

Chinese Offenders in Rape:
The Developmental Sexual-Aggressive Model

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ABSTRACT

Forensic literature has shown particularly high prevalence of violent behavior in offenders convicted of rape but not the otherwise. There is empirical and theoretical support for the development of rape behavior being preceded by a sequence of increasingly non-violent and violent acts. All these point to rape as a subset of violent behavior. However, no existing research has studied the co-occurrence of rape and violent behavior coupled with their underlying mediating factors. This study represents the first empirical attempt to explore the developmental paths to rape behavior in association with its co-occurred violent behavior within the cognitive framework, tracing from distal developmental adversities to cognitive variables common and specific to rape and violent behavior, and then pornography use. Using structural equation modeling, the hypothesized model was tested in a sample of 175 adult male prisoners serving sentence in the Correctional Services Department, Hong Kong Special Administrative Region for the conviction of rape and / or violent offence. The resulting Developmental Sexual-Aggressive Model of Rape Behavior explicated that distal developmental adversities, a host of cognitive mediators namely hostility toward women, sexual masculinity factor, antisocial / violent attitudinal factor and entitlement, together with the more proximate behavioral precursors namely pornography use and violent behavior all contributed to explain rape behavior after controlling for social desirability. While hostility toward women and sexual masculinity constituted rape-specific cognitive constructs, the other cognitive constructs were common factors of both rape and violent behavior. The strongest cognitive construct was hostility toward women which emerged early on in the developmental model. Three etiologic paths underlying the development of rape behavior had been identified: one Sexual Path and two Aggressive Paths. The extent of influence between the Sexual Path and the two Aggressive Paths in total was

comparable but the two Aggressive Paths became more influential to repeat rape behavior with higher frequency. The Aggressive Paths not only rendered empirical support to the co-occurrence of rape and violent behavior but more importantly revealed a violence-to-rape behavioral pattern. Taking a developmental perspective, the model made direct clinical implications for multiple entry points for rape prevention strategies targeting the general population, the at-risk males and the convicted rapists in order to achieve the ultimate goal of protecting public safety. Research implications with suggestions for future empirical studies were also included.

摘要

犯罪學文獻表明暴力行為在犯了強姦罪名的犯人中特別普遍，但相反則不然；亦有實證和理論支持強姦行為是由一連串非暴力以致暴力行為逐步發展而成。這都顯示強姦行為是暴力行為的一個子集。然而，沒有任何現有的研究探究了強姦行為和暴力行為的共存，及它們背後的中介因素。這項研究是第一個科研致力探討強姦行為和與它並存的暴力行為的發展路徑。在認知框架下，發展路徑從遠端成長期遇到的逆境，至強姦行為和暴力行為共同及特殊的認知因素，然後到色情資訊的使用。根據結構方程式模型，假設模型在 175 名因強姦和/或暴力罪名，在香港特區政府懲教署服刑的男性成年犯人所組成的樣本進行測試。研究控制了社會讚許變項後所得的「性侵略性模型發展」(Developmental Sexual-Aggressive Model)，闡述遠端成長期遇到的逆境、一系列認知中介因素即敵視女性、以性主導的男子氣概、反社會 / 暴力思想及權利主意，行為方面的近因即色情資訊的使用和暴力行為，有助於解釋強姦行為。敵視女性及以性主導的男子氣概構成強姦行為特殊的認知因素，而其他認知因素則構成強姦行為和暴力行為的共同因素。敵視女性是當中最重要因素，而又在發展模型中早期出現。強姦行為背後的三個病因路徑是：一個性的路徑(Sexual Path)和兩個攻擊路徑(Aggressive Path)。單一的性路徑和總的兩個攻擊路徑之間的影響程度是類似的，但兩個攻擊路徑對高頻的重複強姦行為變得更有影響力。兩個攻擊路徑不僅提供了實證支持強姦行為和暴力行為的共存，更重要的是揭示了「暴力演變至強姦的行為模式」(violence-to-rape behavioral pattern)。研究所得的模型別具臨床意義，為預防強姦的策略提供多個入口點，包括針對公眾、存有風險的男性和被定罪的強姦犯，以達到保障公眾安全的最終目標。最後，對未來的實證研究亦提出了建議。

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CHAPTER ONE

INTRODUCTION

Official statistics from the Hong Kong Annual Digest of Statistics (Census and Statistics Department, 2011) revealed a striking increase in the number of rape detected by police, rising from 82 in 2006 to 102 in 2010 which amounted to a 29.3% upsurge over the past five years. At first glance these figures may look small. They in fact represent only the tip of the iceberg because there is considerable discrepancy between the number of detected crime and crime reported to police. The Hong Kong United Nations International Crime Victim Survey in 2006 indicated the reporting rate of contact sexual offences in Hong Kong to be 13.8% (Broadhurst, Bacon-Shone, Bouhours, Lee & Zhong, 2010). Alarming, this implicates the actual incidence of rape offence can be manifold and the potential number of rape victim can be countless. Besides, victim research highlights that rape, as the most severe form of sexual violence, causes grave harm on the victims, resulting in serious social costs to the society. A local study on 263 rape victims showed many life changes and deterioration in personal functioning following sexual assault such as job disruption (32.8%), breaking up an intimate relationship (24.4%), divorce (6.2%) and changes in school. 71.1% of rape victims reported poor mood state as characterized by shame (90.4%), guilt (74.7%), and, displayed ritualized behavior (46.1%). Feeling hopeless, 50.9% of them espoused serious suicidal thoughts, 47.1% had self-mutilating behavior, 25.1% made a careful suicide plan and 20.1% committed actual suicide act (Cheung & Ng, 2005). Other post-rape psychopathology like intense fear of rape-related situations, depressive symptoms and signs of post-traumatic stress disorder were well-documented in overseas studies (Kilpatrick, Veronen & Resick, 1979; Kilpatrick, Veronen & Resick, 1982; National Victim Centre

and Crime Victims Research and Treatment Centre, 1992; Muran, 2007).

To protect adult female from rape victimization given the size and gravity of this public health problem, it is incumbent upon forensic researchers and correctional professionals to prevent rapist from sexual re-offending through the development and implementation of effective intervention programs. The largest quantitative review of sexual offender treatment to date reported that medical interventions which referred to both surgical castration and hormonal medication (OR = 7.37, CI_{95%}: 4.14-13.11, $z = 6.80$, $p < .001$) produced a much larger effect on sexual recidivism reduction than did various kinds of psychological intervention (OR = 1.32, CI_{95%}: 1.07-1.62, $z = 2.60$, $p = .01$), $Q(1, k = 66) = 30.47$, $p < .001$ (Lösel & Schmucker, 2005). While the substantial difference in effectiveness between medical and psychological interventions was largely contributed by the very large mean effect size of surgical castration, hormonal medication also showed higher effect than any of the psychological interventions. Nonetheless, these findings still do not negate the value of psychological interventions. Surgical castration is irreversible and is more like a kind of punishment than intervention method, thereby remaining rarely used in clinical practice and being replaced by hormonal medication. The Association for the Treatment of Sexual Abusers (ATSA) in fact opposed the use of surgical castration with the availability of hormonal medication (ATSA, 1997). Hormonal medication however has also been plagued by its side effects like mild lethargy, cold sweats, osteoporosis, albeit these side effects are usually reversible on discontinuation. This explains the very low voluntary participation in medication regime with less than 2% of incarcerated sexual offenders in Hong Kong each year. And more importantly, ATSA (1997) advocated that medication regime should not be used as the sole treatment option but should be prescribed with concurrent psychological intervention.

Unfortunately, the field is yet to specify an effective psychological treatment approach for rapists (Polaschek & King, 2002). Rapists have been typically treated side by side with child molesters and other sexual offenders in generic sexual offender treatment programs in advanced jurisdictions in UK, US and Canada (Gannon, Collie, Ward & Thakker, 2008) as it does in Hong Kong. The only outcome study that evaluated the effectiveness of generic sexual offender treatment program on rapists found less offence supportive attitudes, improved mood regulation and enhanced readiness for change but no significant change on sexual pre-occupation after completing the program (Beech, Oliver, Fisher & Beckett, 2005). It however remained unknown whether these assessed changes contribute to reduced sexual recidivism risk. To design effective treatment program tailoring to the specific needs of rapists, adequate knowledge of rape and rapists with evidence base is of utmost importance. Although rape raises vital public health concern, there exists insufficient understanding of rapists' characteristics, significant theoretical gaps, poorly operationalised constructs, vague description of the intervening mechanisms and insufficient empirical testing (Polaschek, Ward & Hudson, 1997).

Studying rape offending in isolation as a disparate field precludes a comprehensive understanding of the phenomenon. One of the key weaknesses in the field of sexual offender research and clinical practice is failing to integrate the burgeoning empirical findings and theoretical advances from the study of antisocial behavior. While earlier research efforts demonstrated considerable differences between rapist and child molesters (Adler, 1984; Blumenthal, Gudjonsson & Burns, 1999; Salter, 1988; Walters, 1987), Lalumiere, Harris, Quinsey & Rice (2005) concluded 'rapists share many characteristics with other violent offenders' (p.5) and they 'rarely specialize in rape' (p.184). It follows then that investigating rape and

violent behavior simultaneously as well as their co-occurrence will broaden our understanding of rape behavior. In fact, recent clinical literature concludes 'co-occurrence has emerged as an opportunity for understanding better the development of psychopathology' (Angold, Costello & Erkanli, 1999, p.58). As previous studies that examined these two behaviors focus largely on the phenomenology of the overlap and research only on college students with self-reported propensity to sexual coercion, present study will take a leap by unraveling the extent and nature of co-occurrence, the course of development, cognitive correlates and other underlying mechanisms of the co-occurring or 'pure' rape and violent behavior(s) using individuals with known history of rape and violent offending. An expansive understanding of the underpinning processes that unfold rape and violent behavior throughout the lifespan will carry substantial implications for effective prevention and treatment strategies on rapists and violent offenders, contributing to the ultimate goal of public safety.

Consistent with local law and forensic research, rape is defined as non-consensual sexual penetration against an adult victim aged at least 16 in the present study. McGregor (2002) pointed out the key to any definition of rape lie in the issue of consent. Effective consent is informed, freely and actively given by mutually understandable words or actions. As such, informed consent in the sexual context means both parties express a clear and mutual understanding to engage in sexual intercourse. Silence or a lack of verbal resistance does not equal to consent. Besides, consent has to be given freely and actively, therefore no coercion, force, threats, intimidation or pressuring can be involved in the course of sexual intercourse. Lastly, a person has to be physically and mentally capable to give consent, as a result minor under the age of 16, mentally disabled persons and those who are incapacitated

by alcohol or drug cannot give effective consent to sex. As rape is overwhelmingly directed at female victim by male globally and locally whilst rape of men by men in homosexual rape or female sexual aggression against male almost occurs as an oddity, the present study will limit to rape behavior committed by male against adult female.

Violent behavior which is another focal interest of the present study refers to ‘the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation’ (World Health Organization, 1996). Behind such a broad definition of violent behavior, the essence of violence pertains to acts that ‘involve injury or the threat of injury’ (Piquero, Jennings & Barnes, 2012). To discriminate from rape which was another target behavior of the present study, violent behavior is confined to non-sexual violence in the present study.

CHAPTER TWO

CO-OCCURRENCE: RAPE AS A SUBSET OF VIOLENT BEHAVIOR

Strength of Association between rape and violent behavior

Literature review finds evidences for association between rape and violent behavior are most obvious in the offending history in offender samples. Studies included in Table 1 report rates of violent behavior in offenders with an index offence of rape with reference to their conviction history, the use of violence in index rape offending and their reconviction pattern. Of note, violence statistics in these studies are based on either self-report or official record comprising of arrest, admission or conviction figure. Local data are available amid the predominance of overseas findings. Reviewing the criminal history of rapists, the consistent finding is that rapists are unlikely first-time offenders. 46% to 87% of them were found to have prior arrest or conviction record (Amir, 1971; Gebhard, Gagnon, Pomeroy & Christenson, 1965; Radzinowicz, 1957). Looking specifically into their past history of violent behavior, Looman, Abracen, DiFazio & Maillet (2004) found the average number of previous violent convictions in rapists to be 2.68, yielding no significant difference to that of the violent offenders. The official conviction rates of violent offence as summarized in Table 1 range from 2% to 85% resting on the calculation of individual violent offence or any kind of violent conviction. Self-reported history of violent behavior a year prior to the index rape hit as high as 89% (Weinrott & Saylor, 1991). For violence use at the commission of index rape, the rate spans from 15.7% to 36% subject to the degree of violence. Depending on the length of follow-up period and the use of re-arrest or reconviction data, subsequent violent recidivism rates among the rapists are in the range of 6.8% to 43%. The only available local

Table 1. Rate of Violent Behavior in Rapists

Study	Sample	<i>N</i>	Source of Data	% of Violent Behavior in Rapists
<i>Previous Violent Behavior</i>				
Alder (1984)	US incarcerated offenders	193	Official conviction data	9% of rapists served sentence in prison for prior conviction of violent offence
Amir (1971)	Arrest cases by US police	---	Official arrest data	20% of rapists had been arrested for less serious violent offences like manslaughter, simple assault, intimidation and other violent offence.
Cale, Lussier & Proulx (2009)	Canadian incarcerated offenders	209	Official charge	Of the incarcerated rapists, 85% of them had at least one charge for non-sexual violent offence. As a group, the average number of charge for violent offence was 5.1 relative to 2.3 for sexual offence.
Davies, Wittebrood & Jackson (1997)	British offenders	210	Official conviction data	Of the stranger rapists, 50% had prior conviction for violent offences. Note rapists with extreme violence toward their victims were 3.42 times more likely to have previous violent conviction than those who were not.
Mokros & Alison (2002)	British offenders	100	Official conviction data	In a sample of stranger rapists alone, 33% of them had previous conviction of minor violence while 12% involved major violence, as opposed to 18.5% with previous rape conviction.

Scott, Lambie, Henwood & Lamb (2006)	New Zealand offenders	96	Official conviction data	In a study of stranger rapists, 64% of them had previous violent conviction of serious assault and 14% were convicted of grievous assault.
Simon (2000)	US incarcerated offenders	51	Official conviction data	Of the 51 rapists, 21.6%, 3.9% and 2% of them had prior convictions of assault, arson and manslaughter respectively in their adult criminal record. 7.8% had prior conviction of assault in their juvenile record.
Smallbone, Wheaton & Hourigan (2003)	Australian incarcerated offenders	33	Official conviction data	54.5% of rapists had previous violent convictions.
Weinrott & Saylor (1991)	US offenders in the community	37	Self-report data	While all the rapists reported at least one non-sexual offence one year prior to the index offence, 89%, 62% and 46% of them reported occasions of hitting another woman, aggravated assault and hitting their partner respectively.

Violence Use in Index Rape

Hunter, Hazelwood & Slesinger (2000)	US offenders	63	Official record	The research is based on juvenile sex offenders. With regard to level of violence use at the time of rape offending, 58.7% of them reported minimal force and 27% reported moderate to great force. Only 14.3% denied using any force at the material time.
Scott, Lambie, Henwood & Lamb (2006)	New Zealand offenders	96	Official record	In the study of stranger rapists alone, 36% of them exhibited extreme violence ranging from lacerations to

death in the index offence. 23% displayed minimal violence like punching, pushing and immobilization.

Simon (2000)	US incarcerated offenders	51	Official record	23.5% and 15.7% of rapists were convicted of aggravated assault and murder respectively on top of the index rape conviction.
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Subsequent Violent Behavior

Correctional Services Department, HKSAR (2005)	Hong Kong discharged offenders	395	Official conviction data	6.8% of rapists were convicted of violent offence within 3 years after discharge which was twofold of sexual re-conviction of any kind.
Firestone, Bradford, Greenberg, McCoy, Curry & Larose (1998)	Canada offenders	85	Official conviction data	Over an average follow-up of 7.6 years, the violent reconviction rate was 26%.
Hanson & Bussiere (1998)	Offenders from Canada, US, Denmark, UK, Norway, Australia	782	Official arrest / conviction and self-report data	Meta-analysis of 61 studies showed the non-sexual violent recidivism rate (as indicated by reconviction, rearrest, self-report and parole violation) of rapists within 4 or 5 years of release was 22.1%.
Langan & Levin (2002)	US discharged offenders	3138	Official arrest data	This large-scale recidivism study tracked offenders released from prisons in 15 States in US for three years after their release in 1994. Within the 3-year follow-up period, 18.6% of rapists were rearrested for violent offences comprising of homicide, kidnapping, rape, other sexual assault, robbery, assaults and other violence.

Of these rearrested rapists, a small portion of them (2.5%) were rearrested for another rape.

Proulx, Pellerin, Paradis, McKibben, Aubut & Ouimet (1997)	Canada offenders	113	Official conviction data	The reconviction rate for a violent offence against person over an average follow-up period of 64.5 months was found to be 36.3%.
Rice, Harris & Quinsey (1990)	Canada offenders	54	Official arrest / conviction data	The violent failure rate of rapists within 46-month follow-up period was 43%, comprising of arrest and reconviction of violent offence.
Soothill, Jack & Gibbens (1976)	UK offenders	86	Official conviction data	20% reconvicted violence to a person, rape or other sexual offence within the 22-year follow-up period
Soothill, Way & Gibbens (1980)	UK offenders	200	Official conviction data	19.5% of rapists reconvicted violent offence in the 13-year follow-up period

data with a large rapist sample of about 400 is on re-conviction pattern, illustrating 6.8% of rapists were convicted of violent offence within 3 years after discharge. The figure is twofold of sexual re-conviction of any kind (Correctional Services Department, HKSAR 2005). Taken together, these studies point to the substantial rate of violent behavior in rapists.

There are much fewer empirical studies examining the occurrence of rape in violent offenders. Studies listed in Table 2 indicate almost none of the offenders with a current conviction of violent offence had previous rape offending on the basis of official conviction data. Referencing past behavior to adjudication data which is more inclusive than conviction figure, Fagan and Wexler (1988) found 11.7% of their sample of juvenile violent offenders had been adjudicated for the charges of forcible rape or attempted rape. In addition, the two large-sample recidivism studies, one based on local violent offenders and the other tracing offenders released from prisons in 15 States in the United States, manifested very low chance of future conviction of rape among the violent offenders. Local reconviction data from approximately 8500 violent offenders did not provide information about rape re-offending but found 0.7% of offenders convicted of violent offence re-convicted sexual offence of any kind within three years of release (Correctional Services Department, HKSAR 2005). In other words, the re-conviction of rape within three years of release was less than 0.7% among local violent offenders. Overall, available data imply very little likelihood of the occurrence of rape in violent offenders.

Summarizing the aforementioned empirical findings on the co-occurrence between rape and violent behavior in terms of the offending history of offender population, there are compelling evidences of the high lifetime prevalence of violent behavior in rapists as opposed to the meager occurrence of rape in violent offenders.

Table 2. Rate of Rape in Violent Offenders

Study	Sample	N	Source of Data	% of Rape in Violent Offenders
<i>Previous Rape</i>				
Alder (1984)	US incarcerated offenders	193	Official conviction data	None of the violent offenders had a previous conviction of rape despite 2% of them had prior conviction of other sexual offences like statutory rape (sex with minors under the age of consent, other sexual assault, leud act with a child).
Fagan & Wexler (1988)	US violent juvenile offenders	242	Official adjudication data	Of the violent juvenile offenders, 11.7% were adjudicated for forcible rape or attempted rape.
Simon (2000)	US incarcerated offenders	290	Official conviction data	None of the violent offenders had a previous conviction of rape though 2.1% and 0.3% of them had previous conviction of sex offence in their adult and juvenile criminal record respectively. Previous conviction of non-sexual offence however was at exceptional high rate with 75.5% and 51.4% of them having an adult and juvenile criminal history.
<i>Subsequent Rape</i>				
Correctional Services Department, HKSAR (2005)	Hong Kong discharged offenders	8499	Official conviction data	0.7% of violent offenders were convicted of sexual offence of any kind within 3 years after discharge, in other words, reconviction of rape should be less than 0.7% which was meager in comparison to a violent reconviction rate of 10.6%.

Langan & Levin (2002)	US discharged offenders	22151	Official arrest data	This large-scale recidivism study tracked 272,111 offenders released from prisons in 15 States in US for three years after their release in 1994. Within the 3-year follow-up period, none of the 4443 homicide offenders and only 1% out of the 17708 assault cases were rearrested for rape in two groups of violent offender. Contrary to the scarce rearrest for rape, their rearrest rates for violent offences comprising of homicide, kidnapping, rape other sexual assault, robbery, assaults and other violence were 16.7% for homicide offenders and 31.4% for assault offenders.
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Rape offending therefore represents a subset of violent behavior in statistical terms.

The number of 'pure rapist' who specializes in rape offending with no prior and subsequent violent behavior throughout the life course should be scant.

Two lines of research further illuminate the existence, or better the prevalence, of 'pure rapist'. One of the research interests among the criminologists is the generality-specialization controversy in an individual's criminal career. Specialization refers to the probability of repeating the same kind of offence when next arrested (Blumstein, Cohen, Roth & Fisher, 1986). According to the specialization hypothesis, if rapists re-offend, they will have a propensity to commit rape offending. Measurement of specialization is done by calculating the ratio of per type of offence to overall number of offence. In Lussier, LeBlanc and Prolux's (2005) study, the 142 rapists incarcerated in Canada yielded the highest ratio for property offences (54%), followed by violent offending (30%) and then sexual offending of any kind (17%). Following Bursik's (1980) proposal of setting 50% as the criterion for specialization, rapists in this study tended to specialize in the commission of property offence. The findings of this study also concur with Gannon, Collie and Thakker's remarks about rapists who were described as 'typically versatile and violent in their offending behavior' (2008, p.984). Although this study identified 4% of rapists whose sexual offending represented more than 50% of their overall offending behavior, the actual number of the 'pure rapist' should be much smaller than 4% even if present. One reason is that these 4% of rapists might not have entirely committed rape offence alone in their offence history. Second, the mean age of the sample subjects was only 38.6, implying that they still remain active in their offence cycle with possibility of re-offending various types of offence. Without a developmental life-course perspective and a prospective longitudinal design, this

study fails to give conclusive evidence for a separate entity of 'pure rapist'.

Recidivism study is another approach providing empirical evidence of whether rapist is a specialist. The unparalleled large-scale recidivism study conducted by Langan and Levin (2002) on 272,111 offenders released from prison in fifteen States of the United States in 1994 found 46% of the 3138 released rapists were rearrested for a new crime within three years. Taking a close look at the type of new crime, substantially more rapists were rearrested for a non-rape charge (for example, 18.6% for violent offences of which 8.7% were non-sexual assault, 3.9% robbery and 0.7% homicide; 14.8% for property offences and 11.2% drug offences) than for another rape (2.5%). Again, whether these 2.5% repeated rapists are 'pure rapists' remains an empirical question hampered by various methodological measurement limitations. The possibility of re-arrest of non-rape charge both before and after the three-year follow-up period falls beyond the scope of this recidivism study. Even if they are arrested solely for rape offending in previous and subsequent years, the recidivism study does not include self-report measure of violent and antisocial behavior that is not reported to police or is too trivial to constitute a criminal offence. Further, even the absence of self-reported violent and antisocial behavior in rapists cannot completely rule out the presence of non-rape behavior because of the probable social desirability bias in self-reported data.

