

THESIS

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SPECIALIZATION AMONG SEX OFFENDERS

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MOHAMMAD VAQAS ALI

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Masters degree in Criminal Justice



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SPECIALIZATION AMONG SEX OFFENDERS

By

Mohammad Vaqas Ali

A THESIS

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

MASTER OF SCIENCE

School of Criminal Justice

2004

ABSTRACT
SPECIALIZATION AMONG SEX OFFENDERS

By

Mohammad Vaqas Ali

In the past 15 years the Federal and state governments have enacted several statutes that deal specifically with sex offenders. The contentions of such laws is that sex offenders specialize and frequently recidivate, and have to be specifically dealt with. To date criminologists have conducted few studies that analyze the veracity of this premise. The primary objective of this thesis is to test this hypothesis i.e. whether sex offenders specialize or not. Eight hundred males were selected from the population of arrestees from a mid-size Michigan city who initiated their criminal careers between 1989 and 1999 as juveniles and had one arrest on a violent charge. The conviction records of the subjects were also obtained from the Michigan Department of Corrections database for the 10 years understudy. A bimodal approach (Survival and Negative Binomial methods) was then used to measure two types of specialization. The results showed that sex offenders were more likely to perpetrate sex offenses in their criminal careers as compared to other violent offenses. However, sex offenders committed more assaults during their criminal careers than sex offenses, but did not commit any other nonviolent crimes before their first sex offense. In contrast, other violent offenders committed nonviolent offenses before their first violent crime and with just a few exceptions had not escalated to committing sex offenses. These characteristics of the sex offenders noted in this study, render their behavior inexplicable by any of the existing theories on the matter.

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DEDICATION

Thank you Amma Jee and Abba Jee for always being there and for inspiring me with your love and prayers.

ACKNOWLEDGEMENTS

**I would like to thank my committee members for their guidance, time and patience:
Dr. Christopher Maxwell (Chair), Professor John McCluskey and Dr. Vincent Hoffman.**

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INTRODUCTION

Throughout the history of criminology and criminal justice, criminologists have theorized the phenomenon of crime in order to rationally confront it. The very basic issue that every good criminological theory has to address in order to be complete is to determine the cause (or causes) of crime. For the past two decades the debate between the proponents of general and typological theories of crime has often dwelled upon this theme i.e. whether all crimes occur due to one universal cause or do different types of deviant behaviors initiate from differing causes (Gottfredson and Hirschi, 1988; Blumstein, Cohen, Roth and Visser, 1986; Moffitt, 1993; Tracy and Kempf-Leonard, 1996). Gottfredson and Hirschi (1988), adhering to the generalist approach state that low self-control introduces a criminal propensity in all offenders, which consequently induces them to commit crimes. Criminals are more susceptible at a younger age to fall prey to this propensity and its control diminishes as they reach maturity (Vold, Bernard and Snipes, 2002; Gottfredson and Hirschi, 1988). Blumstein et. al. (1986) on the other hand, asserts in the criminal career approach that different causal processes work at different points in a life span and produce same or different types of deviant behaviors (Vold et. al., 2002; Piquero, 2000). Further development of the criminal career approach establishes, that different causal processes may also generate different types of deviant behavior, hence leading to the concepts of specialization and escalation (Blumstein, et. al. 1986).

Specialization and escalation are two essential elements of the criminal career paradigm (Blumstein, Cohen and Farrington, 1988 and Britt, 1996). In the words of Britt (1996), "Specialization refers to the tendency among criminal offenders to repeat the

same type of crime across their criminal careers, while escalation refers to the tendency of some criminal offenders to commit crimes of an increasingly serious nature over the span of their criminal careers". Hitherto, almost all the studies conducted by criminologists that have attempted to operationalize and measure the concepts of specialization and escalation classify offence types as only "violent vs. non-violent" or "physical vs. property" offenses (Bursik Jr. 1980 and Piquero, 2000). There are very few empirical studies that get offence specific in specialization analysis. Taking the example of sexual offenses, to date there has been only one study by a criminologist that has compared the criminal histories of convicted sex offenders and convicted non-sex offenders to determine whether sex offenders are more specialized (Simon, 1997 & 2000). The indolence displayed by the criminologists when countered by the eagerness on the part of the legislature to deal decisively with the problem of sex offenses leaves a lacuna for the academics from other fields to jump in and try to address the issue in consistency with their particular disciplines; a path that may have lead to bad policy making (Simon, 2000 and Palermo and Farkas, 2001).

Traditionally, sex offenders are epitomized as a class of delinquents that is deemed qualitatively unique from all other varieties of criminals (Simon, 2000 and Palermo and Farkas, 2001). Terms like sexual predators, pedophiles and rapists, signify a societal precept of a sadistic and sexually perverted group of offenders that must continually prey upon more and more victims to gratify their uncontrollable psychotic impulses (Freeman-Longo, 2000 and Palermo and Farkas, 2001). Albeit, these conclusions may be empirically justifiable among a sample of chronic sex offenders, but generalizing them over the entire population of sex offenders would be erroneous (Simon

1997 & 2000). Nonetheless, such social precepts coupled with the erroneous generalizations made by clinicians regarding sex offenders have often been translated into laws by the legislature (Simon, 1997 & 2000 and Palermo and Farkas, 2001). The contention of such laws being, that sex offenders ‘specialize’ in sex offenses and have to be specifically dealt with as compared to other types of offenders (Simon, 1997 & 2000 & Palermo et. al., 2001). This statement can be practically validated from the fact that in the past seven decades the Federal Government has enacted three statutes (Sexual Predator Laws, 1990; Sex Offender Registration and Community Notification Laws, 1994; Surgical Castration and Chemical Castration Laws, 1996) that deal specifically with sex offenders (Palermo et. al., 2001). Furthermore, all of these federal statutes have received sweeping support from the state legislatures (Palermo et. al., 2001). Thus far, no notable empirical studies have been conducted, that analyzes whether these laws have actually brought any significant effect on the general rate of sexual offenses in the country (Freeman-Longo, 2000).

The primary objective of this thesis is to empirically address the issue of specialization among sex offenders (from a criminal justice perspective) using the Police Arrest data from 1990 to 2000 for a mid-sized Michigan city. Before falling into the specifics of the data and the statistical tests to be used, it is pertinent that the theoretical framework underlying the study is established and the findings of the relevant empirical literature be chronicled.

THEORETICAL FRAMEWORK

The two fundamental constructs that this thesis is going to be dealing with are 1) the specialization perspective regarding sexual offenders emanating from the criminal

career approach and the typological theories, and 2) the non specialist perspective proposes sexual offenders, stemming from the generalist theories of crime. Each theme has its own theoretical history and shall be addressed to separately in the this sections.

The Specialization Perspective on Sexual Offenders

Early on in the history of criminology the notion was developing that crime it self was not an isolated event and could be better understood if looked upon, from the perspective of the criminals and their criminal histories (Park, Burgess and McKenzie, 1925; Shaw, 1931; Sutherland, 1937; Hughes, 1952 and Becker, 1957). In 1986, Blumstein, Cohen, Roth and Visser organized and further developed this perspective into what they called the “criminal career and career criminal career approach”. This approach, instead of keeping the traditional focus on the aggregate crime rates, analyzed the activity or careers of the individuals who commit criminal offenses (Blumstein et. al., 1986). According to Blumstein et. al. (1986) the criminal career approach characterized the phenomenon of crime into four key dimensions: Participation (the fraction of the population that engages in criminal activity), Frequency (the rate of criminal activity among those who participate), Seriousness (of the transgressions committed) and Career length (time in between the first and the last offense). This perspective however was not presented as a theory of crime (Tracy and Kempf-Leonard, 1996). It was merely depicted as a formula for arranging known facts, which if applied to different theories of crime, might enhance their understanding and predictability. The criminal career approach itself however does not explain the phenomenon of crime (Tracy and Kempf-Leonard, 1996). Conversely, theories may also benefit from the criminal career paradigm in the policymaking stage by employing selective incapacitation against those juvenile

offenders, who are thus predicted to become career criminals (Blumstein et. al., 1986 and Blumstein, Cohen and Farrington 1988). Theories that utilize the criminal career paradigm are classified as typological theories of crime and chiefly originate from “the “Positive” school of criminology (Tracy and Kempf-Leonard, 1996 and Piquero, 2000).

Independent of the criminal career approach another theoretical perception was also evolving, which evaluated criminal patterns and their likelihood of remaining invariable or fluctuating across distinct crime categories (Healy and Bronner, 1926; Schrag, 1944; Cloward and Ohlin, 1960; Gibbons, 1965, and Wolfgang, Figlio, and Sellin, 1972). Later, while developing the criminal career paradigm, Blumstein et. al. (1986) asserted that the criminal careers may have a particular tendency or direction in seriousness or that the offenders may specialize in particular types of offenses. Specialization and escalation thus were deemed to be consequents of the criminal career paradigm, which as stated by Blumstein et. al. (1988) may or may not hold veracity depending on future empirical evidence. So far the empirical evidence regarding the existence of specialization and escalation has been mixed for the former and none for the later (Bursik, 1980; Klein, 1984; Britt, 1996 and Piquero, Paternoster, Mazerolle, Brame and Dean, 1999; Piquero, 2000; Piquero and Buka, 2002). The empirical validity of such studies is contingent upon their focus on three factors, a) relationship of specialization with age, b) the development of a typology of offenses and c) the method of measurement (Tracy and Kempf-Leonard, 1996). The methods part shall be dealt with in the sections following. Regarding age and specialization it has been noted that age appears to bring about a decline in crime versatility exhibited by offenders (Peterson, Braiker, and Polich, 1980; Gottfredson and Hirschi, 1990 and Piquero et. al., 1999). According to criminologists this fact could be

best explained by unsuccessful and successful past experiences (Blumstein et. al., 1986), ratio between controls exercised to control experienced (Tittle, 1995), gaining of personal capital with age (Nagin and Paternoster, 1994) or the assertion that behavior tends to get organized and patterned with experience (Loeber and LeBlanc, 1989). The development of a typology of crime has been a major issue in the specialization literature (Tracy and Kempf-Leonard, 1996). Mostly, criminologists use the typology of violent versus non-violent (property) offenses in order to determine specialization (Piquero et. al. 1999; Piquero, 2000 and Piquero and Buka, 2002). Some criminologists have also employed different typology matrices to facilitate the testing of their particular research hypotheses (Wolfgang et. al. 1972; Bursik, 1980 and Britt, 1996). In opposition of the above mentioned views, Cornish and Clark (1987) in the rational choice theory proposed a “crime specific model”, arguing that a classification that group offenses cannot satisfactorily identify offender involvement.

The existence of specialization among sex offenders is a research question that has been theoretically and empirically dealt with in the clinical as well as the criminological arena. However, clinicians have clearly dominated the field (Simon, 2000). According to the American Psychiatric Association (1994) sexual offenders belong to the group of paraphilias that comprises of various kinds of sexual deviances including pedophilia and rape (Palermo and Franks, 2001). According to clinicians a deviant paraphilias’ act of forcibly possessing the victim is bound to leave him dissatisfied. Like drug addicts, the act of sexual deviance renders only a momentary pleasure to him and will soon require another fix; therefore he is bound to recidivate (Palermo and Franks, 2001). This observation may be true with regards to the clinical field where the population under

study generally comprises of people already diagnosed with sex related disorders, however in the context of criminology and criminal justice it is fallacious as the word population under this discipline encompasses of the entire body of sexual offenders and not just a few problem cases (Simon, 2000).

One theory that propagates the specialization of sex offenders is the Psychosis Theory (Palermo and Franks, 2001). Sexually abusive behaviors are associated with borderline Schizophrenic or psychotic conditions (Ryan, 1997). According to this theory the sex offender is a self centered, callous and remorseless person lacking empathy and the ability to form close relationships, a person who functions without the restraint of conscience (Cleckley, 1941). As the centers of aggression and sexual arousal are in close proximity in the brain, the coercive sexual act often leads to aggression and use of force (Palermo and Franks, 2001). Such psychotic tendencies are deemed inherent in the paraphilias, albeit social conditions may catalyze the process of sexual delinquency (Palermo and Franks, 2001). Despite its popularity psychotic sex offenders only account for 8% of the entire population of sex offenders (Knopp, 1984). Following the assumptions of the psychotic theory i.e. that sex offenders are born rather than raised, certain physiological theories also searched for neurological and hormonal factors that might be the cause for sexual deviance (Ryan, 1997 and Palermo and Franks, 2001). Brain functions especially neurotransmitters and their relationship to sexual aggression, that relate to the emotional states have been the focus of much research (Ryan, 1997). To date numerous psychiatric disorders like attention deficit disorder, obsessive-compulsive disorder, mood disorders, dissociative disorders have been identified as potential causes for aggressive sexual behavior, yet no particular neurological explanation has been found

(Ryan, 1997). During the 1980s research was conducted regarding the relationship between post stress disorder and sexual aggression, stating that the experience of an overwhelming trauma may result in causing permanent alterations in the way the brain secretes certain chemicals in response to a subsequent event (Van der Kolk, 1986). Although this line of research shows potential, it still lacks the backing of empirical evidence (Ryan, 1997). In 1989, Ellis applied the arousal theory to explain the behavior of rapists and claimed that it was genetically induced. According to him, rapists suffer from a low arousal level, which necessitates strong emotional stimuli like envisioning or actually committing a rape in order for them to ejaculate (Ellis, 1989, Palermo, 2001). The most recent attention paid to hormonal levels and aggressive behavior relates to testosterone (Vold et. al. 2002). Booth and Osgood (1993) established that a high level of testosterone could lead to reduction in social integration and bring about higher levels of adult and juvenile deviance. Anti testosterone drugs have been administered in treatment of problem sex offenders in order to decrease their sexual arousal and in turn remove the cause for deviance (Berlin and Meinecke, 1981) however the empirical value of such treatments is still undecided (Ryan, 1997).

