management paradigm of clinic-based treatment rather than community-based preventive interventions. As such, defining which services are needed and how they would be negotiated defies application of predetermined prescription generalizable to all families. Rather it encompasses a client-centered approach with variable prescription based on the unique matrix of needs and strengths of each individual child and his/her family. The unique service delivery system of FLEX may overcome participation and engagement problems encountered in more standardized intervention components where a "one size fits all" approach is utilized. With FLEX, intervention services are individually tailored in response to an ongoing assessment of family strengths, needs, and the practical, motivational, and disability-based barriers to child participation. Ultimately, the FLEX component offers different services to different subgroups in prevention programs with different proximal but similar outcome goals.

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MODE DEACTIVATION: A FUNCTIONALLY BASED TREATMENT, THEORETICAL CONSTRUCTS

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The theoretical constructs of Mode Deactivation Therapy (MDT) are based on the Mode Model (Beck, 1996), suggesting that people learn from unconscious experiential components and cognitive structural processing components. Therefore, to change behavior of individuals there must be a restructuring of the experiential components and a corresponding cognitive reformation of the structural components. MDT is an empirically based methodology that systematically assesses and restructures dysfunctional compound core beliefs. By restructuring these beliefs, MDT addresses underlying perceptions that may be applicable to setting in motion the mode related charge of aberrant schemas, that enable the behavior integration of Dialectic Behavioral Therapy (DBT) principles (Linehan, 1993) of treating of sex offending or aggressive behavior (Kohlenberg & Tsai, 1993). The Mode Deactivation framework also utilizes the case conceptualization methodology and emphasizes a team approach in working with clients; particularly those with reactive emotional dysregulation, which includes parasuicidal acts and aggression. The case conceptualization is systematically designed to provide functionally based treatment to complex emotional, thought, and behavior disorders. The following article demonstrates this comprehensive process and delineates the procedures used to develop the case within the mode deactivation theoretical perspective.

The development of Mode Deactivation Therapy (MDT) has been a challenge both theoretically and clinically. The difficulty begins in the attempt to treat adolescents with complicated history and multi-axial diagnoses. Many of the adolescents that we treat are victims of sexual, physical, and/or emotional abuse. These individuals have developed survival coping strategies. Many of these survival mechanisms translate into personality traits and/or disorders. These personality traits and/or disorders are not cluster bound, meaning that they are translated into beliefs and schemas that are inclusive of beliefs from all three clusters. Often it has been thought that individuals stay true to their cluster, this is not so, with the adolescent typology that we treat.

The concepts of mode deactivation therapy (MDT) are derived from many aspects of functional analytic behavioral therapy (FAP), dialectical behavior therapy (DBT), and cognitive behavior therapy (CBT). The focus of MDT is largely based on Beck's recent area of research and application, the system of modes (Alford and Beck, 1997; Beck, 1996).

Functional analytic psychotherapy (FAP) (Kohlenberg & Tsai, 1993) theory states that people act based on reinforcement contingencies. Although FAP takes into

consideration that cognitions are involved, the focus is on the deeper unconscious motivations that were formed as a result of past contingencies. Perception is based on past contingencies, therefore, reality and the concept of reality reflects what has been experienced in the past. Considering reinforcement history in the context of a person provides a more complete assessment of a person and specific behaviors.

By restructuring beliefs, MDT addresses underlying perceptions that may be applicable to setting in motion the mode related charge of aberrant schemas that enable the behavior integration of DBT principles (Linehan, 1993) of treating of sex offending or aggressive behaviors. Many of Linehan's teachings describe radical acceptance and examining the "truth" in each client's perceptions. This methodology of finding the grain of truth in the perception of the adolescent is at the crux of MDT. We also "borrow" radical acceptance in the form of helping the youth accept who he is based on his beliefs. The other major similarity between DBT and MDT is the use of balancing the dichotomous or dialectical thinking of the client.

Often CBT as viewed by "arguing" the concepts of cognitive distortions fails with these

youngsters. They do not respond to being in a one-down position, no matter how aligned they are with their therapist. Cognitive therapy as normally practiced will trigger a negative reaction by these youngsters. They perceive the therapist as another person attempting to change them from a system of defenses that has been developed to protect them. CBT as normally practiced will often fail with this typology of youngster.

The early development of MDT was conceived from the need to apply the principles of CBT with complex adolescent aberrant typologies. These individuals have long histories of sexual, physical, and/or emotional abuse. Often they respond in ways that are translated into personality disorders and/or conduct disorders. These are youngsters that may respond by committing sexual offenses, aggressive acts, and/or other aberrant behaviors. Often these youngsters are viewed as "criminals" and are the underclass within our society and active within the criminal justice system. The term typology refers to this specific complex adolescent with these types of histories. CBT attempts to identify dysfunctional schemas and modify them. It is believed that aberrant behavior is related to dysfunctional schema. MDT is a methodology that addresses dysfunctional schemas through systematically assessing and restructuring underlying dysfunctional compound core beliefs. MDT is applicable to adolescents who engage in aggressive and/or delinquent behaviors, as well as sexual offenders.

Beck (1996) suggested that the model of individual schemas (linear schematic processing) does not adequately address a number of psychological problems; therefore the model must be modified to address such problems. Working with adolescents who present with complex typologies of aberrant behaviors, it was necessary to address this typology of youngsters from a more "global" methodology. MDT incorporates the model of individual schemas with Beck's notion of modes as integrated sub-organizations of personality. Modes assist individuals to adapt to solve problems, such as, the adaptation of adolescents to strategies of protection and mistrust when they have been abused. They consist of schemas (beliefs) that are activated by the fear↔avoids

paradigm. To address the schema processing based on thoughts and beliefs without understanding the modes is insufficient and does not explain the specific adolescent typology referred to in Mode Deactivation Therapy.

Part of the design of the MDT curriculum is intended to create a functional team based on Mode Deactivation Therapy. The team operates within the implementation guidelines, focusing all efforts in a concerted manner; one tape, one chapter and one group at a time. All energies are directed toward assisting the client to master and implement the curriculum. The goal is to help one youngster change at a time.

Mode Deactivation Therapy includes imagery and relaxation to facilitate cognitive thinking and then balance training, which teaches the youngster to balance his perception and interpretation of information and internal stimuli. The imagery is implemented to reduce the external of the emotional dysregulation. The emotional dysregulation is the basis for the underlying typologies of these youngsters. Many of their underlying behaviors include aggression (physical and verbal) as well as addictive and self-harm.

Mode Deactivation Therapy is designed to assess and treat this conglomerate of personality disorders, as well as remediate aggression and sexual offending. It is important to note that Mode Deactivation Therapy is an empirically based and driven treatment methodology.

The theoretical underpinnings of Mode Deactivation Therapy are based on the Mode Model. Specifically, this model suggests that people learn from unconscious experiential components and cognitive structural processing components. Therefore, to change behavior of individuals there must be a restructuring of the experiential components, and a corresponding cognitive restructuring of the structural components. The dysfunctional experiential and structural learning, (conscious and unconscious), develop dysfunctional schemas that generate high levels of anxiety, fear, and general irrational thoughts and feelings, as well as aberrant behaviors. This system is self-reinforcing and protected by the development of

the conglomerate of the developing personality disorders. This conglomerate is comprised of multiple clustered compound core beliefs. These conglomerates of personality disorders are the most pronounced impediment to treatment, and are systematically treated throughout Mode Deactivation Therapy, beginning with the Case Conceptualization.

Mode Deactivation is built on the mastery system for youngsters. They move through the workbook and audiotapes at the rate of learning that accommodates their individual learning style. The system is designed to allow the youngster to experience success, prior to undertaking more difficult materials. Initially, the individual needs to be aware of his/her negative verbalizations and negative thoughts, and record them in his/her workbook. Through the Case Conceptualization, workbook, and audiotapes, the system allows the youngster to systematically address the underlying conglomerate of personality disorders as well as, the specific didactics necessary, the sexual offending and/or anger/aggression.

Mode Deactivation Therapy: Functionally Based Treatment

Beck (1996) describes the notion modes as a network of cognitive, affective, motivational, and behavioral components. He further described modes as consisting of integrated sections or sub-organizations of personality that are designed to deal with specific demands. Beck continues to describe "primal modes" as including the derivatives of ancient organizations that evolved in prehistoric circumstances and are manifested in survival reactions and in psychiatric disorders. Beck also explains that the concept of charges (or cathexes) being related to the fluctuations in the intensity gradients of cognitive structures.

Beck, Freeman and Associates (1990) suggested that cognitive, affective and motivational processes are determined by the idiosyncratic structures or schema that constitute the basic elements of personality. This is a more cognitive approach suggesting that the schema is the determinant to the mood, thought, and behavior.

Alford and Beck (1997) explain that the schema typical of personality disorder is theorized to operate on a more continuous basis; the personality disorders are more sensitive to a variety of stimuli than other clinical syndromes. Since these youngsters are often personality activated, it seems that they are in continuous operation. This is one of the difficulties, they are always ready to defend and/or attack.

Further study of cognitive therapy emphasizes the characteristic patterns of a person's development, differentiation, and adaptation to social and biological environments (Alford & Beck, 1997). Cognitive theory considers personality to be grounded in the coordinated operations of complex systems that have been selected or adapted to insure biological survival. These consistent coordinated acts are controlled by genetically and environmentally determined processes or structures termed as "schema." Schema are essential both conscious and unconscious meaning structures. They serve as survival functions by protecting the individual from the trauma or experience. An alternative and more encompassing construct is that of modes and suggest that the cognitive schematic processing is one of many schemas that are sensitive to change or orienting event.

Modes are important to understanding these typed adolescents in that they are particularly sensitive to danger and fear, serving to charge the modes, that as multi victims of various abuse these youngsters are sensitive to danger and fear. These fears signal danger and are activated by conscious and unconscious learned experiential fears. The unconscious refers to the cognitive unconscious as defined by Alford and Beck (1987). Abused children develop systems to adapt to their hostile environment. These systems are often manifested by personality traits/ disorders (Johnson, Cohen, Brown, Smailes, & Bernstein, 1999). Longitudinal studies demonstrate that abused children frequently develop personality disorders in adolescence. From the perspective of modes, these disorders are adaptations to a dangerous environment. MDT suggests that the danger produces a fear reaction that is often reactive to danger and fear. This reactivity and sensitivity do not respond to traditional CBT. The adaptation of a theory that was proposed by

Beck (1996) on modes into the dialectical methodology of DBT, Linehan (1993), created the blueprint for MDT. The understanding of conscious and unconscious fears being charged and activation the mode system explains the level of emotional dysregulation and impulse control of the typology of youngsters that we treat.

Modes provide the content of the mind, which is reflected in how the person conducts their perspectives. The modes consist of the schemas (beliefs) that contain the specific memories, the system on solving specific problems, and the experiences that produce memories, images and language that forms perspectives. As Beck (1996) states disorders of personality are conceptualized simply as "hypervalent" maladaptive system operations, coordinated as modes that are specific primitive strategies.

Although the operation of dysfunctional modes in the present state is maladaptive, it is important to note that they were developed over time for survival and adaptation. These systems prove to become maladaptive as problematic behavior result in destruction.

Mode Activation

Beck (1996) introduced the concept of modes to expand his concept of schematic processing. He suggests that his model of individual schemas (linear schematic processing) does not adequately address a number of psychological problems; therefore he suggests the system of modes. Beck described modes as a network of cognitive, affective, motivational and behavioral components. He suggests that modes are consisting of integrated sectors of sub-organizations of personality that are designed to deal with specific demands to problems. They are the sub-organization that help individuals adopt to solve problems such as the adaptation of adolescents to strategies of protection and mistrust when they have been abused.