Temporal Precedence of Violent Behavior over Rape

Aside from the rates of co-occurrence between rape and violent behavior, their temporal sequencing also catches considerable research attention. Elliott (1994) used self-reported measures of violence and a prospective longitudinal design in the National Youth Survey to explore the causes and developmental course of violent

careers based on 1725 youths aged 11 to 17 in the United States in 1976. Focusing on serious violent offences namely aggravated assault, robbery and rape, it was found that aggravated assault preceded robbery and then rape in 85% and 92% of the cases respectively. Besides, robbery preceded rape in 72% of the cases. The study concluded that the progression of offences in the behavioral repertoire of these youths should start from aggravated assault and then proceed to robbery and ultimately rape. It is noteworthy that Elliott's study has strong methodological rigor. Its prospective research design is regarded as ideal for ironing out the temporal order of the two target behaviors by starting data collection before their onset (Culberston, 1999).

The age of onset of a particular behavior is another parameter that can be studied in empirical research to explore the escalation in the seriousness of offending behavior over the life course. Lussier, LeBlanc and Proulx (2005) pointed out for the group of rapists, the average age of onset for sexual offence in adulthood was the latest (average age of 30.4) while that for violent offence was 25.8 with the onset for property offence being the earliest at age 22.1. All the differences in age of onset were statistically significant. Similar age-crime trend was replicated on other offender sample by this research team (Cale, Lussier & Proulx, 2009).

An earlier longitudinal study that made rape merge under general violence also reflected a developmental ordering of the seriousness of violence over time (Loeber, Wung, Keenan, Giroux, Stouthamer-Loeber, Van Kammen & Maughan, 1993). The series of study based on prospective and retrospective information from the parents and their sons produced three age-of-onset curves of different forms of aggression / violence in different age-group samples of the Pittsburgh Youth Study. Of the three curves, the minor aggression curve as characterized by bullying and annoying others emerged first in a linear fashion from age 3 to age 16. This was followed by the

physical fighting curve which accelerated from age 10 onward. The violence curve as constituted by strongarming, attacking others and rape did not accelerate until age 11. Grounded in these findings, Loeber and his colleagues put forward the Three-Pathway Model (Loeber, 1996; Loeber & Hay, 1997). The model posits offending behavior progresses in an orderly, stepping-stone fashion along three pathways. Each of the three pathways involves escalation in the seriousness of different types of antisocial behavior with the less serious one having an earlier age of onset. An individual can move between the three pathways in his developmental progression of antisocial behavior. The Overt Pathway begins with minor aggression such as bullying and annoying others which then progresses to physical fighting at a later age and finally person-oriented violence like rape and attack. The second is the Covert Pathway which escalates from minor covert antisocial behavior like shoplifting to property damage to moderate / serious delinquent behavior such as burglary. Lastly, the Authority Conflict Pathway portrays a sequence of a set of stubborn behavior like staying out late. This Three-Pathway Model is in line with empirical findings of longitudinal studies. Based on Philadelphia birth cohorts, chronic offenders who had five or more arrests were found to account for more than 70% of arrest for rape during adolescence (Tracy, Wolfgang & Figlio, 1990).

However, the field is not in total agreement with regard to the developmental progression of different manifestations of antisocial behavior over the life course, not to say the claim of rape offending being preceded by a sequence of increasing violent and non-violent acts. A literature review on juvenile aggression and violence conducted by Loeber and Stouthamer-Loeber (1998) subsequently observed 'not all individuals who become violent have a history of early aggression' (p.245). In examining the longitudinal patterns of aggression from childhood to adulthood among

the Vietnam veterans, Windle and Windle (1995) observed an adult-onset type which had no history of aggression earlier in life. The adult-onset type was at odds with the other two types which started aggressive behavior since childhood. The child-only type had onset of aggression in childhood while the continuity type displayed aggressive behavior from childhood to adulthood. Of the aggressors, almost two-thirds belonged to the child-only type. The remaining was equally shared by the continuity group and the late-onset group. Similarly, a longitudinal study following the Swedish sample from childhood to age thirty found a minority of violent individuals evidenced a late onset of violence, having no prior history of aggressive behavior (Kratzer & Hodgins, 1996). Nonetheless, rape offending was embedded in the realm of violent or aggressive behavior in these studies. It is too early to draw any solid conclusion of the existence of a minority of rape offending that emerged without a history of past violent or aggressive behavior.

CHAPTER THREE

THEORIES EXPLAINING THE RAPE-VIOLENCE CO-OCCURRENCE

Apart from the empirical foundation for the co-occurrence between rape and violent behavior, forensic literature has witnessed various theoretical frameworks linking and explaining the co-occurrence of these two problem behaviors of interest to the present study. The followings will summarize the taxonomic models and multi-factorial theories that address violent behavior in their explanations for rape.

Taxonomic Models

Taxonomic models are descriptive classifications that reduce offender heterogeneity into smaller guiding treatment theories. They contribute to better understanding of sexual assaults (Grubin & Kennedy, 1991) and to theory construction (Millon, 1991) in early research efforts on rape. Three most prominent taxonomic models of rape are Groth's typology (1979), Hazelwood and Burgess' typology (1987) and the Massachusetts Treatment Centre Rapist Typology: Version 3 (MTC:R3; Knight & Prentky (1990)).

Groth Typology (1979)

The first classification system linking rape with violence was put forward by Groth (1979). He and his colleagues conducted a study on 133 convicted rapists and 93 victims of rape which concluded three motives underlie rape offending: power, anger and sexuality (Groth, Burgess & Holmstrom, 1977). *Power rapists* are motivated by a need to assert their dominance and control over the victims. The level of force used depends on how compliant the victims were. For *anger rapists*,

the rage toward the victim or who the victim symbolizes drives the considerable degree of physical violence to subdue or degrade the victim. Motivated by sexuality, the *sadistic rapists* eroticize violence, fusing sexual and aggressive urges to result in extreme violence in rape behavior. Data revealed that power rape was the most prevalent, followed by anger rape with sadistic rape constituting only 5% of the cases. Groth therefore conceptualized rape as part of the violent antisocial behavior, being an expression of power or hostility.

Hazelwood-Burgess Typology (1987)

With reference to Groth's typology (1979), Hazelwood and Burgess' typology (1987) expanded to four categories. The first is *anger-retaliatory rapist* whose rape offending is a kind of retaliatory act as a result of anger and rage toward the victim. The force used is therefore excessive. The second type is *anger-excitation rape* which is marked by sadistic acts in rape behavior. Sexual gratification is gained from inflicting pain, inducing fear and insuring total submission to the victim. The violence used is also massive. The third is *power-assertive rapist* who enjoys the sense of dominating and controlling the female victim in the course of rape. The use of force is moderate and dependent upon victim resistance. Lastly, the *power-reassurance rapist* uses rape behavior to restore his sense of masculinity as a result of low self-esteem. He is therefore less aggressive than other types of rapist.

Massachusetts Treatment Centre Rapist Typology: Version 3 (MTC:R3; Knight & Prentky, 1990)

The Massachusetts Treatment Centre Rapist Typology: Version 3 (MTC:R3) (Knight, 1999; Knight & Prentky, 1990) is regarded the most widely used and methodologically sound taxonomic system to date (Polaschek, 2003; Ward, Polaschek

& Beech, 2006). This theory-and-data-driven classification system has been subjected to numerous empirical scrutinies, making various revisions to come up with the nine types of rape. The nine types of rape which center upon four overarching motivations for rape (i.e. opportunity, pervasive anger, vindictiveness and sexual gratification), followed by subdivision according to the degree of psychopathy and then the extent of sexualization are: (Type 1) *High Social Competence Opportunistic Rapist*, whose offending is unplanned, predatory and typically driven by contextual factors but not sexual fantasy or anger, is socially skilled; (Type 2) *Low Social Competence Opportunistic Rapist* whose offence characteristics are similar to type 1 are socially inept; (Type 3) *Pervasively Angry Rapist* has general hostility toward both men and women, displaying gratuitous violence in offending; (Type 4) *High Social Competence Vindictive Rapist* whose anger and aggression direct at women alone is socially skilled ; (Type 5) *Low Social Competence Vindictive Rapist* whose anger and aggression direct at women exclusively is socially inept; (Type 6) *Overt Sexual Sadist* is pre-occupied with sexual fantasy which is aggressive and degrading in nature; (Type 7) *Muted Sexual Sadist* does not act out the highly ruminating aggressive sexual fantasy; (Type 8) *High Social Competence Sexual Non-sadist* who is socially skilled is pre-occupied with non-aggressive sexual fantasy; (Type 9) *Low Social Competence Sexual Non-sadist* has poor social skills and ruminate about non-aggressive sexual fantasy. Of the nine types of rape, the pervasively angry rape, vindictive rape with high or low social competence as well as overt sadistic rape involves higher degree of violence for the purposes of ventilating the bottled up anger.

Critique

There are a number of similarities and merits across these taxonomies. All of them recognize the use of violence in rape behavior, though the degree of violence is

subjected to the motivation behind each type of rape behavior. Sexual motive is simply one of the motivating forces underlying rape behavior. Rape behavior can be driven by the quest for power and the need to ventilate anger. In addition, these taxonomies give more detailed descriptions about the motivational, behavioral and personality characteristics of each type of rapist, enhancing the overall understanding of rape behavior and rapist.

Critique of these taxonomic classifications can make reference to the guidelines for scientific theory appraisal provided by Ward, Polaschek and Beech (2006). The guidelines include: (a) empirical adequacy which refers to the extent of the theory in accounting for existing findings and the phenomenon in question, (b) internal coherence which means the absence of gaps or illogical contradictions in the theoretical framework, (c) explanatory depth is about the deep mechanism and processes described by the theory, (d) unifying power that is about the ability to unify isolated facts and theories in explaining the phenomenon, and, (e) fertility which refers the ability to predict future behavior, to make new hypothesis or to translate the theory into clinical practice.

In terms of empirical adequacy and scope, the Groth's typology which divided rapists into the three anger, power and sadistic subtypes has oversimplified the heterogeneity of rapists, thereby undermining its clinical utility in assessment, treatment and prediction work (Knight, Warren, Reboussin & Soley, 1998). While MTC:R3 offers distinctive descriptions among the nine types of rape, independent validation work does not support the muted sexual sadistic subtype (Beech, Oliver, Fisher & Beckett, 2005). Vindictive rape is too similar to sadistic rape to have cast doubts to the two discriminating subtypes (Knight, 1999).

Concerning the theoretical coherence and unifying power, MTC:R3 fares better than the other two taxonomies in that it integrates the expressive-instrumental typology of violence (Berkowitz, 1993) into delineation of each rapist subtype. The violence use in pervasively angry and vindictive rapists exemplifies expressive violence of which the excessive amount of violence is fueled by intense rage and anger. The opportunistic and sexual non-sadistic rapists are prone to instrumental violence, using necessary force to subdue the rape victims for an instrumental reason for sexual assault. However, all three taxonomies simply focus on sub-typing rape behavior and neglect the etiological explanation and developmental processes underlying rape, thereby limiting its explanatory depth, ability to inform clinical approaches with rapists (clinical fertility) and potential to generate independent follow-up research activities (research fertility).

Multi-Factorial Theories

Unlike the taxonomic classificatory systems which are simply descriptive classifications, multi-factorial theories draw a number of single factors together into a more comprehensive and integrated explanation of the interactions and casual relationships that are believed to bring the problem behavior of concern. Five multi-factorial theories that incorporate violent behavior into their accounts of sexual aggression behavior have been identified in the sexual offender literature. They are Malamuth and his colleagues' (1986, 1991, 1993) Confluence Model, the Two-Path Model of Criminal Violence (Harris, Rice & Lalumiere, 2001), the Three-Path Developmental Model (Knight & Sims-Knight, 2003), the Hierarchical-Mediational Confluence (HMC) Model (Malamuth, 2003) and Lussier, Proulx and LeBlanc's (2005) explanatory model.

Malamuth's (1986, 1991) Confluence Model

The Confluence Model of coerciveness against women derived from structural equation modeling on college students is one of the earliest multi-factorial theories of rape etiology (Malamuth, 1986; Malamuth, Heavey & Linz, 1993; Malamuth, Sockloskie, Koss & Tanaka, 1991). The model contends that childhood environmental factors like parental violence and child abuse increase the chance of general delinquency which ultimately gives rise to coerciveness against women, sexual and non-sexual, via two mediating pathways. According to the *sexual promiscuity pathway*, delinquent peer subculture heightens the evolutionary prepared proclivity to impersonal sex by engaging in noncommittal heterosexual relationship. Nevertheless, not all males who are promiscuous will have coercive act against women because this pathway has to be moderated by the second pathway to bring forth such coerciveness. The second pathway namely the *hostile masculinity pathway* contains two overlapping elements, that is, perceiving women as mistrusting and adversarial, as well as, enjoying the sense of domination and control over women. When men believe their access to sex is thwarted due to female's rejection to sex or female promiscuity, they will develop chronic hostility toward women. To ensure reproductive success, they then resort to coercion of sexual or non-sexual nature to assert their general dominance and control over women. According to the Confluence Model, sexual arousal to rape, hostility toward women, domination as a motive for sex, attitudes supporting aggression against women which belonged to the hostile masculinity pathway best predicted non-sexual aggression. It was the interaction of hostile masculinity pathway and sexual promiscuity pathway which comprised of early antisocial personality characteristics and sexual experiences that predicted sexual aggression, that is, coercive sex happens when those who are high on

hostile masculinity engage in promiscuous sex but not those with little hostile masculinity.

The greatest strength of the Confluence Model is that it is grounded in solid and vigorous empirical validation not otherwise seen in other multi-factorial models of rape (Ward, Polaschek & Beech, 2006). Though the original model developed in 1986 was based on a cross-sectional retrospective study, a subsequent longitudinal study successfully used the model to predict sexual and nonsexual aggression over a ten-year follow-up period (Malamuth, Linz, Heavey, Barnes & Acker, 1995). There are independent studies replicating the model with other samples like the Singaporean community sample (Lim & Howard, 1998) and criminal adolescents (Johnson & Knight, 2000). Other replication studies even extended the model with variable namely general empathy (Dean & Malamuth, 1997; Wheeler, George & Dhal, 2002).

Another merit of the model is presenting a developmental perspective by integrating distal factors in childhood namely parental violence and child abuse with proximate factors like hostile masculinity and sexual promiscuity, and, identifying their inter-relations in the development of sexual and nonsexual aggression against women. Apart from tracing the origin of aggression against women back to childhood experiences, the model echoes the aforementioned developmental sequencing of various manifestations of antisocial behavior from delinquency or general non-violent antisociality to aggressive behavior. The hostile masculinity construct as measured by cognitive attitudinal factors also embodies the motivational factor of anger rape and power rape established in the preceded taxonomic classificatory systems. Though the model attempts to reason why and how general antisociality develops into aggressive behavior, it falls short of explanatory depth. Without integrating important theoretical work on attachment style and intimacy

deficit (Marshall, 1989; Ward, Hudson & Marshall, 1996) as well as victim empathy (Marshall, Hudson, Jones & Fernandez, 1995), the model fails to fill in the missing link underlying the sexual promiscuity pathway to sexual aggression, thereby making little contribution to inform clinical interventions on rapists.

On the one hand, studying sexual aggression and non-sexual aggression within the same empirical model and theoretical framework instead of separate lines of research constitutes a particular virtue of the Confluence Model. On the other hand, the predictor variables were shown to be specific to aggression against women but not aggression against men (Malamuth, 1988). This implies the model restricts exclusively to aggression against women but not general violence of interest in the present study. Lumping sexual aggression and non-sexual aggression together in the outcome variable of 'coerciveness against women' in addition precludes the Confluence Model from predicting and explaining the developmental progression of general violence to sexual violence mentioned earlier.

Nonetheless, the main limitation of the model is on its empirical scope. As Malamuth et. al.'s series of studies and most of the replication studies involved high-functioning college students at large, caution is needed in generalizing to offender population who has known history of sexual or nonsexual aggression because offenders tend to engage in more violent acts and aggress against strangers instead of acquaintances or intimates. Also, using college students as subjects confines the empirical findings on sexual and nonsexual aggression in early adulthood, its validity on individuals who begin these problem behaviors in later adulthood is yet to be established. This specific scope limitation therefore casts doubts to the usefulness of applying the Confluence Model to clinical assessment and treatment of incarcerated rapists.

Two-Path Model of Criminal Violence (Harris, Rice & Lalumiere, 2001)

Contrary to the Confluence Model which confines to aggression against women alone, the Two-Path Model of Criminal Violence (Harris, Rice & Lalumiere, 2001) targets general violence as defined by the conviction of violent offences namely armed robbery, assault, sexual assault / rape, attempted murder and other homicide offences. In other words, it collapses rape offending into the category of violent behavior. Based on structural equation modeling of 868 violent offenders, it was found that *neuropsychological insults* and *psychopathy* were both directly and independently related to criminal violence. Of these two distinct pathways, psychopathy yielded far more influence on criminal violence ($r = .84$) than that of neuropsychological insults ($r = .12$) as indicated by infancy problem, obstetrical complications and others. While neuropsychological insults and psychopathy were not found to be correlated, they both had a bi-directional relationship with the antisocial parent construct as measured by physical abuse, psychological abuse / neglect, witness of family violence, parental alcoholism and parental crime. The indirect impact of the antisocial parent construct on criminal violence, in turn, offers support to the origin of criminal violence in early life.

The Two-Path Model contributes remarkably to theoretical advance by incorporating psychopathy in modeling criminal violence, both sexual and non-sexual. Psychopathy is associated with a constellation of affective / interpersonal and behavioral characteristics such as a profound lack of remorse, callous disregard of the welfare and right of others, strong deceitfulness and manipulation, superficial charm, lifestyle impulsivity and pervasive irresponsibility (Cleckley, 1976; Hare, 1991). Porter, Fairweather, Drugge, Herve, Birt and Boer (2000) found 35.9% of rapists and 64% of rapists / child molesters reached the diagnostic cutoff on Hare Psychopathy

Checklist-Revised. Investigating psychopathy in the Massachusetts Treatment Centre: Rapist Typology 3 (MTC:R3) mentioned earlier, opportunistic and pervasively angry rapists had stronger psychopathic tendency whereas the non-sadistic and vindictive rapists were not likely to be psychopathic (Barbaree, Seto, Serin, Amos & Preston, 1994; Brown & Forth, 1997). In addition, the predictive validity of psychopathy in general violence was found to be ‘unparalleled’ and ‘unprecedented’ in violence literature (Hare, 1999; Salekin, Rogers & Sewell, 1996). Though the Two-Path Model was purported to model on criminal violence of both sexual and non-sexual nature, the disproportionately small portion of rapist in the violent offender sample leaves the model with more explanatory power for general violence in preference to rape offending. The sample composition tells the lack of sex-offender-specific factor in the model.

However, the model has little clinical fertility. Psychopathy is basically a personality construct. Though the model provides elegant empirical support to specify psychopathy as an important etiological factor in rape and violent offending, this personality construct does not explicate the underlying etiological mechanism that can form treatment targets for rapists and violent offenders. Regrettably, it is difficult to transfer the theoretical advance of this model to clinical practice. Besides, without encompassing theories of attachment style, intimacy deficit and victim empathy in model construction, the Two-Path Model is similar to the Confluence Model in its limited potential to become the theoretical backdrop for effective clinical approaches with rapists and violent offenders.

Comparing to the Confluence Model, this model has good implications for the present study in a way that it sampled offender population and elucidated criminal violence. Nonetheless, this model which mixed sexual violence and non-sexual

violence into the category of criminal violence, as well as, combined rapists and non-sexual violent offenders into one sample group fails to spell out the temporal ordering of violent behavior to rape offending, not to say the psychological processes of such progression in the antisocial behavioral repertoire. It does little good to heighten the effectiveness of treatment programs on rapists and violent offenders respectively.

The Three-Path Developmental Model (Knight & Sims-Knight, 2003, 2009)

Like the Two-Path Model of Criminal Violence, Knight and Sims-Knight (2003, 2009) acknowledged the importance of psychopathic propensity in constructing their three-path developmental model of sexual coercion. The authors cross-validated the model with three samples comprising of 275 adult incarcerated sexual offenders (not specifically rapists), 218 juvenile sexual offenders and 168 community control.

Pathway 1 works through *callousness-unemotionality (CU) factor*, a prototypical interpersonal and affective dimension of psychopathy. Developed from physical / verbal abuse, CU factor disinhibits sexual drive / fantasy and aggressive sexual fantasy to bring about sexually coercive behavior. Pathway 2 operates through *early antisocial / aggressive behavior* which resembles the antisocial / impulsive dimension of psychopathy. Originating from physical / verbal abuse or CU factor, the antisocial path either directly facilitates the sexually coercive behavior or indirectly operates through the aggressive sexual fantasy to develop sexually coercive behavior.

Pathway 3 is about *hypersexuality* composed of sexual drive/preoccupation, sexual compulsivity and sexual deviance. It starts with sexual abuse which disinhibits sexual drive / fantasy and then the *aggressive sexual fantasy (sexual deviance)*, leading to sexually coercive behavior ultimately.

A marked strength of the Three-Path Model is being the first empirical model to illustrate the sequential influence of antisocial behavior/aggression on sexual coercion ($r = .21$), though not specific to rape per se. The operational definition of sexual coercion in this model is more inclusive than rape behavior, including sexual act that ranges from petting, kissing, oral sex, attempted intercourse to completed intercourse. Moreover, cross-validating the model with samples from both offender and community populations as well as across juvenile and adult developmental stages maximizes its generalizability. As a result, this model serves as a good reference to the empirical investigation of rape-violence co-occurrence in offender population in the present study.

The Three-Path Model outperforms the Two-Path Model in terms of explanatory depth by breaking down the psychopathy construct in accordance with the two-factor model of psychopathy (Hare, Harpur, Hakstian, Forth, Hart & Newman, 1990). The two dimensions of psychopathy, namely CU factor and antisocial / impulsive tendency disinhibits aggressive sexual fantasy and / or sexual drive to bring about sexually coercive behavior. The dimension of antisocial / impulsive tendency in addition has direct impact on sexually coercive behavior. Again, stressing the psychopathy construct alone fails to fill in the theoretical gaps integral for effective treatment model as mentioned before.