Albeit related to the theory of psychosis yet distinct within their domain are the theories of intra-psychic conflict (Ryan, 1997). These theories basically emanate from Freud's theory of personality (Freud, 1954), which stated that people have two basic instincts: sexual and aggressive; and the internal craving for gratification of impulses is in conflict with the external demand of being socially acceptable and it is the nature of this conflict defines a personality. Developing upon his own theory Freud (1954) propagated the first intra-psychic theory i.e. the seduction theory. This theory stated that sexual

traumas in the childhood lay at the bottom of neurotic illnesses (Freud, 1954). In 1979, Groth integrated the personality theory and the seduction theory by dichotomizing child molesters into fixated (whose sexual development ceased after the childhood trauma thus had sexual interest only in children) and Regressed (whose sexual interests had developed into the adult stage but the trauma regressed them to an earlier stage which kept them sexually involved with both children and adults). The idea that childhood traumas and adult conflicts are causal of sexual deviance is not without substance; however there may be other causal factors without the help of which the phenomenon of sexual deviance cannot be explained in its entirety (Ryan, 1997). Regarding childhood traumas and the developmental theories of Freud (1965), Piaget (1928) and Erickson (1963) also state that a child develops his personality in the initial years of his life and a trauma sustained at such period may trigger susceptibility towards deviance or sexual deviance. Recently, Ward, Hudson, Marshall and Seigert (1995) studied the relation between sexually abusive behavior and intimacy deficit and hypothesized that such behavior is associated with an abnormality in the early childhood relationships which results in the distortion of self image and expectations in adult relationships throughout the life span. The developmental-contextual theory on the other hand provides a more practicable approach by focusing not on the individual's developmental status, rather on the interaction of such developmental status with the life experiences that are subject to constant change (Ryan, 1997).

The learning theory renders a psychosocial perspective on sex offenses, by stating that although the capacity to sexuality is inborn the manifestation of such capacity is learned (Abel, Becker, Murphy and Flanagan, 1975; Freeman-Longo, 1982 and Ryan,

1997). According to this theory the learning process begins prior to experience, thus repeated exposure to a negative stimuli (in this case sexual intercession and deviance) tends to propagate acceptance and attraction towards it (Bandura, 1977). However, this theory does not assume specialization of sex offenders and learning is considered instrumental only in the pre-experience stage and after the experience the behavior has to be reinforced repetitively in accordance with the actor's personal inclinations in order to establish specialization (Pavlov, 1927; Ryan, 1997). Further developing on the repetitive aspect of sexual offending the Cognitive theory states in order to reinforce sexually abusive behavior the offender allows himself to imagine that his or her behavior is socially acceptable or harmless (Yochelson and Samenow, 1976). Alternatively, the Addictive theory concludes that, "the sexual behaviors become unmanageable or out of control because of the offender's preoccupation, ritualism, compulsivity and subsequent despair. The offender sees his behavior as beyond his control" (Carnes, 1983 and Ryan, 1997).

Mildly related to the Learning theory is the Feminist perspective on sexual offenses. According to this theory, "rape is an act of male aggression resulting from an atavistic male dominance and female submission in a political and economic system that perpetrates social inequalities between the two sexes (Brownmiller, 1975). In the same spirit as the Feminist perspective the Evolutionary theory perceives the natural masculine derive to copulate with different partners and the concomitant desire to impregnate large numbers of women as a cause for rapes (Oliver, 1989). Both the Evolutionary and Feminist theories, like the Psychotic, Physiological and Psychological perspective, assume specialization among sex offenders.

Lastly, the sexual abuse cycle (Lane, 1991) attempts to explain the working of a juvenile sex offender's brain by identifying different states of mind involved in the sexual abuse process. The cycle begins with a trigger (*event*); which distorts the juvenile's perception of future (*negative anticipation*); to counter his hopeless situation he resorts to evading the issue (*avoidance*); as his attempts at avoidance fail he becomes defensive and begins to assert power on others in non-sexual ways (*power/control*); this stage leads him to an indulgence in power related sexual fantasies (*fantasy*); which results in the act of *sexual abuse*; the gravity of his behavior and the fear of the consequences steers him into *fugitive thinking*; and finally he manages to assimilate his behavior through a series of thinking errors (*reframing*), putting him back in the same state as he was before the triggering episode (Lane, 1997).

The Generalist Perspective on Crime

The debate between the Criminal Career paradigm and the Generalist perspective can be traced back to the historical contention between the Classical and Positive schools. The Criminal Career approach although not a theory itself works on the assumption that the criminal element in the society has distinct characteristics either emanating from external or internal stimulus or both, that will induce them to recidivate and that it is the criminal or the criminality within the criminal that has to be addressed in order to counter crime (Blumstein et. al. 1986, Tracy and Kempf-Leonard, 1996). As this assumption is part and parcel to this paradigm mostly the social control theories and some biological theories that adhere to the same assumption utilize it (Cullen and Agnew, 1999). The social control theories are sequentially offshoots of the Positive School of criminology. On the other hand, the Classical School of Criminology focuses on the instance of crime

instead of the criminal (Vold et. al. 2002). According to the Classical School, criminals possess no specific criminal propensities; they merely follow the universal tendency to enhance their pleasure (Bentham, 1998, Cullen and Agnew, 1999). Hence crime is to be prevented through consequences painful to the individual (Bentham, 1998). Such are also the assumptions of the control theories and the generalist perspectives that originate from the Classical School (Gottfredson and Hirschi, 1990 and Cullen and Agnew, 1999). For the purposes of this study only two main generalist theories are relevant and need to be elaborated upon i.e. Moffitt's "Taxonomy" and Gottfredson and Hirschi's "General Theory of Crime" (Moffitt, 1993 and Gottfredson and Hirschi, 1990).

Moffitt's taxonomic framework divides criminal offending into two separate categories (Piquero et. al. 1999). The first group labeled as "Life Course Persisters", relatively smaller between the two, is comprised of individuals that commence offending at a very early stage in life and continue to engage in such behavior throughout their life span. Such deviant behavior generates from neuropsychological deficits that form before or shortly after birth, however adverse social condition may catalyze the onset of criminal activity. The crimes committed within this group are diverse and of a serious nature (Moffitt, 1993, Piquero et. al. 1999). The second and comparatively populous group classified as the "Adolescence Limited Group", includes socially well-adjusted individuals that indulge in crime only during the adolescence phase of their life spans. Crimes committed within this group are less diverse and less severe in relation to the first group (Moffitt, 1993). Moffitt (1993) identifies inadequate socialization as a predictor of deviance within both the groups: inadequate socialization is inversely related to onset age and severity of offense; inadequate socialization is positively related to offense variety;

thus onset age and severity is inversely related to the variety of offenses committed (Piquero et. al. 1999).

Gottfredson and Hirschi's "General Theory of Crime" (1990) signifies the opposing pole in comparison to the criminal career criminal paradigm and shall be deemed as the representative of the generalist perspective for the purposes of this research. According to this theory one's self-control prevails as the focal impediment against indulgence in criminal activity and that low self-control is figurative of the criminal propensity in all criminals (Gottfredson and Hirschi, 1990). In the words of Piquero et. al. (1999), self-control is positively related to the onset age; self-control is inversely related to the variety of offenses committed; and onset age is inversely related to the severity of offenses. Hence, a person with very low self-control is likely to onset offending activity at an earlier age and should exhibit the most versatility in offending patterns (Piquero et. al. 1999). Gottfredson and Hirschi (1990) attribute ineffective child rearing as a major cause of low self-control. Hence, the direct control exercised by parents early on in childhood, in terms of discipline, affection and supervision determines the criminal propensity existent in the individual later on in life (Patterson, 1980, Gottfredson and Hirschi, 1990). Gottfredson and Hirschi (1990) also introduce a situational aspect to their theory by stating that low self-control or impulsivity shall only be roused in the presence of a lucrative criminal opportunity. Once a person has experienced ineffective child rearing the resulting criminal propensity is likely to exist in him throughout the life span, albeit reducing the criminal opportunities present within the society can still prevent crimes (Gottfredson and Hirschi, 1989). This is essentially a Classical attribute, which proposes prevention of crime through the principles of severity, celerity and certainty (Vold et. al.,

2002). The General Theory of crime has been chiefly criticized on two accounts: a) that low self-control cannot explain the effects of other social forces (e.g. differential association and social learning) on crime (Evans, Francis, Velmer, Dunaway and Benson, 1997) and b) that family life cannot be meaningfully separated from the social forces that effect it from the outside (Currie, 1985).

LITERATURE REVIEW

This section shall be more problem specific in dealing with only empirical literature that pertains specifically to the issues of sex offender specialization and specialization in general. The review of such literature shall bear two purposes i.e. analyzing different approaches that are being applied in analyzing sex offender specialization in the light of different disciplines (clinical psychology and criminal justice) and also to evaluate different statistical methods used in these studies and other empirical studies that deal with specialization in general or offense specific specialization in order to find the best suited statistical methodology for the present study.

In this section Sex Offender specialization studies shall be divided mainly into three distinct categories. First, the studies that explain and assess the empirical value of different tests developed under clinical psychology and psychiatry, which are proposed to predict sex offender specialization. However, it should be pointed out here that all such studies only test the empirical value of the proposed tests and not the specialization hypothesis; therefore they assume the existence of sex offender specialization. This assumption in itself is wrong to the extent that sex offender specialization has not yet been established as an empirical fact, hence rendering the scope of such studies weak. Secondly, the studies that endeavor to measure the recidivism rates of sex offenders.

These studies albeit will be useful to look at but shall fail to entirely address the issue at hand, as specialization and recidivism are two very different constructs and cannot be used in substitution. Lastly, the studies that measure specialization among sex offenders shall be reviewed. A review of these studies will not only elucidate the empirical standing of the sex offender specialization hypothesis in the contemporary criminological research, but will also help in identifying the best suited statistical methodology for the proposed study. For this purpose other studies that deal with specialization in general or from an offense specific perspective shall also be looked at.

Empirical Value of Psychological Tests that propose to predict Specialization among Sex Offenders

The clinical psychology field chiefly deals with the phenomenon of sex offender specialization from a risk assessment perspective (Prentky and Burgess, 2000). However even in this field the body of work available on the subject is fairly recent and hardly extensive (Prentky and Burgess, 2000). On the other hand, from a social science perspective the entire treatment of the sex offender specialization issue in the clinical psychology field has been essentially unscientific (Kuhn, 1996 and Singleton and Straits, 1999). In social sciences after a phenomenon or problem has been identified through a theory, it is initially subjected to the exploratory research process in order to establish its existence and once the existence of such a phenomenon or problem is empirically ascertained only then can the research process transcend into the descriptive, explanatory and treatment stage (Singleton and Straits, 1999). In the above-mentioned case however, clinicians started off by identifying the sex offender specialization problem in different theories (which have been explained in chapter 1) and instead of going through the

exploratory process, hopped straight onto the descriptive, explanatory and treatment stages, under the unfounded assumption that sex offender specialization existed. After scrutinizing the clinical psychology literature on sex offender specialization a very small number of studies were observed to address the specialization question, out of these one will be analyzed here (as it is written purely from a clinical psychology perspective) and the rest shall be reviewed with other recidivism studies (Hanson, Heather and Steffy, 1995). Hanson et. al. (1995) partially addressed the specialization question by conducting a 15 to 30 year follow up study on 191 child molester and 188 non-sex offenders and comparing the recidivism rates of the two groups by using the proportional survival hazard analysis. The results indicated an 83.2% recidivism rate for non-sex offenders and a 61.8% recidivism rate for child molesters. Although the study showed a high level of recidivism among child molesters the empirical value of this study is weak. First, the entire sample was extracted from a pool of child molesters in maximum-security prison, and to generalize the results as representative of the entire sex offender population is empirically wrong. Second, the study used specialization and recidivism in substitution, which under criminal justice are two separate constructs and cannot be used alternatively. Lastly, recidivism was only considered if an offender re-offended in the same type of offense. Thus, all subjects that did not re-offend or recidivated into a different kind of offense (e.g. a child molester recidivating into a non-sexual offense) were censored, which in turn falsely established the two categories as mutually exclusive and created a design in favor of specialization (Hanson et. al., 1995).