Beck also suggests that these modes are charged, thereby explaining the fluctuations in the intensity gradients of cognitive structures. They are charged by fears and dangers that set off a system of modes to protect the fear. Modes

are activated by charges that are related to the danger in the fear→avoids paradigm. The orienting schema signals danger, activates or charges all systems of the mode. The affective system signals the onset and increasing level(s) of anxiety. The beliefs are activated simultaneously reacting to the danger, fear→avoids and physiological system. The motivational system signals the impulse to the attack and avoids (flight, fight) system. They physiological system produces the heart rate or increases or lowers the blood pressure, the tightening of muscles, etc.

Linehan (1993) sees individuals with borderline personality disorder analogous with burn victims where the slightest movement is automatic and causes extreme pain. "Because the individuals cannot control the onset and offset of internal or external events that influence emotional response" she suggests that the experience is itself a "nightmare of intense emotional pain" and a struggle to regulate themselves.

According to Dodge, Lochman, Harnish, Bates and Petti (1997), there are two sub-groups of aggressive conduct type youngsters; Proactive, the sub type that receives benefit and rewards from aggression and Reactive, the sub type that is emotionally reactive or dysregulates. Forty percent of reactive adolescents have multiple personality disorder according to Dodge et al. It appears that Reactive Conduct Disorder adolescents emotionally dysregulate and many of their aberrant responses are results of their emotional dysregulation.

Koenigsberg, et al. (2001) found that many types of aggression, as well as suicidal threats and gestures were associated with emotional dysregulation. The Case Conceptualization methodology provides the framework to assess and treat these complicated typologies of adolescents and integrates them into a functionally based treatment. The goal is to deactivate the Fear→ Avoids→ Compound Core Beliefs mode and teach emotional regulations through the balancing or beliefs.

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**MODE DEACTIVATION THERAPY AND COGNITIVE BEHAVIORAL
THERAPY:
A DESCRIPTION OF TREATMENT RESULTS
FOR ADOLESCENTS WITH PERSONALITY BELIEFS, SEXUAL OFFENDING
AND AGGRESSIVE BEHAVIORS**

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This paper is a comparison of two groups of adolescent sexual offenders receiving different types of therapy; one group participated in Treatment As Usual (TAU), which is a Cognitive Behavioral Therapy (CBT) based approach, and the other group engaged in Mode Deactivation Therapy (MDT). The data presented is reflective of treatment comparisons not a research protocol. The results are descriptive and not necessarily comparison research.

MDT is an empirically based therapy, based on CBT, Dialectical Behavioral Therapy (DBT; Linehan, 1993), and Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1993), recently implemented in the Behavioral Studies Program, existing in Portsmouth, Virginia. MDT is a methodology that systematically assesses and expands underlying compound core beliefs that are a product of their unconscious experience merging with their cognitive processing, acceptance, balance, and validation. By addressing these beliefs, MDT examines underlying perceptions that may be applicable to setting in motion the mode related charge of aberrant schemas, that enable the behavior integration of DBT principles (Beck, 1996; Nezu et al, 1998). The MDT system also implements the Case Conceptualization method based an adaptation of the Beck (1996) suggested methodology of mode deactivation. Results suggest that MDT may be more effective in this treatment research than TAU, evident by reduced internal distress, resulting from various psychological disorders, and reduced sex offending risk.

The focus of MDT is based on the work of Aaron Beck, M.D., particularly his recent theoretical work, the system of modes (Beck, 1996, Alford & Beck, 1997). Other aspects of MDT have been included in the Behavior Analytic literature, such as Kohlenberg and Tsai (1993), Functional Analytic Psychotherapy (FAP), as well as, Dialectic Behavior Therapy (DBT) (Linehan, 1993). The specific application of MDT is delineated by Apsche, Ward, and Evile (2002) in an article, which specified the applied methodological implications for MDT with specific typologies. The article also provided a theoretical study case study that illustrates the MDT methodology.

Beck (1996) suggested that the model of individual schemas (linear schematic processing) does not adequately address a number of psychological problems, therefore the model must be modified to address such problems. Working with adolescents who present with complex typologies of aberrant behaviors, it was necessary to address this typology of youngsters from a more "global" methodology, to address their impulse control and aggression.

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the personality disorders are more sensitive to a variety of stimuli than other clinical syndromes.

Mode Deactivation Therapy and Cognitive Behavioral Therapy

Further study of cognitive therapy emphasizes the characteristic patterns of a person's development, differentiation, and adaptation to social and biological environments (Alford & Beck, 1997). Cognitive theory considers personality to be grounded in the coordinated operations of complex systems that have been selected or adapted to insure biological survival. These consistent coordinated acts are controlled by genetically and environmentally determined processes, or structures termed as "schema." Schema are essentially both conscious and unconscious meaning structures. They serve as survival functions by protecting the individual from the trauma or experience. An alternative and more encompassing construct is that of modes and suggest that the cognitive schematic processing is one of many schemas that are sensitive to change or orienting event.

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Beck also suggests that these modes are charged, thereby explaining the fluctuations in the intensity gradients of cognitive structures. They are charged by fears and dangers that set off a system of modes to protect the fear. Modes are activated by charges that are related to the danger in the fear→avoids paradigm. The orienting schema signals danger, activates or charges all systems of the mode. The affective system signals the onset and increasing level(s) of anxiety. The beliefs are activated simultaneously reacting to the danger, fear→avoids and physiological system. The motivational system signals the impulse to the attack and avoids (flight, fight) system whereas the physiological system produces the heart rate or increases or lowers the blood pressure, the tightening of muscles, etc.

Modes are important to the typology we serve in that they are particularly sensitive to danger and fear, serving to charge the modes. The understanding of conscious and unconscious fears being charged and activation the mode system explains the level of emotional dysregulation and impulse control of the typology of youngsters that we treat.

To address the schema processing based on thoughts and beliefs without understanding the modes is insufficient and does not explain the specific adolescent typology referred to in Mode Deactivation Therapy.

Underlying the MDT methodology is the Case Conceptualization. MDT Case Conceptualization is a combination of Beck's (1996) case conceptualization and Nezu, Nezu, Friedman, and Haynes's (1998) problem solving model, with several new assessments and methodologies recently developed. The goal is

to provide a blueprint to treatment within the case conceptualization.

The Case Conceptualization helps the clinician examine underlying fears of the resident. These fears serve the function of developing avoidance behaviors in the youngster. These behaviors usually appear as a variety of problem behaviors in the milieu. Developing personality disorders often surrounds underlying post traumatic stress disorder (PTSD) issues. The Case Conceptualization method has an assessment for the underlying compound core beliefs that are generated by the developing personality disorders. Thus far, preliminary results suggest that our typology of youngsters have a conglomerate of compound core beliefs associated with personality disorders. This conglomerate of beliefs is the crux of why youngsters fail in treatment. One cannot treat specific disorders, such as sex offending and aggression, without gathering these conglomerate beliefs. It is also apparent that these beliefs are not cluster specific. That is to say that the conglomerate of beliefs and behaviors contains beliefs from each cluster that integrate with each other. Because of this complex integration of beliefs, it makes treatment for this typology of youngster more complicated. The conglomerate of compound core beliefs represents protection for the individual from their abuse issues, which may present as treatment interfering behaviors. The attempt to use the usual didactic approaches to treatment, without addressing these beliefs amounts to treatment interfering behavior on the part of the Psychologist, or treating professional, is not empirically supported and counter-intuitive.

Mode Deactivation Therapy includes imagery and relaxation to facilitate cognitive thinking and then balance training, which teaches the youngster to balance his perception and interpretation of information and internal stimuli. The imagery is implemented to reduce the external of the emotional dysregulation. The emotional dysregulation is the basis for the underlying typologies of these youngsters. Many of their underlying behaviors include aggression (physical and verbal) as well as addictive and self-harm behaviors.

Mode Deactivation Therapy is designed to assess and treat this conglomerate of personality disorders, as well as remediate aggression and sexual offending. It is important to note that Mode Deactivation Therapy is an empirically based and driven treatment methodology.

The theoretical underpinnings of Mode Deactivation Therapy are based on the Mode Model. Specifically, suggesting that people learn from unconscious experiential components and cognitive structural processing components. Therefore, to change behavior of individuals there must be a restructuring of the experiential components and a corresponding cognitive restructuring of the structural components. The dysfunctional experiential and structural learning (conscious and unconscious) develop dysfunctional schemas that generate high levels of anxiety, fear, and general irrational thoughts and feelings, as well as aberrant behaviors. This system is self-reinforcing and protected by the development of the conglomerate of the developing personality disorders. This conglomerate is comprised of multiple clustered compound core beliefs. These conglomerates of personality disorders are the most pronounced impediment to treatment, and are systematically treated throughout Mode Deactivation Therapy, beginning with the Case Conceptualization.

Application of Validate, Clarify, and Redirect (VCR)

MDT integrates with Linehan's (1993) basic premises for DBT. MDT, like DBT, uses behavior goals, problem solving goals, reflection and radical acceptance of the client. The mode-deactivation theory (Beck, 1996) clearly delineates the truth in the client's perceptions based in their cognitive unconscious and conscious information processing that developed their perception or world view.

An integral part of MDT is the concept of validation, clarification, and redirection (VCR). Validation was defined by Linehan (1993), as the therapist's ability to uncover the validity within the client's beliefs. The grain of truth reflects the client's perception of reality. The truth in this reality needs to be validated to clarify the content of his responses; and also clarify the beliefs that are activated. It is

important to understand and agree in the "grain of truth" in the clarification.

Redirect responses to others to other views or possibilities on his or her continuum of truths. There are numerous continuums implemented, as scales from 1 to 10 to evaluate areas such as truth, trust, fear, and beliefs. These continuums are essential to MDT in that they give both the client and the therapist an empirical measure of the client's measured perception of truth.

Teaching a client who often engages in dichotomous thinking that their perception can fall within the range of a continuum, rather than only a 1 or a 10 (all or nothing), is extremely validating and it is the basis for a positive redirection to other possibilities for the client.

Treatment As Usual

Treatment As Usual (TAU) was based on a manualized cognitive-behavioral therapy approach. The residents record negative thoughts and beliefs, and examine how cognition effects their beliefs, feelings, and behaviors. The TAU addressed sexual offending issues as well as underlying psychological distress, such as anxiety and depression.

METHOD

Participants

Fourteen male sexual offenders from the Behavioral Studies Program (BSP) at the Pines Residential Treatment Center (9 European-American, 3 African-American, 1 Native-American, and 1 Caribbean) between ages 12 and 19 years ($M=16.62$) participated in treatment. All participants were first-time admissions to BSP and had never participated in a cognitive-behavioral or mode deactivation based sexual offending treatment program before. Informed consent including the tasks involved and participants' rights reviewed. Both verbal and written consent was obtained from the participants. Their mean estimated length of stay is 16.36 ($SD=1.73$, range 12-19), mean number of reported victims is 3 ($SD=3.16$, range 1-13). Types of offenses included flashing, fondling, vaginal and anal penetration, or a combination.

Measures

Four assessments were used to measure the behavior of the residents, which included the *Child Behavior Checklist* (CBCL; Achenbach, 1991), the *Devereux Scales of Mental Disorders* (DSMD; The Devereux Foundation, 1994), the *Juvenile Sex Offender Adolescent Protocol* (J-SOAP; Prentky, Harris, Frizzell, & Righthand, 2000), and the *Fear Assessment* (Apsche, 2000).