The Hierarchical-Mediational Confluence (HMC) Model (Malamuth, 2003)

Replicating and refining the Confluence Model over the past two decades, Malamuth and his colleagues pioneered a hierarchical model of risk factors, from general to specific, in explaining aggression of different kinds. The Hierarchical-Mediational Confluence Model (Malamuth, 2003; Vega & Malamuth,

2003) integrates general antisocial / psychopathic characteristics into factors specific to sexual aggression in criminal and non-criminal samples of sexual aggressors. As a relatively distal factor, the higher-order *Proneness to General Hostility* construct contributes indirectly to sexual aggression via the mediation of the more proximate factors specific to sexual aggression, namely *hostility toward women*, *sexual dominance* and *sexual promiscuity*. This construct however directly predicts non-sexual aggression which progresses from verbal attack to physical aggression. In other words, the Proneness to General Hostility construct which is characteristic of individuals with antisocial / psychopathic proclivity is a general risk factor underlying both sexual and nonsexual aggression. Hostility toward women, sexual dominance and sexual promiscuity belong to the specific factors predictive of sexual aggression. Combining both general and specific factors gives the best prediction to sexual aggression than taking either one of the factors.

The distinct value of the HMC model is distinguishing general risk factor from specific risk factor in the prediction of sexual aggression and non-sexual aggression. The Proneness to General Hostility is identified as a general risk factor that predicts both non-sexual aggression (directly) and sexual aggression (indirectly). On the other hand, the hostile masculinity and sexual promiscuity constructs as measured by hostility toward women, sexual dominance and the number of sex partner are specific to the prediction of sexual aggression. In constructing an etiological model underlying rape and violent behavior, the present study can consider incorporating a hierarchy of risk factors like the HMC model to give the best account of the two target behaviors.

Besides, the virtues and weaknesses of the HMC model are the same as the Confluence Model with the exception of the loss of the developmental standpoint in

the HMC model. The model gives no hint to the origin of the Proneness to General Hostility construct despite a key factor to the model. Although the general and specific risk factors can constitute essential cognitive components in treatment programs that aim at reducing sexual and non-sexual aggression against women, grounding treatment programs in the HMC model alone will overlook other salient treatment targets implicated in attachment, intimacy and empathy theories.

Explanatory Model of Criminal Activity in Sexual Aggressors against Women (Lussier, Proulx & LeBlanc, 2005)

Another general-specific model explaining sexual aggression against women in a group of adult sex offenders with at least one sexual offence was established by Lussier, Proulx and LeBlanc (2005) despite on the basis of different constructs. They empirically tested three models with structural equation modeling: a general model of sexual offending, a specific model and a combination of both. The results showed that the general-specific model was as good as the general model in overall fit of the data. In the general-specific model, the general deviance pathway with a composite of early, persistent and increasingly violent/antisocial behavior which was developed from the criminogenic models had an impact on sexual offending ($r = .51$) in addition to nonsexual offending ($r = .66$). Note the specific pathway in this model characterized by sexualization and deviant sexual interest as developed from deviant sexual models had only a modest impact on sexual offending ($r = .13$). There was however a high correlation between the sexual and nonsexual offending ($r = .59$). Overall, the general-specific model explained 39% of variance of sexual offending behavior.

Regarding the general model, it was the same as the aforementioned

general-specific model except that there was no specific pathway. Developed from the criminogenic models, the general deviance pathway had a positive relation with non-sexual offending, sexual offending as well as sexualization and deviant sexual interest.

A hallmark of Lussier, Proulx and LeBlanc's study is the central role of general deviance which represents diversified antisocial behavior of varying degree of violence from childhood to adulthood in the development of adult sexual offending behavior. This is similar to the emphasis of psychopathy in the Two-Path and Three-Path Models. Of particular importance is that the general deviance pathway had a stronger and direct impact on sexual offending behavior while the sexualization pathway had a weaker link.

This model also takes a developmental perspective by tracing the development of general deviance or sexualization from the criminogenic or deviant sexual models in childhood and adulthood. For either criminogenic model or deviant sexual model, it refers to exposure to a (sexual) criminogenic environment or being a victim of abusive experience.

Weakness of this model lies in its empirical scope at large. By setting sexual offending of various kinds as the outcome variable and recruiting varying types of sex offenders as subjects, the model supported a link between sexual offending and general deviance but not the relation between rape and violent behavior in specific. Theoretically, the model also omits the contribution of salient theories of attachment, intimacy deficit, victim empathy and distorted attitude to the development of sexual offending behavior.

Overall, a general criticism of the classification systems is their lack of clear

explication on the etiological mechanisms underlying rape-violence co-occurrence. This is compensated by the four preceding multi-factorial theories to some extent. They make an outstanding achievement in identifying hostility toward women, general hostility, sexual dominance, impersonal sex and psychopathic tendency as crucial factors of sexual aggression. They however all fail to keep pace with other important theories of rape, sexual offending, physical violence and general offending to fill in the theoretical gaps for a thorough etiological understanding of rape-violence co-occurrence, undermining further enhancement of clinical assessment and treatment program for rapists.

CHAPTER FOUR

THEORIES OF RAPE / SEXUAL OFFENDING

Hall and Hirschman's (1991) Quadripartite Model which is specifically intended to explain rape together with theories of general sexual offending namely Marshall and Barbaree's (1990) Integrated Theory and Ward and Beech's (2005) Integrated Theory appear to contain theoretical ingredients that can enrich the foregoing multi-factorial theories in accounting for the rape-violence co-occurrence. Theories of sexual offending against children (e.g. Finkelhor's (1984) four-factor theory, Marshall and Marshall's (2000) developmental attachment theory, and Ward and Siegert's (2002) pathways theory) which fall beyond the scope of present study will not be covered.

Quadripartite Model (Hall & Hirschman, 1991)

In rape literature, Hall and Hirschman's (1991) quadripartite model represents a pioneering effort to give an explanation of rape per se. Though this model was later modified to explain sexual offending against children, it remains the only theoretical model specifically focuses upon rape to date. This model hypothesized four factors were implicated in rape: physiological sexual arousal, cognitive distortions, affective dyscontrol and personality problems. These factors can operate singly or in combination but one of them will be the primary factor for a particular rapist. For the *physiologically driven rapist*, rape is most probable in the presence of sexual fantasies or sexually aggressive stimuli. *Cognitively driven rape* is largely motivated by attitudes supporting and justifying rape. *Affectively driven rape* is precipitated by emotion regulation failure, particularly anger and frustration toward women and

others and therefore involve some degree of violence use in the course of rape. Concerning the *personality driven rapists*, their personality problems stem from adverse childhood experiences which shape their antisocial attitudes and problematic interpersonal style to use violence to get what they want. Rape is one of their problem behaviors. Additionally, situational factors such as pornography use and access to rape victims function as activators and cause individuals with one of the four motivating forces to rape a female.

Marshall and Barbaree's (1990) Integrated Theory

The integrated theory was developed as a general theory of sexual offending and has been used to explain the development, onset and maintenance of rape, child sexual abuse and other types of sexual deviance (Marshall & Barbaree, 1990). Biological, developmental, socio-cultural and situational factors are drawn upon to explain sexual offending. According to the integrated theory, the hormonal change during adolescence creates aggressive impulses naturally associated with male sexual activity. For this biologically based developmental task, adolescent males need to learn to inhibit their sexual impulses. However, such ability can be undermined by poor regulation skills or low self-esteem as a result of childhood adversities like witnessing or experiencing abuse and poor attachment with parents. In return, vulnerable adolescent males may use masturbatory coping to escape from negative feelings or to gain sense of control and power. These aggressive sexual fantasies will pair up with sexual arousal cues and transient situational factors like intoxication to give rise to sexual offending of any kind.

Integrated Theory of Sexual Offending (ITSO; Ward & Beech, 2005)

The Integrated Theory of Sexual Offending (ITSO) is the most comprehensive

theory of sexual offending to date (Ward & Beech, 2005). It unifies neurobiological development, sociocultural triggers and individual factors like emotional difficulties, social deficits, cognitive distortions and deviant sexual arousal in explaining the etiology of sexual offending. The theory is highly interactive in that emotional problem may arise from emotional dysregulation while impulsivity may be due to neurological executive problem. These problems are then linked to sexual offending when sex is used to cope with emotional difficulties and sexual regulation fails to control sexual impulse. The trigger point can be relationship problem with girlfriend, leading to sexual pre-occupation and other sexual problem as a result of attachment disruption, emotion dysregulation and cognitive distortion.

Critique

A key strength of these three theories is embracing a few vital single-factor theories of rape / sexual offending with respect to attachment style and intimacy deficits, mood coping and victim empathy that may help uncover the missing link between psychopathic tendencies and sexual / non-sexual violence in the Two-Path and Three-path Model (Harris, Rice & Lalumiere, 2001; Knight & Sims-Knight, 2003) and the sexual promiscuity pathway to sexual aggression in the Confluence Model (Malamuth, 1986, 2003) as said earlier.

The two preceding integrated theories incorporate Marshall's (1989) theory of intimacy deficit and attachment style in linking up childhood adversities to sexual offending. According to the intimacy deficits theory, poor parent-child attachment brings insecure relationships and emotional loneliness in adulthood. Rapists who are found to have a dismissing adult attachment style tend to emphasize achievement and self-reliance at the expense of intimacy. They in turn are prone to endorse the idea

that love without sex is pleasurable in their romantic attachment style (Ward, Hudson & Marshall, 1996). Of note, violent offenders were also found to be dismissing in adult attachment in the same study.

Furthermore, the theory of sexual coping (Cortoni & Marshall, 2001) helps explain the underlying mechanism of sexual promiscuity pathway or hypersexuality to sexual aggression. Rapists and child molesters were found to employ maladaptive coping strategies, be it avoidance or emotion-oriented, to deal with distress or problematic situations. Sexual coping in the form of actual sex, pornography and sexual fantasies with consensual, rape and molestation themes was one of the avoidance strategies.

The theory of victim empathy deficits (Marshall, Hudson, Jones & Fernandez, 1995) fill in the gap between sexual aggression against the will of a woman and impersonal sex, hostility toward women, psychopathic tendency, hypersexuality, etc. According to this theory, sex offenders including rapists fail to understand and experience the pain, humiliation and distress of the victims, thereby disinhibiting their sexual impulse in the course of sexual offending. The empathy process requires cognitive perspective taking instead of being egocentric and entitled to personal needs, that is, understanding the harm done on the victim from the victim's standpoint. Sexual offenders with low self-esteem who tend to avoid negative self-appraisal are prone to minimize the harm done on victims or callous responses to their victims' suffering.

The appealing side of these theories of attachment and intimacy deficit, mood coping and victim empathy is that they generate many related assessment measures and can be easily transform into treatment targets in intervention programs for rapists.

Nonetheless, the two integrated theories explain general sexual offending, therefore ignoring the use of violence commonly seen in rape offending but not the otherwise in sexual offending against children. Such a missing gap is detrimental to unravel the etiological mechanisms specific to rape offending. Caution has to be taken to draw implications for the conceptualization of rape-violence co-occurrence. The general lack of clarity of the constructs in these integrated theories also hampers their utility as treatment targets in effective intervention programs. While Marshall and Barbaree's (1990) Integrated Theory offers a nice explanation for sexual offending in adolescents and young adults who fail to achieve the developmental task of inhibiting sexual impulse due to various reasons, the theory cannot account for sexual offending with the onset in later adulthood. Alarming, empirical testing of these theories is generally lacking. They have never been tested in their entirety. Support for these theories has come from research showing sex offenders differ from other men on one or more of the factors.

CHAPTER FIVE

THEORIES OF VIOLENCE / GENERAL OFFENDING

Of the many theories of violence and general offending, Berkowitz's (1993) expressive-instrumental typology, Anderson and Bushman's (2002) General Aggression Model and Moffitt's (1993) Developmental Taxonomy have more implications for the understanding of rape behavior.

Berkowitz's Typology (1993)

Berkowitz's (1993) distinction between instrumental and expressive violence has been utilized as one of the dimensions in categorizing rapists in the Massachusetts Treatment Centre Rapist Typology: Version 3 (MTC:R3; Knight, 1999; Knight & Prentky, 1990) mentioned earlier. Instrumental violence is a premeditated act for obtaining a specific goal such as monetary gain as a goal of armed robbery. The amount of violence use is usually for the purpose of social influence, limiting to what is needed to attain the compliance of the victim. The learning of instrumental violence therefore follows the principles of operant conditioning. Concerning expressive violence, it is a 'hot' impulsive response to a specific frustration. Anger is usually the driving force behind. There is a desire to hurt someone. The violence acting out has a function of reducing negative emotion.

The General Aggression Model (GAM; Anderson & Bushman, 2002)

The GAM, which is the most comprehensive and contemporary theory of aggression to date, was developed with the intention to guide intervention efforts on all forms of human aggression. It emphasizes the interplay of a host of distal

predisposing personal characteristics and proximate precipitating situational factors in giving rise to aggressive behavior. The enduring distal factors include biological and environmental modifiers that are manifested in personality and influence an individual's preparedness to act aggressively via well-rehearsed violent scripts and aggression-related affective states. Proximate processes consist of cognitive appraisal, long-term goals, mood change and situational variables like provocation and aggressive cue in social encounters.

Moffitt's (1993) Developmental Taxonomy

Adopting a developmental life-course lens to understand the longitudinal offending pattern, Moffitt (1993) argued for two distinct groups of offenders based on Dunedin longitudinal study: *life-course-persistent offenders* and *adolescence-limited offenders*. Life-course-persistent offenders, who constitute approximately 5-10% of offender population, have diversifying and worsening manifestation of antisocial behavior with age over the life course. For example, they begin 'biting and hitting at age four, shoplifting and truancy at age ten, selling drugs and stealing cars at age sixteen, robbery and rape at age twenty-two, and fraud and child abuse at age thirty' (p.679). This pattern of continuity of antisocial behavior exemplifies 'heterotypic continuity' (Kagan, 1969) of which the antisocial disposition underlies the diverse phenotypic behavior with varying antisocial expression as age and social circumstances alter opportunities. Moffitt explained the life-course-persistent offending with the combined effect of early childhood neuro-developmental impairment and familial and socioeconomic environment that diminish the individual's self-control throughout the life course.

Adolescence-limited offenders, on the other hand, begin and desist their

antisocial behavior during adolescence. Through a process termed by Moffitt 'social mimicry', some adolescents mimic the antisocial behavior of their peers in order to gain status and power in their social world. Their antisocial behavior includes theft, alcohol use, vandalism and premarital sex but involves no instance of person-oriented violence like those of the life-course-persisters.

Critique

The value of the expressive-instrumental dichotomy is its merge into the Massachusetts Treatment Centre Rapist Typology: Version 3 (MTC:R3) in conceptualization of rapists, explaining the varying degree of violence use in the course of rape behavior. For instance, excessive violence may be fueled by anger of a rapist while the opportunistic rapist only uses necessary force to subdue the victim for instrumental purpose. In line with recent overseas observation (Anderson & Bushman, 2002), empirical validation on local violent offenders yielded a group with combined use of expressive and instrumental violence (Kong, 2009). Whether there is a group of rapists whose violence use embody components of both expressive and instrumental violence remains an empirical question.

The General Aggression Model offers an etiological explanation of physical violence not available in the expressive-instrumental typology. Like the Confluence Model of aggression against women reviewed earlier, the model takes a developmental approach by combining distal childhood factors with proximate cognitive, emotional and situational factors in accounting for violent behavior. Its stress on the well-rehearsed violent scripts and hostile hot cognition underscores the importance of cognitive factors in assessing and treating violent behavior. However, it offers no empirical evidence for the origin of these ingrained violent schemas in the

developmental history.

The connection between Moffitt's life-course-persistent offenders and rapists lies in a longitudinal study following up the Dunedin birth cohort at age 26 (Moffitt, Caspi, Harrington & Milne, 2002). The result reflected those classified as life-course-persistent offenders were more likely than the adolescence-limited individuals to be later convicted of violence against women as defined by rape or assault (11% versus 1%). The life-course-persistent offenders in addition accounted for five times their share of the adolescence-limited counterparts' violent offences and were more elevated on psychopathic propensity. It follows then that rape is presumably another manifestation of antisocial behavior as the life-course-persistent offenders grow in age. Such a process of heterotypic continuity gains empirical support in a study examining the contribution of general antisociality (ranging from authority-conflict, reckless behavior to covert and overt antisocial behavior) and sexualization to sexual and non-sexual conviction in rapists (Lussier, Proulx & LeBlanc, 2005). The model of general antisociality ($r = .51$) was found to surpass the sexualization model ($r = .13$) in predicting sexual conviction among the sexual aggressors. Interestingly, this study parallels the Three-Path Developmental Model (Knight & Sims-Knight, 2003) in underlining the role of antisocial tendency and sexualization in sexual coercion but the weight of the two factors are reverse ($r = .21$ for antisocial behavior / aggression; $r = .65$ for aggressive sexual fantasy).

CHAPTER SIX

COGNITIVE MODEL

Cognitive variable serves as one of the building blocks in the foregoing theories, for example, the hostile toward women and general hostile attitude in the Hierarchical-Mediational Confluence Model, the cognitively driven rapists in the quadripartite model, cognitive distortions in the Integrated Theory of Sexual Offending and the violent scripts in the General Aggression Model. However, there is either a lack of conceptual clarity or inherent difficulty to translate into treatment targets in intervention program for rapists and violent offenders. Apparently, these theories have not been benefited from contemporary research on dysfunctional schema content in child molesters, sexual offenders and violent offenders (Drake, Ward, Nathan & Lee, 2001; Milner & Webster, 2005; Polaschek, Calvert & Gannon, 2009; Ward & Keenan, 1999).

According to the cognitive model, an individual makes sense of his life experience by simplifying and organizing into meaningful cognitive structures called schema (Beck, 1967). Schema contains all the information related to the individual's knowledge, expectations and perceptions about the world, influencing how the individual behaves ultimately. Schema usually begin to develop in childhood as separate, un-integrated components which become more entrenched and integrated with more life experience to facilitate anticipation of events within an individual's life context. Thus, unraveling the schema content and its origin in developmental history have strong implications for prevention and treatment efforts.

Implicit Theories of Rape

Through reviewing research sources of attitudinal statements, Polaschek and

Ward (2002) proposed five implicit theories for rapists. The first is '*women as unknowable*' which means women are deceptive and heterosexual encounters are adversarial; men usually find it difficult to understand women. Second, '*women are sex objects*' refers to the belief that women are constantly sexually receptive. Women desire sex even if it is coercive or violent. They are created to meet the sexual needs of men, therefore they cannot be injured by sexual activity unless with physical injury. The third schema '*male sex drive is uncontrollable*' states men's sexual energy is difficult to contain, implying women play a key role in its loss of control. Fourth, '*entitlement*' means men should have their needs, including sexual needs, met on demand. The last one is '*dangerous world*'. Perceiving the world and people as threatening, hostile and exploitative, an individual is justified to retaliate and to assert his dominance over others. Note the latter two schemas are more general in nature, not specific to rape offending. A follow-up study examining the offence process descriptions of incarcerated rapists found 'women are unknowable', 'women as sex objects' and 'entitlement' were the more prevalent schemas, being endorsed by more than 60% of the rapist sample (Polaschek & Gannon, 2004).

In similar vein, Mann also identified five types of schema based on the review of treatment records of rapists and their explanations for rape offending (Mann & Beech, 2003): *entitlement, control, disrespect for certain women, grievance and self as victim*. The 'entitlement' schema is the same as Polaschek and Ward's implicit theory. The 'control' schema is also highly reminiscent of the 'dangerous world' implicit theory. When offence was seen as a competition for control, rapists would seek power and control in rape offending. The 'disrespect for certain women' schema which largely refers to prostitutes has some overlap with 'women as sex objects' implicit theory. For the 'grievance' schema, it is about the perception that men are being wronged or

hurt by women, thereby justifying the retaliatory act. There is some resemblance with the 'women are unknowable' implicit theory. Last, 'self as victim' schema denotes a passive self-pitying stance in the face of the world's demands.

Cognitive Theories of Violence

Research study and theory building with a cognitive approach to violence is more fragmented and immature however. Crick and Dodge's (1994) social information processing theory hypothesizes '*hostility bias*' to be the central tenet of violent behavior. Some socialization experiences potentiate aggression propensity by establishing encoding patterns attentive to hostile cues, making hostile attribution to situations, and, biasing goal selection towards expectation of more positive outcomes from aggression. Once the biased information processing is established, it tends to depend less on situational context and guides behavior in a largely consistent manner across situations, building up the ultimate aggression propensity.

Another prominent cognitive theory of aggression is Huesmann's (1998) script theory. The script theory emphasizes the substantial role of cognitive structure in the development of aggressive behavior via two specific schemas. The first is aggressive scripts which function to define situations and guide aggressive behavior. The other is normative beliefs which consist of cognitions about the perceived acceptability of aggression. Empirical evidence for normative beliefs of aggression yielded five aggression-related implicit theories based on the examination of transcripts of the offence-process interview on violent offenders (Polaschek, Calvert & Gannon, 2009). The first is '*normalisation of violence*' schema which views violence as a normal occurrence and means to achieve personal goals like gaining respect, having fun and resolving conflicts. The second schema was called '*beat or be beaten*'. Seeing the world as hostile and dangerous, violence is needed to protect oneself or to gain power and status. Third, '*I am the law*' schema is a belief about

one's superiority and entitlement to harm others. The fourth '*I get out of control*' schema contains belief in the inability to regulate own behavior and affect without assistance. The last schema is about '*minimization of the harmfulness of violence*'.

Furthermore, Beck (1999) described the cognitive mind of reactive offenders, instrumental offenders and psychopaths. Reactive offenders who react with violence only upon provocation view '*self as vulnerable*' in contrast to 'other people are enemy'. Instrumental offenders whose violence use is their means to gain personal needs believe '*the end justifies the violent means*'. For psychopaths who adopt violence as a way of life, they possess well-established '*egocentric bias*' schema which parallels the 'entitlement' schema.

Though not mentioned in the preceding theories, the 'external attribution' schemas which refers to blaming external factors rather than assuming self-responsibility was demonstrated to be a cognitive factor specific to aggression in a local study on Chinese adolescents (Leung & Poon, 2001).

Critique

Comparing the aforesaid implicit theories of rape with that of violent behavior, it is intriguing to note the overlap evident in the 'hostile and dangerous world' and 'entitlement' schemas. This offers support to the empirical proof of the predictive power of the former schema, which is termed 'general hostility' in the Hierarchical-Mediational Confluence Model, to sexual and non-sexual aggression against women, and its function as a general factor in the model (Malamuth, 2003). This same study also concluded the 'hostility toward women' schema to be specifically predictive of sexual aggression but not non-sexual aggression. In fact, it is not by chance to have illustrated both general and specific factors in simultaneous modeling of sexual and non-sexual aggression. It is related to the temporal precedence of violent behavior over rape / sexual aggression.

Turning to clinical practice, the striking advances in cognitive theorizing of rape and violent behavior offer a promising avenue for a precise and comprehensive approach to assess the associated cognitive factors and to target for change in intervention programs. The well-defined schemas make them viable to cognitive restructuring in the treatment process, enhancing the overall treatment effectiveness.

Unfortunately, there exists no empirical investigation of the developmental origin of these schemas, the interrelations among these schemas as well as the impact of these interactions on the two problem behaviors. The lack of empirical evidence on these aspects forbids cross over from research to theory and then clinical practice.