Relying on the unsubstantiated assumption of specialization, clinical psychologists have identified a number of personality traits that are deemed to be

common in the sexually deviant mentality and have devised specialized tests that are proposed to measure such characteristics and possibly predict future deviance (Palermo and Farkas, 2001). Before evaluative literature on specific tests is reviewed it is necessary to establish a generalized perspective as to the different factors and approaches in the sex offenders risk assessment process.

According to clinicians there are two major types of risk assessment factors, static (fixed) and dynamic (changeable) (Hanson, 1998). Static risk factors, like childhood maladjustment or prior offenses, can indicate long-term trajectories of propensities to engaging in deviant behavior. Static factors, however, cannot predict recidivism, nor can they determine whether offenders have substantially reduced their likelihood of re-offending e.g. response to treatment etc. (Hanson, 1998). Dynamic Risk factors, on the other hand, can not only predict recidivism but can also demonstrate the increase or decrease in the likelihood of such recidivism, after they have undergone some change (Hanson, 1998). Dynamic risk factors can be further sub divided into stable and acute. Stable factors have the potential of changing but typically endure for long periods of time (e.g., deviant sexual preferences or alcoholism) and are helpful in predicting the likelihood of recidivism (Hanson, 1998). Acute risk factors, in contrast, are rapidly changing states (e.g., sexual arousal or drunkenness) that immediately precede sexual offenses, and help in determining the time span in which such recidivism is likely to occur (Hanson, 1998). Thus, a complete risk assessment can only be made after analyzing both static and dynamic risk factors.

Clinicians have devised chiefly three approaches to conducting risk assessments: guided clinical, pure actuarial and adjusted actuarial (Hanson, 1998). The guided clinical

approach does not explicitly determine the method of interpreting the recognized risk factors, relying predominantly on the expert evaluator's judgment (Boer, Wilson, Gauthier and Hart, 1997). Conversely, the actuarial approach evaluates the offender on a set of identified predictors and then combines these variables using a predetermined, numerical weighting system (Hanson, 1998). The adjusted actuarial approach begins with an actuarial prediction, but expert evaluators can then adjust the actuarial prediction after considering potentially important factors that were initially not included in the actuarial measure (Quinsey, Lalumière, Rice and Harris, 1995 and Hanson, 1998). Studies have shown actuarial measures to be the most accurate as compared to the other two approaches (Hanson, 1998). Now that the basic criteria of the risk assessment process have been established, literature that empirically tests and evaluated the predictive ability of some archetypal risk assessment tests shall be reviewed.

In 1991, Hare, introduced the Psychopathy Checklist-Revised (PCL-R), which identified deviant sexual preferences, preference for children on plethysmography, antisocial personality disorder and prior sexual offenses as the strongest predictors of future sexual deviance. The test showed reliability of prediction of violence and recidivism when tested on maximum-security prison inmates and forensic psychiatric patients (Palermo and Farkas, 2001), albeit generalizing the results of such a study would be wrong. Also, generalized conduction of this test is not feasible, as collateral and file information of the subject is required in order to make a rating, which makes the entire process cumbersome and time consuming (Palermo and Farkas, 2001). In 1997, Hanson developed an actuarial scale using four main factors (prior sexual offense, age less than 25, extra-familial victims, and male victims) for assessing risk of recidivism among sex

offenders. A study found that Hanson's four-item Rapid Risk Assessment for Sex Offense Recidivism scale correlated only .27 with sexual recidivism (Prentky and Burgess, 2000) showing a very moderate rate of accuracy (Palermo and Farkas, 2001). Perhaps the most widely used and reported actuarial risk assessment scale in the empirical literature is the Violence Risk Appraisal Guide (Harris, Rice and Quinsey, 1993; Webster, Harris, Rice, Cormier and Quinsey, 1994; Rice and Harris, 1997; Quinsey, Harris, Rice and Cormier, 1998 and Harris, Rice, Chaplin and Quinsey, 1999). The VRAG was developed initially to predict violent recidivism but later was also used to evaluate the risk of sexual recidivism among known sex offenders (Rice and Harris, 1995). The VRAG consists of analysis of 12 variables including Psychopathy Checklist, alcohol abuse, elementary school maladjustment, criminal history, female victims and diagnosis of schizophrenia (Prentky and Burgess, 2000). Empirical studies that have tested the predictive ability of VRAG have found relatively higher correlation (.46 and .47) between VRAG and violent recidivism (Harris et. al 1993 and Rice and Harris, 1997). In univariate correlations, Psychopathy Checklist (.34) and elementary school maladjustment (.31) were illustrated as the best individual predictors out of the twelve (Harris et. al. 1993). The studies also revealed that although the VRAG is relatively reliable in predicting generic violence, its ability to predict sexual recidivism is weak (Rice and Harris, 1997). The correlation coefficient of the relationship between sexual recidivism and the VRAG stood only at .20 (Rice and Harris). Also, in all the studies the sample was selected from a maximum-security psychiatric facility, which is by no means representative of the general violent or sex offender population (Harris et. al. 1993 and Rice and Harris, 1997). Quinsey et. al. (1998) devised the Sex Offender Risk Appraisal

Guide in 1998, by taking ten items from VRAG and adding four of their own, namely, criminal history for violent offenses, previous convictions for sex offenses, sex offense history against girls under 14 and Phallometric test results. The ability of SORAG in projecting sex offender recidivism improves on VRAG but only slightly (Quinsey et. al. 1998). Quinsey et. al. attribute this disability to predict sex offender recidivism to two factors, 1) higher measurement error associated with sex offenders (as many sex offenses fare low on the violent offender continuum) and 2) narrow range of risk in the studies on sex offenders (very few low risk sex offenders are included in the sample). Serin, Barbaree, Seto, Malcolm and Peacock (1997) devised a comprehensive two-tier risk assessment model. Under this model (Serin et. al. 1997) tier one consists of central risk factors i.e. criminality (8 variables) and sexual deviance (12 variables) and tier two includes moderating risk factors i.e. social competence (7 variables), substance abuse (10 variables) and treatment readiness (4 variables). This model was tested on 466 sex offenders at the Warkworth Prison and displayed a very modest correlation (.10 to .36) with the prediction of future sex offenses (Serin et. al., 1997 and Prentky and Burgess, 2000). The California Actuarial Risk Assessment Tables deliver two sets of predictors one for rapists and one for child molesters (Prentky and Burgess, 2000). The CRAT however, has not yet passed through any empirical testing and its predictive ability is hitherto not known. Prentky, Harris, Frizzell and Righthand, (2000) devised the Juvenile Sex Offender Assessment Protocol for risk assessment of juvenile sex offenders. This test consists of 4 rationally derived factors: two historical (sexual derive and impulsive antisocial behavior) and two dynamic factors (intervention and community stability). This test however is relatively new, and having been empirically tested only once it has

shown better reliability and validity than its predecessors; however it may be too early to make a definitive statement as to its reliability and validity (Prentky et al. 2000). Like J-SOAP Prentky also developed Adult Sex Offender Assessment Protocol in order to assess risk among adult sex offenders (Prentky and Burgess, 2000). The A-SOAP is also in the process of being tested and there is no knowledge as to the validity and reliability of this test (Prentky and Burgess, 2000).

Some clinicians have also contended that sexual deviance can be foretold with the help of personality tests (Palermo and Farkas, 2001). The Minnesota Multiphasic Personality Inventory (MMPI-I and MMPI-II), commonly used in the general practice of psychology, has also been used to predict sexual recidivism among adult and juvenile sex offenders (Marshall and Hall, 1995). The MMPI, apart from the regular factors that measure dynamics of a personality, also has factors like pedophilic hostility, overt hostility, over controlled hostility, Welsh anxiety, repression and ego strength, which are purported to measure sexual deviance (Hanson, Steffy and Gauthier, 1993). Other personality tests that are also assumed to measure sexual deviance are Eysenck Personality Inventory, Lykken Anxiety Scales, Fenz Anxiety Scales and Internal-External Locus of Control Scale (Hanson et. al. 1993). Hanson et. al. (1993) conducted a long term recidivism study on male child molesters with a 10 to 31 year follow up period. This study tested the extrapolative ability of all the aforementioned tests including the MMPI, and found that none of these tests to be significantly related with predicting sexual recidivism (Hanson et. al. 1993). Unlike the MMPI, the Multiphasic Sex Inventory (MSI) has been specifically designed not only to detect sexual offender but also sex offender subtypes (Schlank, 1995). Schlank (1995) tested 164 incarcerated adult sex offenders and

found that three key factors (social sexual desirability, sexual obsession and paraphilia) were pivotal in predicting sexual recidivism. He also found that the MSI had better reliability and validity as compared to the MMPI. Schlank conducted his study in the form of a one shot case study, in which he selected the sample out of a prison population, divided them in seven different groups depending on the nature of the offense and administered the MSI on each of them (Schlank, 1995). Such studies however, are considered very inaccurate as far as external and internal validity is concerned (Singleton and Straits 1999). Not only are the results from such study affected by history (events in the environment other than the independent variable that might change the outcome), maturation (any change that takes place in the subjects during treatment) and attrition (loss of subjects during treatment), they can hardly be generalized, on account of their low external validity (Singleton and Straits 1999). For example in Shalak's study the sample was chosen from a prison population, which is not representative of the entire population of sex offenders. After selection they were all categorized into different subgroups with respect to their offense types, but in actuality, the fact that a person was convicted of a particular kind of sex offense does not mean that he specialized in that offense prior to conviction, to the extent that he should be classified into that particular offense's subgroup (Singleton and Straits 1999). This in fact creates a bias in favor of specialization by introducing it as one of the assumptions made in the study (Singleton and Straits 1999).

Another category of sex offender risk assessment tests involves the measurement of the subject's response to audio and visual stimuli. Card and Dibble (1995) studied the predictive value of the Card/Farrall Penile Plethysmography Audio-Visual Stimulus

Materials and found that even without the use of pornographic, illegal and offensive stimuli, the response patterns of pedophiles were reliably distinguished (Card and Dibble, 1995 and Palermo and Farkas, 2001). Albeit, the Card and Dibble (1995) study found the C/FPA-VSM to be reliable, it suffered from the same shortcoming as almost all the studies conducted by clinicians i.e. generalizing results obtained by a pool of chronic offenders to all offenders. The subjects in this study (pedophiles) were recruited from a maximum-security psychiatric facility and were not at all representative of all pedophiles let alone the entire sex offender population. The Card/Farrall Auditory Stimuli (CAS) is projective rather than descriptive (Palermo and Farkas, 2001). It works on the assumption that an exact description of the act is not required to the subjects and that deviant sexuality generates a triggered response to a mere self-reminder of the deviant act (Palermo and Farkas, 2001). This test however has not yet been subjected to empirical testing as far as its predictive value is concerned.

Perhaps the most controversial in this line of tests is the Phallometric measure (Palermo and Frakas, 2001). This test has been criticized for the use of pornographic slides with out the informed consent of the subject and there is also an argument that the entire process is degrading and anti-therapeutic for the sex offender (Marshall and Hall, 1995 and Cumming and Buell, 1998). From an empirical perspective this test has gone through moderate testing as to its predictive value and the results are mixed. In a meta-analysis Lalumiere and Quisley (1994) examined 16 studies that used the Phallometric measure on rapists, to verify if rapists' response was any different from other offenders to audio and visual stimuli. The study found that rapists responded differently to such stimuli as compared to other offenders and that such response got more pronounced

against more graphic and descriptive material (Lalumiere and Quisley 1994). While the result of this study may be considered very comprehensive in the clinical psychology field, from a criminal justice viewpoint they are hardly reliable. First, almost all the studies recruited their subject from maximum-security psychiatric facilities; hence generalizing these findings would be empirically incorrect. And second, the fact that rapists may have different response to the same stimuli as compared to other offenders, by no means proves that such a propensity will induce them to recidivate into another sex offense. Thus under criminal justice, only a recidivism or follow up study can establish the empirical value of this test. Marnie, Quinsey and Harris (1991) conducted a follow up study on 136 extra familial child molesters in a maximum-security psychiatric institution, on whom the Phallometric test had been administered, for an average period of 6.3 years after their release. The study found that only thirty one percent of the sample was convicted of another sex offense in the follow up period (Marnie, 1991). The point to be considered here, is that the sample understudy was extracted from a maximum-security psychiatric institution, therefore its would be logical to assume that the thirty one percent rate of recidivism in a 6.3 year period, represents the worst case scenario of sex offender recidivism. The actual rate of recidivism for the entire population of sex offenders is bound to be much less.