The CBCL is a multi-axial assessment designed to obtain reports regarding the behaviors and competencies of 11- to 18-year-olds'. The means and standards are divided into three categories: internalizing (which measures withdrawn behaviors, somatic complaints, anxiety and depression), externalizing (which measures delinquent behavior and aggressive behavior), and total problems (which represent the conglomerate of total problems and symptoms, both internal and external).

The DSMD illustrates level of functioning in comparison to a normal group, via behavioral ratings. T scores have a mean of 50 and a standard deviation of 10; a score of 60 or higher indicates an area of clinical concern.

The J-SOAP is an actuarial risk assessment protocol for juvenile sex offenders. The total score, which includes the sexual drive/preoccupation factor score, impulsive-antisocial personality factor score, clinical/treatment factor score, and community stability/adjustment score is calculated to determine the individual's level of risk to the community.

The Fear Assessment is a 60-question assessment that measures fear and anxiety reactions that are related to or are associated with the symptoms of Posttraumatic Stress Disorder. Mean scores are divided into five sections, which include personal reactive/internal, personal reactive/external, environmental, physical, and abuse. Any mean score above 2 is considered significant.

Procedures

The sixteen residents were assigned to caseloads based on availability in caseloads. All therapists carried a caseload of 10. Discharge or transfer of a resident created an opening that needed to be filled to maintain the caseload of

10. It is important to remember that this is a treatment facility and these data reflect the results of treatment comparisons not a research protocol. Residents were assigned to MDT and CBT groups. The treatment group engaged in Mode Deactivation Therapy and the control group participated in Treatment As Usual (TAU). After a mean number of 12 months in treatment, the assigned therapists (7 TAU and 2 MDT) were administered test packets, which included the CBCL, DSMD, J-SOAP, and Fear Assessment. The following were assessed: (a)

Behavioral and emotional problems, including psychopathology, (b) strengths and types of fear, (c) behaviors and ideation observed by clinical staff, and (d) and level of risk to the community.

RESULTS

At the time of assessments, the two groups differed significantly. Residents who participated in MDT had lower scores on all measures than did residents who engaged in TAU.

Table 1. T-scores, ranges, and standard deviations in all measures for both groups

<u>Measure</u>	<u>Scale</u>	<u>Treatment As Usual (TAU)</u>	<u>Mode Deactivation Therapy (MDT)</u>
Child Behavior Checklist (CBCL)	Internal	63.63 (Range=55-80, SD=10.04)	51.75 (Range=39-71, SD=11.88)
	External	65.63 (Range=52-82, SD=10.76)	50.88 (Range=37-69, SD=10.74)
	Total	66.63 (Range=55-80, SD=8.35)	50.00 (Range=36-69, SD=11.78)
Devereux Scales of Mental Disorders (DSMD)	Internal	64.25 (Range=52-84, SD=10.65)	51.00 (Range=40-61, SD=9.24)
	External	56.88 (Range=49-75, SD=9.09)	45.88 (Range=40-62, SD=7.30)
	Critical Pathology	50.88 (Range=42-69, SD=8.49)	46.25 (Range=42-54, SD=5.01)
	Total	58.00 (Range=49-71, SD=8.85)	47.25 (Range=40-60, SD=6.90)
Juvenile Sex Offender Assessment Protocol (JSOAP)	Treatment Factor	26.38 (Range=17-40, SD=7.87)	10.62 (Range=6-14, SD=3.20)
	Total	9.75 (Range=0-18, SD=6.20)	3.38 (Range=1-7, SD=2.45)

Child Behavior Checklist

The CBCL means and standards are divided into three categories: internalizing, externalizing, and total problems. In comparison to the TAU group, the MDT group

mean scores on all scales are at least one standard deviation less.

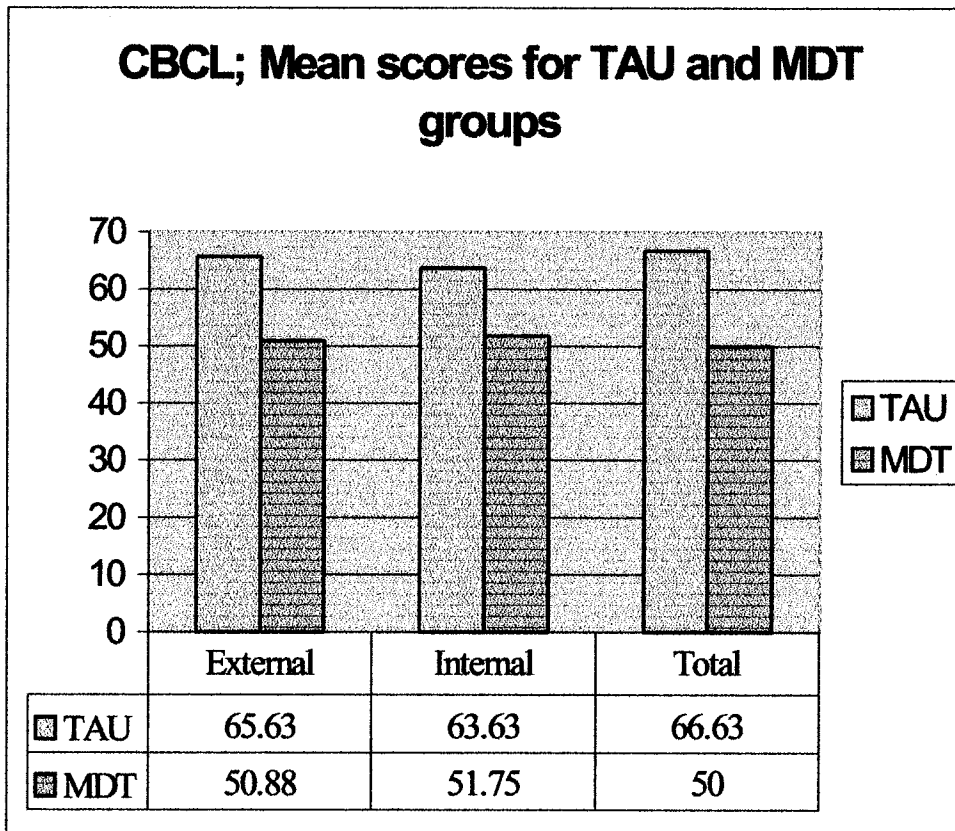


Figure 2. CBCL; mean scores for TAU and MDT groups

Devereux Scales of Mental Disorders

The DSMD uses *T* scores with a mean of 50 and a standard deviation of 10. Any *T* score over 60 is considered clinically significant. The following four scales were analyzed: (1) Externalizing, which indicates prevalence of negative overt behaviors or symptoms, (2) Internalizing, which measures negative internal mood, cognition, and attitudes, (3) Critical Pathology, which represents the severe and disturbed behavior in children and adolescents,

and (4) Total, which indicates a conglomerate of all scores including general Axis I pathology, delusions, psychotic symptoms, and hallucinations.

The results indicate that the mean scores the externalizing factor, internalizing factor, critical pathology, and total score for the MDT group is at or near one standard deviation below the TAU group.

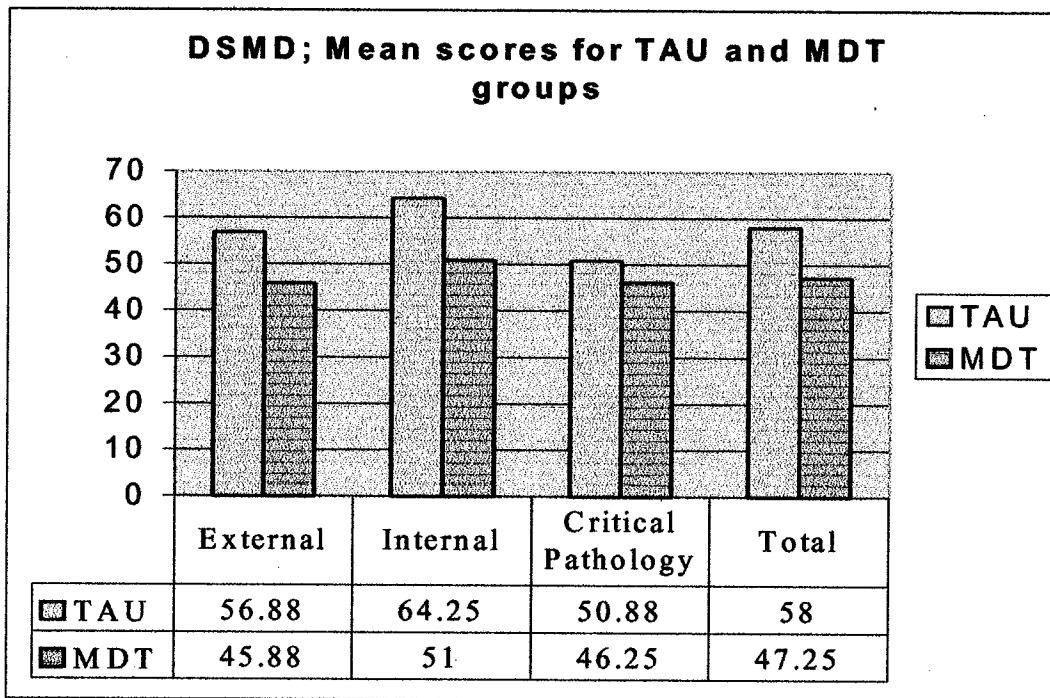


Figure 3. DSMD; mean scores for TAU and MDT groups

Behavioral Consequences/ Restrictions and Monthly Points

Behavioral consequences and restrictions are given when the resident(s) intentionally fail to follow guidelines and unit rules. Monthly points are rewarded for positive behavior. Minimum points possible is 0 and the highest attainable score is 100. These points are analyzed and reported on a monthly basis.

In comparison to the TAU group, the MDT group resulted in fewer restriction and special precautions due to aggressive and destructive behavior; TAU mean scores indicate M=6.75 (SD=12.92, Range=0-38) and MDT resulted in M=1.87 (SD=2.02, Range=0-6).

These results suggest that the MDT had significantly less aggressive and destructive behaviors than the TAU group.

Also, the MDT group reflected a higher monthly behavioral points average (TAU=87.41, MDT=91.29), signifying that the residents in this group were on task and participated appropriately in treatment at a higher average than residents in the TAU group. This also indicates that the overall performance and behavior of the MDT methodology have a significant effect in reducing aberrant behavior of this typology of adolescents.