Importance of Cognitive Variables

The cognitive theory of psychopathology has been widely applied in explaining, predicting and treating depression, anxiety, addictive behavior, eating disorder, marital problem and sexual dysfunction (Hawton, Salkovskis, Kirk & Clark, 1989). Its application nonetheless goes beyond traditional mental health field. In forensic context, the dominant theory of criminal conduct, that is, the general personality and social psychology perspective points out 'criminal attitude' to be one of the 'big four' risk factors of offending behavior (Andrews & Bonta, 1994).

Empirically, two meta-analyses showed criminal attitude yielded the largest effect size on offending behavior relative to a broad range of other variables. The effect size in these two studies was estimated by Pearson correlation coefficient (r) which was found in the medium range. Study on juveniles found the following effect sizes: antisocial peers / attitudes (.39), temperament (.36), poor parent-child relation (.31), educational difficulties (.24), minor psychological variables (.20), personal distress (.10), family structure (.08) and social class (.07) (Simourd & Andrews, 1994). In another study on adult offenders, the effect sizes of major correlates of offending behavior were as follows: antisocial peers / attitudes (.22),

temperament (.21), parental / family factors (.18), educational / vocational achievement (.12), personal distress (.08) and social class (.06) (Gendreau, Andrews, Goggin & Chanteloupe, 1992).

In sexual offender literature, sex-offence specific prediction studies also demonstrated a link between cognitive factors and sexual offending behavior. Hanson and Harris (1998) found attitudes that justify sexual crimes being predictive of sexual recidivism ($r = .37$). Using a sample of 409 sex offenders including 137 rapists, Hanson and Harris (2000) showed a number of cognitive variables, namely sexual entitlement ($r = .29$), victim blaming ($r = .28$) and rape attitudes ($r = .19$) in association with sexual re-offending. Another stream of research concentrates on modeling sexual aggression. In developing a model of general and sexual aggression from normal population, Anderson and Anderson (2008) confirmed the impact of 'hostility toward women' on sexual aggression ($r = .16$).

In delinquency literature, normative beliefs about aggression were predictive of future aggressive behavior among elementary school children (Huesmann & Guerra, 1997). For the adult counterpart, Miller, Kroner and Hemmati (2004) showed significant association between violent attitude ($r = .19$) and entitlement belief ($r = .18$) with violent recidivism in an adult male offender sample. The Measure of Criminal Attitude and Associate (MCAA) which contains these two subscales not only demonstrated predictive validity for the outcome of violent recidivism, its predictive power was over and above a purely actuarial risk assessment measure of violence.

The heavy weight of cognitive variables in sexual offending behavior in empirical sense tells why these variables form 'one of the best-known treatment targets in sex offender intervention' (Ward, Polaschek & Beech, 2006). This explains the worldwide use of cognitive-behavioral approach as the choice of treatment for rapists and other types of sex offenders (e.g. The National Sex Offender

Program in Correctional Services of Canada, the Sex Offender Evaluation and Treatment Unit in Hong Kong, UK Prison Services' Sex Offender Treatment Program, The Vermont Treatment Program for Sexual Abusers). The reliance on cognitive-behavioral treatment also holds true for violent offenders as evidenced in the Violence Prevention Program in Canada, New Zealand and Hong Kong as well as the Violence Reduction Program developed by Wong (2000). Cognitive-behavioral treatment in fact was one of the empirically validated principles of effective intervention with offenders (Gendreau, 1995). It also surpassed other psychological interventions in the reduction of sexual recidivism in two meta-analyses of treatment outcomes of generic sex offender treatment program (Hanson et al., 2002; Lösel & Schmucker, 2005). A point to note is that cognitive-behavioral treatment has a long history in mental health and has been found to be an effective framework for a wide range of psychological disorders like depression, anxiety disorder, bipolar disorder, schizophrenia, borderline personality disorder, eating disorder and others (Butler, Chapman, Forman & Beck, 2006; Leahy, 2011). Based on effect size comparison, its empirically evidenced superiority over other psychological approaches in treating depression and anxiety disorder suggests cognitive-behavioral treatment should be considered the first-line psychological treatment of choice (Tolin, 2010). The hallmark of this treatment approach is that our thoughts cause our feelings and behaviors, not external things, like people, situations and events. In other words, we can change the way to think to feel and to act differently even if the situation remains unchanged.

Turning back to treating rapists, Lösel and Schmucker's (2005) meta-analytic review summed up a significant impact on reducing sexual recidivism in sex-offender-specific programs under a cognitive-behavioral paradigm. However, there should be room to further enhance the effectiveness of cognitive-behavioral

treatment on rapists in specific. One reason is that rapists are treated alongside other type of sexual offenders in generic type of sexual offender treatment program. In Gannon et' al's (2008) rape review, such programs are predominantly attended by child molesters as opposed to rapists. The ratio could be approximately 8 to 1.5. Besides, existing theories and empirical studies that lay the foundation of these programs are again strongly stacked in favour of child molesters among whom the pedophiles are shown empirically to have their unique risk factors (Seto, 2008). It is therefore understandable that rapist-specific features like the psychopathic personality characteristics as well as the general violent tendency due to rape-violence co-occurrence are not fully addressed in such generic type of treatment programs. Nonetheless, the impact of rape-violence co-occurrence on treatment outcome needs further empirical inquiry. Differential impact of co-occurrence on treatment outcome was revealed among various types of anxiety disorder (Olatunji, Cisler & Tolin, 2010). There was a significant negative relationship for mixed or neurotic anxiety samples but a positive impact of co-occurrence on treatment outcome for panic disorder and/or agoraphobia, post-traumatic stress disorder and obsessive-compulsive disorder.

In view of the aforesaid theoretical advance in cognitive theories of rape and violent behavior, the evidence base of cognitive-behavioral therapy as the first-line treatment of choice in affective disorders, and, the problems inherent in current cognitive-behavioral treatment program for rapist, it is promising to improve treatment efficacy of psychological work on rapists through emphasizing on cognitive variables in future empirical investigation and theory building.

CHAPTER SEVEN

OBJECTIVES OF THE PRESENT STUDY

Rape literature remarked that ‘rapists share many characteristics with other violent offenders’ (Lalumiere, Harris, Quinsey & Rice, 2005). Empirical studies investigating both rapists and non-sexual violent offenders remained at the descriptive level at large, yielding group differences on their socio-demographic, offending history, developmental and psychopathological features (Gannon et al., 2008; Polaschek, Ward & Hudson, 1997). Despite some research endeavours to unravel the etiological development of rape behavior, these empirical models are far from satisfactory on theoretical and empirical fronts. First, no single model offered precise and solid explanation for rape behavior as the studies either lumped sexual and non-sexual aggressiveness against women together, subsumed rape behavior under criminal violence or targeted sexual coercion in empirical modeling instead of studying rape behavior per se. Second, most of these models sampled on the young, high-functioning college students with likelihood of sexual coercion but not rape behavior, limiting the ability to draw firm conclusions on the rapist population. Although the Two-Path Model of Criminal Violence and the Three-Path Developmental Model were modeled on convicted offenders, those with rape conviction were in the minority (Harris, Rice & Lalumiere, 2001; Knight & Sims-Knight, 2003, 2009), affecting the generalization of research findings. Besides, these models lack explanatory depth and empirical adequacy by failing to incorporate recent research advances in general offending, physical violence and sex offender-specific correlates namely intimacy deficits, attachment style, victim empathy, sexual coping and cognitive schemas. While the Confluence Models encompass factors like hostile masculinity, attitudes supporting violence and general

hostility (Malamuth, 1986, 2003), and, psychopathy was included in the Two-Path and Three-Path Models, they are still insufficient to generate comprehensive understanding of rape behavior and filling in the theoretical gaps with updated knowledge of the field. In addition, the psychopathy construct was not addressed in the empirical models in a way that can easily be transformed into treatment targets for clinical intervention, thereby restricting the clinical fertility of these two models. Lastly, with the exception of the Hierarchical-Mediational Confluence Model and the Three-Path Model that looked into the developmental precedence of general violence over rape behavior, the rape-violence co-occurrence has been overlooked in etiological modeling.

In the quest to enhance treatment effectiveness of the cognitive-behavioral intervention model on specifically rapist, the present study filled the aforesaid theoretical gaps and tackle earlier methodological flaws in the examination of etiological mechanisms of rape behavior. Strengths of previous modeling attempts namely a developmental approach containing distal and proximate factors, a hierarchical model of factors common to rape and violent behavior as well as factors specific to rape behavior per se, a cognitive paradigm and a multi-factorial perspective were also incorporated in the present study.

Multi-Factorial Etiological Model

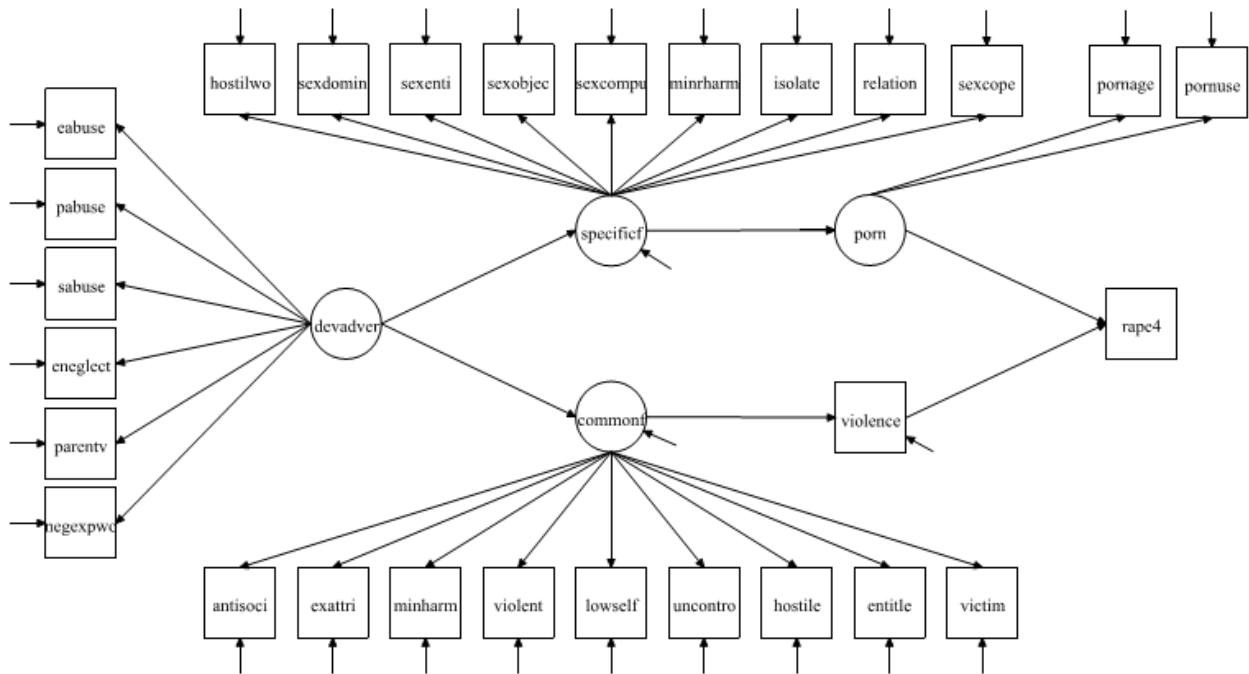
To go beyond previous research efforts that simply examine the overlap between rape and violent behavior at the descriptive level, the present study took the advantage of the empirically proven single-factor theories of rape behavior by combining these factors into a multi-factorial etiological model for hypothesis testing. Notably, multi-factorial model like the Quadripartite Model (Hall & Hirschman, 1991) accounts for greater variance of rape behavior which is found to be multiply determined like many other problem behavior. Unlike descriptive findings, an

etiological model that unraveled the underlying psychological processes not only adds explanatory depth but also carries more implications for clinical work. Present study represented the first attempt to develop a multi-factorial etiological model of rape behavior specifically. With an objective of exploring the developmental pathway of rape behavior in association with violent behavior within the cognitive framework, the present study traced from distal developmental adversities to the cognitive variables common to rape and violent behavior, and then the more proximate rape-specific cognitive variables. The role of pornography use in relation to rape behavior was also examined. Figure 1 presents the hypothesized model of the present study. Empirical testing of the hypothesized model helps discern the unique contribution of each independent variable and articulate the significant paths to rape behavior that will bolster prevention and treatment efforts. Contrary to past empirical studies that yielded multi-factorial modeling only on the less severe sexual aggression or sexual coercion ranging from kissing, petting, oral sex to non-consented sexual intercourse (Knight & Sims-Knight, 2003; Lussier, Proulx & LeBlanc, 2005; Malamuth, 1986, 1991, 2003) or criminal violence in general of which rape behavior constitutes one of the general violent offending behavior (Harris, Rice & Lalumiere, 2003), the outcome variable of the present study was rape behavior per se in order to make direct implications for the rape literature with the hypothesized multiple mediation model.

Distal Factor

A particular feature of the present study was taking a developmental perspective through hypothesizing developmental adversities as the distal factor in the etiological model for rape and violent behavior. The empirical base came from recent research on general offending and developmental criminology. Moffitt's (1993) life-course-persistent offenders who exhibit violent behavior in rape offending at an older age have various manifestations of antisocial behavior since childhood and show

Figure 1: Hypothesized Model of Rape Behavior



Note. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpw (Negative experience with female); specific (Rape-Specific Factors); hostilewo (Hostility toward women); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); isolate (Social Isolation); relation (Adversarial-Dismissive Relationship); common (Common Factors); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); lowself (Negative Self Schema); nocontro (Uncontrollability); hostile (Hostile World); entitle (Entitlement); victim (Victim Stance); porn (Pornography); pornage (Age onset of Pornography); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior).

signs of early adversity. Malamuth's (1986) Confluence Model, the Two-Path Model of Criminal Violence (Harris, Rice & Lalumiere, 2001) and the General Aggression Model (Anderson & Anderson, 2008) start their etiological models with childhood factors namely parental violence, child abuse, physical / verbal abuse, sexual abuse, and psychological abuse / neglect. Empirical research also demonstrated developmental adversities in the form of sexual abuse, physical abuse, violence and coercive parenting behavior in rapists and (Dhawan & Marshall, 1996; Marshall, 1989; Smallbone & Dadds, 1998) and violent offenders (Loeber, Pardini, Homish, Wei, et. al., 2005; Tremblay, Nagin, Séguin, Zoccolillo, et. al., 2004). Theoretically, the developmental processes following these early adverse experiences may include cynical and hostile world schema (Huesmann, 1988), feelings of inadequacy, intense anger and exaggerated need to control intimate partners, bringing forth violent behavior of various kinds.

Negative experience with female, a particular aspect of developmental adversity that is underresearched in rape literature, was specially included in the present study. It is related to the strong resentment and hatred towards women as well as the need to humiliate and take revenge of women commonly revealed in incarcerated rapists and sexually aggressive college males (Darke, 1990; Lizak & Roth, 1988). Beck (1999) posited that males who experience rape as a vengeful act are usually 'obsessed with memories of past rejections or humiliations by women' (p.141). Similarly, Ward, Hudson, Johnston & Marshall (1997) pointed out that many rapists acknowledged past experiences of being humiliated, degraded or betrayed by a woman. Anger rapists who believe themselves being wronged by women usually had a fight with girlfriend or wife not long before (Prentky & Knight, 1990). Following breakup with girlfriends, some rapists feel being rejected or humiliated (Mckibben, Proulx & Lusignan, 1994). There is no single study investigating negative life events with

women in Chinese rapists. However, Chinese people coming from Hong Kong, Taiwan and the Mainland tend to believe Chinese rapists suffered from various kinds of childhood trauma such as being 'betrayed by people they trusted (mothers and girlfriends or were bullied by women (sisters, wives and female bosses)' (p.980; Tang, Wong & Cheung, 2002). In fact, clinical observations have noted many local incarcerated rapists reported negative experience with female in different stages of their life.

In brief, the distal developmental adversities factor hypothesized to predict rape and violent behavior in the present study composed of 6 indicators namely sexual abuse, emotional abuse, physical abuse, neglect, parental violence and negative experience with female.

Cognitive Factors

The present study had heavy reliance on cognitive variables in the hypothesized etiological model. Cognitive variables are particularly chosen because cognitive factor is a significant predictor of sexual re-offending and future violence, cognitive-behavioral treatment is the most promising treatment of choice for rapists and other offenders, dysfunctional schemas are amenable to change and easier to translate into treatment targets (Beck, 1999; Hanson & Harris, 1998; Huesmann & Guerra, 1997; Gendreau, 1995; Lösel & Schmucker, 2005). Identifying the various kinds of cognitive schema predictive of rape behavior will facilitate clinical assessment and treatment of rapists. The choice of cognitive variables in the present study was guided by both theoretical and empirical evidence, drawing upon recent cognitive theories and empirical cognitive correlates of rape and violent behavior (Crick & Dodge, 1994; Mann & Beech, 2003; Polaschek, Calvert & Gannon, 2009; Polaschek & Ward, 2002) and capturing the cognitive component of non-cognitive correlates that cannot be easily translated into treatment target, namely, psychopathic

tendency, sexual coping and intimacy deficit (Cortoni & Marshall, 2001; Knight, 2009; Marshall, 1989; Marshall & Barbaree, 1990). Studying the relationship between the cognitive factors and the developmental adversities would also test out the cognitive model of psychopathology that posits schemas are developed and maintained by related life experience (Beck, 1967).

In view of the temporal precedence of violent behavior over rape behavior in their co-occurred association (Elliott, 1994; Lussier, LeBlanc & Proulx, 2005; Loeber & Hay, 1997), the cognitive factors in the hypothetical measurement model fell into two groups with rape and violent behavior treated as separate outcome variable: (a) cognitive factors common to both violent and rape behavior, and, (b) cognitive factors specific to rape behavior. This is similar to the Hierarchical-Mediational Confluence Model (Malamuth, 2003) which posits that proneness to general hostility as the factor common to non-sexual and sexual aggression while the factors specific to sexual aggression / coercion include hostility towards women, sexual dominance and heavy pornography consumption. For the present study, a total of 9 common and 8 rape-specific cognitive factors were selected for the hypothesized model.

Common Cognitive Factors

In earlier study, child abuse was shown to be significantly more prevalent in violent than the non-violent offenders but this factor did not fall into the mix of 11 risk factors predictive of the onset of violent behavior at the multivariate level (Loeber, Pardini, Homish, Wei, et. al., 2005). Besides, childhood adversities variables were found to impact on violent behavior only via various mediating variables in empirical models like Malamuth's (1986) Confluence Model, the Two-Path Model of Criminal Violence (Harris, Rice & Lalumiere, 2001) and Lussier, Proulx and LeBlanc's (2005) explanatory model. Though there was a direct path between physical / verbal abuse and antisocial behavior / aggression in the Three-Path Developmental Model, the path

co-efficient was rather low ($r = .17$; Knight & Sims-Knight, 2003). Taken together, it was postulated that some mediating variables would play a part in the relation between childhood adversities and violent behavior. According to Baron & Kenny (1986), 'a given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion' (p.1176), in other words, 'mediators speak to how or why such effects occur' (p.1176). As rape is a subset of violent behavior and emerges after the display of violent behavior, such mediating variables were postulated to predict rape behavior also. The 9 cognitive factors hypothesized as mediators between developmental adversities and violent behavior / rape behavior in the hypothetical measurement model are as follows:

Hostile world. This cognitive construct views the world and people as hostile and threatening, therefore violence is both normal and necessary for survival. Abuse experience was found to make children developed a working model of the world as a hostile place (Dodge, Bates & Pettit, 1990; Richardson, 2005). This construct in fact captures the essence of 'hostile attribution bias' proposed by Dodge, Price, Bachorowski & Newman (1990) in explaining childhood aggression, and, 'proneness to general hostility' in Malamuth's (2003) model of sexual and non-sexual aggression / coercion. There were other empirical research that illustrates the hostile world schema in rapists (Beech, Ward & Fisher, 2006; Langton & Marshall, 2001; Polaschek & Gannon, 2004) and violent offenders (Polaschek, Calvert & Gannon, 2009; Polaschek & Ward, 2002). Rapists with hostile schema alone but no other rape-specific schema were found to be violently motivated with intense anger and need for retaliation (Beech, Ward & Fisher, 2006).

Violent attitudes. For this cognitive schema, violence is seen a normal occurrence and legitimate means to solve problem and to achieve a range of psychological, social and material goals like enhancing social status, boosting

self-esteem, protecting oneself from a dangerous world and regulating negative emotion via retaliation. The 'beat or be beaten' schema and the instrumental subscale of the violence attitude questionnaire named EXPAGG-M belong to this schema (Archer & Haigh, 1997; Polaschek, Collie & Walkey, 2004). Early exposure to violence was found to promote the belief that legitimizes violence use (Huesmann, 1988; Shahinfar, Kupersmidt & Matza, 2001). Polaschek, Calvert and Gannon (2009) found this schema to be most prevalent in violent offenders and considered it a background assumption underlying other schemas, that is, a higher-order cognitive structure in statistical terms. This schema was also demonstrated in a sample of aggressive adolescents incarcerated for violence offences like assault, rape and murder (Slaby & Guerra, 1988).

Entitlement. This schema refers to the belief that one's needs have to be met on demand. Polaschek, Calvert and Gannon (2009) called this 'I am the Law' schema. The entitlement schema is postulated to develop from child abuse and neglect (Polaschek & Ward, 2002; Ward, Hudson & Marshall, 1996). Having developed an insecure attachment style due to an abusive childhood, people tend to feel righteous to restore the threatened self by harming others through sexual or non-sexual means. This schema is common to all types of sex offenders and violent offenders. Rapists and violent offenders were particularly found to harbor the belief that they are entitled to take revenge and to control others (Mann & Hollin, 2001; Milner & Webster, 2005). No significant difference was demonstrated on the entitlement schema between the rapists and violent offenders (Milner & Webster, 2005). The entitlement schema in fact was shown to be one of the three most prevalent schemas strongly related to trait aggressiveness (Tremblay & Dozois, 2009).

Uncontrollability. This construct refers to the belief that the world is unchangeable and uncontrollable, therefore one's affect and behavior fall beyond

personal control. Polaschek, Calvert and Gannon (2009) termed this ‘get out of control’ schema. People having experienced childhood sexual abuse tend to perceive uncontrollability of aversive situation as the traumatic abuse was usually experienced as uncontrollable in childhood (Wenninger & Ehlers, 1998). Like the entitlement schema, the uncontrollability schema is shown to be one of the three most prevalent schemas strongly related to trait aggressiveness (Tremblay & Dozois, 2009). The uncontrollability construct appears to have a narrower application in rapists, presenting as ‘uncontrollable sex drive’ (Polaschek, Calvert & Gannon, 2009).