An analysis of the above literature has principally expounded three facts. First, that all the risk assessment tests are essentially based on the unfounded assumption that specialization exists among sex offenders. Secondly, that the results of almost all the studies conducted to establish the empirical value of the predictive ability of the risk assessment instruments, can not be generalized. Lastly, independent of the first two facts,

no study has actually presented any over whelming evidence that any of the risk assessment tests predict sex offender recidivism with reasonable accuracy.

Recidivism Studies on Sex Offenders

Another branch of research that partially deals with the sex offender specialization issue are the sex offender recidivism studies. As stated in the first chapter, “Specialization refers to the tendency among criminal offenders to repeat the same type of crime across their criminal careers” (Britt, 1996); recidivism studies on the other hand, concentrate on the offense immediately subsequent to the beginning point in the study, instead of the whole criminal career. There is a reasonable body of empirical literature available on sex offender recidivism; however the results presented by these studies are contrasting and do not lead to any definitive conclusions. Criminologists attribute this variance in the results of different studies to four key factors, 1) the definition of recidivism, 2) inclusion criterion for the subjects, 3) the source of the data used and 3) the length of the follow up period (Doren, 1998). A stringent operationalization of the word recidivism in sex offenses (e.g. reconviction) as compared to a more flexible one (e.g. arrest) can actually cause an artificial shrinkage in the resulting recidivism rates against specialization that might not exist in reality, and vice versa (Doren, 1998). Similarly, enforcing a broad based inclusion criterion for sex offenders (e.g. arrest) as compared to a more moderate criterion (e.g. previous conviction) can generate a sample excessively representative of the actual population, creating an over projection of the recidivism rates in favor of specialization, and vice versa. Also, according to criminologists official data tend to generate samples under representative of the population of sex offenders in comparison to self-reported data (Doren, 1998). Russell (1982) stated that only about ten

percent of the rapes against women were officially reported. In opposition, official data have greater reliability as compared to self-reported data, which renders it as the preferred source in conducting empirical research (Doren, 1998). Lastly some criminologists also state that the true recidivism rates of the sex offenders are revealed in studies that involve very long term follow up periods and that studies involving short term follow up periods have a tendency of under estimating such recidivism rates (Prentky, Lee, Knight and Cerce, 1998 and Doren, 1998). Some studies have shown “first time” sex offender recidivism 20 to 28 years after initial incarceration (Hanson, Steffy and Gauthier, 1993 and Prentky et. al. 1998). To date, only two such recidivism studies have been conducted that had a follow up period of 25 years or more, and have failed to produce any irrefutable evidence in favor of sex offender recidivism (Hanson et. al. 1993 and Prentky et. al. 1998).

Sex offender recidivism studies rarely deal with the phenomenon of sex offenders in its entirety. Typically, sex offenders are bifurcated into child molesters and rapists and then each category is independently dealt with (Doren, 1998). However, such a distinction is unwarranted on two accounts; a) first it has to be proved whether sex offenders specialize in general before determining what sub category of sex offenders is more specialization prone and b) the policies and laws that deal specifically with sex offenders hardly ever make such distinction. Even so, this study shall separately review the recidivism literature on child molesters and rapists in the parts following.

Child molester recidivism studies that have had a follow up period of 5 years or less have essentially shown very low recidivism rates among this class (Doren, 1998). Radzinowicz (1957) conducted the pioneering research in this regard by studying the

recidivism rates of convicted child molesters over a fixed period of 4 years and found sexual offense recidivism to be 11.3 percent. As the criterion of recidivism was reconviction, the resulting figure of 11.3 percent might have been less than the actual sex offense recidivism rate, due to the stringent operationalization of recidivism. Hanson and Bussiere (1996), performed a meta analysis of 61 different sex offender data bases and found only a 12.7 percent sex offense recidivism rate for 9,603 child molesters, for a 4 to 5 year follow up period. Abel, Mittelman, Becker, Rathner and Rouleau (1988), collected self report data on a non-incarcerated sample of child molesters and found a 12.2 percent sex offense recidivism rate in a one year follow up period. They attribute this high recidivism rate to the fact that self-report data are more representative of the real recidivism rates (Abel et. al. 1988). However as stated above, self-reported data fares low on the authenticity scale and in the case of this study the use of a non-incarcerated sample may also have falsely inflated the recidivism rates. Broarhurst and Maller (1992) conducted an 11-year follow up study, over a sample dominant by child molesters and observed a 34 percent recidivism rate. This figure however is not statistically representative of the actual rate of recidivism of child molester, as definition of recidivism taken in this study includes not only sex offenses but also other non-sexual violent offenses (Broarhurst and Maller, 1992). Now, focusing on studies involving long-term follow up periods, Hanson, Scott and Steffy (1995) investigated the sex offense recidivism rates of a sample of 191 child molesters over a period of 31 years and found it to be 35.1 percent. Doren (1998) criticized these results as an “inaccurate estimate” of the true recidivism rate, on account of the narrow interpretation levied on recidivism in the study i.e. reconviction. Prentky et. al. (1998) using a recidivism definition of “new sex

offense charge”, examined the recidivism rates of 115 extra-familial child molesters. Subjects had been previously incarcerated and the follow up period was 25 years after such incarceration (Prentky et. al. 1998). This study revealed a 52 percent sex offense recidivism rate among the sample of child molesters (Prentky et. al. 1998). The results of this research have been quoted in many studies and are probably considered the closest to the actual sex offender recidivism rates (Doren, 1998). However this study bears a major flaw from a specialization perspective. The study only includes the new sex offense charges with in the 25 years follow up period, which means that any other non sexual charges brought on the subjects before or after the incidence of the “new sex offense charge” would not be recorded. Hence, Prentky et. al. (1998) studied sex offense recidivism among child molesters after removing every possibility of proving generalization from the data set, rendering the empirical value of this study unreliable.

The patterns of recidivism found in child molester studies are pretty much similar to those found in the rape studies. Studies that analyze sex offense recidivism among rapists for a follow up period of five years or less reveal a variety of results. Radzinowicz (1957) found the rate of recidivism among rapists to be 10 percent in a follow up period of four years. However this study may have under represented the real rate of sex offense recidivism among rapists, by using reconviction as criterion of recidivism. Frisbie and Donidas (1965) found a 35.6 percent recidivism rate among, what they called “sexual aggressors”. However, these results are not reliable on account of the definition taken in this study of the term sexual aggressor, which does not include child molesters. Sturgeon and Taylor (1980) took two samples of rapists for a five-year follow up study; the first sample consisted of rapists that had been diagnosed as mentally disordered showed a 19

percent recidivism rate and the second sample, consistent of rapists not diagnosed as mentally disordered revealed a recidivism rate of 28 percent over the same follow up period. This study puts into contention the entire body of work reviewed in the first section of this chapter relating to the risk assessment instruments. Albeit this research does not entirely nullify the empirical value of all the psychological tests devised by clinicians, it does however prove the point made earlier in this chapter that clinicians have devised all these tests that measure specialization among sex offenders without ever proving the existence of such specialization. In 1990, Rice, Harris and Quinsey, found a 28 percent rate of recidivism over a period of four years. In a more recent study, Marques, Day, Nelson and West (1994) found only an average 17.5 percent rate of recidivism among rapists for a minimum period of 5 years.

Similar to the child molester recidivism studies, as the follow up period of rapist recidivism studies is increased the rate of recidivism also marginally goes up. Van der Werf (1991), found a recidivism rate of 17 percent among a sample of 119 rapists over a period of 6 years. Grunfeld and Noreik (1986) studied 83 rapists over a period ranging from 9 to 14 years, and found an average of 21.7 percent recidivism among the sample. Soothhill and Gibbens (1978) have to date, conducted the recidivism study with the longest follow up period, on a sample of rapists i.e. 22 years; and found an average sex offense recidivism rate of only 22 percent.

As stated in the beginning of the chapter that for the purpose of the present study, recidivism literature is useful to look at, yet it fails to address the question of specialization in its entirety. The review of the recidivism literature however, has brought a few facts to light, which shall be now separately elaborated upon. 1) That most of the

recidivism studies bifurcate the sex offender population into child molesters and rapists and deal with each segment separately, which mars their empirical value from a specialization standpoint. 2) Recidivism rates are subject to manipulation through the operationalization of three factors i.e. criterion of recidivism, source of the data set and adequate length of follow up period. So far, criminologists have failed to set a universal standard for the operationalization of these factors, and without the existence of such a standard, a comparison between different recidivism studies is not possible. Finally, barring the two factors stated above, with the exception of the Prentky et. al. study (1998), recidivism studies have failed to demonstrate that the sex offense recidivism rates are significant enough to prove specialization among either the entire sex offender population or any subgroup of it.

Empirical Literature on Specialization among Sex Offenders

Specialization among sex offenders is an area that has been particularly neglected in the field of criminal justice. Thus far, there has been only one study that has actually compared the criminal histories of convicted sex offenders and convicted non-sex offenders to measure the incidence of sex offender specialization (Simon, 1997 & 2000). However there have been other studies by criminologists that have claimed to measure sex offender specialization but have failed to understand and establish a proper specialization criterion to begin with. One such recent research that studied the recidivism patterns of convicted offenders in a three year follow up period, revealed that convicted rapists were 3.2 times more likely to commit another rape than convicted non-rapists, hence proving a degree of specialization (Lagan and Levin, 2002). Lagan and Levin (2002) also declared, that the odds for specialization in rape were greater than the

odds for specialization in robbery (1.7) or violent offenses in general (1.3). However, specialization criterion used in this study states that “specialists are prisoners who, after being released, commit the same crime they were just in prison for” (Lagan and Levin, 2002), which brings it more in queue with recidivism than with specialization. Moreover, like other recidivism studies this study only looked at rapes and failed to regard sex offenses in their entirety.

As has been mentioned above, Simon (1997 and 2000) has conducted the only research that looks at sex offenders from a specialization standpoint. Using two data sources simultaneously, one for child molesters and the other for violent offenders and rapists and ending up with a pool of 493 subjects (142 child molesters, 290 violent offenders and 51 rapists); she hypothesized that child molesters, rapists and violent offenders have comparable versatility rates and do not specialize (Simon, 1997). To measure specialization a versatility scale was created reflecting the sum of different types of adult crimes that each offender committed. Using multiple regression analysis to determine significant differences in versatility, it was found that child molesters demonstrated significantly less versatility than rapists and violent offenders (Simon, 1997). The versatility among rapists and violent offenders on the other hand was comparable (Simon, 2000). Simon (2000) attributes these recorded differences in versatility, between child molesters and the other two categories, to an explanation outside of the data. She states that due to the current publicity that surrounds heinous sexual crimes involving children, child molester cases may deliberately be singled out by public prosecutors for prosecution (Simon, 2000).

In précis, a specialization study that focuses on sex offenders, similar to any other specialization study, has to establish three basic criteria: a typology of crimes (in this case sex offenses), the methodology employed for data collection and the statistical technique used to measure specialization (Bursik, 1980). The typology question in this case is to some extent prearranged. It has already been established that the policies, which specifically deal with sex offenders, rarely make any distinctions among sex offenders (Palermo et. al., 2001). Thus, an empirical evaluation of such policies should also not make any such distinctions either and ought to regard sex offenders from a generic perspective. The next issue that pertains to methodology of data collection has also been principally predetermined. Although, much of the delinquency remains hidden from official data, which the self-report data might unravel, the fact that a relatively accurate sequence of such delinquency can only be established through the official data, make them a requisite for conducting specialization studies (Bursik, 1980). The question of statistical technique on the other hand still remains an object of contention. For example, the Simon study (1997 and 2000) follows through with the first two criteria, however the statistical method used in that study is by no means universal. The statistical technique to be used in a specialization study depends mainly on the nature of the data under study and the scope of the study, thus rendering it impossible to make a comparative analysis as to which technique is the over all best. Typically, criminologists have used the Markov chain (Bursik, 1980), the transition matrix (Benson and Moore, 1992 and Piquero, 1999), Logistic Regression (Schwaner, 2000) and two-way successive crime type tables (Britt, 1996) to measure specialization. For the proposed study however, the best statistical technique would be the survival analysis, primarily because

this type of analysis regards the sample in uniformity over time rather than reporting mere percentages of recidivism from the beginning point to the ending point in the study (Prentky et. al., 1998). There is also the added advantage that the survival analysis is compatible with prospective studies, as this study will also follow a quasi-prospective model. An extensive description of the data set and the statistical methodology to be used in the study shall be explicated in the next chapter.