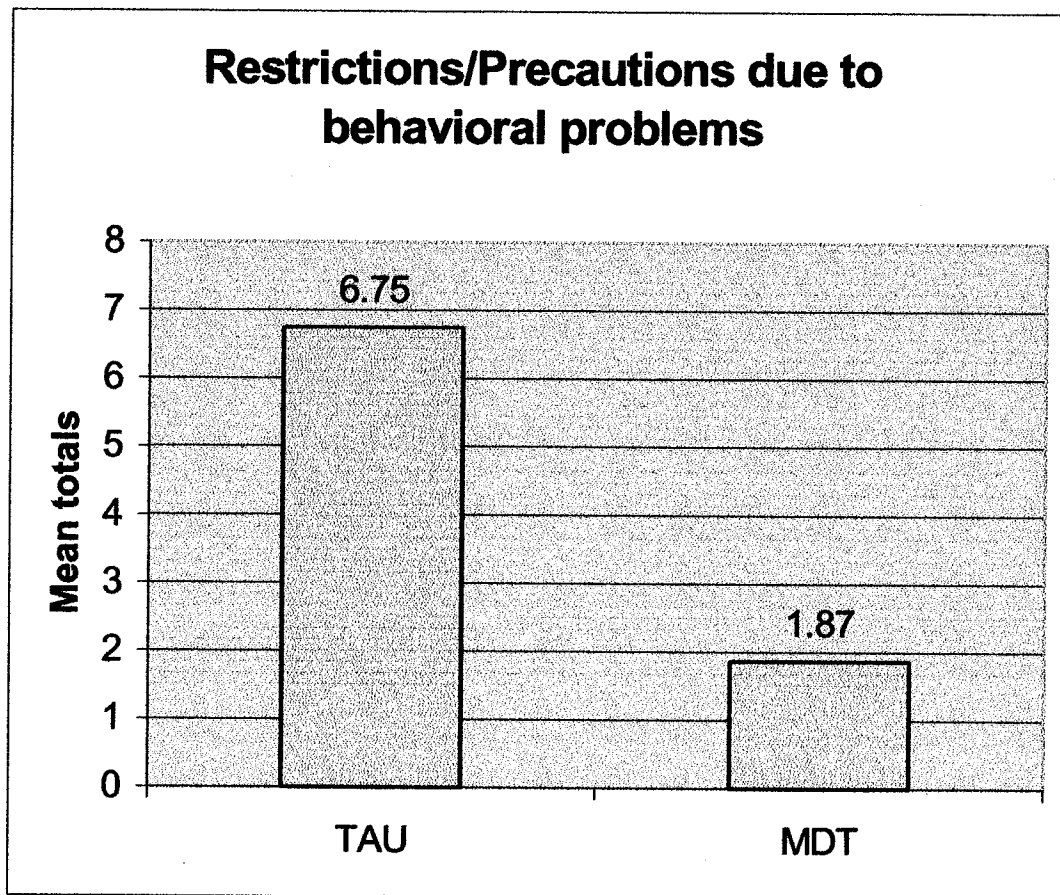


Figure 4. Restrictions/precautions due to behavioral problems

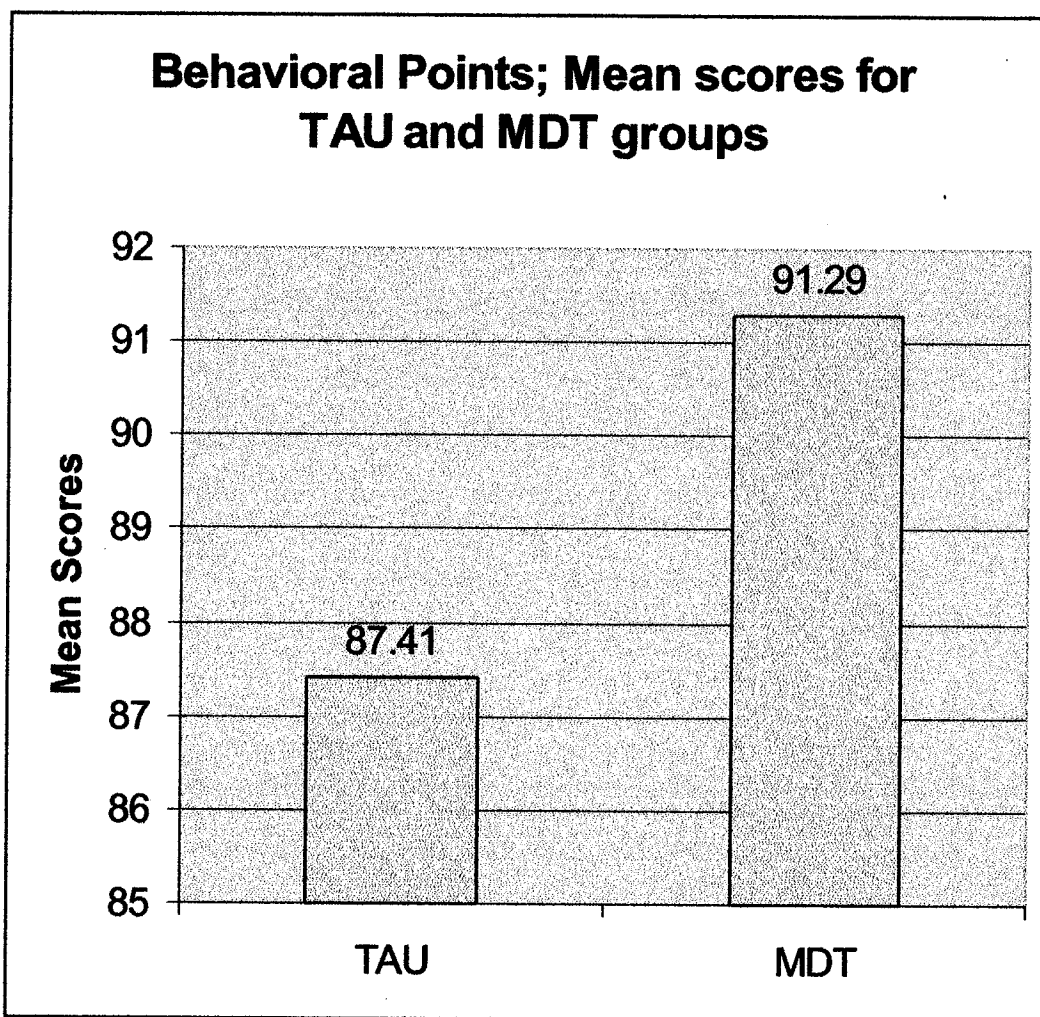


Figure 5. Behavioral Points; mean scores for TAU and MDT groups

Juvenile Sex Offender Adolescent Protocol (J-SOAP)

The total score representing level of risk to the community is significantly lower for the MDT group, than the TAU group. The mean score of the MDT group reflects a low level of risk to the community and the TAU mean score reflects a moderate/high level of risk to the community. According to the J-SOAP scores that range from 0-12 are low risk, 13-28 are moderate risk, and 28+ is high risk.

Another important aspect of the J-SOAP is the clinical/treatment factor score. This indicates the individual's internal motivation, acceptance of responsibility, understanding of the sexual assault cycle, and level of empathy. Results indicate that mean score of the MDT group is significantly lower than the TAU group, as illustrated on the table.

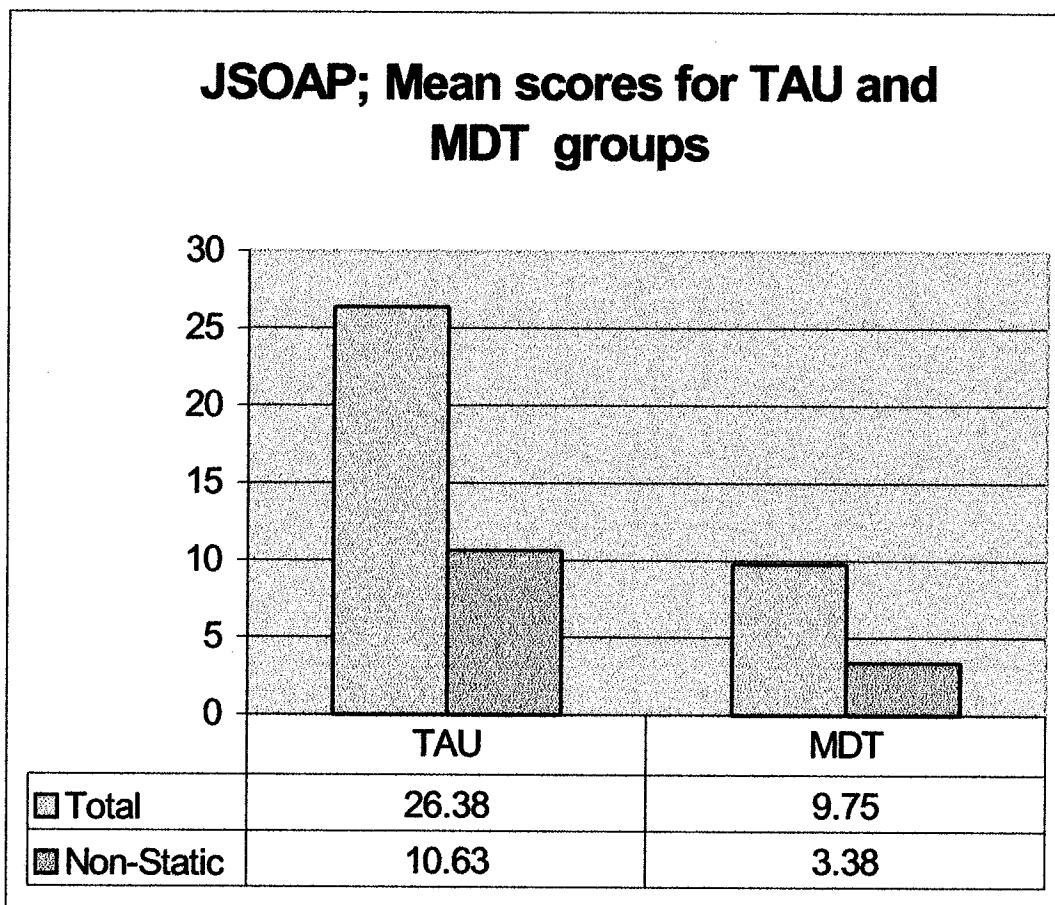


Figure 6. JSOAP; mean scores for TAU and MDT groups

Fear Assessment

The endorsement of fears, on all five scales, indicated no significant difference, however the symptomatology and overt behaviors of the residents from each group demonstrated better coping skills and techniques. This is evidenced by the total scores from the DSMD, CBCL, and the clinical treatment factor score in the JSOAP.

DISCUSSION

This was a description of treatment results of adolescent male sex offenders with a conglomerate of personality disorders and sexual offending issues. The results suggest that both MDT was more effective in treating this typology of adolescents, than CBT in these groups. It appeared that both CBT and MDT are effective treatments, although MDT

appeared significantly more effective with this particular typology of adolescents. All of the residents had prior unsuccessful treatment outcomes at either another facility or at an outpatient treatment center. The results of this study suggest that MDT methodology that addresses the underlying personality traits may be effective for severely disturbed, previous treatment failure, sexual offending adolescents.

The combination of results from the CBCL, DSMD, and JSOAP suggest that MDT is effective for these typologies in reducing internal distress as a result of varying psychological disorders present. As measures indicated, the critical pathology factor was reduced by more than one standard deviation. It also suggests that this particular MDT methodology has an effect on reducing externalizing aberrant behaviors. Despite the

sample size, the results still suggest that MDT may be more effective than CBT with this typology of residents. It is suggested that these results be tested in an empirically based research protocol for a true test of efficacy.

CONCLUSION

The treatment results suggest that the implementation of MDT in the clinical curriculum reduced aberrant behaviors, as well as, internalizing, externalizing, and critical pathology measures across assessments; however the small sample size of the non-research comparison study may limit generalizability. It is important to note that the comparison of treatment results also suggests that sexual offending adolescents, in the described typology, have a conglomerate of personality beliefs. Treating sex offending behaviors without addressing the underlying personality beliefs appears to be related to recidivism.