Negative self-schema. This construct refers to a negative, worthless and vulnerable view of self. A review of impact on child sexual abuse concluded that the abusive experiences brought negative self-schema to the victims in the long run, though the initial impact on self-schema was insignificant (Browne & Finkelhor, 1986). Women with very poor self-schema were found to be nearly four times more likely to report a history of child sexual abuse. Violent offenders who are prone to react with violence only upon provocation usually have a vulnerable self-schema (Beck, 1999). Among the rapists, those who are non-sadistic sexual with intimacy problem and emotional loneliness tend to have a negative self-schema according to the Massachusetts Treatment Centre: Revised Rapist Typology Version 3 (MTC:R3; Knight & Prentky, 1990). The level of worthless self-schema was rather comparable between the rapists and offenders as the effect size of the difference was just small ($d = .36$; Milner & Webster, 2005).

Antisocial attitudes. Antisocial attitudes are beliefs that reflect justification for antisocial behavior, for example, ‘it is difficult to get caught by police, not to say being charged or convicted’, ‘the judge is not fair, just siding with the victim’, ‘having criminal conviction before, it is not a big deal to commit another offence’ and the like.

Many research findings implicate on the presence of antisocial attitudes in rapists and violent offenders. First, these two offender groups are known to be criminally versatile (Gannon, Collie & Thakker, 2008). Retrospective study with adult concluded higher prevalence of problem behavior in rapists than in other types of sex offenders (Bard, Carter, Cerce, Knight, Rosenberg & Schneider, 1987). Juvenile delinquency was found to predict sexual coercion and violent behavior (Knight & Sims-Knight, 2003; Malamuth, Heavey, Linz, 1993). Also, antisocial orientation was shown to be most predictive of non-sexual violent recidivism ($r = .51$) and the second best predictor of sexual recidivism ($r = .23$) in a meta-analysis of recidivism studies on sexual offenders (Hanson & Morton-Bourgon, 2005). Notably, empirical support for the impact of parental violence and child abuse on juvenile delinquency was shown in the Confluence Model (Malamuth, 1986)

Minimise harm done. This refers to the belief that involves downplaying the harm done on the victim. Linking to the foregoing normalization belief, the belief that violence brings no lasting physical or psychological harm to the victim, or, the harm will be ameliorated soon means violence use is acceptable. The minimization schema is common in rapists and violent offenders as well as general offenders (Ryan, 2004).

External blame. This construct refers to the tendency to blame the offending behavior on social circumstances, victims or society. The construct was found to be related to hostility (Caine, Foulds & Hope, 1967) and external locus of control (Rotter, 1966). Believing rage of sexual impulse to be uncontrollable, it is the victim or other factor that contribute to rape and violent behavior. Local study on a sample of students found external attribution to be specifically related to aggression (Leung and Poon, 2001). In addition, the Chinese showed strong tendency to believe women as legitimate victims of both sexual and non-sexual violence, seeing men as sick, losing

control of their impulses and being provoked by women (Tang, Wong & Cheung, 2002). Blumenthal, Gudjonsson and Burns (1999) found violent offenders were more prone to make external attribution than sex offenders as a whole, while rapists made more such attribution than child molesters, blaming their victim more than the society.

Victim stance. This schema relates to the theme about past suffering, self-pity and injustice, and, was shown to be correlated to 'externalizing blame' schema (Polaschek & Ward, 2002), entitlement, uncontrollability and minimisation schemas (Gannon, Keown & Rose, 2009). Seeing self as victim in general life events will make one prone to believe being entitled to gain some pleasure and having little self-control in making good personal choice, thereby avoiding to consider the harm done on victims. Child molesters with a history of childhood sexual abuse were found to have stronger victim stance (Craissati & McClurg, 1996). Milner & Webster (2005) found the violent offenders to have significantly higher victim stance than the rapists and the effect size was moderate ($d = .47$). Regardless of a juvenile or an adult, violent offender sees himself as the victim whilst others as the victimizers (Beck, 1999). There exists no empirical study investigating the presence of victim stance in the Chinese rapists but research on general Chinese population showed the Chinese tend to depict rapists as victims, suffering from childhood trauma and being harmed by women at different life stages (Tang, Wong & Cheung, 2002).

Rape-Specific Cognitive Factors

Examining the associations between the rape-specific cognitive factors and rape behavior in the present study represented the first test of the cognitive content-specificity hypothesis in rape research. According to the cognitive model of psychopathology, each specific disorder can be characterized by a specific cognitive content (Beck, 1976). Empirical evidence for the cognitive content-specificity

hypothesis has been demonstrated in anxiety, depression and aggression in Western and Chinese samples (Beck & Emery, 1985; Beck, Rush, Shaw & Emery, 1979; Leung & Poon, 2001). The following 8 rape-specific cognitive factors will capture the cognitive component of two of the three dimensions of rape recently proposed by Knight (2009) namely callous-unemotionality and hypersexualisation as well as correlates of rape behavior like intimacy deficits and sexual coping (Cortoni & Marshall, 2001; Marshall, 1989; Marshall & Barbaree, 1990). Knight's (2009) third dimension of rape behavior, that is, antisociality / impulsivity has been embraced in the common cognitive factors mentioned earlier.

Hostility toward women. This schema contends that women are distrustful, adversarial and malevolent, therefore rapists are motivated by the wish to humiliate, degrade or hurt the rape victims. Rapists who ruminate over the past rejections or humiliations by women will see rape as a kind of revenge (Beck, 1999). The vindictive rapists are prone to espouse such negative schema regarding women (Knight & Prentky, 1990). Unlike the hostile world schema which refers to general hostility, the hostility toward women schema has a specific focus on women. Based on empirical validation of the Hierarchical-Mediational Confluence Model (Malamuth, 2003), the hostility toward women schema as captured by the hostile masculinity factor was impacted by the hostile world schema ($r = .24$). This schema nonetheless brought different impact on sexual and non-sexual aggression. The hostility toward women schema had direct impact on sexual aggression ($r = .16$) but not on non-sexual aggression. The otherwise held true for the hostile world ($r = .36$) schema, showing a direct impact on verbal non-sexual aggression. In addition, rapists were shown to have significantly higher hostility toward women than the violent offenders in Milner and Webster's (2005) study. The effect size of difference was 1.54. Notably, the prevalence of this schema in rapists yielded inconsistent findings, ranging from 9% in

the British sample (Beech, Ward & Fisher, 2006) to 65% in the New Zealand rapists (Polaschek & Gannon, 2004).

Women as sex object. This schema sees women as sexually receptive all the time, having sexual desires dominating their lives. With this schema, rapists tend to process and interpret rape victims' friendly gesture as seductive while construing victims' frightened compliance and passivity as a kind of enjoyment (Polaschek, Ward & Hudson, 1997). To its extreme, the belief that women crave for sexual fulfillment at any cost and with any men is shaped and perpetuated by pornography (Tieger & Aronstam, 1981). Beech, Ward and Fisher (2006) attempted to link rape-specific cognitive factors to the underlying motive of rape. Rapists with both women as sex object and entitlement schemas but an absence of the hostile world schema were shown to be sexually motivated (Beech, Ward & Fisher, 2006). For rapists with both women as sex object and the hostile world schemas, they are likely to be sadistically motivated. Overall, the women as sex object schema was found to be prevalent in rapists, ranging from 51% to 70% of the rape offences (Beech, Ward & Fisher, 2006; Polaschek & Gannon, 2004). The only culturally relevant study that sampled from general Chinese population coming from Hong Kong, Taiwan and the Mainland produced uncorroborated findings however (Tang, Wong & Cheung, 2002). Chinese people were found to view women as asexual or as having little sexual desire.

Sexual entitlement. The sexual entitlement schema refers to one's sexual needs should be met on demand (Polaschek & Ward, 2002). Men are also entitled to punish women by rape behavior. This schema has a narrower scope than the entitlement schema which does not confine one's right to fulfill one's wish to the sexual domain. Empirically, sexual entitlement schema yielded a significant correlation with the general entitlement schema ($r = .47$; Hill & Fischer, 2001). Compared to the general entitlement schema, the sexual entitlement schema was a

more proximal predictor of sexual coercive behavior ($r = .41$). While the violent offenders and rapists had similar level of entitlement belief, rapists revealed significantly higher sexual entitlement than the violent offenders (Milner & Webster, 2005). The effect size of difference was large ($d = 1.12$). In a sample of 409 sex offenders under community supervision of whom 137 were rapists, sexual entitlement was found to be related with sexual recidivism ($r = .29$; Hanson & Harris, 2002). Of varying types of rapist, marital rapists are prone to believe they themselves are entitled to have sex on demand in marital relationship (Bergen, 1996).

Sex as coping. The sex as coping schema is about the belief that sexual behavior, normal or otherwise, can be used to mitigate life stress including emotional loneliness (Cortoni & Marshall, 2001). On the one hand, sex is perceived one means to avoid or escape from dealing with the emotional distress. On the other hand, sex can be regarded as a source of happiness. This schema is in line with the emotion regulation failure addressed in the Quadripartite Model of Rape (Hall & Hirschman, 1991), Marshall and Barbaree's (1990) Integrated Theory and Integrated Theory of Sexual Offending (Ward & Beech, 2005). Overall, rapists had more use of sexual coping than the non-sexual violent offenders (Cortoni & Marshall, 2001). Beck (1999) remarked forcible sex was used as a kind of self-medication for unpleasant feelings. More specifically, they were shown to adopt more avoidance coping style than other types of offenders and non-offenders (Cortoni, Anderson & Looman, 1999). In addition to regulating negative emotion, sexual coping is also related to positive emotion. 'Over-evaluation of sex in the pursuit of happiness' is described to be one of the three schemas associated with sex offending (Hanson & Harris, 2001).

Relationship schema. This schema focuses on intimate relation in particular. Following Baldwin's (1992) proposal of the three components of the relational schema namely relationship script, self-schema and partner schema, this schema

concerns the belief about intimate relationship, the view of self and the intimate partner. Rapists were found to be more likely to report a dismissing attachment style as characterized by viewing self as positive, seeing others as negative, remaining skeptical of the value of close relationship and engaging in impersonal or casual sex (Ward, Hudson & Marshall, 1996). People with such attachment style in intimate relationship tend to be self-absorbed, emphasizing personal achievement over intimacy. They believe love without sex is pleasurable. They are usually aloof, cold and more hostile in social interaction. Note Knight and Prentky (1990) also highlighted courtship disordered schema and distorted theories about relationship in the non-sadistic sexual type of rapists.

Uncontrollable sex. The uncontrollable sex schema refers to a belief that once men start to get sexually aroused, it is difficult for them to contain themselves (Polaschek & Ward, 2002). This schema is found to be associated with the external blame schema which is hypothesized to be common to both violent offenders and rapists (Polaschek & Ward, 2002). Compared to other rape-specific cognitive factors, this schema is not particularly prevalent in rapists, constituting about 15% of rapists in UK and New Zealand samples (Beech, Ward & Fisher, 2006; Polaschek & Gannon, 2004).

Sexual dominance. The sexual dominance schema is about the belief to gain control and power over women through sex. Beck (1999) highlighted the link of this schema with the sex as coping schema, positing the sense of power and domination over the rape victims neutralize the sense of powerlessness experienced in life stressors. For rapists, Mann and Hollin (2001) highlighted the control schema as one of their five core schemas, believing the need to be in charge of others.

Minimise harm done on rape victim. This schema is about the belief that little or no harm will be incurred to the rape victim. It is related to the women as sex

object schema. Believing women are constantly sexually receptive to men's sexual desire, rape victims cannot be injured by sexual activity unless with physical injury or excessive physical force in the process (Polaschek & Ward, 2002).

Overall, the uncontrollable sex schema particularly matches the hypersexualisation dimension of rape as proposed by Knight (2009) at the conceptual level. The sexual dominance, women as sex object, sexual entitlement, sex as coping constitute other related schemas. For the callous-unemotionality dimension, it is more relevant to the hostility toward women, women as sex objects, relationship schema and minimization of harm done on rape victim schemas.

Pornography Use

Regarding *pornography use*, the findings of several meta-analyses on the extant experimental and naturalistic research on offender and non-offender populations supported a reliable relation between frequent pornography use and sexually aggressive behavior, particularly for violent pornography and /or men with high risk of sexually aggressive behavior (Malamuth, Addison & Koss, 2000). Relative to child molesters and incest offenders, rapists demonstrated regular pornography use in adolescence and adulthood (Marshall, 1988). Marshall's study, interestingly, suggests the content of pornography may not be influential in sexually aggressive behavior as pornography in the study depicted both forced sex and consensual sex. In a meta-analysis, experimental studies have shown that exposing males to pornography increases their rape fantasies, willingness to rape, acceptance of rape myths and aggression against female targets (Allen, D'Alessio & Brezgel, 1995). Also, while sex offenders did not differ from the control group on age of onset and frequency of pornography use, they exhibited more sexual acting out in terms of masturbation, consensual sex, coercive sex and criminal sexual behavior after pornography use (Allen, D'Alessio & Emmers-Somer, 2000). This parallels the role

of pornography use in the sexualization path to sexual criminal activity modeled in a sample of sexual aggressors (Lussier, Proulx & LeBlanc, 2005).

Outcome Variables

To develop an etiological model of rape behavior in association with violent behavior given their co-occurrence, there were two outcome variables in the present study. The first outcome variable was rape behavior. Specifying rape behavior per se as an outcome variable was an improvement over earlier studies because these studies subsumed rape behavior under general violence or examined general sex offending in place of rape behavior in specific (Harris, Rice & Lalumiere, 2001; Knight & Sims-Knight, 2003; Malamuth, 1986, 1991, 2003). Moreover, measuring rape behavior instead of sexual coercion as in the Confluence Model was particularly important because rape behavior and sexual coercion were found to have different sets of risk factor (DeGue, DiLillo & Scalora, 2010).

Another outcome variable was violent behavior which was hypothesized to be predictive of the aforesaid rape behavior outcome variable. Testing a direct developmental path from violent behavior to rape behavior in a multivariate model also constituted the first attempt in empirical research. The direct path from antisocial / aggressive behavior to sexual coercion in the Three-Path Developmental Model ($r = .21$; Knight & Sims-Knight, 2003) only illustrates the development of less violent sexually coercive behavior from a mix of antisocial behavior, both violent and non-violent. The developmental pathway from non-sexual aggression to sexual aggression in the General Aggression Model ($r = .32$; Anderson & Anderson, 2008) did not investigate rape behavior in specific either. Nonetheless, it was found that the higher the frequency of violent offence, the more the rape conviction in a sample of rapists (Lussier, LeBlanc & Proulx, 2005). Also, Quinsey (1984) argued for a link between aggression and rape behavior given the two behavior shared similar

neurological structure, explaining sexual aggression as part of a general culture of violence in which toughness and interpersonal violence was reinforced.

Methodological Considerations

Previous studies have been marred with sampling and measurement problems. Present study therefore attempted to redress these methodological impediments. In contrast to past modeling on college students with propensity for sexual coercion due to inaccessibility to offender population, employing rapists and violent offenders with known history of rape and violent offending as subjects in the present study helped to carry direct implications for modeling, assessment and treatment of convicted rapists and violent offenders. College students in fact form less desirable sample for etiological modeling of rape and violent behavior because rapists are more likely to be life-course-persistent offenders (Moffitt et. al., 2002) and violent offences are more prone to have a later average age of onset (Reiss & Roth, 1993). Sampling on college students will miss out the late-onset rapist and violent offenders. Also, community sample usually present the less serious sexual coercion like petting and caressing rather than forced sex and violent rape as in the convicted rapists. On the contrary, convicted rapists will display higher level of the established risk factors of rape behavior, facilitating the specification of a multivariate etiological model. The aim of enhancing the effectiveness of rapist-specific treatment program through generating an empirically validated etiological model with adequate explanatory power in the present study would be better achieved when utilizing convicted rapists with known history, in other words, a known group. In fact, use of clinical sample for the study of co-occurrence in preference to general population study has been highlighted by Angold, Costello and Erkanli (1999).

Using self-report measure to tap the rape behavior outcome variable was another strategy to overcome the measurement problem observed in official criminal data.

Unlike official criminal data, self-report questionnaire captures those target behavior that may not come to the attention of the criminal justice system either as unreported case, uncharged offence or non-convicted criminal charge. Prevalence rate of rape behavior was found to be 9 times higher on the self-report Sexual Experience Survey than on official criminal record (Fisher & Cullen, 2000). In other words, self-report measure tackles the likely underestimation of rape behavior in official criminal record and statistically enlarges the variance for data analysis. The self-report measure is therefore regarded a better choice of measurement method than the official criminal record though the latter provide objective data of which the convicted rapist could not hide and fake good. In fact, the validity of self-report in ascertaining offending history and frequency of problem behavior has been confirmed in research on rapist, sex offenders and violent offenders (Abel, Becker, Mittelman, et. al., 1987; Elliott, 1994; Weinrott & Saylor, 1991).

Besides, measures of independent variables in the present hypothesized developmental model were also based on self-report. One notable strength in the self-report is collecting data from the perspective of the subject himself, that is, 'the perspective of the individual who has the most exposure of his or her own behavioral tendencies' (p.5; Krueger, Markon, Patrick, Benning & Kramer, 2007). The independent variables were thus measured by self-report questionnaires in order to best ascertain the psychological being of the subjects. The self-report methodology in present study was further supported by the successful use of self-report questionnaires in previous empirical modeling of coerciveness against women, various types of aggression against women and different forms of offending behavior in the Confluence Model (1986), the Hierarchical-Mediational Confluence Model (2003) and Lussier, Proulx and LeBlanc's (2005) explanatory model. There were further evidences of valid use of self-report measures in other forensic studies. The

meta-analysis conducted by Walters (2000) revealed that self-report measures ($r = .28$) and rater-based risk appraisal procedure ($r = .33$) produced comparable effect size in recidivism prediction, showing no significant difference. In assessing the level of sexual aggression, the self-report Sexual Experiences Questionnaire (Koss & Oros, 1982) showed a strong correlation with the interview-based response ($r = .61$; Koss & Gidycz, 1985). The self-report versus physiological measure of sexual arousal also yielded strong agreement in male subjects in a meta-analytic study ($r = .66$; Chivers, Seto, Lalumiere, Laan & Grimbos, 2010). Comparing to face-to-face interview, Richman, Kiesler, Weisband and Drawsgow (1999) concluded from a meta-analytic study of social desirability that self-administered measures reduced social desirability distortion when tapping highly sensitive personal information like illegal behavior and sexual practices. The reason is that self-administered measure like paper-and-pencil questionnaire removes the subject from observation of the interviewer and from social cues that arouse evaluation apprehension.

Despite empirically established valid use of self-report measures in forensic literature, the tendency of faking good or faking bad for the purpose of gaining some privilege or avoiding consequences like early parole has been a valid concern (Edens, Hart, Johnson, Johnson & Olver, 2000). In a local study on sex offenders (Correctional Services Department, HKSAR 2005b), several test administration procedures were found to reduce response bias, yielding an average score of 6.52 on the Marlowe-Crowne Social Desirability Scale-Short Form (MC-C; Reynolds, 1982). Such a score was comparable to the average mean score of the development sample composed of non-criminals. The first procedure was to include a response style measure in the pack of questionnaires to serve as a covariate in data analysis. Besides, the subjects were well-informed that their consent or rejection to the present study would have no impact on their prison life and sentence length. They could

withdraw from the research at any time. The questionnaires would be kept anonymous. Privacy would be ensured in test administration. They were also told a lie scale had been incorporated in the assessment battery to detect possible faking tendency.

CHAPTER EIGHT

METHODS

Sample

A total of 211 adult male prisoners serving a prison sentence in the correctional institutions under the Correctional Services Department, Hong Kong Special Administrative Region were recruited as subjects for the present study. They consisted of two groups of subject. The first group contained 72 rapists. All the 102 rapists available in the correctional institutions during the data collection period were approached for the present study. Only 72 of them gave consent for participation, making up a participation rate of 70.59%. The second group constituted 139 violent offenders. They were randomly selected from the 520 violent offenders at the time. This subject group represented 26.7% of the violent offender population in custody.

Of these 211 prisoners, only 175 comprising of 36 rapists and 139 violent offenders were included in the final data set for statistical analysis. To uphold a stringent threshold for valid data, 36 convicted rapists were dropped for statistical analysis because they denied any rape behavior with a zero score on the self-report Sexual Experiences Questionnaire (SES). Data validity of their responses in all the self-report questionnaires in the present study is regarded doubtful in the light of the inconsistency between their official rape conviction and self-report rape behavior. Though the rapist group of 36 rapists in the final sample formed a relatively small sample, they already represented 35.29% of the hard-to-reach incarcerated rapist population in Hong Kong.

For the rapist group, their current sexual conviction contained at least one count of rape (87.18%), attempted rape (5.12%), and, procurement of unlawful sexual acts by threats, intimidation or false pretense (7.7%) of which their non-consensual sexual

intercourse assaulted against exclusively adult female victim aged 16 or above. Of these 36 rapists, 10 of them (27.78%) were currently convicted of violent offence aside from rape and rape-related offences. 5 of these rapists were also convicted of robbery, 4 with a conviction of murder and another 1 with convictions of both robbery and murder.

To have a clear-cut measure of the violent behavior variable, all violent offenders recruited for the present study had a current conviction of at least one non-sexual violent offence and had no history of sexual conviction other than rape conviction. The violent offences in their current conviction were murder (33.73%), wounding (16.27%), serious assault (10.23%), robbery (7.82%), other offences against persons (6.63%), common assault (6.03%), arson (5.42%), manslaughter / attempted murder (4.82%), kidnapping (4.82%) and criminal intimidation (4.22%). Of note, prisoners convicted of robbery were included as subjects only if the aforementioned list of offences against person were present in the same conviction.

Taking the rapists and violent offenders as a whole in the final sample of 175 prisoners, their mean age was 39.21 years ($SD = 10.49$; range = 21 - 65). Most received at least a secondary education (73.0%), with 24.6% having undergone primary education and 2.4% no education at all. Concerning their employment, around half were employed as manual workers (48.5%), 15.3% were clerks or service workers, and, 2.5% as managers or professionals. A third of them were unemployed (33.7%). Also, 59.4% of them were single, 37.6% were married and 2.9% were divorced. For sentence length, there was a wide variation ranging from 2 months to 34 years and even life sentence. 46% of them had a prison sentence of over 10 years, 18% with a prison sentence from 5 to 10 years, 21% 2 to 5 years and the remaining 15% less than 2 years. Comparing the rapist group to the violent offender group, they were matched on the demographic characteristics, showing no significant

difference on their age ($t = .464, p > .05$), marital status ($\chi^2 = .180, p > .05$), educational attainment ($\chi^2 = 1.592, p > .05$) and type of employment ($\chi^2 = 7.604, p > .05$). There was significant group difference on their sentence length ($\chi^2 = 32.526, p < .001$).