RESEARCH OBJECTIVE

After reviewing the theoretical precepts upon which specialization, sex offender specialization and the generalist perspective are buttressed upon and the empirical literature available on them, it is eminent that the research object of the proposed study be established. The primary objective of this study as mentioned in the introduction is whether sex offenders specialize or not as compared to other violent offenders. In this case robbery and assault shall signify other violent offenses. Under the present scenario sex offender specialization can only be established by answering three empirical questions: a) whether all violent offenders specialize (i.e. sex offenders, assaulters and robbers specializing within their violent sub categories), b) whether sex offenders and assaulters belong to the same category of violence and specialize within it while robbers do not (this hypothesis shall be discussed extensively in the methods section) and c) whether only sex offenders specialize while robbers and assaulters do not.

METHODS SECTION

This section shall instate the empirical aspect of the proposed study by laying forth a description of the methodology to be employed for conducting this study. The methodology of any study is chiefly reliant upon on three concepts: the acquired or

collected data set, the operationalization of the data set in context of the research hypothesis, and the statistical techniques employed to empirically verify the research hypothesis. Accordingly this section shall be divided into the aforementioned three sections.

Data

The original data set comprised of the arrest dates, the charges levied, the names, addresses and some other demographic characteristics of all the people arrested in the mid-size Michigan City in between the years 1989 and 1999. These data were collected by the Police Department of that city. For ethical and security purposes, unique identifying numbers were used to replace the names and addresses of the arrestees, before this study was commenced. The total number of arrests contained in the original data set was 138,833. Using SPSS the data set was restructured, so that each row chronologically laid out the arrests for each person (or unique identifying number) in the 10 years these data were collected. Initially, all the female offenders were filtered out of the data set, as studies have shown that sex offenses are chiefly a male phenomenon while robbery and assault are not, keeping females in the sample would thus have introduced a bias in the favor of non specialization of sex offenders. Then, the people that were arrested at least once for a violent charge in their criminal careers within the 10 years understudy were selected. A violent charge was defined to include felonious assault, robbery or criminal sexual conduct. As the main purpose of this study is to empirically evaluate specialization among sex offenders in comparison to other violent offenders, the incidence of at least one violent arrest in each case was necessary. Later, out of the people with at least one violent arrest, only those arrestees were selected who had commenced their criminal

careers as juveniles (18 years or less) within the 10 years understudy, either violently or non violently, resulting in a total number of 800 cases. As it has been the contention of criminologists that age brings about a decline in crime versatility exhibited by the offender (Peterson et. al., 1980; Gottfredson and Hirschi, 1983; Gottfredson and Hirschi, 1990 and Piquero et. al., 1999) this study aims to capture the very time in the criminal careers of the arrestees where they have started off with a violent or non violent offense as juveniles and have thus stepped into adulthood, to see if there is an inclination towards specialization later in the career. The remaining 800 cases left in the data set were then merged with two other data sets, the Michigan Department of Corrections felony conviction database and the Michigan Department of Corrections Juvenile conviction database, to see if these offenders were convicted as juveniles either for a violent or a non-violent offense. The convictions incurred by each subject as an adult along with the charges with in the ten years understudy were also merged into the dataset. However, it is important to highlight at this point that the adult and juvenile conviction records so obtained were extracted from data sets that represented the entire State of Michigan not just the mid-size Michigan city. Hence, these convictions might have been the result of offenses committed out side of the mid-size Michigan city but within the State of Michigan. Resultantly, for empirical reasons this study does not claim compatibility between the arrest and conviction records at any level. The conviction variables were treated as a separate set of dependent variables completely independent of the first set of dependent variable (the arrest records) but underwent the same statistical procedures in order to see if the results produced by both sets were congruent. Albeit it has been seen in the examination of the recidivism and specialization literature that a recidivism criterion

based on conviction may cause artificial shrinkage in the acquired data set and the statistical significance of the effect so produced compared to a recidivism criterion based on arrest (Russell, 1982; Simon, 1997 & 2000; Doren, 1998 and Prentky et. al. 1998), however the direction of such results should be the same. Also, the increased geographic circumference of the conviction records (Michigan instead of mid-size Michigan City) may mollify the above discussed shrinkage effect to some extent.

Now that the source and nature of the data employed for conducting this study and the subsequent filtration processes ran on it have been explained, its suitability for conducting the proposed study shall be discussed. Originating from an official source, the data was later merged with two other official data sets illustrating it to be reliable. Also, as stated before in the previous chapter, much of the delinquency that remain hidden from official data, might be unraveled by the self reported data, albeit a relatively accurate chronological sequence of such delinquency can only be established through the official data (Bursik, 1980). The data prevail for a time span of 10 years, rendering it adequate for conducting a longitudinal specialization study. However, some criminologists opine that a reliable sex offender's specialization study should have a follow up period of at least 20 years (Hanson et. al., 1995 and Prentky et. al., 1998). The sample of 800 cases to be studied represents the entire population of the people who were arrested as juveniles and had at least one violent arrest within the duration of the study period in the mid-size Michigan city. Hence, the results extracted out of such a sample would more generalizable as compared to the clinical psychology studies evaluated in the previous chapter that employed samples of convicted sex offenders who had served time in maximum-security prisons (Marnie et. al. 1991; Hanson et. al., 1993 and Schlank, 1995).

The inclusion criterion is based on arrest as compared to conviction for three reasons. Firstly, a conviction-based criterion dramatically reduces the sample size, making it less representative of crime in actuality as compared to an arrest-based criterion. Secondly, an arrest-based criterion takes out the effect produced by plea-bargaining, which a conviction-based criterion cannot. Thirdly, on a general note, not all guilty people, once injected into the legal system necessarily get convicted. Conversely, the flip side of the same argument would be that not all the people arrested are actually guilty. However, this study also aims to look at the conviction records as a measure of cross checking the results obtained by the analysis of the arrest variables. Furthermore, violence was operationalized to include only arrest made for felonious assault, robbery, or a criminal sexual conduct. Violent misdemeanors were not included, thus narrowing the scope of the study to only specialization and not escalation. Lastly, another limitation in the data set was introduced by the enactment of the Sex Offender Registration Act (1994) in the state of Michigan (Freeman-Longo, 2000 and Palermo et. al., 2001). There is to date no empirical study that has measured the effect produced by these laws if any, on the sex offender recidivism rates.

Variables

This section will include a generic description of the independent and dependent variables employed in the study.

Independent Variables.

The independent variable “1st Violent Offense” was employed to classify the 800 subjects into three distinct categories of violence, on the basis of their first violent arrest. This was a categorical variable which classified the first violent arrest into a C.S.C.,

Robbery or Assault (C.S.C. = 1, Robbery = 2, and Assault = 3). The second independent variable was continuous and measured the age of the arrestee at the time of first offense (“Age:1st Violent Arrest”). Similarly for the conviction analysis the continuous variable “Age at 1st Conviction” was calculated, which demarcated the beginning of the criminal career for each offender from a conviction perspective. “Race” was the third independent variable, which was divided into 4 categories (White = 1, Black = 2, Hispanic = 3, Other = 4). The fourth independent variable counted the total number of non-violent arrests for each subject prior to their first violent arrest (“Total Prior Arrests”). A dummy variable for “Juvenile Incarceration” was also computed which had a ‘0’ for all the subjects who did not have a juvenile incarceration and a ‘1’ for all those who were incarcerated as juveniles.

Dependent Variables.

The first dependent variable (“Total Post Violence Arrests”), counted the total number of arrests for each arrestee after their first violent arrest. The next three dependent variables were derivatives of the “Total Post Violence Arrest” variable, by dividing it into three distinct categories based on the different charges levied in each post violent arrest (“Total Post Violence CSC”, “Total Post Violence Robbery” and “Total Post Violence Assault”). The “Assault Conviction”, “CSC Conviction” and “Robbery Conviction” variables computed the number of times each subject was convicted for an assault, CSC or Robbery respectively.

The dependent variable “C. Career Length (General)” was calculated by subtracting the date of the first arrest from the last day that each subject was observed, so as to indicate the maximum length of each arrestee’s criminal career within the data set.

Likewise, “C. Career Length (Violent)” variable denoted the maximum length of each offender’s violent criminal career within the data set. The dependent variable “At Risk Period”, computed the at risk time for each offender of getting arrested after their first violent arrest by subtracting the last day that every one was observed with the date of arrest subsequent to the first violent arrest. Lastly, the variables “Time to Failure for CSC”, “Time to Failure for Robbery” and “Time to Failure for Assault” calculated the time between arrest date for a CSC, robbery or assault respectively, subsequent to the first violent arrest or if no such arrest was present within the data set then the last day that each subject was observed.

Statistical Analysis

This study proposes to apply a bi-faceted approach to measure specialization. This approach works on the premise that theoretically, specialization is founded on two focal concepts, a) the time to next event (arrest, in this case) and b) the total count of the occurrence of the event (or arrest). To operationalize these concepts this study aims to employ the aforementioned longitudinal data and the variables thus extracted from the data set in a bimodal approach.

Model I

The first model aimed to measure the time to the subsequent arrest for each subject starting from the time that they committed their first violent arrest, by using the survival model. The survival model is a special kind of probability distribution (London, 1988), which commences after the “occurrence of an event” (first violent arrest) and determines either the “time to failure” (the date of the subsequent arrest) or the “length of future life time” (the last date a subject was observed, for those subjects that did not recidivate after

their first violent arrest). This model is employed in prospective studies involving longitudinal data (London, 1988). To meet these requirements the present study was performed quasi- prospectively i.e. the data albeit not collected prospectively was treated so in the statistical analysis. However, using the survival model on the mid-size Michigan City arrest data introduced one limitation to the study. As the study lasted for only ten years all those subjects who did not recidivate after their first violent offense were considered to have “not failed” in the statistical analysis although this may not have been the case in reality (Lee, 1992). This limitation, termed as “right censoring”, introduces an error in the favor of the null hypotheses (sex offenders do not specialize). Also, some subject may have migrated out of Michigan to other states during the period the data was being collected, were counted in the data set as non recidivists, which may have not been true in actuality.

Model II

This model measured specialization by computing Lambda i.e. the frequency/count of arrests for each subject and dividing the resulting variable by the number of days observed while “at risk” of arrest. This approach has been previously utilized in research pertaining to the criminal career paradigm by Blumstein et. al. (1986). The count began from the CSCs, robberies or assaults respectively subsequent to the first violent offense, and the ‘at risk’ period was initiated from the date of first violent arrest to the last day that each subject was observed.

The results obtained from Model I and II were sufficient to determine whether offenders who initiated their violent careers with a CSC, assaults or robbery specialize in that type of violence later on in their criminal careers or not, with reference to time to

next arrest and the total frequency within the observed period. However, certain pivotal questions still remained unanswered. The generalization of a scientific theory once properly hypothesized and processed through various forms of empirical testing depends on three things: Regularity, whether the direction of effect produced by each test is the same or not; Size, what is the magnitude of the effect produced in each test; and Statistical Significance, whether the results so produced are statistically significant or not. Applying the same criterion to the proposed study, in order to measure regularity, the direction of the coefficients so produced after the application of model I and II, were checked. To measure size, the resulting coefficients in each model were compared to other coefficients of the same model to see if the effect produced by sex offenders was greater than that of other offenders.

Finally, the most pivotal question in regard to this study still remains unanswered: in the light of the results what is the criterion of specialization? Tables 1A, 1B and 1C roughly represent the result format after the negative binomial has been run on model II and the z test has been run on model I. The rows represent the resulting coefficients of the two dependent variable i.e. Robbery and Assault. Here it may be observed; that CSC is excluded as in both the regression models (survival model and negative binomial) CSC was the excluded group. The columns are representative of the independent variables "Type of 1st Violent Arrest" categorized as CSC, Robbery and Assault. The hypothetical results shown in Tables 1A, 1B and 1C are representatives of the three instances of perfect specialization among sex offenders. The results of table 1A show that the sex offenders have refrained from committing any robberies and assaults (represented by the two negative relationship), robbers have only committed robberies further in their

criminal careers and no assaults (represented by a positive relationship and no relationship respectively) while assaulters have perpetrated no robberies and only assaults within their criminal careers (denoted by no relationship and a positive relationship respectively). Hence the results show in table 1A symbolize perfect specialization for all violent offenders within their particular violent subgroups (CSC, Robbery and Assault). The results of table 1B show that sex offenders refrain from committing robberies yet transverse into assaults (signified by a negative relationship and a positive relationship correspondingly). Robbers on the other hand commit both robberies and assaults further in their careers (denoted by two positive relationships). Finally, assaulters perpetrate only perpetrate assaults within their criminal careers (represented by no relationship and a positive relationship). These results prove specialization on the premise that robbery although a violent offense is essentially different from a sex offense and an assault. In sex offenses or assaults, violence is the motive for the offense while in robbery, violence is used as an instrument to further materialistic the motivations of the offenders. Hence the results of table 1B show that sex offenders and assaulters specialize while robbers do not. Lastly, the results of table 1C show that sex offenders refrain from perpetrating either robberies and assaults (denoted by two negative relationships) while both robbers and assaulters transverse into other categories of violence (represented by two positive relationships in both columns respectively) further within their criminal careers. Thus, the results of table 1C symbolize that only sex offenders specialize within their violent subgroup. The above-mentioned outcomes represent three scenarios of perfect specialization among sex offenders. Albeit, in real life such perfect relationships are

rarely to be found, however these exemplars have expounded the opposite poles of a line along which the actual value of specialization may lie.