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The Community Corrections Partnership: Examining the Long-Term Effects of Youth Participation in an Afrocentric Diversion Program

**William R. King
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Using Afrocentric techniques has recently emerged as a promising way of delivering services to African Americans. Briefly, a number of authors have argued that African Americans are better served, especially by substance abuse services, when service delivery utilizes Afrocentric techniques. This study reports an evaluation of an Afrocentric treatment program for male, juvenile, felony offenders in one city. The evaluation uses a two-group, quasi-experimental design to compare the 281 African American youths in the Afrocentric treatment program (called the Community Corrections Partnership) with a comparison group of 140 probation youths. Overall, the youths assigned to the Afrocentric treatment program performed slightly better than the probationers on 4 out of 15 measures of juvenile and adult criminality.

In May 1991, Hamilton County (Cincinnati, Ohio) Juvenile Court developed a special treatment program designed to mitigate the rise in minority commitments to the Ohio Department of Youth Services. The program, called the Community Corrections Partnership (CCP), was funded by the Ohio Department of Youth Services (DYS) with the express purpose of diverting nonviolent, juvenile, male, African American, felony offenders from state-imposed incarceration. Due to limited resources, juvenile court formed a partnership with five other community agencies whereby each agency agreed to provide specific services to CCP youths in its community or handle record-keeping and evaluation chores.¹ In particular, five CCP member agencies were contracted to provide various Afrocentric treatments and interventions for this population. For example, the Black Male Coalition

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(BMC) of Cincinnati provided classroom space for daily youth activities. Furthermore, the BMC conducted a weekly session in norms and standards and arranged weekly CCP staff meetings. Likewise, Talbert House Inc. devoted personnel to assess clients and provide drug and alcohol abuse education for the CCP youths after their referrals.

Following a review of Afrocentric treatment and prevention ideas, this article proceeds with a brief discussion of what CCP was and how it operated. Finally, the present work evaluates CCP's effectiveness in altering the illegal behaviors of youth participants. Although the effectiveness of CCP was studied previously (Wooldredge, Hartman, Latessa, & Holmes, 1994), the present study examines a larger sample of youths involved in the program and extends the follow-up period. To examine the nexus between the effect of nontraditional delinquent correctional programming and youth, the present study also includes measures of adult criminality to assess how youths behaved into adulthood.

AFROCENTRIC TREATMENT, PREVENTION, AND CCP

Afrocentric treatment and prevention are designed to more effectively affect people of color than Eurocentric treatment regimes. Some have claimed "that service delivery to African Americans is doomed to failure when it does not recognize or build on the cultural integrity of the African-American community" (Goddard, 1993, p. 1). Likewise, a number of authors have noted the potential effectiveness of treatment and prevention programs for African Americans when they include components of African culture (Goddard, 1993; Morris, 1993). Overall, the contention is simple: African Americans respond better to culturally specific programs.

This contention fits well with one aspect of the growing literature on the principles of effective intervention. Briefly, this literature contends that effective rehabilitation programs must be matched to offenders on risk, needs, and offender characteristics (Andrews et al., 1990; Leverant, Cullen, Fulton, & Wozniak, 1999). By relying on an Afrocentric perspective, CCP hoped to more effectively affect youths of color by closely matching offender characteristics to their specific treatment and the treatment providers. Unfortunately, there were few model Afrocentric programs for CCP to emulate at the time of its inception, and some of the principles of effective intervention were overlooked.² Both these topics deserve further discussion.

From its inception in 1991, CCP's Afrocentric aspect was embodied by two primary strategies. First, all personnel (e.g., case managers, probation

officers, and group facilitators) who had direct contact with CCP clients were African American. Furthermore, all the CCP staff with direct client contact were also staunch Afrocentrists who were proud of their African heritage and believed that this heritage gave them special attributes and spirituality. The staff tried to impart this Afrocentric pride in the CCP clients and impressed on the youths their role in the African American community and society as a whole. Surrounding the CCP youths with positive, African American, male role models was well in accord with previous suggestions for Afrocentric substance abuse prevention (Courtney, 1993; Morris, 1993). Second, CCP relied heavily on Afrocentric imagery, words, and culture. For example, clients were taught greetings in Swahili; some facilitators wore dashikis; and meetings between CCP staff, personnel for a client's school, the client, and his family were called a council of elders (COE). On successful completion of CCP, clients, their families, the full staff of CCP, and community members attended a graduation ceremony. The meeting was usually held in an African American church in a predominantly African American part of the city. The ceremony began with a prayer, libations, and graduates were given a mudcloth scarf. The graduation ceremony ended with a communal meal. Therefore, CCP was different from traditional treatment programs for juveniles. CCP tried to channel the treatment aspects of the program (such as drug and alcohol education and life skills training) through the conduit of Afrocentrism. Relying on African traditions and folkways had also been suggested by prior proponents of Afrocentric treatment (Goddard, 1993).

Once admitted to CCP, youths were exposed to five core treatment areas. First, youths attended weekly classes in the consequences of drug and alcohol abuse and methods of prevention. Second, youths attended weekly classes in life skills to improve their ability to perform daily activities, such as managing money and maintaining employment. Third, CCP youths attended classes in norms and standards, a more basic behavioral modification program. Fourth, Cultural Regrounding provided weekly classes to expose the youths to the positive aspects of their African heritage in the hopes of increasing their sense of community responsibility. Finally, CCP youths engaged in Sober Leisure. Sober Leisure generally involved a group activity (such as basketball or going to a movie or museum) designed to show the youths how to have fun in a drug- and delinquency-free environment.

These five treatment areas were conducted Monday through Friday after school. Therefore, CCP clients were not only exposed to five treatment regimes, but their level of supervision was far greater than regular juvenile probationers in Hamilton County. Comparable probationers (and the comparison group, to be described shortly) generally met twice per month with their probation officers at the downtown juvenile court. On the other hand,

CCP youths met for groups up to 22 times per month. Furthermore, regular probation clients were less likely to receive treatment such as substance abuse treatment or counseling as compared to the CCP youths. Therefore, not only was CCP Afrocentric and treatment oriented, it also had a far greater level of contact with its clients as compared to regular juvenile probation in Hamilton County at that time.

Unfortunately, the CCP treatments were not always directed toward those clients most at risk, and the treatment regimes were sometimes lacking. For instance, all youths received the same amount of substance abuse education, even if a client had no history of substance abuse. Sometimes staff quit, leaving other staff members to fill in for a particular treatment area until a replacement staff member could be hired. Staff members also disagreed about what should be done in particular treatment areas. For example, the two staff members who conducted substance abuse education were licensed social workers with extensive experience treating substance abuse. Both of these staff members worked diligently to ensure that their treatment component utilized established treatment techniques. On the other hand, some staff members who taught the norms and standards section were generally unfamiliar with what should be covered in this section and thus relied on exposing the clients to aspects of Afrocentrism (but not necessarily norms or standards). In sum, CCP occasionally encountered problems with the implementation of its treatment components and thus did not fully implement the three required aspects of the techniques of effective rehabilitation.

In addition to the five core treatment areas, CCP also utilized periodic COE meetings and a graduation ceremony. COE meetings were called when the CCP staff was experiencing trouble with a CCP youth. The meeting included all the CCP staff, the youth, the youth's parents or guardians, and sometimes school teachers or other involved community members. Generally, COE meetings were used to uncover the root of the youth's problems and to create a solution, while involving the youth's family and community. Involvement of para-kin has been suggested as an Afrocentric treatment because "children in the traditional community belonged to the community, and any adult member of the traditional community could, and did, discipline any child who violated, in whatever form, the values and mores of the community" (Goddard, 1993, p.76). Finally, youths who were deemed successful were periodically graduated from CCP. This graduation, a rite of passage (Pinkett, 1993), involved a ceremony involving community members, the youth, his family, and the full CCP staff.

Initial selection of a youth for CCP first required the recommendation of a juvenile probation officer. To be recommended, the youth had to be an African American male who lived in the CCP catchment area, had a felony adju-

dication, and had no history of violent crimes. After the probation officer referred the youth, an assessment team of two CCP counselors would meet with the youth and his family to complete an extensive assessment. Following this assessment, the entire CCP staff would decide whether the youth would be allowed into CCP, and if accepted, the youth would be assigned a case manager.³ Participation in CCP was strictly voluntary, for youths or their parents could opt for regular probation. Overall, however, few clients who were offered participation in CCP refused the offer or were rejected for acceptance.

Given that Hamilton County instituted a unique treatment option for African American male juvenile felons, how effective was CCP? The following section addresses this question by analyzing the criminal behavior of CCP youths.

METHOD

This evaluation employs a two-group, quasi-experimental design. For this design, youths selected for treatment by CCP will be compared to a similar group of matching youths who underwent traditional youth supervision in Hamilton County. This comparison will show how the performance of the CCP clients measures against youths who received probation. Cases in the probation comparison group were handpicked in 1994 to ensure that each case was similar to the CCP group on a number of factors. Specifically, the comparison cases had to be males, African Americans, with similar offense histories as the CCP youths. Because the comparison group was selected in 1994, however, only 140 youths were included in the comparison group. Between 1994 and 1997, more than 140 additional youths were admitted to the CCP program. Therefore, there are up to 281 youths in the CCP group, whereas there are only 140 in the probation comparison group. This oversampling of the experimental group has important consequences for the analyses. Although some may claim that the youths admitted to the dockets of the court changed between 1994 and 1998, a review of the case filings reveals no significant differences between the youths admitted in 1994 and those admitted in 1997. With the exception of curfew violators, the percentage differences between major categories are not significantly different. Although we recognize the importance of adding a second class of control subjects, with the implementation of RECLAIM Ohio (Reasoned and Equitable Community and Local Alternatives to the Incarceration of Minors) in 1994 by the Ohio DYS, the selection of youths would be confounded with criteria for selection and entry into other alternative supervision programs.⁴

DATA

The data for the following analyses come from four sources. First, demographic background data on the CCP youths come from assessment information gathered by each youth and his parents prior to admission in the program. Similar data for the probation youths were collected from their probation files. Legal data for both CCP and probation youths were collected from the official records of the Hamilton County Juvenile Court. Adult arrest information and records were derived from official records maintained by the county. And finally, prison commitment data were gathered from the Ohio Department of Rehabilitation and Correction. The demographic background data (from either probation files or CCP assessments) describe the youths and thus permit comparisons of these groups prior to their participation in either CCP or probation, to ensure they are alike. The legal data serve as a measure of behavior both while under and following supervision.

Before presenting data on the CCP and comparison groups, three issues must be mentioned. The first concerns the measure of legal contact with the criminal justice system. For juveniles, this is an adjudication, whereas for adults it is an arrest, a sentence to probation, or a commitment to prison. Obviously, there is some difference in what each of these outcomes is measuring. In other words, an arrest might not result in an adjudication or conviction, and thus arrest serves as the least legally stringent measure of behavior. Adjudications are used to measure the behavior of juveniles and are therefore a more legally stringent measure of behavior. In other words, adjudications are assumed to be serious enough to be a more accurate indicator of criminal behavior. Finally, commitments to prison represent the most stringent measure of criminal behavior.

The second consideration concerns the time at risk for both groups. Time at risk refers to both the time each group is under supervision and the follow-up period after each group completed its supervision. Time at risk is a crucial factor, for CCP youths generally stayed under supervision up to 60% longer than did probation youths. Obviously, while under supervision, the CCP youths have longer time periods during which to commit offenses. Conversely, the youths in the probation group were followed an average of 961 days after their 18th birthdays, as compared to 583 days for the youths in the CCP group. The probation group obviously had more time during adulthood after release to commit offenses as compared to the CCP group. In sum, any measure of performance either during or after supervision must control for the differing time periods each group is at risk, which the following analyses do.