Procedures

The research protocol and the data collection procedure of the present study received approval from the Survey and Behavioral Research Ethics Committee of the Faculty of Social Science at The Chinese University of Hong Kong. Written consent from each subject for participation in the present study was obtained before data collection. Consent or rejection to the present study would have no impact on prison life and criminal proceeding. The consent form indicated that each subject could withdraw from participating anytime throughout the data collection process. The collected data would be used for research purpose only. To ensure confidential handling of the data collected, a research code was assigned to each subject. That is, each subject would be identified by the research code instead of any personal particular, keeping the questionnaire anonymous. The subject was told there were test items ascertaining response bias as well as tapping violent and sexual matters in the questionnaire. Similar research procedure to ensure the validity of the self-report questionnaire, to attenuate the possible social desirability report bias and to reduce the potential emotional arousal in completing the items was adopted by other research in offender population (Correctional Services Department, 2005b; Hunter, Figueiredo & Malamuth, 2010). Data were collected by the male psychological staff and/or clinical psychologist working in the correctional institutions via administration of psychological tests and file review. A questionnaire of about 180 items selected from a bundle of psychological tests was administered in a group of less than 10

subjects. Each block of test administration included both violent offenders and rapists to protect the privacy of their offence nature. After checking the cultural relevance of test items, the test items were translated and back-translated by 3 psychologists with high fluency in both English and Chinese languages as well as interview or research experience in penal population. A retired teacher specializing in Chinese language, history and literature then proofread the test items. Concerning file review, it focused on ascertaining demographic characteristics like age, educational attainment and marital status as well as criminality data such as sentence length and rape offending information. The consent form and questionnaire could be referred to Appendices 1 and 2.

Measures

Social desirability. The 13 true/false-item *Marlowe-Crowne Social Desirability Scale-Short Form* (MC-C; Reynolds, 1982) which has been shown to be a viable substitute for the original 33-item scale given the empirically demonstrated high correlation with the original scale ($\alpha = .93$) was the measure. It is a test of social desirability which refers to the "need of subjects to obtain approval by responding in a culturally appropriate and acceptable manner" (Crowne & Marlowe, 1960, p. 353). A lower score on MC-C is indicative of less response bias. Based on the developmental sample of undergraduate students, the mean score was 5.67 with 3.20 as the standard deviation. Studies with forensic samples revealed a mean score of 7.61 ($SD = 3.32$) (Andrews & Meyer, 2003). Internal consistency of MC-C was found to be .76. Being the most frequently used scale tapping social desirability in clinical and research settings, the MC-C has also been employed in studies on forensic population including sex offenders (O'Donohue, Letourneau & Dowling, 1997; Schewe & O'Donohue, 1998; Weisz & Earls, 1995) and violent offenders (Dyer, Bell,

McCann & Rauch, 2006; Sugarman & Hotaling, 1997).

Developmental adversities. The developmental adversities construct entailed six aspects: emotional abuse, physical abuse, sexual abuse, emotional neglect, parental violence as well as negative experience with female. Considering the *Childhood Trauma Questionnaire: Short Form* (CTQ:SF; Bernstein et. al., 2003), the *Emotional Abuse scale*, *Physical Abuse scale*, *Sexual Abuse scale* and *Emotional Neglect scale* were used to assess the first four aspects in childhood maltreatment histories, omitting the Physical Neglect scale which is considered irrelevant to the present study. Note the CTQ has been widely used in studies on offender sample (e.g. Edens & Douglas, 2006; Broner, Mayrl & Landsberg, 2005; Cima, Smeets & Jelicic, 2008; Kenny & Lennings, 2007). According to the authors, internal consistency of CTQ within the offender group was excellent ($\alpha = .93$) while that for the community sample was also good ($\alpha = .77$). The five CTQ subscales also attained adequate internal consistencies ranging from .65 to .86. The authors also showed criterion validity by comparing to independent ratings of abuse. There were 5 items in each of the scale on the CTQ:SF, rating on a 5-point scale ranging from 'never true' to 'very often true'.

For parental violence, the *Physical violence subscale of the Conflict Tactics Scale* (CTS; Straus, 1979) was the measure. The CTS is considered the 'gold standard' to measure the prevalence, chronicity and severity of spousal conflict. It has been used to assess childhood family problem in offender population (Haapasalo & Hamalainen, 1996; Henning, Jones & Holdford, 2003; Truscott, 1992). Making reference to studies conducted by Simons, Wurtele & Durham (2008), the 4 items comprising the subscale of CTS will measure the incidence of witnessing inter-parental violence instead of separately measuring father-to-mother violence and mother-to-father violence. The internal consistencies of the mother-to-father and father-to-mother

violence subscales in the original CTS were satisfactory at $\alpha = .82$ and $\alpha = .83$ respectively (Straus, 1979). Like CTQ, items on the CTS will be rated on a 5-point scale ranging from 'never true' to 'very often true'.

Regarding negative experience with female, no psychometric test could be found to measure negative events specifically related to 'negative experience with female'. For present study, the Unpleasant Events Schedule (UES; Lewinsohn, Mermelstein, Alexander & MacPhillamy, 1985) serves as a major reference in self-constructing a scale that tap 'negative experience with female' in specific. The 320-item UES, of which unpleasant events refer to events that are unpleasant, aversive or punishing, contains a list of events that are distressful to a highly diverse samples of people. This self-constructed scale contained 6 items, depicting maltreatment/ neglect / humiliation / abandonment by women in childhood, broken family due to father's extra-marital affair, as well as betrayal / rejection / desertion by romantic partner. Each item was rated on a 5-point scale ranging from 'never true' to 'very often true', producing a total score between 0 to 30.

Common cognitive factors. Self-report questionnaires were used to tap a set of 9 cognitive factors common to both violent behavior and rape offending.

Hostile world. The construct was measured by the *Hostility subscale of the Aggression Questionnaire* (AQ; Buss & Perry, 1992). Morren and Meesters (2002) remarked that the AQ which measures trait aggressiveness has become one of the most popular self-report inventories for the measurement of anger, hostility and aggression since its publication. The 8-item Hostility subscale reflects resentment and suspicion of ill will and injustice, representing the cognitive domain of aggressive behavior. It is rated on a Likert scale that range from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). Local research on a sample of violent offenders revealed good internal consistency of .77 (Correctional Services

Department, HKSAR 2005a).

Violent belief. The measure was the *Criminal Attitudes to Violence Scale* (CAVS; Polaschek, Collie & Walkey, 2004) which revealed a one single factor structure conceptualizing violence as ‘an accepted and necessary element of daily life, of communication with others and of status defence and enhancement’. Polaschek, Collie and Walkey (2004) in addition found the scale discriminated offenders with current and past violent convictions from those who no violent convictions. The scale also showed a positive correlation ($r = .75$) to a self-report measure of physical aggression, that is, the Physical Aggression subscale of the Aggression Questionnaire to be employed in present study. Its internal consistency was very high ($\alpha = .95$). The 20 items of this scale will be rated on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). As violent behavior refers to ‘injury or the threat of injury’ in present study, the concept of ‘threat of injury’ was incorporated in 3 of the items (i.e. ‘If somebody insults me or my family, I feel better if I beat them up *or threaten to beat them up*’, ‘If somebody puts me down, I feel like I have to fight them *or to threaten to fight them* to get back my pride’, ‘It is important to fight *or to threaten to fight* when your gang’s honour is threatened’).

Entitlement. The *entitlement / self-centered scale* taps one of the 16 early maladaptive schemas *on the Young Schema Questionnaire: Short Form* (YSQ:SF; Young, 1998). Internal consistency of all the 16 scales is at least .70 with 10 of these scales above .80. The entitlement schema refers to the belief that one is superior to others and entitled to special right or privilege with no bound of social nor and convention. In a sample of college student, this schema was found to be one of the three most prevalent schemas strongly related to trait aggressiveness as measured by the Aggression Questionnaire (Tremblay & Dozois, 2009). The entitlement scale consists of 5 items rated on a 6-point scale (1 = completely untrue of me to 6 =

describes me perfectly). In a forensic sample comprising of adult offenders, this scale was also found to be prevalent (Richardson, 2005).

Uncontrollability. This construct was measured by the 5-item *insufficient self-control / self-discipline scale of the YSQ:SF* (Young, 1998) on a 6-point format. The scale assesses the difficulty or refusal to tolerate frustration of immediate desire, to exercise self-control for personal goals, or to retain excessive expression of impulses. Like the entitlement scale, this scale was shown to be one of the three most prevalent schemas strongly related to trait aggressiveness as measured by the Aggression Questionnaire (Tremblay & Dozois, 2009). The uncontrollability construct appears to have a narrower application in rapists, presenting as 'uncontrollable sex drive' (Polaschek, Calvert & Gannon, 2009).

Negative self-schema. This construct was measured by the 5-item, 6-point *Defectiveness scale of YSQ:SF* (Young, 1998). The scale measures the belief that one is bad, inferior or unwanted, or the belief that one is unlovable if these inherent defects be apparent to others.

Antisocial attitudes. The 10-item *Tolerance of Law Violation subscale of the Criminal Sentiments Scale: Modified* (CSS-M; Simourd, 1997) which reflects justifications for criminal acts was used to ascertain criminal attitudes. This subscale was measured on a 3-point format: accepting the belief, rejecting the belief or an undecided response. The subscale attained satisfactory internal consistency on local violent offenders ($\alpha = .80$; Correctional Services Department, HKSAR 2005a). The complete scale CSS-M yielded a positive correlation with the Criminal Attitudes to Violence Scale ($r = .65$; Polaschek, Collie & Walkey, 2004).

Minimise harm done. This cognitive construct was measured by the 9-item *Minimisation subscale of the How I Think Questionnaire* (HIT; Gibbs, Barriga & Porter, 2001) which was designed to describe antisocial behavior as causing no harm

or being acceptable to people. Together with the other three subscales namely 'Self-centered', 'Blaming Others, and 'Assuming the Worst', the Minimisation subscale contain distorted attitudes that help neutralize conscience or guilt, reducing damage to self-image after display of antisocial behavior. While the four subscales yielded high correlation ranging from .80 to .86, the latter three subscales are regarded by the authors as secondary to the self-centeredness schema. The HIT Questionnaire will be based on a 6-point rating scale, ranging from 'disagree strongly' (1) to 'agree strongly' (6). Developed on young offenders, it had its internal consistency that reached .96 as well as satisfactory test-retest reliability of .91. The questionnaire correlated with externalizing problem behavior after controlling for internalizing disorder ($r = .55$).

External blame. This construct was measured by the 15-item *External Attribution subscale of the Revised Gudjonsson Blame Attribution Inventory* (BAI; Gudjonsson & Singh, 1989) on a yes / no format. Blumenthal, Gudjonsson and Burns (1999) found violent offenders were more prone to make external attribution than sex offenders as a whole, while rapists made more such attribution than child molesters, blaming their victim more than the society.

Victim stance. The victim stance schema was ascertained by the 6-item *Self-Pity Scale of the Stressverarbeitungsfragenbogen* (SVF; Janke, Erdmann & Kallus, 1985). It is related to thinking like 'Why me?' and those envious of people who seem to fare better. The SVF contains 19 scales for measuring different cognitive and behavioral coping strategies in face of stress. On the Self-Pity Scale, items are measured on a 5-point scale from 'not at all' (0) to 'very likely' (4). Internal consistency was shown to be satisfactory ($\alpha = .84$).

Rape-specific cognitive factors. The set of 8 factors was measured by different psychological tests. A few self-constructed tests were developed for present study to

better ascertain the particular cognitive factor or the characteristics of local rapists.

Hostility toward women. The 10-item *Revised Hostility Toward Women Scale* (Lonsway & Fitzgerald, 1995) was modified from the 30-item *Hostility Toward Women and Hostility Toward Men Scales* (Check, Malamuth, Elias & Burton, 1985) to achieve the purposes of clarity of wording, non-redundancy of content and simplicity of ideas. This scale is rated on a 7-point format, ranging from strongly disagree (1) to strongly agree (7). The internal consistency was found to be .83 with item-to-total correlation ranged from .33 to .77. The scale has been applied to mainland Asian Americans with a satisfactory internal consistency of .81. It has been used in empirical research on general population at large but not on forensic population, though having applied in the field of sexual abuse (Abbey & McAuslan, 2004; Cowan & Mills, 2004; Forbes, Collinsworth, Jobe, Braun & Wise, 2007; Hall & Teten, DeGarmo, Sue & Stephens, 2005).

Women as sex object. To investigate the association between sexually explicit media and the women as sex object schema, Peter and Valkenburg (2007) developed a scale comprising of 5 items to measure this schema. These 5 items are based on a 5-point rating, ranging from 'disagree completely' to 'agree completely'. Internal consistency of this scale was satisfactory ($\alpha = .75$). Their study found significant correlation between the women as sex object schema and various forms of sexually explicit magazine / television.

Sexual entitlement. The 9-item *Sexual Entitlement subscale of Hanson Sex Attitude Questionnaire* (HSAQ; Hanson, Gizzarelli & Scott, 1994) was used to measure one's expectations of having his sexual urges fulfilled on a 5-point Likert scale. The internal consistency was found to be .81. Analysis of covariance suggested that this scale was not subjected to social desirable responding, though the mean score appeared low on each of the subscale.

Sex as coping. No psychometric test could be found to measure the sex as coping schema. The most relevant Coping with Sex Inventory (CUSI; Cortoni & Marshall, 2001) only taps the various kinds of sexual related activities as a coping strategy. Factor analysis of CUSI found 6 types of sexual related activities load on rapists as opposed to child molesters and consented sex. A *self-constructed scale* was therefore developed for present study, using these 6 types of sexual related activities demonstrated in rapists for coping with negative emotion like anxiety and boredom, as well as for generating positive affect like a sense of excitement, satisfaction and relaxation. The scale will be based on 5-point rating, ranging from 'strongly agree' to strongly disagree'.

Relationship schema. There were two scales to tap this schema. First, the 5-item *Social Isolation Scale of the YSQ:SF* measures the belief that one is isolated from the rest of the world, different from other people and do not form part of the group. Like other YSQ:SF scales, it is based on a 6-point rating. This measure assesses the social isolation schema. Second, to tap the adversarial-dismissive intimate attachment style of rapists, 5 items from the *Adversarial Heterosexual Beliefs Scale* (AHBS; Lonsway & Fitzgerald, 1995) and 6 *self-constructed items* based on clinical experience with local rapists were used. These 11 items depict heterosexual intimate relation as instrumental, short-term, hurtful and superficial with casual and impersonal sex. All items were rated on a 7-point scale, ranging from 'strongly disagree' to 'strongly agree'.

Uncontrollable sex. The 7-item *Sexual Compulsivity Scale* under the domain of Sexualization of the Multidimensional Assessment of Sex and Aggression (Version 3, MASA; Knight, Prentky & Cerce, 1994) was used to assess the difficulty in controlling sex. The MASA has empirically been established as a reliable and valid measure for sex offenders (Knight & Sims-Knight, 2003). It has been used in

research on adult sex offenders, juvenile sex offenders, female sex offenders and general public with a propensity to sexual coercion (Knight & Sims-Knight, 2003; Knight & Sims-Knight, 2005; Schatzel-Murphy, Harris, Knight & Milburn, 2009; Zakireh, Ronis & Knight, 2008). The Sexual Compulsivity Scale is based on 5-point rating, ranging from 0 (never) to 4 (very often). Reliability analysis yielded satisfactory internal consistency for male ($\alpha = .79$) and female subjects ($\alpha = .84$).

Sexual dominance. The *Sexual Dominance Scale (SDOM)* which is a subscale of the Sexual Functions Inventory was developed to assess a person's motivation to have sex to feel powerful and dominant (Nelson, 1979). In other words, it is the feeling of control over the sexual partner that motivates sexuality. The scale consists of 8 items to be rated on a 4-point system, ranging from 1 (not at all important) to 4 (very important). Satisfactory internal consistency reliability was obtained ($\alpha = .86$). It has been widely used in studies on sexual coercion (Abbey, Parkhill, BeShears, Clinton-Sherrod & Zawacki, 2006; Aromaki, Haebich & Lindman, 2002; Ouimette & Riggs, 1998; Vega & Malamuth, 2007; Wheeler, George & Dahl, 2002).

Minimise harm done on rape victim. The 36-item Bumby RAPE Scale (Bumby, 1996) was designed to assess cognitive distortions of rapists. This scale obtained an excellent internal consistency of .96 and a 2-week test-retest reliability of .86. It was not found to be related to social desirable response bias as measured by the Marlowe-Crowne Social Desirability Scale. Factor analysis conducted by Hermann, Babchishin, Nunes and Cortoni (2012) resulted in a 2-factor model, namely 'minimisation of harm' and 'blaming the victim and women enjoy rape'. As the factor 'minimisation of harm' contains 15 items which is deemed too long for present study, only the 4 items that produced the highest factor loadings (at least .90) will be chosen. Drawing upon clinical experience on local rapists, 4 additional items were added to better reflect minimization of harm done among local rapists and in

drug-facilitated rape. They were 'She has sexual gratification in the process, forcing her to have sex is not that bad', 'She had prior sexual experience, forcing her to have sex is not a big deal', 'Feeling confused after drinking or taking drug, she would not get hurt when having sex afterwards', and 'I will not lend her money to repay debt if she does not have sex with me; she therefore should have no loss'.

Pornography use. Apart from cognitive variables, frequency and age of onset were the two parameters of pornography use in present study. The *Multidimensional Assessment of Sex and Aggression* (Version 3, MASA; Knight, Prentky & Cerce, 1994) has empirically been established as a reliable and valid measure for sex offenders (Knight & Sims-Knight, 2003). The pornography use scale of MASA is a measure of frequency of pornography use. It yielded satisfactory internal consistency ($\alpha = .80$) and test-retest reliability ($r = .78$) in a sample of 127 sex offender of which 59 of them were rapists. The pornography use scale covers four areas: (a) adult women: conventional heterosexual, (b) adult women: sadism and physical injury, (c) adult men and children, and, (d) adult women: early family exposure. Rating is based on a Likert scale, ranging from never (0) through everyday (5). As the pornography use scale that subsumed under the 74-item Sexual Behavior domain is too long, 6 items that capture the essence of this scale were constructed for present study. These 6 items captured pornography use on the foregoing 4 areas and non-consented sex over the lifespan. To fit local culture, types of pornography of these 6 items include video, animation and cyber pornography aside from magazine in the original MASA. Rating format followed the original 6-point Likert scale. Additionally, there was an item tapping the onset age of pornography use.

Outcome variables. As the present study aimed at developing a model of rape behavior in association with violent behavior given the co-occurrence of these two behavior, both rape and violent behavior constituted the two outcome variables.

Violent behavior. It was measured by the self-reported *Physical Aggression subscale of the Aggression Questionnaire* (AQ; Buss & Perry, 1992). Morren and Meesters (2002) remarked that the AQ which measures trait aggressiveness has become one of the most popular self-report inventories for the measurement of anger, hostility and aggression since its publication. The Physical Aggression subscale measures the behavioral aspects of aggressive behavior like hitting others and destroying things. The 9 items making up this subscale are rated on a Likert scale that range from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). Local violent offenders obtained a mean score of 27.5 with a range from 15 to 44 on this subscale (Correctional Services Department, HKSAR 2005a). Internal consistency was also satisfactory in the local sample ($\alpha = .84$). In line with the definition of violent behavior which involves ‘injury or threat of injury’, the ‘threat of injury’ element was added in 4 of the items, that is, ‘Given enough provocation, I may hit or threaten another person’, ‘I get into fights or threaten other a little more than the average person’, ‘There are people who pushed me so far that we came to blows or I made a threat on him’, and ‘I can think of no good reason for ever hitting or threatening a person’. Notably, adequate empirical modeling of non-sexual aggression as measured by the self-report test (Lim & Howard, 1998; Malamuth, Linz, Heavey, Barnes & Hacker, 1995; Malamuth, Sockloskie, Koss & Kanaka, 1991) lends support to the use of self-report questionnaire to measure the violent behavior outcome variable

Rape behavior. It was tapped by the *Sexual Experiences Survey* (SES; Koss & Oros, 1982). The SES was developed to assess the frequency of one’s sexual aggression since age 14. Taking a dimensional view of sexual aggression, each item provides behaviorally specific descriptions of a spectrum of sexual acts ranging from kissing, fondling, petting to unwanted sexual intercourse with the use of various

tactics to compel unwanted sex, for instance by threat, force or alcohol. Internal consistency was shown to be .89. The base rate of each item in the college sample ranged from 1.9% to 81.1%. Prevalence rate of rape was found to be 9 times higher on SES than on official criminal record (Fisher & Cullen, 2000), reflecting the advantage of self-reported data over official data of which the unreported, uncharged and non-convicted rape behavior were left out. The SES was also found to be able to discriminate a group of rapists from the non-sexual violent offenders (Henry, Check & Smith, 1984). With the use of the self-reported SES, Malamuth's series of research successfully developed and validated the etiological model of sexual coercion in college samples (Malamuth, 1986; Malamuth, Heavey & Linz, 1993; Malamuth et. al., 1991). Thus, peer review has accepted SES as a standardized measure of sexual aggression based on a self-reported format. To obtain a self-reported measure of rape behavior in the present study, 6 items that tap non-consented sexual intercourse (rape) and attempted rape by means of threat, force or alcohol were selected from the 10-item SES, excluding those items that assess the less serious sexual aggressive behavior. Sample subjects were asked to indicate the frequency of each item since age 14 from 0 to 3 or above. Each item will be scored 0 if the subject never committed the act, 1 if only once since the age of 14, and so forth, up to a maximum of 3 if 3 or more times since age 14. The whole scale will score with a range from 0 to 18.

Control variables. A number of background characteristics of the sample could confound the model of rape behavior, therefore statistical control for these variables was important. The control variables of the present study include age, education level, employment, sentence length and social desirability.

Statistical Analyses

Univariate and multivariate analyses were performed to investigate the hypothesized model of rape behavior. As the small sample size of the present study did not allow analysis of all individual variables within a single multivariate model simultaneously, a hierarchical analytic strategy was employed. First, Cronbach's alphas were computed to ensure satisfactory internal consistency ($\alpha > .07$) of each of the measurement scale. Second, simple correlation between the rape behavior outcome variable and other independent variables was calculated to ascertain the correlation coefficient of $\geq .30$, representing a minimum of medium effect size for the association between the two variables (Cohen, 1988, 1992). Only variables that met these two criteria would be included in the subsequent empirical modeling.

Exploratory factor analysis (EFA) was then conducted to reduce the set of 9 theoretically assigned common cognitive variables and the 9 theoretically assigned rape-specific cognitive variables into smaller number of latent cognitive factors for further analysis. This statistical procedure also helped adjust the problem of multicollinearity among the variables (Walker & Madden, 2008). The resulting number of latent cognitive factors, both common and rape-specific, depended on the number of factors that had eigenvalues greater than 1 (Kaiser, 1960), the scree test (Cattell, 1966) and the interpretability of the resulting factors. All these analyses were performed with the SPSS version 21.0 program.