Table 1A

	CSC	Robbery	Assault
Robbery	-	+	0
Assault	-	0	+

Table 1B

	CSC	Robbery	Assault
Robbery	-	+	0
Assault	+	+	+

Table 1C

	CSC	Robbery	Assault
Robbery	-	+	+
Assault	-	+	+

RESULTS

Univariate Results

Beginning with the independent variables, Table 2 shows that within the measure “1st Violent Arrest”, the majority of the people who commenced their violent careers with an assault (70.4 %), while only 20.3% and 9.3% started off their violent careers with a robbery or a CSC respectively. The mean of 16.92 years and a median and mode of 17.10 years and 14.54 years respectively for the measure “Age: 1st Violent Arrest” establish the fact that most of the offenders were juveniles when they were arrested for their first violent offense. The mean, median and mode of the measure “Age: 1st Conviction” shows that a majority of subjects were convicted for the first time as adults (19.03, 18.65 and 18.11). As the “Age: 1st Conviction” measure contains only adult conviction records for each subject, its mean, median and mode are representative of the fact that on average

offenders within the data set got convicted very early after they reached adulthood. Only 8% of the 800 offenders had a juvenile conviction either for a violent or a non-violent offense. The racial distribution within the data set as shown by the “Race” measure signified that Blacks represented the majority (57.3%) within the data set, while Whites (30.8), Hispanics (11.4) and Others (0.6%) stood in minority. The variable “Total Prior Arrests” shows that each subject on average was arrested once for a non-violent offense (Mean = 1.10) before his first violent arrest. However, after looking at the range (13.0) standard deviation (1.77), median and mode (Both zero) it is evident that the mean misrepresents the dispersion of the arrest prior to the first violent arrest and that for most of the subjects their first violent arrest was their first arrest. Thus contrary to the concept of escalation this study shows that instead of commencing with a non-violent minor offense and gradually escalating to violent offenses, most of the violent offenders started off with a violent offense.

As regards the dependent variables, albeit the mean and median (1.72 and 1.0) of “Total Post Violence Arrests” measure show that on average each arrestee incurred one arrest after their first violent arrest, the range (16.0), standard deviation (2.29) and mode (0) reveal that the such arrests are irregularly distributed and that a considerable chunk of the population did not get arrested after their first violent arrest. The mean (0.03), standard deviation (0.17) and range (2.0) for the “Total Post Violence CSC” measure illustrate that a very small segment of the population committed a CSC after their first violent arrest. This trend is confirmed when one looks at the univariate statistics produced for the “CSC Conviction” variable (Mean = 0.02, S.D. = 0.16 and Range = 2). As compare to the “Total Post Violence CSC” variables the “Total Post Violence Robbery”

and “Total Post Violence Assault” variables show that robbery arrests were almost three times more (Mean = 0.09, S.D. = 0.31 and Range = 2.0) and assault arrests were almost 14 times (Mean = 0.44, S.D. = 0.9 and range = 7.0) more than the CSC arrests within the data set. The trend of the “Total Post Violence Robbery” variable corresponds with that of the “Robbery Conviction” variable (Mean = 0.08, S.D. = 0.3 and Range = 3.0), however there is a marked difference between the descriptive statistics of “Total Post Violence Assault” and the “Assault Conviction” variable (Mean = 0.18, S.D. = 0.47 and Range = 3.0). Although, the reason for this difference is unknown, it has been previously stated that this study does not claim compatibility between the arrest and conviction records.

The average general exposure period (time between the first arrest and the last day that last day that each subject was observed) for all the offenders captured within the data set was almost 5 years (Mean = 1851.45 days). Average violence exposure period (time between the first violent arrest and the last day that last day that each subject was observed) was around 4 years (1476.88 days). However, the Standard Deviations (989.9 and 890.0 days respectively) for both these measures show that the lengths of these durations vary a great deal from case to case. Each subject was on average at risk of failing (getting arrested for a violent offense) for almost 2 years (Mean = 733.58 days). The mean time to failure for CSC (Mean = 1425.50) was marginally more than the time to failure for robbery (Mean = 1393.79). However there is almost a year’s difference between the mean time to failure for CSC and the mean time to failure for assault (1016.50 days), indicating that out of the three violent offenses on average the subjects failed by committing assaults much earlier in comparison to robberies and CSCs.

Table 2
Descriptive Statistics and coding

Variables	Category	Coding	%age	Number			
1 st Violent Arrest	Categorical	1 = CSC 2 = Robbery 3 = Assault	9.30 20.3 70.4	74 162 564			
Race	Categorical	1 = White 2 = Black 3 = Hispanic 4 = Other	30.8 57.3 11.4 0.60	246 458 91 5			
Juvenile Incarceration	Categorical	0 = no Juv. Inc. 1 = Juv. Inc.	8.0	64			
Variables	Category	Coding	Range	Mean	Median	Mode	S.D.
Age: 1 st Violent Arrest	Continuous	# of Years	17.50	16.92	17.10	14.54	2.54
Age: 1 st Conviction	Continuous	# of Years	7.84	19.03	18.65	18.11	1.72
Total Prior Arrests	Continuous	# of Priors	13.0	1.10	0.0	0.0	1.77
Total Post Violence Ass. Arrests	Continuous	# of Post Violence Assault Arrests	7.0	0.44	0.0	0.0	0.90
Total Post Violence CSC Arrests	Continuous	# of Post Violence CSC Arrests	2.0	0.03	0.0	0.0	0.17
Total Post Violence Rob. Arrests	Continuous	# of Post Violence Robbery Arrests	2.0	0.09	0.0	0.0	0.31

Table 2 (cont'd).

Total Post Violence Arrests	Continuous	Total Post Violence Arrests	16.0	1.72	1.0	0.0	2.29
Assault Conviction	Continuous	# of CSC Resulting in Conviction	3.0	0.18	0.0	0.0	0.47
CSC Conviction	Continuous	# of CSC Resulting in Conviction	2.0	0.02	0.0	0.0	0.16
Robbery Conviction	Continuous	# of Rob. Resulting in Conviction	3.0	0.08	0.0	0.0	0.30
Exposure Period (General)	Continuous	Last day of observation – Date at 1 st Arrest	3869.0	1851.4	1817.5	1490.0	989.9
Exposure Period (Violent)	Continuous	Last day of observation – Date 1 st Violent Arrest	3811.0	1476.9	1443.5	339.0	890.0
At Risk Period	Continuous	Last day of observation – Date 1 st Arrest after 1 st Violent Arrest	3547.0	733.6	302.5	0.0	898.3
Time to Failure for CSC	Continuous	Time between 1 st Violent Arrest and Subsequent CSC	3811.0	1451.4	1424.5	339.0	896.1
Time to Failure for Robbery	Continuous	Time between 1 st Violent Arrest and Subsequent Robbery	3813.0	1393.8	1313.0	339.0	888.6
Time to Failure for Assault	Continuous	Time between 1 st Violent Arrest and Subsequent Assault	3813.0	1165.9	1016.5	339.0	853.7
N=	800						

Bivariate Results

The results of the bivariate association are shown in tables 3, 4 and 5. Table 3 shows a cross tabulation analysis between the classification variable “Type of 1st Violent Arrest” variable and the other two categorical independent variables namely race and juvenile incarceration. The results reported are as follows, out of the 246 subjects who were White 12.2 percent started off their violent criminal careers with a CSC, 14.2 percent with a robbery and 73.6 percent with an assault. The dataset also contained 458 Black offenders out of which 7.6 percent began their violent career with a CSC, 25.2 percent with a robbery and 67.2 percent with an assault. Out of the 91 Hispanic subjects 9.9 percent commenced their violent career with a CSC, while 13.2 percent and 76.9 percent with a robbery and assault respectively. The entire population of subjects belonging to races other than White, Black or Hispanic (5 offenders in total) began their violent careers with an assault. Only 9.4 percent out of the total of 64 offenders who had prior juvenile records initiated their violent careers with a CSC, while 31.2 percent and 59.4 percent of the subjects out of this population began with either a robbery or assault respectively. The results explained above indicate that although Blacks are in majority within the dataset, percentages wise represent the majority only for people who began their violent careers

Table 3
Cross tabulation between Race and Type of 1st Violent Arrest

	Race				Juv.Inc.
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>Other</u>	
Total	246	458	91	5	64
Type of 1 st Violent Arrest					
CSC (%age)	12.2	7.60	9.90	0.0	9.40
Rob. (%age)	14.2	25.2	13.2	0.0	31.2
Ass. (%age)	73.6	67.2	76.9	100	59.4

with a robbery. With a difference of a mere 3 percent between the two, Whites and Hispanics represent the majority for both the people who commenced with a CSC and the people who began with an assault. Most interestingly, in the context of this study Whites were seen most likely to begin their violent careers with a CSC as compared to the other races. Also out of the three categories, the people whose first violent arrest was a CSC were least likely to have been incarcerated as juveniles.

Table 4 shows the comparison of means between the classification variable (Type of 1st Violent Arrest) and the two continuous independent measures (Age at 1st Arrest and Total Prior Arrests). The results indicate that the mean age of all the people who initiated their criminal careers with a CSC was the highest as compared to robbery and assault while the mean number of prior arrests was the lowest. Further analysis of these statistics revealed that only 22.97 percent of the people who began their violent careers with a CSC had a prior non-violent criminal record in comparison to 54.32 percent and 45.92 percent for the people who commenced their violent careers with a robber or assault respectively.

Table 4
Comparison of Means between Type of 1st Violent Arrest and Age at 1st arrest

	Type of First Violent Arrest		
	<u>CSC</u>	<u>Robbery</u>	<u>Assault</u>
Age at 1 st Arrest	16.80	16.43	15.91
Total Prior Arrests	0.34	1.42	1.11

Table 5 shows the comparison of means between the categorizing independent measure and the three dependent arrest measures (Total Post Violence CSC, Total Post Violence Robbery and Total Post Violence Assault) along with the three dependent conviction measures (Assault Conviction, CSC Conviction and Robbery Conviction).

The results illustrate that regarding arrest, people who initiated their violent careers with a CSC had more post violence CSC arrests (0.08) than robbery and assault (0.01 and 0.03). This effect is even more pronounced in the bivariate analysis between the independent CSC category and the “CSC Conviction” measure (0.15 for CSC, 0.00 for Robbery and 0.01 for Assault). Similarly, for the people who commenced their violent career with a robbery the mean number of arrests and convictions for robberies later in their career (0.18 and 0.28) was higher compared to the people who initiated with a CSC or assault. For the people who started off with an assault although the mean number of assault arrests later in their careers is by far the greatest (0.51), the mean number of assault convictions is not (0.17). The bivariate analysis of the “Assault Conviction” measure illustrates that the people who started their violent career with a robbery had the highest mean number of assault convictions later in their careers.

Table 5

Comparison of Means between Type of 1st Violent Arrest and the Arrest and Conviction measures

	Type of First Violent Arrest		
	<u>CSC</u>	<u>Robbery</u>	<u>Assault</u>
Total Post Violence CSC Arrests	0.08	0.01	0.03
Total Post Violence Rob. Arrests	0.04	0.14	0.08
Total Post Violence Ass. Arrests	0.15	0.33	0.51
CSC Conviction	0.15	0.00	0.01
Robbery Conviction	0.00	0.23	0.04
Assault Conviction	0.01	0.28	0.17

Multivariate Results

It has been previously explained in the methods section that the multivariate analysis shall encompass a bimodal approach (the Cox Regression and the Negative Binomial Test) to measuring specialization.