A third consideration concerns an aspect of time at risk while under supervision. Specifically, the amount of time a youth spends under supervision is

measured as the time between his referral date and his termination date. A comparison between the CCP youths and the probationers shows that using the referral date for both may not be appropriate, for whereas probationers are merely referred, CCP youths must be assessed by the CCP program after they have been referred. In other words, the CCP youths are not immediately accepted into CCP after their referral to probation, although the following analysis must assume that they are. Youths who eventually were accepted into CCP were supervised by juvenile probation officers between their referral by juvenile court and their acceptance to CCP. It is not appropriate to use the assessment date for the CCP youths, for probation youths are not assessed and as a result there is nothing comparable to an assessment date for the probation youths. For the time at risk to be comparable for both groups, this analysis relied on the referral dates.

Tables 1 and 2 present the descriptive statistics for the following study. Table 1 presents the prereferral offense histories of both groups (CCP and the comparison group of probationers). Table 1 indicates that both groups have similar offense histories prior to referral to their respective groups (CCP or probation). For CCP youths, the average youth was first adjudicated shortly after his 13th birthday and was referred when he was slightly older than 15 years. Both groups had approximately 2.5 adjudications prior to referral, and there was an insignificant difference if either group had a sentence to DYS suspended prior to supervision. In fact, the only significant difference between the two groups is that on average probationers are roughly 4 months older than the CCP youths at referral. On the whole, both groups are quite similar in their prior offense histories, and thus, their comparability is bolstered.

Analyses of the two groups on a host of variables related to their living conditions prior to referral indicated only one significant difference (analyses not shown). The CCP youths were selected from four catchment neighborhoods (to facilitate their supervision and daily attendance at CCP activities).⁵ These four neighborhoods accounted for 89% of the CCP youths. On the other hand, there were not enough suitable probation comparison cases from these four neighborhoods, so the probation cases were drawn from a greater number of neighborhoods. In fact, only 44% of the probation cases were drawn from the same four neighborhoods. Except for this difference, the probation and CCP groups are remarkably similar in their school performance and behavior, family configuration, family's involvement with juvenile court, and parental employment. None of 28 comparisons runs on these living-situation variables were significantly different.

TABLE 1: Prereferral History of Community Corrections Partnership (CCP) and Probation Groups

	<i>CCP</i>		<i>Probation</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Prior adjudicated felony				
Yes	84	32	47	35
No	179	68	87	65
Prior adjudicated misdemeanor				
Yes	155	59	87	65
No	109	41	47	35
Prior adjudicated violations				
Yes	95	36	41	31
No	169	64	93	69
Prior suspended commitment to department of youth services?				
Yes	43	16	28	21
No	221	84	106	79
Mean prior adjudications	2.42		2.70	
Mean age at first adjudication	13.44		13.65	
Mean age at referral	15.08*		15.41*	

*Significant at .05.

RESULTS

The following report is divided into two sections. The first section compares the CCP and probation groups on their legal behaviors while in CCP or under probation. There are three measures of juvenile illicit behavior: adjudged felonies, misdemeanors, and court violations. The second section compares the CCP and probation groups on their posttreatment legal behavior, to see if participation in CCP improves youth behavior following termination. This second section employs juvenile records (until the youth turns 18), adult arrest records, and adult sentences to probation and imprisonment.

Behavior Under Supervision

This section investigates youths who commit new offenses while under supervision when time at risk is held constant. Because youths in CCP are at risk for a longer period of time than the probation youths, any comparison of offenses made while under supervision must control for time at risk. The dependent variables for the following analyses are a dummy code of

adjudged felony, misdemeanor, or court violation (0 = no adjudication, 1 = adjudication). Logistic regression was used to determine the probability that CCP or probation youths would reoffend while under court supervision while holding time at risk constant.⁶ In addition, the natural antilog of time at risk was used, due to the nonlinear distribution of time at risk. The descriptive statistics for this data are presented in the upper portion of Table 2.

Six different logistic regressions were run to predict the likelihood of a youth's receiving an adjudication or commitment to DYS while under supervision when time under supervision is held constant. The results of these six logits are presented in Table 3. A review of Table 3 reveals that of the six logit models computed, whether a youth is in CCP or probation is significant in only two: being adjudicated for any new offense (felony, misdemeanor, or violation) and receiving a suspended commitment to DYS. In both cases, the CCP youths are slightly less likely to be adjudicated for any new offense and less likely to receive a suspended commitment to DYS while under supervision. Although significant, however, these differences are slight. Overall, the CCP group performed as good as, or better than, the probation comparison group while under supervision.

Behavior After Supervision

Contact with juvenile court. This next section investigates a youth's contact with juvenile court following termination from either probation or CCP supervision. Because probation youths have a greater time at risk⁷ (848 days) compared to the CCP youths (590 days), time at risk will be controlled in the following analyses. As before, six logistic regression models were computed, using adjudications and commitments to DYS as the dependent variable. These logits are presented in Table 4.

Table 4 reveals three significant relationships between group and postsupervision adjudications. In all three cases, the CCP youths are less likely to be adjudged for a misdemeanor, violation, or for any adjudication following termination from CCP when time at risk is held constant. The remaining three comparisons (for felonies and suspended and permanent commitments to DYS) indicate insignificant differences between the CCP and probation groups following supervision. As was seen above, the youths in the CCP group performed either as well as or better than the probationers between supervision termination and their 18th birthdays.

Contact with the adult criminal justice system. The second group of measures of postsupervision behavior involves contact with the adult criminal justice system. This group of adult contact uses three dependent variables:

TABLE 2: Descriptive Statistics for Offense History

Variable	CCP		Probation	
	n	%	n	%
Mean days under supervision	365		232	
Mean natural antilog of time	2.51		2.27	
Adjudged felonies	136	51.5	44	32.8
Adjudged misdemeanors	115	43.6	37	27.6
Adjudged violations	136	51.5	44	32.8
Any adjudications	202	76.5	72	53.7
Suspended commitment to DYS	100	37.9	24	17.9
Permanent commitment to DYS	30	11.4	14	10.4
Mean days after termination ^a	590		848	
Mean natural antilog of time	2.64		2.82	
Mean days from termination to first postterm adjudication	230		369	
Mean natural antilog	2.08		2.38	
Adjudged felonies	83	31.1	59	44.4
Adjudged misdemeanors	100	37.5	54	40.6
Adjudged violations	113	42.3	55	41.4
Any adjudications	155	55.2	84	60.0
Suspended commitment to DYS	38	14.2	32	24.1
Permanent commitment to DYS	38	14.2	26	19.5
Mean days as an adult	583		961	
Mean natural antilog of time	2.64		2.87	
Mean days from adulthood to first postterm arrest	213		262	
Mean natural antilog of time	2.05		2.17	
Adult arrest	99	47	48	55
Sentenced to probation	52	25	41	33
Sentenced to imprisonment	47	23	48	39

NOTE: CCP = Community Corrections Partnership; DYS = Department of Youth Services.

a. From termination date to 18th birthday.

arrests,⁸ sentences to probation, and sentences to confinement. It is important to note some limitations with these data. In particular, the arrest data are solely from Hamilton County, Ohio. Therefore, CCP or probation clients who were arrested in another county are not captured by the arrest data. However, the measures of sentences to probation and confinement come from the Ohio Department of Rehabilitation and Correction. Therefore, any CCP or probation clients who were sentenced to probation or confinement in Ohio are captured by these data.⁹

The results of the logistic regressions that use adult arrests, sentences to probation, and sentences to confinement (while holding time at risk constant)

TABLE 3: Adjudications and Commitments While Under Supervision: Logit Coefficients and Probabilities ($n = 367$)

	R	p
Felony		
Time at risk	.1047	.0060
CCP (0) versus probation (1)	-.0349	.1056
Misdemeanor		
Time at risk	.1734	.0000
CCP (0) versus probation (1)	.0000	.8617
Violation		
Time at risk	.1637	.0001
CCP (0) versus probation (1)	.0000	.2373
Any adjudication		
Time at risk	.1542	.0004
CCP (0) versus probation (1)	-.0687	.0429
SC to DYS^a		
Time at risk	.1020	.0089
CCP (0) versus probation (1)	.0330	-.0740
PC to DYS^b		
Time at risk	.0000	.2471
CCP (0) versus probation (1)	.0000	.3219

NOTE: CCP = Community Corrections Partnership.

a. SC to DYS = suspended commitment to the Ohio Department of Youth Services.

b. PC to DYS = permanent commitment to the Ohio Department of Youth Services.

are presented in Table 5. In all three comparisons, there are no significant differences between CCP and probation clients. It appears that participation in CCP has no significant impact on adult criminality when compared to other youths solely sentenced to probation.

DISCUSSION

This article has sought to determine the overall effectiveness of one community-based correctional program in a large midwestern city. We used different indicators to determine how youth participation in the Afrocentric program (CCP) has affected their likelihood to return into the system. Overall, the results show slight differences between the CCP and probation comparison groups until a youth's 18th birthday, with the CCP youths either performing better or equal to the probation youths. It appears that CCP had a modest effect on youth behavior, both during and after supervision. Unfortunately, the positive effects of CCP are not evident during adulthood, for both groups reoffend at the same rates after their 18th birthdays.

TABLE 4: Adjudications and Commitments After Supervision: Logit Coefficients and Probabilities (n = 320)

	R	p
Felony		
Time at risk	.3368	.0000
CCP (0) versus probation (1)	.0000	.3203
Misdemeanor		
Time at risk	.2806	.0000
CCP (0) versus probation (1)	-.1070	.0079
Violation		
Time at risk	.2256	.0000
CCP (0) versus probation (1)	-.0990	.0118
Any adjudication		
Time at risk	.3384	.0000
CCP (0) versus probation (1)	-.1191	.0063
SC to DYS^a		
Time at risk	.2189	.0000
CCP (0) versus probation (1)	.0000	.6095
PC to DYS^b		
Time at risk	.2901	.0000
CCP (0) versus probation (1)	.0000	.2119

NOTE: CCP = Community Corrections Partnership.

a. SC to DYS = suspended commitment to the Ohio Department of Youth Services.

b. PC to DYS = permanent commitment to the Ohio Department of Youth Services.

TABLE 5: Adult Arrests, Sentences to Probation, and Sentences to Imprisonment (n = 243)

	R	p
Arrest		
Time at risk	.2530	.0000
CCP (0) versus probation (1)	.0000	.2274
Probation		
Time at risk	.2458	.0000
CCP (0) versus probation (1)	.0000	.3758
Imprisonment		
Time at risk	.2632	.0000
CCP (0) versus probation (1)	.0000	.3488

NOTE: CCP = Community Corrections Partnership.

Three observations are in order. First, CCP was modestly successful at curbing the criminogenic behavior of its clients until their 18th birthdays, for CCP youths were less likely to be adjudicated for some offense types while

juveniles. In fact, the effects of CCP appear to become more pronounced following supervision, when CCP youths are less likely to be adjudicated for three (of six) offense classes. It is important to note that these effects are relatively small; however, such differences suggest that CCP can be considered a successful alternative to regular probation.

Second, because juvenile courts (like all criminal justice organizations) exist in a complex institutional and political environment (Crank & Langworthy, 1992; Meyer & Rowan, 1977; Scheingold, 1984), CCP can also be assessed in terms of its ability to satisfy the expectations of political elites and institutional sovereigns. In both cases, CCP was successful in garnering community support and cooperation from other community service agencies, other criminal justice agencies, and political figures. It appears that ethnically specific treatment programs can receive popular support from the community, politicians, and other organizations.