The second stage of analysis was about the external validity component of the present study, that is, testing the relationships of these reduced sets of latent cognitive factors (both common and rape-specific), the distal developmental adversities factor, pornography use and violent behavior with the rape behavior outcome variable within a single structural equation model. As the outcome variable was measured on an ordinal scale with relatively few categories (i.e. 4 categories) and data of this outcome

variable collected from offender population was skewed, the categorical analysis approach had the greatest advantage over the standard maximum likelihood approach. The structural equation modeling (SEM) of the present study was therefore performed with Mplus version 7.2 (Muthén and Muthén, 2014) using a Weighted Least Squares Mean and Variance adjusted estimation (WLSMV) which works well for non-normal binary or ordered categorical (ordinal) data in studies with sample size of 200 or above (Muthén, du Toit & Spisic, 1997). Refinements to the models were performed by modifying one parameter at a time and reinvestigating each new model afterwards.

In evaluating the model fit, the Root Mean Square Error of Approximation (RMSEA) and the Weighted Root Mean Square Residual (WRMR) were reported in the present study following Hu and Bentler's (1999) recommendation for the 'two-index presentation strategy'. The RMSEA which is robust to sample size or model complexity has been identified as the best performing index for WLSMV approach (Hutchinson & Olmos, 1998), with values $\leq .06$ indicating good fit (Yu & Muthén, 2002), $\leq .08$ with the upper bound of its 90% confidence interval $< .10$ as acceptable fit, and, $\geq .10$ as poor fit (Browne & Cudeck, 1993). For the WRMR, it is a measure that Muthén has recommended for fit models with binary and ordinal observed variables that are not normally distributed. The WRMR < 1.00 suggests good fit (Yu & Muthén, 2002). The Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) were not used as fit indices in the present study because they are known to underestimate model fit when modeling non-normal ordered categorical (ordinal) data (Babakus, Ferguson & Jeroskog, 1987; Hutchinson & Olmos, 1998). Regarding the robust WLSMV chi-square used by Mplus, it seems to perform pretty well (Flora & Curran, 2004) but is exceptionally sensitive to sample size and non-normal data (Field, 2009). Present study therefore only used this fit index for nested model comparisons.

Following model modification, nested competing models could be compared with the chi-square difference test which was the DIFFTEST in Mplus for WLSMV estimation. Model comparison for non-nested models was not available as WLSMV estimation had no provision of Bayesian information criteria (BIC) and Akaike information criteria (AIC). After selecting the best model to account for the data according to the foregoing fit statistics and the explanatory utility of the model, all resulting direct and indirect (mediating) pathways and the path coefficients were computed. As R-square values for the categorical outcomes (ordinal or ordered categorical data in the present study) could not be interpreted as the proportion of variance explained as in the analysis of continuous outcomes, multiple regression analyses were run to attain the R-square for the delineation of the amount of variance being explained by the variables in the model being chosen.

CHAPTER NINE

RESULTS

Descriptive Statistics

The means, standard deviations and Cronbach's alpha of the variables are listed in Table 3. Social desirability as measured by the Marlowe-Crowne Social Desirability Scale-Short Form (MC-C) warrants particular attention. The sample of the present study had a mean score of 7.58 ($SD = 2.84$) on MC-C which was comparable to the forensic norm of a mean score of 7.61 ($SD = 3.32$) (Andrews & Meyer, 2003). Pertaining to the self-report rape behavior outcome variable, it is notable that 25 out of the 139 violent offenders reported a range of 1 to 18 or more counts of rape behavior since age 14, with the remaining violent offenders denying single rape incident. The 36 rapists in the rapist group also reported the same range of rape behavior, spanning from 1 to 18 or above. In total, 61 participants of the present study self-reported at least one single rape behavior in the data set. This number approximates the median of the rapist sample size in overseas sex offender studies ($Mdn = 85$, *range* 12 - 193; Adler, 1984; Bard, Carter, Cerce, Knight, Rosenberg & Schneider, 1987; Brown & Forth, 1997; Gudjonsson & Sigurdsson, 2005; Harris, Mazerolle & Knight, 2009; Lussier, LeBlanc & Proulx, 2005; Milner & Webster, 2005; Pithers, Buell, Kashima, Cumming & Beal, 1988; Polaschek & Gannon, 2004; Proulx, McKibben & Lusignan, 1996; Scott & Tetreault, 1987; Simons, Wurtele & Durham, 2008). Inspection of the internal consistency as measured by Cronbach's alpha found all variables achieved acceptable to excellent level ($\alpha = .68 - .94$). On the basis of adequate internal consistency, all variables were included for further analysis.

Table 3 Means (*M*), Standard Deviations (*SD*) and Cronbach's alphas (α) on the Variables (*N* = 175)

Variable (Measure)	<i>M</i>	<i>SD</i>	α
Social Desirability (MC-C)	7.58	2.84	.68
Developmental Adversities			
1. Emotional Abuse (EA of CTQ: SF)	9.60	4.34	.85
2. Physical Abuse (PA of CTQ:SF)	10.72	5.42	.87
3. Sexual Abuse (SA of CTQ:SF)	7.53	3.71	.89
4. Emotional Neglect (EN of CTQ:SF)	12.25	4.28	.77
5. Parental Violence (PV of CTS)	7.35	3.71	.88
6. Negative experience with female (self-construct)	11.06	4.12	.80
Common Cognitive Factors			
1. Hostile World (H of AQ)	21.79	5.86	.84
2. Violent Attitudes (CAVS)	50.49	15.54	.94
3. Entitlement (E of YSQ:SF)	14.55	4.89	.77
4. Antisocial Attitudes (TLV of CSS-M)	12.14	4.50	.79
5. Uncontrollability (ISC: YSQ:SF)	14.70	5.06	.79
6. Minimise Harm Done (M of HIT)	22.60	10.11	.91
7. External Blame (EA of BAI)	4.13	3.19	.81
8. Victim Stance (Self-Pity Scale)	11.21	4.94	.85
9. Negative Self-Schema (D of YSQ: SF)	12.60	5.46	.87

Note:MC-C: Marlowe - Crowne Social Desirability Scale-Short Form

EA of CTQ:SF: Emotional Abuse subscale of Childhood Trauma Questionnaire

PA of CTQ:SF: Physical Abuse subscale of Childhood Trauma Questionnaire

SA of CTQ:SF: Sexual Abuse subscale of Childhood Trauma Questionnaire

EN of CTQ:SF: Emotional Neglect subscale of Childhood Trauma Questionnaire

PV of CTS: Parental Violence of Conflict Tactics Scale

H of AQ: Hostility subscale of Aggression Questionnaire

CAVS: Criminal Attitudes to Violence Scale (CAVS)

E of YSQ: SF: Entitlement Scale of Young Schema Questionnaire: Short Form

TLV of CSS-M: Tolerance of Law Violation subscale of Criminal Sentiments Scale: Modified

ISC of YSQ:SF: Insufficient Self-Control Scale of Young Schema Questionnaire:Short Form

M of HIT: Minimisation subscale of the How I Think (HIT) Questionnaire

EA of BAI: External Attribution subscale of Revised Gujdonsson Blame Attribution Inventory

D of YSQ:SF: Defectiveness Scale of Young Schema Questionnaire: Short Form

Variable (Measure)	<i>M</i>	<i>SD</i>	<i>α</i>
Rape-Specific Cognitive Factors			
1. Hostility toward Women (HTWS)	31.31	10.35	.80
2. Women as Sex Objects (WSO)	13.10	3.63	.70
3. Sexual Entitlement (SE of HSAQ)	23.69	5.15	.75
4. Sex as Coping (self-construct)	17.85	6.09	.90
5. Social Isolation (SI of YSQ:SF)	12.79	6.28	.91
6. Adversarial-Dismissive Intimacy (self-construct)	33.93	13.35	.87
7. Uncontrollable Sex (SC of MASA)	6.91	6.02	.91
8. Sexual Dominance (SDOM)	11.26	7.02	.92
9. Minimize Rape Victim Harm (BRS)	4.47	4.51	.83
Pornography Use			
1. Early onset of pornorgaphy use (self-construct)	14.65	3.84	---
2. Pornography Use (self-construct)	9.31	4.80	.77
Violent Behavior			
1. Self-Report Violent Behavior (PA of AQ)	25.41	7.51	.88
Rape Behavior			
1. Self-Report Rape Behavior (SES)	1.42	3.11	.85

Note: HTWS: The Revised Hostility toward Women Scale

WSO: Women as Sex Object Scale

SE of HSAQ: Sexual Entitlement subscale of Hanson Sex Attitude Questionnaire

SI of YSQ: SF: Social Isolation Scale of Young Schema Questionnaire: Short Form

SC of MASA: Sexual Compulsivity Scale of the Multidimensional Assessment of Sex
and Aggression

SDOM: Sexual Dominance Scale

BRS: Minimise Harm Done on Rape Victim of Bumby Rape Scale

PA of AQ: Physical Aggression subscale of Aggression Questionnaire

SES: Sexual Experiences Survey

Independent sample t-tests were carried out to assess whether the 61 rape behavior and the 114 violent behavior samples had significant difference on their scores on all the variables. As shown in Table 4, the two samples demonstrated no significant difference on 2 variables, namely 'external blame' and 'pornography use'. The rape behavior sample yielded significantly higher scores on all variables with the exception on 'social desirability', 'antisocial attitudes' and 'early onset of pornography use'.

There were few missing data on the 27 measures used in the present study. 16 out of these 27 measures showed missing data on 1 to 3 items at most. The item being skipped most was the one that measured the early onset of pornography use, accumulating 13 missing cases in total. The missing data imputation function in SPSS was used to retain all cases.

Collapsing the Rape Behavior Outcome Variable

The self-report rape behavior outcome variable in the present study was positively skewed at 3.246. Because of sparse data in the high-frequency rape behavior, the self-report rape behavior (range 0 – 18) with frequency of score presented in Table 5 was collapsed into 4 levels to capitalize the high-frequency rape behavior, that is, score of 0 would be recoded as 0, score of 1 to 1, score of 2 to 2, and, score of and above 3 to 3. After data collapse, this variable was converted to 4-category ordinal or ordered categorical data.

Correlation Analysis

Simple correlation between each of the independent variables and the rape behavior outcome variable are presented in Table 6, 7, 8. As the rape behavior outcome variable as measured by the 4-category self-report rape behavior was ordinal

Table 4 Mean Score Comparisons between the Rape Behavior (N = 61) and Violent Behavior (N = 114) Samples

Variable (Measure)	Rape Behavior	Violent Behavior	t-value
	M(SD)	M(SD)	
Social Desirability (MC-C)	6.52(2.75)	8.18(2.72)	3.84*
Developmental Adversities			
1. Emotional Abuse (EA of CTQ: SF)	11.78(4.81)	8.37(3.50)	-5.37*
2. Physical Abuse (PA of CTQ:SF)	12.65(5.97)	9.63(4.77)	-3.66*
3. Sexual Abuse (SA of CTQ:SF)	8.82(4.25)	6.81(3.16)	-3.53*
4. Emotional Neglect (EN of CTQ:SF)	13.52(4.08)	11.54(4.24)	-3.02*
5. Parental Violence (PV of CTS)	8.79(3.99)	6.54(3.29)	-4.03*
6. Negative experience with female (self-construct)	12.98(4.83)	9.95(3.19)	-4.96*
Common Cognitive Factors			
1. Hostile World (H of AQ)	23.89(5.60)	20.59(5.67)	-3.69*
2. Violent Attitudes (CAVS)	56.19(16.17)	47.26(14.27)	-3.78*
3. Entitlement (E of YSQ:SF)	16.67(4.64)	13.36(4.64)	-4.53*
4. Antisocial Attitudes (TLV of CSS-M)	10.79(4.33)	12.84(4.43)	2.96*
5. Uncontrollability (ISC: YSQ:SF)	16.43(4.94)	13.73(4.89)	-3.49*
6. Minimise Harm Done (M of HIT)	25.38(9.72)	21.00(10.02)	-2.80**
7. External Blame (EA of BAI)	4.43(3.51)	3.94(2.99)	.979 ^{ns}
8. Victim Stance (Self-Pity Scale)	12.53(4.86)	10.47(4.85)	-2.68**
9. Negative Self-Schema (D of YSQ: SF)	14.52(5.37)	11.51(5.23)	-3.61*

* $p \leq .005$; ** $p \leq .01$; ^{ns} non-significant at $p \geq .05$

Note:MC-C: Marlowe - Crowne Social Desirability Scale-Short Form

EA of CTQ:SF: Emotional Abuse subscale of Childhood Trauma Questionnaire

PA of CTQ:SF: Physical Abuse subscale of Childhood Trauma Questionnaire

SA of CTQ:SF: Sexual Abuse subscale of Childhood Trauma Questionnaire

EN of CTQ:SF: Emotional Neglect subscale of Childhood Trauma Questionnaire

PV of CTS: Parental Violence of Conflict Tactics Scale

H of AQ: Hostility subscale of Aggression Questionnaire

CAVS: Criminal Attitudes to Violence Scale (CAVS)

E of YSQ: SF: Entitlement Scale of Young Schema Questionnaire: Short Form

TLV of CSS-M: Tolerance of Law Violation subscale of Criminal Sentiments Scale: Modified

ISC of YSQ:SF: Insufficient Self-Control Scale of Young Schema Questionnaire:Short Form

M of HIT: Minimisation subscale of the How I Think (HIT) Questionnaire

EA of BAI: External Attribution subscale of Revised Gujdonsson Blame Attribution

Inventory

D of YSQ:SF: Defectiveness Scale of Young Schema Questionnaire: Short Form

Variable (Measure)	<i>Rape Behavior</i>	<i>Violent Behavior</i>	<i>t-value</i>
	<i>M(SD)</i>	<i>M(SD)</i>	
Rape-Specific Cognitive Factors			
1. Hostility toward Women (HTWS)	34.83(11.15)	29.25(9.21)	-3.54*
2. Women as Sex Objects (WSO)	14.68(3.44)	12.21(3.44)	-4.58*
3. Sexual Entitlement (SE of HSAQ)	26.25(5.20)	22.23(4.54)	-5.32*
4. Sex as Coping (self-construct)	20.60(5.90)	16.30(5.66)	-4.75*
5. Social Isolation (SI of YSQ:SF)	15.90(6.50)	11.03(5.45)	-5.29*
6. Adversarial-Dismissive Intimacy (self-construct)	41.11(12.02)	29.85(12.35)	-5.84*
7. Uncontrollable Sex (SC of MASA)	10.13(6.27)	5.06(5.03)	-5.81*
8. Sexual Dominance (SDOM)	14.98(6.83)	9.20(6.25)	-5.66*
9. Minimize Rape Victim Harm (BRS)	7.54(4.61)	2.72(3.40)	-7.87*
Pornography Use			
1. Early onset of pornography use (self-construct)	13.46(3.87)	15.34(3.68)	3.08*
2. Pornography Use (self-construct)	3.40(1.02)	3.26(1.04)	-.848 ^{ns}
Violent Behavior			
1. Self-Report Violent Behavior (PA of AQ)	28.44(7.35)	23.70(7.07)	-4.20*
Rape Behavior			
1. Self-Report Rape Behavior (SES)	3.95(4.12)	0.00(0.00)	-10.17*

* $p \leq .005$; ** $p \leq .01$; ^{ns} non-significant at $p \geq .05$

Note: HTWS: The Revised Hostility toward Women Scale

WSO: Women as Sex Object Scale

SE of HSAQ: Sexual Entitlement subscale of Hanson Sex Attitude Questionnaire

SI of YSQ: SF: Social Isolation Scale of Young Schema Questionnaire: Short Form

SC of MASA: Sexual Compulsivity Scale of the Multidimensional Assessment of Sex
and Aggression

SDOM: Sexual Dominance Scale

BRS: Minimise Harm Done on Rape Victim of Bumby Rape Scale

PA of AQ: Physical Aggression subscale of Aggression Questionnaire

SES: Sexual Experiences Survey

Table 5 Frequency of the Score of the Self-Report Rape Behavior

Score	Frequency	Percent	Valid Percent	Cumulative Percent
.00	114	65.0	65.0	65.0
1.00	19	11.0	11.0	76.0
2.00	12	6.9	6.9	82.9
3.00	11	6.3	6.3	89.1
4.00	1	.6	.6	89.7
5.00	2	1.1	1.1	90.9
6.00	5	2.9	2.9	93.7
Valid 7.00	1	.6	.6	94.3
8.00	3	1.7	1.7	96.0
9.00	1	.6	.6	96.6
12.00	2	1.1	1.1	97.7
13.00	1	.6	.6	98.3
14.00	1	.6	.6	98.9
18.00	2	1.1	1.1	100.0
Total	175	100.0	100.0	

Table 6 Spearman's rho among the Developmental Adversities factor and the Outcome Variable

Developmental Adversities Factor	4-category rape behavior	Emotional Abuse	Physical Abuse	Sexual Abuse	Emotional Neglect	Parental Violence	Negative experience with female
Emotional Abuse	.380**	1.000					
Physical Abuse	.265**	.682**	1.000				
Sexual Abuse	.283**	.537**	.384**	1.000			
Emotional Neglect	.239**	.528**	.336**	.253**	1.000		
Parental Violence	.310**	.699**	.635**	.524**	.379**	1.000	
Negative experience with female	.397**	.568**	.518**	.411**	.342**	.511**	1.000

Note: ** $p < .01$. The outcome variable was the 4-level self-report rape behavior.

Table 7 Spearman's rho among the Common Cognitive Variables, Violent Behavior and the Outcome Variable

Common Cognitive Factors	4-category rape behavior	External Blame	Antisocial Attitudes	Violent Attitudes	Victim Stance	Hostile World	Entitle- ment	Uncontroll- ability	Negative Self Schema	Minimise Harm Done
External Blame	.060	1.000								
Antisocial Attitudes	.243**	.509**	1.000							
Violent Attitudes	.316**	.386**	.644**	1.000						
Victim Stance	.231**	.340**	.397**	.522**	1.000					
Hostile World	.285**	.324**	.521**	.524**	.615**	1.000				
Entitlement	.359**	.393**	.608**	.625**	.526**	.569**	1.000			
Uncontrollability	.284**	.220**	.422**	.478**	.529**	.582**	.632**	1.000		
Negative Self Schema	.285**	.168*	.324**	.412**	.489**	.508**	.512**	.585**	1.000	
Minimise Harm Done	.271**	.393**	.663**	.740**	.537**	.585**	.672**	.533**	.448**	1.000
Violent Behavior	.344**	.409**	.621**	.756**	.438**	.577**	.677**	.532**	.361**	.649**

Note: * $p < .05$; ** $p < .01$. The outcome variable was the 4-category self-report rape behavior.

Table 8 Spearman's rho among the Rape-Specific Cognitive Variables, Pornography Use and the Outcome Variable

Rape-Specific Cognitive Factors	4-category rape behavior	Minimise Rape Harm	Women as Sex Object	Sexual Entitlement	Uncontrollable Sex	Sexual Dominance	Sex as Coping	Social Isolation	Hostility toward Women	Adversarial-Dismissive Intimacy
Minimise Rape Victim Harm	.541**	1.000								
Women as Sex Object	.336**	.572**	1.000							
Sexual Entitlement	.388**	.590**	.717**	1.000						
Uncontrollable Sex	.438**	.559**	.637**	.702**	1.000					
Sexual Dominance	.406**	.594**	.715**	.718**	.699**	1.000				
Sex as Coping	.380**	.459**	.568**	.563**	.618**	.695**	1.000			
Social Isolation	.368**	.405**	.284**	.424**	.457**	.469**	.420**	1.000		
Hostility toward Women	.239**	.466**	.514**	.553**	.458**	.547**	.467**	.424**	1.000	
Adversarial-Dismissive Intimacy	.398**	.552**	.578**	.662**	.533**	.606**	.526**	.552**	.732**	1.000
Pornography Use	.320**	.344**	.245**	.317**	.356**	.332**	.370**	.245**	.334**	.351**
Early onset of pornography use	-.177*	-.118	-.063	-.094	-.084	-.055	-.137	-.124	-.033	-.122

Note: * $p < .05$; ** $p < .01$. The outcome variable was the 4-category self-report rape behavior.

data, the Spearman's rank correlation coefficient (Spearman's rho) was calculated. According to Cohen (1988, 1992), the effect size is low if correlation coefficients range between .10 to .29, medium for coefficients between .30 and .49, and large for coefficients above .50. Correlation analysis found the association between early onset of pornography use and self-report rape behavior ($r = -.177$) was the only one with particular low effect size, thereby being dropped for further analysis in the present study. Correlation between all other independent variables and the self-report rape behavior outcome variable attained medium effect size. For the control variables age, education attainment, employment and sentence length, their correlation with the self-report rape behavior had a low effect size or was non-significant ($r = -.155, p < .05$; $r = .131, p > .05$; $r = -.045, p > .05$; $r = .079, p > .05$), therefore being excluded from further modeling of rape behavior. For the social desirability control variable, its correlation with all dependent and independent variables ranged from $r = -.153$ ($p < .05$) to $r = -.473$ ($p < .001$). Social desirability was thus treated as a control variable in subsequent structural equation modeling in order to partial out its effect on the variables.

Exploratory Factor Analysis (EFA)

The EFA was carried out on the 9 common cognitive variables and the 9 rape-specific cognitive variables with the use of principal components extraction with a view to identifying a smaller number of underlying constructs or latent factors that best account for the variability in these cognitive factors. Oblimin rotation, SPSS's option for oblique rotation, was preferred to the orthogonal rotation for present data set because of the moderate to high correlations among the variables and therefore the resultant factors were expected to correlate with each other (Tabachnick & Fidell,

2007). The analysis ultimately produced 3 eigenvalues exceeded the cutoff of 1. The scree test also suggested 3 factors. Additionally, the 3 extracted factors were found to be psychologically meaningful and interpretable. Taken together, the three-factor solution was selected as the optimal solution, accounting for 68.7% of the shared variance. Table 9 summarizes the matrix of factor loading between each cognitive variable and the 3 factors after oblimin rotation to ease interpretability.

In this three-factor solution, the first latent factor consisting of 6 variables namely sexual dominance, sexual entitlement, women as sex object, uncontrollable sex, minimize rape victim harm, and, sex as coping, was associated with the expression of masculinity like power and control in sexual interactions with women. The second latent factor which included 4 variables namely antisocial attitudes, minimize harm done, violent attitudes, and, external blame, was associated with attitudes condoning antisocial and violent acts. The third latent factor comprising 6 variables namely negative self schema, social isolation, uncontrollability, hostile world, victim stance and adversarial-dismissive intimacy were associated with the a negative perception of personal identity, social functioning and the relation with the external world. The 3 factors were therefore labeled *sexual masculinity*, *antisocial / violent attitudes*, and *'poor me' schema* respectively, each accounting for 54.1%, 8.1% and 6.4% of the shared variance. The variables of each of the 3 factors had moderate to high loadings on their corresponding factors. Besides, the factor inter-correlations in this model revealed moderate correlation, substantiating the use of oblique rotation. The Sexual Masculinity factor correlated with the Antisocial/Violent Attitudes, as well as, the 'Poor Me' factors at .470 and .650 respectively while the latter two factors correlated at .372, suggesting the factors were not highly correlated, nor entirely independent. Notably, with correlated factors, some of the variance explained by one factor would also be explained by the other factors.