Model 1

In implementing model 1, the Survival Model was executed on the three arrest measures only (as there was not enough accurate data to run it on the conviction measures) and the key independent measures thus obtaining their respective hazard rates. The cumulative betas and the corresponding standard errors are reported in table 6. One thing that has to be born in mind while looking at the results from all the regression models is that the sub category 'CSC' out of the categorizing measure "Type of 1st Violent Offense" and the sub category 'White' out of the "Race" measure have been treated as comparison categories. Meaning that the results shown for the rest of the sub categories of the two above mentioned variables are in fact their coefficients in relation to their respective comparison categories. Going back to the results reported in table 6, the "Total Post Violence CSC Arrests" were observed to have a negative (-2.0 and -1.32) significant relationship ($p < 0.01$) with those subjects within the data set who initiated their violent career with either a robbery or an assault, as compared to people who began with a CSC. Thus, according to the results obtained by this model people who initiated their violent careers with either a robbery or assault were significantly less likely to commit a sex offence later in their careers as compared to those offenders who started off with a CSC. These results are in accord with the bivariate test results and record a significant degree of specialization among sex offenders. In addition, significantly more CSC arrests were born by Hispanics as compared to Whites. Evaluating this observation against the racial constitution of the Type of 1st Violent Arrest measure reveals that although Whites are more likely to commence their violent careers with a sex offense, once the violent career has started Hispanics are significantly more likely to get arrested

for committing sex offenses compared to Whites. “Total Post Violence Robbery Arrests” is shown to have positive significant relationships with Blacks and a negatively significant relationship with “Age at 1st Arrests”. Corresponding with the results of table 5 Blacks were observed not only more likely to commence their violent careers with a robbery but were also significantly likely to get arrested for committing robberies later on. In relation to “Total Post Violence Assault Arrests” there is present a strong significant relationship ($p < 0.005$) between offenders who commenced their careers with an assault as compared to the subject who began with a CSC. Furthermore, there is a significant relationship ($p < 0.05$) between the number of assault arrests incurred and

Table 6

Survival Model for the Arrest measures with the Type of 1st Violent Arrest and Race

	Total Post Violence CSC Arrests		Total Post Violence Rob. Arrests		Total Post Violence Ass. Arrests	
	<u>b</u>	<u>S. E.</u>	<u>b</u>	<u>S.E.</u>	<u>b</u>	<u>S. E.</u>
Type of 1 st Violent Arrest		**				***
Robbery	-2.0	0.84**	0.79	0.63	0.60	0.40
Assault	-1.31	0.50**	0.45	0.60	1.09	0.36***
Race						
Black	0.66	0.59	0.99	0.37**	0.35	0.17*
Hispanic	1.36	0.65*	0.50	0.53	0.27	0.24
Other	-10.1	893.8	-9.18	388.9	0.67	1.01
Total Prior Arrests	0.02	0.16	-0.07	0.08	0.01	0.43
Age at 1 st Arrest	-0.00	0.00	-0.01	0.00*	-0.00	0.00

* $p < .05$; ** $p < .01$; *** $p < .005$

being Black, as compared to being White. Hence showing that although Whites were more likely to commence their violent career with an assault Blacks were significantly more likely to be rearrested for committing assaults later in their careers, as compared to Whites.

Model II

Certain changes were made in the categorical independent measures in order to facilitate the execution of the negative binomial test. The “Type of 1st Arrest” measure was converted into three dummy measures (CSC, Robbery and Assault) representing each violent sub category. The same operation was performed on the “Race” measure. The CSC (dummy) measure and the White (dummy) measure were treated as comparison categories. The results of the negative binomial test as applied upon the two sets of dependent measures are reported in tables 7 and 8.

The “Total Post Violence CSC Arrest” variable (as shown in table 7) has a negative significant relationship ($p < 0.05$) with the subject who commenced their violent careers with a robbery or assault as compared to the people who started off with a CSC. . The negative relationship to assault and robbery indicates that people whose violent careers began with a robbery or an assault had significantly less CSC arrests later in their criminal careers as compared to the people who commenced with a CSC. Hence corroborating the evidence found in the survival Model regarding sex offender specialization. Also, being Hispanic had a positive significant relationship ($p < 0.05$) with getting arrested for committing CSCs subsequent to the first violent arrest. This fact is also validated by the results shown in table 6. “Total Post Violence Robbery Arrest” variable shows a positive significant relationship ($p < 0.005$) between Black arrestees and

Table 7***Negative Binomial for the Arrest measures with the Type of 1st Violent Arrest and Race***

	Total Post Violence CSC Arrests		Total Post Violence Rob. Arrests		Total Post Violence Ass. Arrests	
	<u>Coef.</u>	<u>S. E.</u>	<u>Coef.</u>	<u>S. E.</u>	<u>Coef.</u>	<u>S. E.</u>
Constant	-2.67	1.58	-1.22	1.07	-1.05	0.62
Robbery	-1.89	0.84*	0.93	0.64	0.65	0.39
Assault	-1.12	0.51*	0.52	0.62	1.18	0.35***
Black	0.75	0.59	1.07	0.37***	0.53	0.18***
Other	-25.7	144.3	-26.4	131.1	0.20	0.93
Hispanic	1.47	0.67*	0.58	0.54	0.48	0.25*
Total Prior Arrests	-0.09	0.16	-0.11	0.08	-0.06	0.04
Age at 1 st Arrest	-0.03	0.08	-0.02	0.05**	-0.07	0.03*
Alpha	1.04	2.13	0.86	0.76	1.73	0.33***

*p < .05; **p < .01; ***p < .005

a negative significant relationship ($p < 0.01$) with “Age at 1st Arrest”. Hence showing that

a) Blacks are more likely to get arrested for committing robberies subsequent to their first violent arrest and b) the lower the age at first arrest the higher the likelihood is of getting arrested for robberies, once the violent career has commenced. The Survival Model again confirms these results. “Total Post Violence Assault Arrest” measure shows a positive significant ($p < 0.01$) relationship with arrestees who began their violent careers with an assault as compared to subject who began with a CSC. Furthermore, this dependent variable has a positive significant ($p < 0.01$) relationship with the Black subjects in the

data set and a negative significant ($p < 0.05$) relationship with age at first arrest. The the Survival Model, again confirms these results with the exception of the fact that the relationship between age at first arrest and total assault arrests after first violent arrest is not shown to be significant in table 6.

Regarding the conviction measures it was not possible to run the negative binomial test on the “CSC Conviction” measure because the estimated variance matrix of

Table 8

Poisson Regression and Negative Binomial for the Conviction measures with the Type of 1st Violent Arrest and Race

	CSC Conviction		Robbery Conviction		Assault Conviction	
	<u>Coef.</u>	<u>S. E.</u>	<u>Coef.</u>	<u>S. E.</u>	<u>Coef.</u>	<u>S. E.</u>
Constant	-2.40	1.05*	-33.6	25.3	-6.04	1.24***
Robbery	-4.05	1.02***	31.7	25.2	2.99	1.02**
Assault	-5.56	0.32***	30.03	25.2	2.42	1.01**
Black	-0.32	0.30	-0.27	0.51	0.10	0.23
Other	-26.8	1461657	-30.2	97.1	-28.1	137.3
Hispanic	-1.25	0.74	-0.87	1.03	0.51	0.31
Total Prior Arrests	0.33	0.13	0.02	0.10	0.10	0.05*
Age at 1 st Arrest	0.00	0.00	-0.04	0.10	0.09	0.04*
Alpha			0.47	3.46	0.94	0.44*

* $p < .05$; ** $p < .01$; *** $p < .005$

Note: Poisson regression was used to analyze the CSC Conviction measure instead of the Negative Binomial model because the estimated variance matrix of the estimates was found to be singular for the CSC Conviction measure.

the estimates was found to be singular. Thus the Poisson regression was used to analyze the CSC Conviction measure's relationship to the key independent measures instead of the Negative Binomial model. However for the assault and robbery conviction measures the Negative Binomial method was used to test existence of specialization across chronological conviction records for each offender. The Poisson regression results for the CSC Conviction measure show a very significant ($p < 0.005$) negative relationship between the commencement of a violent career with a robbery or assault and number of CSC convictions incurred later in the violent career, as compared to beginning a violent career with a CSC. Preliminary evidence of specialization among sex offenders as regards their conviction records mentioned in the bivariate analysis is buttressed by the results shown in table 8. Hence, the results of both the multivariate models have revealed that such specializations exist on the arrest as well as the conviction level. Surprisingly, the "Robbery Conviction" measure does not show any significant association with any of the independent measures. Reverting back to the results of the bivariate analysis shown in table 5 it was observed that the people who commenced their violent career with a robbery were most likely to get convicted for robberies later in their careers; however this trend was not replicated by the results of the Negative Binomial test shown in table 8. The numbers of assault convictions had a significant positive relationship ($p < 0.01$) with the people who commenced their violent careers with an assault or robbery as compared to the people who began with a CSC. The age at first arrest was also observed to be positively associated ($p < 0.05$) to the number of assault convictions during the course of the violent criminal career for each offender. Lastly, for the first instance in any of the multivariate tests, the results relayed in table 8 showed that there was a marginally

positive (0.09) significant association ($p < 0.05$) between the total prior non-violent arrests and the number of assault convictions incurred after the first violent arrest.

In order to establish a measure for further cross checking the results of the two regression models the General Linear Model was also run on the two sets of dependent variables. The results shown in table 9 represent the out come of the GLM as it was run on the arrest and the key independent measures, and coincide completely with the results

Table 9

General Linear Model for the Arrest Measures with the Type of 1st Violent Arrest and Race

	Total Post Violence CSC Arrests		Total Post Violence Rob. Arrests		Total Post Violence Ass. Arrests	
	<u>b</u>	<u>S.E.</u>	<u>b</u>	<u>S.E.</u>	<u>b</u>	<u>S.E.</u>
Intercept	0.08	0.05	0.23	0.08**	0.48	1.25*
Type of 1 st Violent Arrest						
Robbery	-0.07	0.02**	0.07	0.04	0.13	0.13
Assault	-0.06	0.02**	0.03	0.04	0.34	0.11**
CSC	0.00		0.00		0.00	
Race						
Black	0.02	0.01	0.07	0.03**	0.20	0.07**
Hispanic	0.05	0.02*	0.03	0.04	0.19	0.11
Other	-0.01	0.08	-0.02	0.14	0.05	0.40
White	0.00		0.00		0.00	
Total Prior Arrests	0.00	0.00	-0.01	0.01	-0.02	0.02
Age at 1 st Arrest	-0.00	0.00	-0.01	0.00**	-0.01	0.01*

* $p < .05$; ** $p < .01$; *** $p < .005$

of the survival model and the negative binomial model with only one exception. The number of post violent criminal career initiation assault arrests, were observed in the Negative Binomial to have positive significant ($p < 0.05$) association with being Hispanic as compared to being black, which the GLM failed to capture. However, this association was not present in the Survival Model either.

The results obtained for the CSC conviction variable (shown in table 10) also evidence the existence of specialization among sex offenders, shown in the Negative

Table 10
General Linear Model for the Conviction Measures with the Type of 1st Violent Arrest and Race

	CSC Conviction		Robbery Conviction		Assault Conviction	
	<u>b</u>	<u>S.E.</u>	<u>b</u>	<u>S.E.</u>	<u>b</u>	<u>S.E.</u>
Intercept	0.31	0.07***	-0.05	0.08	-0.25	0.12*
Type of 1 st Violent Arrest						
Robbery	-0.40	0.04***	0.24	0.04***	0.25	0.06***
Assault	-0.38	0.03***	0.05	0.04	0.15	0.06**
CSC	0.00		0.00		0.00	
Race						
Black	-0.03	0.02	-0.02	0.02	0.01	0.04
Hispanic	-0.06	0.03*	-0.05	0.04	0.09	0.05
Other	-0.06	0.12	-0.07	0.13	-0.16	0.20
White	0.00		0.00		0.00	
Total Prior Arrests	0.00	0.01	0.00	0.01	0.02	0.01
Age at 1 st Arrest	0.01	0.00*	0.00	0.00	0.01	0.00*

* $p < .05$; ** $p < .01$; *** $p < .005$

Binomial test results. However the GLM also exhibited a negative significant association between the number of CSC convictions after the first violent arrest and being Hispanic as compared to being White, and a positive significant association between age at first arrest and the number of CSC convictions after the initiation of the violent career. Such associations were not demonstrated by the results of the negative binomial tests. The Negative Binomial tests did not show any association the robbery conviction measure and any of the independent variable however the GLM showed that this measure was positively associated ($p < 0.005$) with initiation of the violent career with a robbery. The only difference between results of the Negative Binomial and the GLM as regards the Assault Conviction measure was that the GLM failed to exhibit a positively significant relationship which was captured by the Negative Binomial test results between the dependent measure and the number of prior non-violent arrests before the first violent.