Finally, it is unlikely that culturally specific treatment strategies, by themselves, can radically change youthful delinquency. The elements of effective intervention, however, suggest that treatment must be closely matched to offenders' risk, needs, and characteristics, such as learning styles (Andrews et al., 1990). Properly designed and implemented ethnically specific treatments can be expected to closely match some offenders' communication and learning styles. Thus, the culturally specific portion of culturally specific treatment programs is more like a syringe than medicine. Syringes do not heal people by themselves; however, syringes are indispensable tools for delivering medicine. Likewise, culturally specific treatment programs, by themselves, cannot be expected to change clients' criminal behavior. When coupled with theoretically defensible, effective treatment strategies (i.e., the elements of effective intervention), however, the full potential of culturally specific treatment may be realized.

NOTES

1. From the Community Corrections Partnership's (CCP's) inception in 1991 until 1996, the six member agencies were Hamilton County Juvenile Court, the Black Male Coalition, Talbert House, Citizens Committee on Youth, CPC/Alcohol and Substance Abuse Inc., and the University of Cincinnati's Division of Criminal Justice.

2. Using culturally specific treatment with juvenile probationers appears to be unique in the United States. We were able to find only one similar program in Pittsburgh, Pennsylvania (Feinberg, Stevens, & Hanna, 1994). Drug and alcohol prevention programs targeted at African American youths are similarly rare (Morris, 1993).

3. Although no data were collected on youths not accepted into CCP by the CCP staff, the percentage of rejected referrals was around 2%.

4. In 1994, the Ohio Department of Youth Services (DYS) instituted a policy designed to decrease overcrowding at DHS facilities called RECLAIM Ohio (Reasoned and Equitable Community and Local Alternatives to the Incarceration of Minors). Simply, all juvenile courts in the state would receive a set amount of money to supervise delinquent youths in their home counties. Under RECLAIM Ohio, each county had to pay the state a set amount for each youth incarcerated at a state-run youth detention facility. Due to the costs associated with state incarceration, many counties changed their sentencing patterns and created alternative supervision programs to divert youths from DHS commitments. This change in DHS commitments and the correctional programs available confounds attempts to draw a suitable comparison group for CCP youths after 1995. See Moon (1996) for a full review of RECLAIM Ohio.

5. CCP was designed to enlist community members in the supervision and treatment of youths. Thus, all program offices and activities were to be conducted within walking distance from the youths' homes.

6. Offenses were dummy coded because using the mean number of offenses (e.g., the mean number of adjudged felonies while under supervision) becomes confounded with time at risk (because some youths were held in secure facilities between their arrests and subsequent adjudications, whereas others were not; thus, some youths are free to reoffend, whereas others are not). Data on the amount of time in secure facilities were not available; thus, offenses were dummy coded.

7. The time between the termination of supervision and the date a youth turns 18 years old.

8. Only adult arrests (i.e., arrests after a client's 18th birthday) were counted here.

9. Clients confined or sentenced to probation outside Ohio are not captured by these data.

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BUILDING CONSTRUCTIVE PRISON ENVIRONMENTS: THE FUNCTIONAL UTILITY OF APPLYING BEHAVIOR ANALYSIS IN PRISONS.

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The present author evaluated a correctional program that applies the principles of behavior analysis with in a "Supermax" correctional facility that housed 128 adult male inmates with severe behavior problems. An interdisciplinary team systematically assessed behaviors to be targeted. An individualized program was created for each inmate. Criteria for discharge from this unit were to have completed the assigned programs and to have not engaged in any violations of the rules of prohibited conduct. Data were recorded by correctional staff on problematic behaviors and appropriate behaviors of inmates in this unit. Appropriate behavior was positively reinforced with increasing access to visitors, personal property and negatively reinforced by escaping from the unit upon completion of the assigned program. Results showed a significant decrease from years prior in the rate of misconduct reports and inmate grievances to the administration.

By the end of 2001, there were 2.1 million people incarcerated in America's prisons (Harrison and Beck 2002). In 2000, the National Center for Policy Analysis reported, "an estimated 630,000 inmates were released from prison last year, with an estimated 160,000 of those being violent inmates" (Du Pont 2000). These statistics beg several questions: is it surprising that the United States has surpassed South Africa as Western Civilization's most imprisoned people? What is being done, during the inmates' incarceration, to address antisocial behaviors that are being reinforced in prisons today? What are the maintaining variables that reinforce a person's development of pro-social behaviors? Does the society that imprisons these people recognize that criminal behavior does not simply stop at the entrance or the exit of a correctional facility? What is being done to change the behavior of these inmates into people who will eventually become our neighbors? Over the last twenty years there has been much advancement in the technology of Applied Behavior Analysis. Have these advancements facilitated the building of constructive prison environments? The purpose of this paper is to describe a current program that applies Behavior Analysis in a maximum-security prison setting.

History

Although the national trend toward more stringent sentencing laws is decreasing, prisons are left to deal with a subset of the population that is considered "unteachable". Likewise,

"unteachable" was also the term used in the 1950's and 1960's to describe people with severe and profound retardation. It was in the 1960's that Behavior Analysts began to research the field of Mental Retardation and Dual Diagnoses (MR/DD), and today, there are few behaviors that cannot be changed through the systematic manipulation of environmental factors. Also, starting in the 60's and continuing into the early 80's, Behavior Analysts became interested in the application of the principles of behavior analysis in the correctional setting. In 1974, B.F. Skinner spoke out on the issue of how to build constructive prison environments in a "letter to the editor" of the New York Times:

"It is possible for prisoners to discover positive reasons for behaving well rather than the negative reasons now in force, to acquire some of the behavior which will give them a chance to lead more successful lives in the world to which they will return, to discover that the educational establishment has been wrong in branding them as unteachable and for the first time to enjoy some sense of achievement. But that can only be brought about through positive action."

Most of the groundwork for building Behavior Analytic based constructive prison environments have been outlined in the research emanating from this era in Behavior Analysis. A specific example of this research was undertaken in 1971 by John McKee, a Behavior Analyst, regarding the issue of contingency management in a correctional institution. McKee describes a system in which 16 inmate

volunteers' performance in academic areas were effectively managed through the use of contingency management. The study consisted of three phases. The first phase was a three-week baseline period in which academic productivity was established. During phase-two, the experimenter systematically controlled the "academic output" of the inmates. During phase-three, the inmates were taught to generalize what they had learned during this experiment in the form of self-management. Overall, the inmates' performances were increased by 20%. Another example is that of Levinson et al (1968). Levinson and his colleagues used negative reinforcement (an increase in any behavior that terminates decreases, removes or avoids the aversive stimulus). In this paper, he describes a system in which the subjects were 17 inmates who had been repeatedly classified to the "Segregation Unit". The negative reinforcer used was continued involvement in therapeutic group therapy. "Escape" from the unit required the individual go three months without engaging in a pre-defined, maladaptive behavior. Eleven subjects completed the program, thereby successfully escaping from group attendance. Of the 11 subjects, three did not return to segregation in three months, and six were placed on work release.

Disagreements regarding incarcerated individuals as research participants, research methodologies, technical terminology and the political environment of the prison itself resulted in many Behavior Analysts leaving the prison environment. When the empiricists left this setting, the prisons were left without a technology of behavior change.

Once incarcerated, the majority of inmates will participate in the programs and treatments that are available, and do not engage in problematic behavior. Some, however, take a different path and become what is termed a "behavior problem." Mental health providers are usually unable to effectively treat the behaviors of individuals that range from harassing and provocative to dangerous and deadly because the behaviors are not due to a documented mental illness, and are therefore resistant to typical forms of therapy and psychopharmacological approaches. The task of managing the behavior of such inmates is left to security staff who are poorly trained to deal with the extreme behavior of such inmates on a long term or on an ameliorative basis. As a result, the inmate is often placed in the most restrictive housing that a states' Department of Corrections, or the Federal Bureau of Prisons has to offer, the Supermax.

The Supermax, or Intensive Management Unit (IMU), is a prison within a prison. The National Institute of Corrections (NIC), an arm of the U.S. Department of Justice, defines a "Supermax" as:

"...a free-standing facility, or a distinct unit within a facility that provides for the management and secure control of inmates who have been officially designated as exhibiting violent or serious & disruptive behavior while incarcerated [emphasis added]. Such inmates have been determined to be a threat to the safety and security in traditional high-security facilities, and their behavior can be controlled only by separation, restricted movement, and limited direct access to staff and other inmates..."

The same 1997 NIC report listed 32 states, the Federal Bureau of Prisons and the Correctional Service of Canada, as having at least one Supermax. Most supermax prisons operate similarly; the inmates are housed in their cells for 23 hours a day. Termed isolation by some, it may seem anything but that upon a tour of such a facility. The Supermax is an often-noisy environment where inmates are keenly aware of what is going on within the area in which they are housed. In addition to the high security setting many states utilize a programmatic structure referred to as "the program." The

program is a behavioral ladder or levels system. Maladaptive behavior is consequated through a series of "demotions", that occur quickly after the behavior. An interdisciplinary team reviews behavior at regular intervals to allow for upward progress on this ladder. The higher the level the more privileges such as increased recreational time and visits with family as well as allowances for personal property, conversely the lower the level the fewer the privileges and property. The lowest level allows only personal hygiene items, religious artifacts and legal materials. Typically there are some educational and treatment services available within this setting, though few, if any are empirically derived or based in research. Prison administrators may be compelled to respond to these "problematic inmates" that assault staff and inmates by further decreasing the privileges of these inmates and essentially "locking the problems away" by imposing longer and longer sentences to the Supermax with no objectively defined release criteria. Therein lies a functional paradox: how does a prison provide for the safety of their staff while creating an environment that is effective in increasing pro-social behaviors while decreasing maladaptive behavior? Recently, the present author has been investigating applying the principles of Behavior Analysis in a correctional facility. While Applied Behavior Analysis in corrections is not novel, an application in the 21st Century brings the research from the last 20 years into the correctional facility, and with that a new era in corrections.

In many cases, negative punishment (the removal of previously earned privileges or tangible items to decrease the rate of a behavior) is the sole tool used to manage inmates' behavior while in prison. If an inmate does his time and stays out of trouble he is ignored. If he gets into trouble, he has privileges and personal property removed in effort to reduce the rate of such behavior. The problem begins when all privileges and personal property have been removed. What does the inmate do when he has nothing to loose? The answer is that he does what he has always done when he had nothing left to loose. If an inmate came from a background of education and communication, then he would use the coping skills he had been taught and he would manage while he earned the privileges and personal property back. If the inmate came from a background of aggression and acting out, he would aggress and act out

until he is given back the item or he exhausts himself. One of the ways that Behavior Analysts build constructive prison environments is to limit the sole reliance on negative punishment used to reduce the rate, magnitude or duration of maladaptive behaviors and provide alternative approaches to inmate management.

The Oregon Department of Corrections has launched an alternative approach to the management high risk or "problematic" inmates, which involves a functional change in their program management. This facility had historically relied heavily on negative punishment to reduce the rate of anti-social or problematic behavior. The changes to the IMU program have to mediate the need for lawfully mandated security with the need for behavior change. The most significant change to the IMU program will be the implementation of an empirically derived behavioral treatment model. This model is similar to McKee's Contingency Management in a Correctional Institution (McKee 1974) but rather than addressing academic behavior, this program address problematic or dangerous behaviors. The programmatic model under the present investigation also has some underpinnings of Levinsons' negative reinforcement based group therapy. The basis for the model is cooperation between security and programs staff with the understanding that the IMU is a unit where behavior change must occur to qualify for release. An interdisciplinary team made up of mental health professionals, Behavior Analysts, social workers, educational professionals, medical and security staff function as the program committee with oversight capacities for this unit. The unit offers opportunities for access to tangible rewards, social attention and escape maintained behaviors.