DISCUSSION

This chapter shall analyze both the individual and collective essence and effect of the observations made in the previous chapter in the context of this study. Beginning with the structure and attributes of the classifying variable “1st Violent Arrest” it can be observed that sex offenses are the least committed within the three violent categories. However the bivariate analysis has established a degree of uniqueness among sex offenders. For example sex offenders were observed to have been least likely to be arrested for a prior non-violent offense and to be incarcerated as juveniles. Furthermore, race was seen to have a unique affect upon sex offenders as compared to the other two violent categories, as Whites were more likely to commence their violent careers with a CSC while Blacks and Hispanics dominated robbery and assault respectively.

Interestingly, Blacks who clearly represented the majority in the dataset were least likely to have initiated their violent careers with a CSC. Initial evidence of generic specialization within all three violence subcategories can also be noted in table 5, with the exception of the “Assault Conviction” variable where people who initiated their violent careers with robbery were more likely to be convicted for assaults later in their violent careers as compared to people who began with an assault.

The results produced by the three multivariate tests were generally consistent for both arrest and conviction, with some minor exceptions. In all three multivariate tests for both arrest and conviction, people who began their criminal careers with an assault or robbery were significantly less likely to be arrested or convicted for committing a CSC further in their violent careers as compared to the people who initiated with a CSC. Hence, contrary to the findings of prior literature (Simon, 1997 and 2000) these results render evidence of specialization among sex offenders. Regarding the subjects who commenced their violent careers with a robbery, although they were not significantly likely to get arrested for either robbery or assault, their likelihood of getting convicted for both was found to be significant, hence falling short in reciprocating the degree of specialization demonstrated by sex offenders. These results are inconsistent with the Schwaner (2000) study, which specifically found robbers to be specialists. The subjects who initiated their violent careers with an assault were found in the three regression models significantly likely to get both arrested and convicted for committing assaults later in their violent careers. However robbers were found to be even more likely to render assault convictions.

Now that the evidence regarding specialization produced by the present study has been relayed their compatibility with the three research hypotheses shall be assessed. The first hypothesis, which stated that, “all violent offenders specialize within their violent subcategories” can be rejected on account of the fact that this study has evidenced no specialization among robbers and only partial specialization among assaulters. The second hypothesis that advocated a joint category of violence for sex offenders and assaulters and claimed a specialization within it has also been disproved by the negative relationship between people who initiated their violent careers with a CSC and those who began with an assault as regards CSC arrests and convictions later in their careers. The third hypothesis that professed, “Specialization existed only among sex offenders” is probably closest to the truth, barring the fact evidence of partial specialization was found among assaulters as well.

Albeit the results produced by this study lean towards the veracity of an exclusive specialization among sex offenders as compared to robbers and assaulters the actual truth lies not within the black and white line drawn by the research hypothesis but with in the gray area surrounding that line. As stated above there was significant evidence found regarding existence of specialization among assaulters also. Moreover, the specialization among sex offenders found in all the three regression models hinges upon the definition of specialization taken in the study. If specialization is taken to mean committing only one kind of offense through out the career (a definition that was not taken in this study), in the light of the results obtained sex offenders can hardly be called specialists. Although not significantly, but the people who began their violent careers with a CSC did commit more assault and robberies as compared to the CSCs committed by the people who

commenced with an assault or robbery. Hence, although robbers and assaulters rarely crossed over to sex offenses later in their violent careers, sex offenders often traversed into robbery and assault. Further analysis showed that the majority of the people who initiated their violent careers with a sex offense simply did not recidivate into another violent offense (at least within the period that they were understudy).

Now that the results generated from this study have established sex offenders' specialization to a significant degree, their distinctive characteristics as compared to the other violent categories shall be looked at through their interaction with the other independent variables. Initially it has been stated in this chapter that the results in the bivariate analysis have shown that sex offenders are least likely to have a prior offense or prior juvenile incarceration. Further analysis showed that out of the first time sex offenders who had prior non-violent arrests, very little had property arrests and almost none had any drug arrests. For the initial CSC arrest, Whites dominated the other races but the regression models have shown that later in their careers Hispanics were significantly more likely to get arrested for committing CSCs as compared to Whites and Blacks. Contrary to the results obtained from the arrest measures, the relationship between Hispanics and CSC convictions was observed to be negatively significant. It has also been seen in the bivariate analysis that the mean age of getting arrested for the first CSC was greater than the mean age of getting arrested for the first assault or robbery, hence sex offenders began their violent careers later than the other violent offenders. It has also been observed that compared to the other violent offenders, majority of the people who initiated with a sex offense did not recidivate at all later in their careers.

Interestingly, after reviewing the abovementioned facts, the profile of a sex offender that takes shape within one's mind is almost inexplicable by any of the theories that laid the foundation of this study. Under the generalist perspective (Gottfredson and Hirschi, 1990, Moffitt, 1993 and Piquero et. al. 1999) it was stated that onset age is inversely related to variety of offenses, however the results of this study have shown that sex offenders are more likely to commit all the three types of violent offenses while their mean onset age is greater, as compared to robbers and assaulters. Hence, making the observed behavior of sex offenders in this study, unexplainable by the "Generalist Perspective" (Gottfredson and Hirschi, 1990) and the "Moffitt's Taxonomy" (Moffitt, 1993). Similarly, the "specialization perspective" (Loeber and LeBlanc, 1989, Nagin and Paternoster, 1994 and Tittle, 1995) states that specialized criminal behavior blooms later in the criminal career but the results of this study have shown that specialization sets in right at the time of the initiation of a violent career when it is commenced with a sex offense. Lastly, the construct of escalation is buttressed upon the assumption that offenders begin their criminal careers with minor offenses and as the criminal career matures with time the intensity of the offenses perpetrated also increases. However, the result of this study have demonstrated that for most of the offenders who initiated their violent careers with a sex offense, which would rank very high on the severity scale, their initial sex offence most likely their first offense.

One method of looking at the results so produced can be to arrange the three violent subcategories onto a severity scale. On the severity scale sex offenses shall stand out as the most heinous of the three, hence are punished more severely. In accordance with this perspective those offenders who begin their violent careers with the most

heinous of crimes are more likely to repeat those heinous crimes along with other lesser violent crimes. On the other hand those offenders who commenced with a violent crime of a lesser degree of severity may commit other violent crimes of the same or marginally greater degree of severity later in their careers, but are less likely to traverse into the crimes of the severest category. One reason for such inhibition could be the increasing level of moral or legal reprimand levied to such heinous crimes. Whereas those who initiate with the severest offense will have already experienced this reprimand and will either completely cease criminal activity or will continue violent criminal activity at the next available opportunity without giving any consideration to the reprimand thus involved. Although this method renders an apposite explanation to the behavior of violent offenders in the light of the results produced by this study, its theoretical soundness and empirical practicability is contingent upon future research findings.

The question still remains that if sex offenders belong to a select class of violent offenders that specialize within their violent subcategory then what are their identifying indicators and whether such indicators are best tackled by a preventive or a curative approach. The static, dynamic and acute factor system developed by clinical psychologists (Hanson, 1998) could be resourced to here. Exploratory research regarding the validity of tests like the Psychopathy Checklist (identifying prior sex offenses as an indicator), Violence Risk Appraisal Guide (which treats violence in general and school maladjustment as the strongest predictors) and the different personality tests (as have been discussed in the literature review) could be conducted to isolate and treat such predictive indicators (Harris, Rice and Quinsey, 1993; Webster, Harris, Rice, Cormier and Quinsey, 1994; Marshall and Hall, 1995; Rice and Harris, 1997; Quinsey, Harris,

Rice and Cormier, 1998 and Harris, Rice, Chaplin and Quinsey, 1999, Palermo and Farkas, 2001). However, as it has been already pointed out in the literature review section that such studies need to focus not only on sexual predators but on the general population of sex offenders in order to render more meaningful results.

Although after regarding the results of this study the proposed research in the field of clinical psychology is not entirely unwarranted, but the fact still remains that this has been a singular study of its nature with many limitations and its results need validation by other empirical studies. To begin with the dimensions of the canvas used to conduct this study i.e. the mid-size Michigan city for arrest and the state of Michigan for conviction, was too small to command universal empirical value. Albeit, generally records spanning over the entire state of Michigan would have been considered adequate, however in this case it has to be borne in mind that these records were of conviction (which is known to artificially shrink the effect recidivism) and only of those subjects that were first arrested in the mid-size Michigan city, whilst pertaining to a certain age group. This shortcoming has also disabled the capacity of this study to capture the effect of migration of sex offenders to a different county or state consequent to the enforcement of the sex offender registration and notification laws (Freeman-Longo, 2000 and Palermo et. al., 2001). Some solace may be taken in the fact that if such migration was on a county level then the conviction records, which spanned over the entire state, might have captured some part of their subsequent criminal career. A state level migration is not very likely in the wake of the present circumstances under which all states have enacted this law. However the varying levels of severity in the enforcement of these laws across states may come into play. Also, this study did not have any record of the period that each

offender spent under incarceration. The longitudinal data used in this study spanned over ten years and on average captured only four years of the subjects' violent criminal careers rendering it less adequate for conducting a specialization study. A review of previous empirical literature has shown that specialization in sex offenses blooms in the later part of a sex offender's criminal career (Hanson, Steffy and Gauthier; 1993; Prentky et. al. 1998 and Simon 1997 and 2000), which the present study clearly failed to capture.

Future studies that aim to test the specialization hypothesis for sex offenders are recommended to use arrest records encompassing an entire state or at least a major city. As the arena within which the study will work gets bigger the migration effect is also likely to diminish albeit removing it entirely would be impossible. The longitudinal dataset should provide on average at least a ten years follow up period for each subject after his or her first violent offense. As this study has shown that the on average offenders commenced their violent careers around the age of seventeen, a ten year follow up period from that point onward would capture their violent career after they age past the mid 20s point; hence allowing enough time for the latent specialization tendencies earlier in the violent career of an offender to surface (Prentky, Lee, Knight and Cerce, 1998 and Simon 1997 and 2000). Furthermore, this study aimed to capture the beginning of the violent careers for subjects and then follow their careers from that point onward, in order to have a complete record of their violent crime history within the data set. Hence, only a select group of violent offenders who had commenced their criminal careers as juveniles and had at least one violent offense later in their careers were concentrated upon, however as stated above some studies have surmised that sex offender specialization reaches its peak much later in an offender's career (Hanson, Steffy and Gauthier, 1993 and Prentky et. al.

1998). Hence, a study that targets known sex offenders in their mid twenties and follows them up for the next ten or twelve years could shed light on the veracity of this statement. If the results of the present study are confirmed (i.e. that sex offenders specialize) other studies on specialization among sex offenders might be conducted that bifurcate sex offenses into rape and child molestation and monitor the isolated effect of each category. The results of this study have shown that specialization among sex offenders sets in from the beginning or from the first sex offense, which might lead to the conclusion that if this fact were true one might replace specialization studies with recidivism studies on sex offenders. This conclusion would however be erroneous, for the present study has also revealed a propensity among sex offenders to commit other lesser violent offenses and this tendency can only be further confirmed and explained by looking at the entire violent career rather than the mere next offense. Lastly, a criterion of specialization in general should be developed which measures the varying degrees of specialization across criminal careers instead of establishing the existence or non-existence of it in the absolute sense.

Finally, the results so generated in this research have established specialization among sex offenders and their uniqueness as a distinct class of offenders in comparison to other violent offenders. However, while making a comment upon the policy implications of this study it would be premature to conclude at this stage that these results justify the existence of all the federal and state laws that specifically target sex offenders. First of all, sex offender recidivism was observed to be the lowest among the three violent offense categories, which raises issues (barring any moral concerns) as to the legislative and economical prudence of a law that aims to target such a small segment of

the offender population. There is of course an existing possibility that the observed levels of low recidivism among sex offenders are the product of the Sex Offenders Registration and Notification laws. The abovementioned laws specifically targeted sex offender recidivism and came into force within the state of Michigan in 1994, which is the mid point of the longitudinal data set used in this study. Assuming that such laws had a preventive effect on sex offender recidivism (a fact that has not yet been shown by any empirical study), such an effect within the context of the present study might have mollified effect of sex offender specialization existing prior to the enactment of the laws. Albeit, it has been noted that chronologically all the cases of recidivating into a sex offense by a previously violent offender, within the dataset used, have occurred after 1994. This trend could either be consequent to the enactment of the aforementioned laws or the fact that the cohort of violent offenders selected out of the entire data set belonged to an age group that was more likely to recidivate in the later part of the dataset. Secondly, as stated previously the present study has been exposed to numerous limitations arising out of the extent and comprehensiveness of the dataset, marring the empirical value of the results so produced to a certain extent. Thirdly, the scope of this study only focuses upon a few aspects out of many that capture the research hypothesis at hand in its entirety. However, as an exploratory effort this study has partially achieved its objective by identifying and studying a lacuna present between the available scientific evidence regarding sex offender specialization and the policy making which assumes the existence of such specialization and has pin pointed the directions for further exploratory and explanatory empirical work upon the subject.

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