Admission Process to the IMU

The inmate is classified to maximum custody as a result of an observed behavior deemed as "dangerous" and "a risk to the safe and secure operation of the facility". The operational definition of a behavior that is termed "a risk to the safe and secure operation of the facility" is any class "A" violation. Class "A" violations include, among other descriptors, assault (sexual, physical, with or without a weapon), escape, and creating a disturbance or "riot". This classification is applied by staff in a section,

independent from the management of the IMU. All inmates are afforded due process and have access to an appeal process. Currently there are about 128 male inmates ranging in age from 18 to 59.

IMU Program Level-2: Program Determination

The inmate enters at IMU program level-2. When outside of his cell, the inmate is handcuffed and two staff escort the inmate to the desired location. A nylon tether is attached to the handcuffs. In the event the inmate moves to assault a staff or another inmate being moved, the attending officers physically restrain the inmate using the nylon tether to maintain physical control of the inmate. An interdisciplinary team works in conjunction to assess the inmate in global skill areas such as communication, social, academic, and coping skills. The deficient skill areas are objectively defined and prioritized. These skills and deficiencies are objectively behaviorally defined and specific behaviors targeted on a form called a Behavior Action Plan (BAP). The inmate must maintain this level with no misconduct reports (a report issued by staff of any observed behavior that violates the Rule of Prohibited Conduct) issued for 60 days. Once completed the inmate may progress to program level-3.

Behavior Action Plan Design

The BAP includes the description of the targeted behaviors and the criteria for successful performance. BAP programming may be subdivided into two categories: macro-behavior management and micro-behavior management techniques

Macro-behavior management techniques

Macro-behavior management in the IMU consists of different "in-cell" study packets and group participation programs and the use of the consequence based IMU program level system. Macro-behaviors consist of several discrete behaviors. An example of a macro-behavior is anger management. Anger management may consist of learning one's behavior cycles, recognizing and responding to antecedent stimuli and relaxation training. In-cell study packets are a set of written packets that encompass various subject matters such as: anger management, learning to do prison time,

journaling, and alcohol and drug treatment materials. These materials have been divided into packets that are handed-out to inmates and picked up by correctional officers on consecutive weeks. An inmate must achieve a proficiency score of 80% to successfully pass that packet and receive the subsequent packet. Correctional staff serve as a proctor to the inmate if the inmate does not pass the packet. If the inmate fails twice, he will be reassessed for different programming. An inmate may be assigned one or more programs from a list of approximately 14 programs. Inmates are consequated for compliance with the rules of the IMU, and successful program completion with climbing levels in the IMU program level system. Consequences for climbing levels include releasing from the IMU after having completed all assigned programs, the addition of certain privileges or access to personal items, and more visits. Inmates are consequated for non-compliance with the rules of the facility or refusing to engage in assigned programs by being demoted one or more levels in the IMU program level system. The consequence of having a level demotion may include some or all of the following consequences: spending longer in the IMU, having one's program re-evaluated for effectiveness, the restriction of privileges or access to personal items, visits or phone calls. Inmates that engage in behaviors that are classified as a "major misconduct" under the Rules of Prohibited Conduct are demoted to IMU program level-1. Major misconduct includes assault, creating a disturbance, and contraband smuggling or possession. Level-1 is a restrictive level in which the inmate has access to only personal hygiene items, religious artifacts and legal materials. All inmates in the IMU are reviewed monthly at an interdisciplinary team meeting; Inmates at level one are reviewed weekly while at this level. After an absence of behaviors that can be classified as a major misconduct for 30 consecutive days, the inmate is promoted to IMU program level-2. Inmates cannot be demoted to IMU program level-1 for refusing to complete assigned programs.

Micro-behavior management techniques

Micro-behavior management in the IMU consists of the application of an Individualized Behavior Plan (Webb 2001). A Micro-behavior

consists of a discrete behavior such as self-injury or assault. The Individualized Behavior Plan (IBP) is a part of the BAP and a set of instructions to the correctional staff and data collection techniques that the correctional staff employ in response to certain events. The behavior often starts outside of the IMU, but persists once the inmate is transferred to the IMU.

Potentially reinforcing and punishing consequences are determined through a descriptive analysis (Vollmer, Borrero, Wright, Van Camp, and Lalli, 2001). A functional analysis (Derby and Wacker, 1992) can also be used to identify antecedent stimuli or those stimuli that set the occasion for a problematic behavior. An example of an antecedent would be the mail is late in coming to the tier and the inmates begin to yell, bang cell doors and otherwise cause the tier to become noisy. Mail not coming at a predetermined time would directly precede an increase in the rate of "acting-out." To continue this example, a training opportunity is created in the presence of this clear of an antecedent. For staff, the training opportunity would be in how an antecedent sets the occasion for certain behaviors to occur; the increase in acting-out on the part of the inmates directly followed the mail being late. The training opportunity for the inmates would be flexibility, because as a consequence for their behaviors they received a misconduct report and therefore may have extended their stay in the IMU because the mail was late.

A functional analysis can also be used to determine the contingencies that are reinforcing the rate of maladaptive or problematic behavior and punishing the rate of adaptive or pro-social behavior. An example of the use of consequences derived from a functional analysis in a prison setting is in Webb (2001). In this paper, the author removes the opportunity for the inmate to escape from his cell, which had been previously applied as an unintended consequence for maladaptive behaviors. The participant would engage in disruptive behaviors (yelling, screaming, and banging on the cell doors with his shoes) and the correctional staff would move him to a cell that was located in the hall away from the other inmates. Through a functional analysis the author noted that the rate of disruptive behaviors increased in conditions

that allowed for escape from the inmates cell. The rate of disruptive behavior decreased in all other conditions that did not allow for escape from cell. The functional analysis was videotaped and used to train the correctional staff how the environment affects the rate of the participants behavior. An IBP was written that encouraged the inmate to make appropriate verbal requests to move from the noise of other inmates without engaging in disruptive behaviors. If the inmate made an appropriate verbal request without engaging in disruptive behaviors then he was allowed leave his cell to be escorted to a less noisy cell. The result was the inmate decreased the rate of disruptive behaviors (banging and screaming late at night) and an increased "pro-social" verbal behavior (verbally requesting a move). All Individualized Behavior Plans (IBP) are included in the overall Behavior Action Plan (BAP).

IMU levels 2 and 3: Implement Program

Data collection

The BAP is implemented under observation by correctional staff. Observation systems include the use of direct correctional staff observation, and recorded video observation. Baseline rates of targeted behaviors are established and behavior change documented through the use of a customized database called Special Inmate Management System (SIMS©). The SIMS© database is used for recording the rate and frequency of behaviors, the number and type of assigned programs, the inmates' current programmatic level and other relevant identifying information 24 hours per day. In short, this database allows for concurrent management of thousands of individualized BAP's. The SIMS© database has built-in behavior graphing and analysis tools, allowing behaviors across groups or sections of the IMU to be evaluated. Using a computerized database also allows for longitudinal studies of recidivism (the return to prior criminal behaviors) and ensures that if an inmate were to return to the IMU, the failure of the previous program can be noted and addressed in a new BAP for that inmate.

Correctional staff were trained to collect data using a paper system that is transferred to

the SIMS© database. During 50% of initial training trials, a second observer simultaneously but independently record data to assess interobserver agreement. Agreement percentages were calculated by dividing the training trails into 10-s intervals and comparing observers' recorded data on an interval-by-interval basis. The number of scoring agreements between the correctional staff and the independent observer was divided by the total number of intervals and then multiplied by 100%. The mean percentage agreement between correctional staff and the independent observer was 95% with a range of 82% to 100%.

Consequating behavior at IMU level-2

After 60 days with no misconduct reports issued, or targeted behaviors observed, the inmate is promoted to IMU program level-3. IMU program level-3 includes increased visits, personal property and an increase of the amount of money the inmate may spend at the commissary. There is no criterion set for completion of programming at IMU program level-2

IMU Level 3 to 4: evaluating the efficacy of the BAP

Interim progress was assessed by determining if the objectives of the specific needs identified in the BAP have been met. If the objective for that targeted behavior has been met, then treatment is faded. If further programming of the targeted behavior is warranted because the objective was not attained or there is a need for further programming of that target behavior the portion of the BAP is reassessed. Once all outcome behaviors have been attained for that target behavior, the next priority in the BAP is addressed. Once all targeted behaviors identified through the BAP have been met, planning for release to a less restrictive environment begins. Levinson's use of negative reinforcement is also applied at this point; the inmate must have been misconduct report free during his "program". If at any point the inmate received a misconduct report, then his BAP may be reassessed and he may lose one or more levels.

Consequating behavior at IMU level-3

After 90 days with no misconduct reports issued, or targeted behaviors observed and successful

completion of the BAP, the inmate is promoted to IMU program level-4. IMU program level-4 includes further increased visits, personal property and an increase of the amount of money the inmate may spend at the commissary. The inmate is also allowed to move from his cell unescorted by security staff.

IMU Level 4: Planning for generalization of learned behaviors

Some inmates return to the IMU after being discharged, which suggests that behavior modification techniques employed in the IMU are not maintained after leaving the IMU. Generalization is the degree to which a change in behavior will transfer to another setting or situation or the degree to which a behavior change program influences behaviors other than then targeted behavior. In 1977, Stokes and Baer stated that Generalization (when contrasted with behavior change programs), "...has been considered the natural result of failing to practice a discrimination technology adequately, and thus has remained a passive concept almost devoid of a technology." Much effort is put into targeting behaviors, but very little is done to maintain the behavior in other settings. Generalization of the behaviors targeted in the IMU to a less restrictive environment called the Close Supervision Unit (CSU). The CSU is a transitional services program unit similar to the IMU, but without the high security precautions. Communication of the plan for generalization is accomplished via the SIMS© database. With SIMS©, the staff at the CSU is able to access the inmate's previous BAP, the rate and type of behaviors observed, and progression through the IMU program levels system. Macro-behaviors of compliance with staff directives and integration with staff and inmates are targeted through a transitional BAP. The two units' tandem operation will be the subject of subsequent papers.

Consequating behavior at IMU level-3

After 30 days with no misconduct reports issued, or targeted behaviors observed, the inmate is transferred to the CSU. IMU program level-4 includes further increased visits, personal property and an increase of the amount of money the inmate may spend at the commissary. The inmate is also allowed to move from his cell

unescorted by security staff.

Preliminary Results

This IMU was opened in 1991. The aforementioned procedures were put in place in January of 2002. It is difficult to decisively state that the change to the IMU has changed inmates behavior, correlated with the most recent changes, are significant decreases in the rate that misconduct (a violation of the Rules of Prohibited Conduct) and in the rate of inmate grievances (an administrative appeal route used to address prison management/inmate disputes over the interpretation or application of the rules and, in some instances, the procedures of the Department of Corrections) are reported (see figure 1).

Challenging Concepts

The belief that there is “nothing that can be done to change the behavior of criminals” is as dated as the concept that behavior analysis could not affect the behavior of people with retardation. Through careful planning, communication and the application of the principles of applied behavior analysis we have, and will continue to change the behavior of even the most violent people. Further areas for investigation in the area include the effect that this type of programming has on inmates returning to prison and to this unit.

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