Table 9 Factor Loadings in a Three-Factor Solution based on Principal Component
Extraction and Oblimin Rotation

	Factors		
	Sexual Masculinity	Antisocial / Violent Attitudes	'Poor Me' schema
Sexual Dominance	.898	.416	.596
Sexual Entitlement	.878	.501	.538
Women as Sex Object	.853	.428	.519
Uncontrollable Sex	.830	.274	.585
Minimise Rape Victim Harm	.775	.500	.401
Sex as Coping	.745	.277	.667
Adversarial-Dismissive Intimacy	.731	.426	.697
Hostility toward Women*	.686	.525	.602
Antisocial Attitudes	.542	.855	.430
Minimise Harm Done	.641	.794	.549
Violent Attitudes	.641	.768	.513
External Blame	.258	.734	.215
Negative Self Schema	.541	.227	.857
Social Isolation	.491	.231	.829
Uncontrollability	.513	.462	.817
Hostile World	.586	.494	.796
Victim Stance	.626	.460	.738
Entitlement*	.610	.663	.701
Eigenvalue	9.744	1.464	1.160
Variance accounted for (%)	54.133	8.134	6.445

Note. Variables comprising each factor are in bold.

* The two variables with cross loadings on all the three factors.

Another compelling finding was that 2 cognitive variables cross loaded upon all the 3 factors. First, the 'Hostility toward Women' variable cross loaded on Sexual Masculinity, Antisociality and Poor Me factors, revealing high factor loadings of .686, .525 and .602 respectively. Second, the 'Entitlement' variable also showed strong factor loadings of .610, .663 and .701 on the Sexual Masculinity, Antisocial / Violent Attitudes and Poor Me factors respectively. As these 2 variables represented theoretically separable constructs that were hypothesized to contribute to the rape behavior outcome variable, they were therefore treated as 2 separate variables for further analysis, not subsuming under any of the 3 latent factors.

In sum, the three-factor solution obtained from exploratory factor analysis successfully reduced the 18 cognitive variables into 5 parameters, consisting of 3 psychological meaningful factors and 2 variables with moderate cross-loadings on all the 3 factors, for subsequent analysis within a single structural equation model with sound statistical and theoretical bases. The correlation among these 5 parameters and the rape behavior outcome variable is seen in Table 10.

Structural Equation Modeling (SEM)

The foregoing analyses demonstrated multiple linear relationships between the independent variables and the rape behavior outcome variable. However, the mediating relationship among the independent variables remained to be tested. Structural equation modeling would be conducted for such purpose.

Following earlier correlation analysis and exploratory factor analyses, modification of the hypothesized model was made, including the deletion of the 'age onset for pornography use' variable, as well as, the reduction of 18 cognitive variables into 3 latent cognitive factors and 2 observed cognitive variables namely 'sexual masculinity', 'antisocial/violent attitude', 'poor me' schema, 'hostility toward women'

Table 10 Spearman's rho among the outcome variable and the 5 factors / variables
derived from exploratory factor analysis

	4-category Rape Behavior	Hostility toward Women		Factor Score for Sexual Masculinity	Factor Score for Antisocial/ Violent Attitudes	Factor Score for 'Poor Me' schema
4-category Rape Behavior	1.000					
Hostility toward Women	.268**	1.000				
Entitlement	.392**	.499**	1.000			
Factor Score for Sexual Masculinity	.493**	.689**	.607**	1.000		
Factor Score for Antisocial/ Violent Attitudes	.183*	.527**	.660**	.474**	1.000	
Factor Score for 'Poor Me' schema	.335**	.596**	.702**	.622**	.367**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

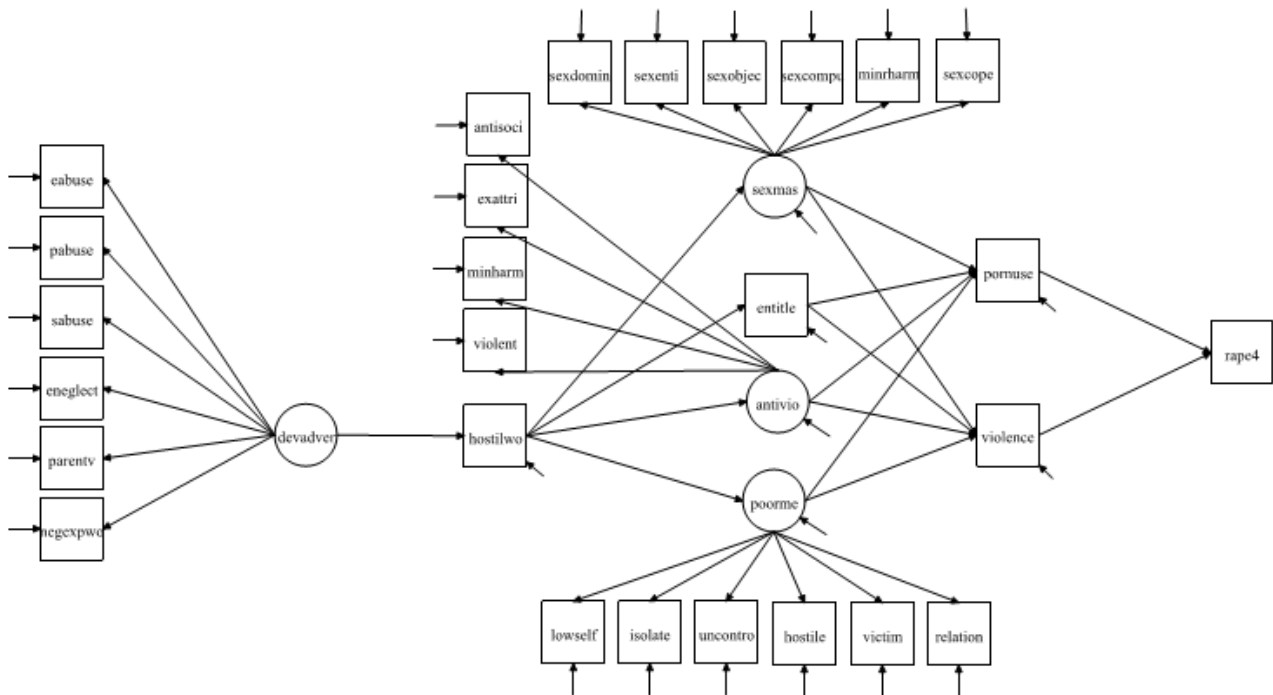
* . Correlation is significant at the 0.05 level (2-tailed).

and 'entitlement'. These parameters together with the 6-indicator 'developmental adversities' factor, pornography use, violent behavior and rape behavior made up the revised hypothesized model of rape behavior as shown in Figure 2 for structural equation modeling. The 4-category self-report rape behavior was used for modeling in order to capitalize the high-frequency rape behavior. To examine the revised hypothesized model and compare its parsimony and explanatory power with alternative models, structural equation modeling was started with the simplest model, building the model of rape from the inclusion of more distal and general variables to the more proximate and conceptually specific variables. To control for social desirability, each latent factor was regressed on this control variable.

Rape Model 1: Violence-to-Rape Behavioral Pattern

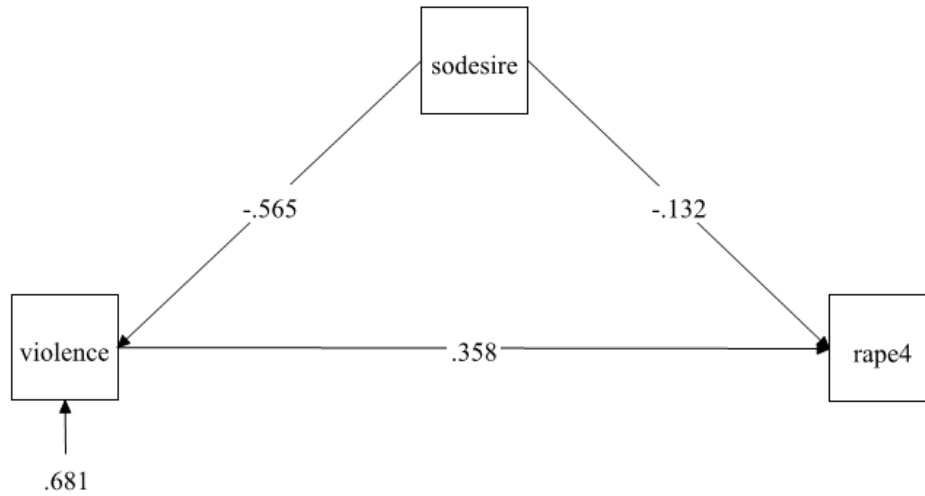
Present study aimed at developing a model of rape behavior in association with violent behavior given the co-occurrence of rape and violent behavior in forensic literature. The first model for empirical investigation was therefore the association between violent behavior and rape behavior, particularly the temporal precedence of violent behavior over rape behavior. The model depicting violent behavior as a predictor of rape behavior, or put it simple, a violence-to-rape behavioral pattern is presented in Figure 3. To control for social desirability, both violent behavior and rape behavior regressed on this control variable. Results of SEM demonstrated a just identified model with zero degree of freedom (RMSEA = .000, 90% CI .000-.000; WRMR = .001) which was expected as this model was simply a regression model. Violent behavior was significantly predictive of rape behavior ($\beta = .358, p < .001$) when controlling social desirability, indicating a violence-to-rape behavioral pattern. Social desirability had a significant effect on violent behavior ($\beta = -.565, p < .001$) but not on rape behavior ($\beta = -.132, p > .05$). The adjusted R^2 in multiple regression

Figure 2 The Revised Hypothesized Model of Rape Behavior



Note. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexi (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); poorme ('Poor Me' schema); lowself (Negative Self Schema); isolate (Social Isolation); nocontro (Uncontrollability); hostile (Hostile World); victim (Victim Stance); relation (Adversarial-Dismissive Relationship); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior).

Figure 3 Violence-to-Rape Behavioral Pattern



Note. The standardized parameter estimates are significant at $p < .001$ except $\beta = -.132, p > .05$.

violence (Violent Behavior); rape4 (Rape Behavior); sodesire (Social Desirability).

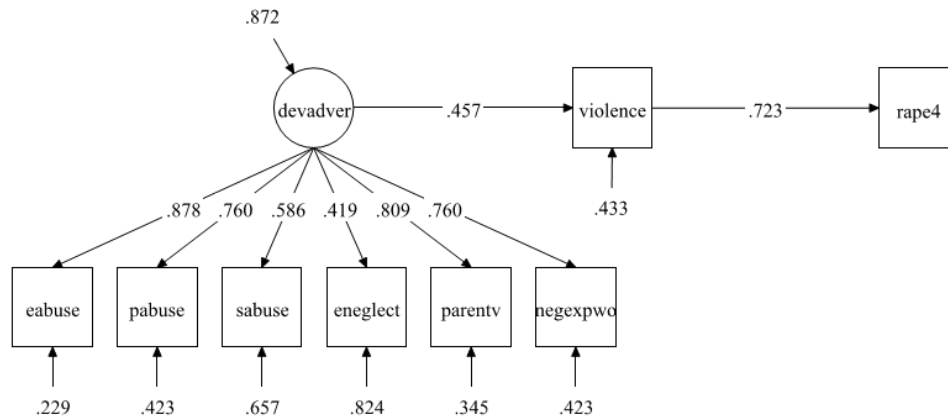
analysis showed social desirability explained 7.3% of variance in rape behavior while violent behavior added a significant explained variance of 3.8%, giving a total variance of 10.1%. In sum, the data support the development of rape behavior from violent behavior.

Rape Model 2: Simple Developmental Model

Having observed the association between rape and violent behavior in previous model, the next step was to elucidate the psychological mechanisms or risk pathways that underlie the violence-to-rape behavioral pattern by entering the independent variables in structural equation modeling. The first independent variable for model building was the developmental adversities latent factor. This simple model as diagrammed in Figure 4 tested the direct impact of the developmental adversities factor on the violence-to-rape behavioral pattern. The 6 variables that made up this factor were emotional abuse, physical abuse, sexual abuse, emotional neglect, parental violence and negative experience with female. Based on the criteria that RMSEA \leq .06 indicates close fit, RMSEA \leq .08 adequate fit and WRMR $<$ 1 good fit, the model yielded a poor fit of data (RMSEA = .116, 90% CI .089-.144; WRMR = .843).

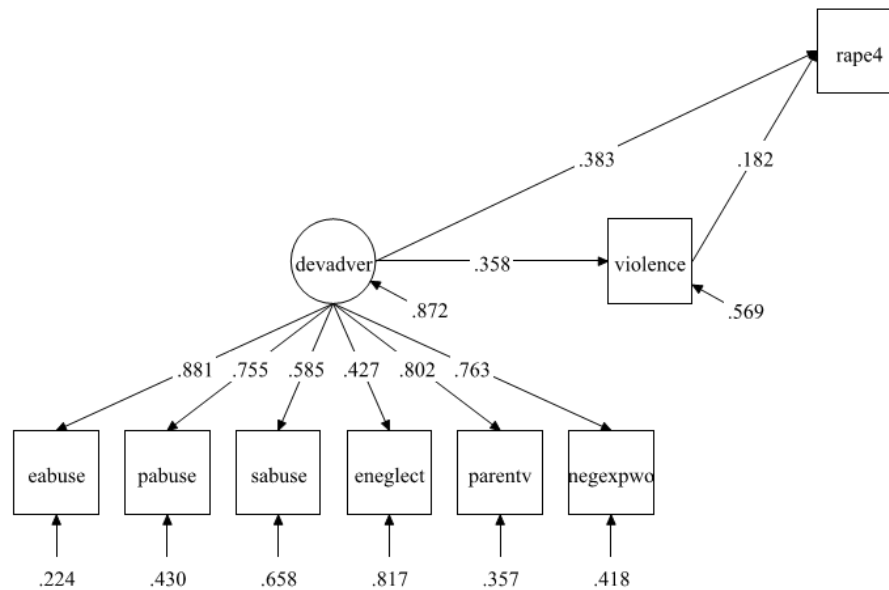
To improve the model fit, a path between the developmental adversities factor and the rape behavior outcome variable was added based on the modification indices. The modified model as shown in Figure 5 reported an adequate fit of data controlling for social desirability (RMSEA = .076, 90% CI .044-.107; WRMR = .589), explaining 15.9% of the total variance on multiple regression analysis. Compared to previous model depicting a violence-to-rape behavioral pattern, this model accounted for an additional 9% of total variance at $p < .05$. Besides, the standardized simple effect of developmental adversities on rape behavior ($\beta = .383$, 95% CI .205-.562, $p < .001$) was stronger than the standardized effect of developmental adversities on

Figure 4 Simple Developmental Model



Note. All standardized parameter estimates are significant at $p < .001$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.357, p < .001$), violence ($\beta = -.457, p < .001$) and rape4 (.115, $p > .05$) are not shown.

Figure 5 Simple Developmental Model adding a path between developmental adversities and rape behavior



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = .182$ is marginally significant at $p = .064$ devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.358$, $p < .001$), violence ($\beta = -.437$, $p < .001$) and rape4 ($\beta = -.094$, $p > .05$) are not shown.

violence-to-rape behavioral pattern ($\beta = .182$, 95% CI $-.011$ -. 375 , $p = .064$). Taken together, the total effect was also significant ($\beta = .449$, 95% CI $.294$ -. 603 , $p < .001$).

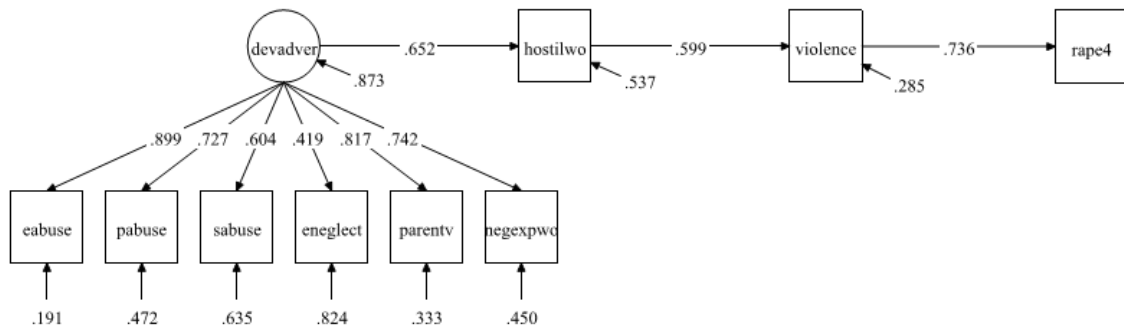
Despite the adequate fit statistically, this model simply illustrates a direct effect of developmental adversities on rape behavior and the co-occurring violent behavior, failing to figure out the psychological processes, or mediating variables in statistical terms, that unfold rape behavior after experiencing the developmental adversities. In other words, theoretical richness and explanatory power are lacking in this model.

Rape Model 3: Hostility toward Women as a Mediating Variable

This model added the 'hostility toward women' variable as a mediating variable in the relationship between developmental adversities and violence-to-rape behavioral pattern (Figure 6). Of the 5 cognitive parameters for modeling, the 'hostility toward women' variable was specified as the more distal cognitive parameter due to its cross loadings on all the 3 cognitive latent factors with moderate magnitude (ranged from $.525$ to $.686$) in exploratory factor analysis but a low simple correlation with the rape behavior outcome variable ($r = .239$). Results of SEM indicated this model represented a poor fit of data (RMSEA = $.144$, 90% CI $.121$ -. 168 ; WRMR = 1.048).

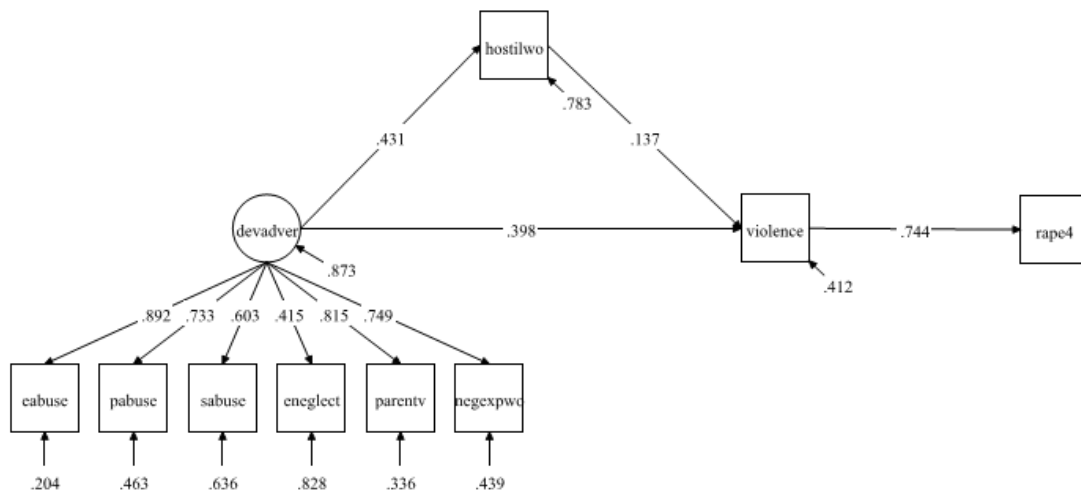
To improve the model fit, two paths were added on the basis of the modification indices. First, the path between the distal developmental adversities latent factor and the violent behavior variable was added (Figure 7). Model fit remained poor (RMSEA = $.112$, 90% CI $.087$ -. 137 ; WRMR = $.822$). Adding the second path that linked the distal developmental adversities latent factor to the rape behavior outcome variable improved the model fit. The revised model with the two added paths as shown in Figure 8 displayed adequate data fit (RMSEA = $.079$, 90% CI $.051$ -. 106 ; WRMR = $.614$) when controlling social desirability, accounting for 15.5% of total variance on the multiple regression analysis. Comparing to previous Simple

Figure 6 Hostility toward Women as a mediating variable



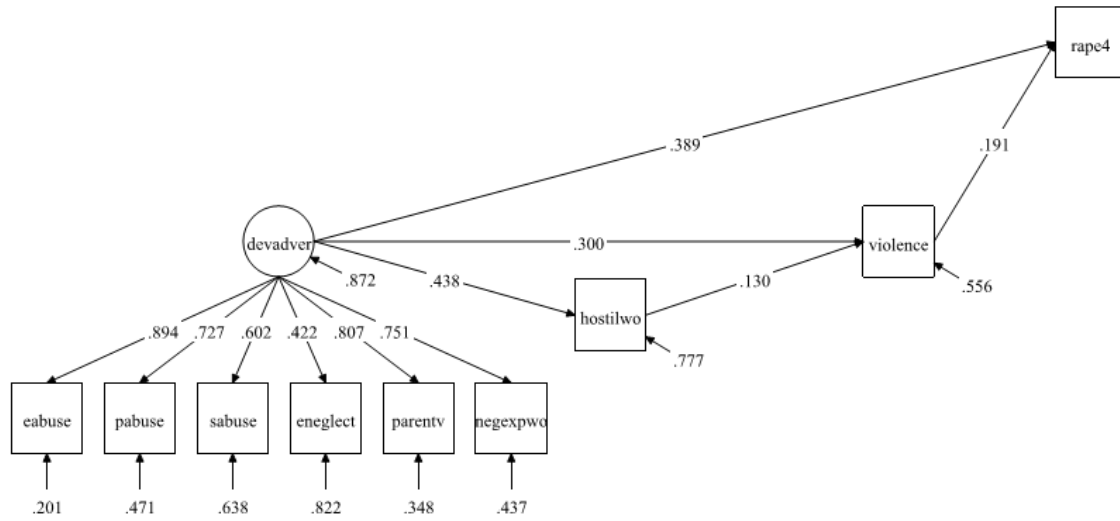
Note. All standardized parameter estimates are significant at $p < .001$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.357, p < .001$), hostilwo ($\beta = -.071, p > .05$); violence ($\beta = -.441, p < .001$) and rape4 ($.125, p > .05$) are not shown.

Figure 7 Hostility toward Women as a mediating variable adding a path between developmental adversities and violent behavior



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = -.451$ at $p < .05$. *devadver* (Developmental Adversities); *cabuse* (Emotional Abuse); *pabuse* (Physical Abuse); *sabuse* (Sexual Abuse); *eneglect* (Emotional Neglect); *cts_pv* (Parental Violence); *negexpwo* (Negative experience with female); *hostilwo* (Hostility toward women); *violence* (Violent Behavior); *rape4* (Rape Behavior). For simplicity, paths between social desirability and *devadver* ($\beta = -.357, p < .001$), *hostilwo* ($\beta = -.081, p > .05$); *violence* ($\beta = -.451, p < .001$) and *rape4* (.132, $p > .05$) are not shown.

Figure 8 Hostility toward Women as a mediating variable adding the second path between developmental adversities and rape behavior



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = .130$ at $p < .05$ and $\beta = .191$ at $p = .05$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilewo (Hostility toward women); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.358, p < .001$), hostilewo ($\beta = -.079, p > .05$); violence ($\beta = -.428, p < .001$) and rape4 ($\beta = -.087, p > .05$) are not shown.

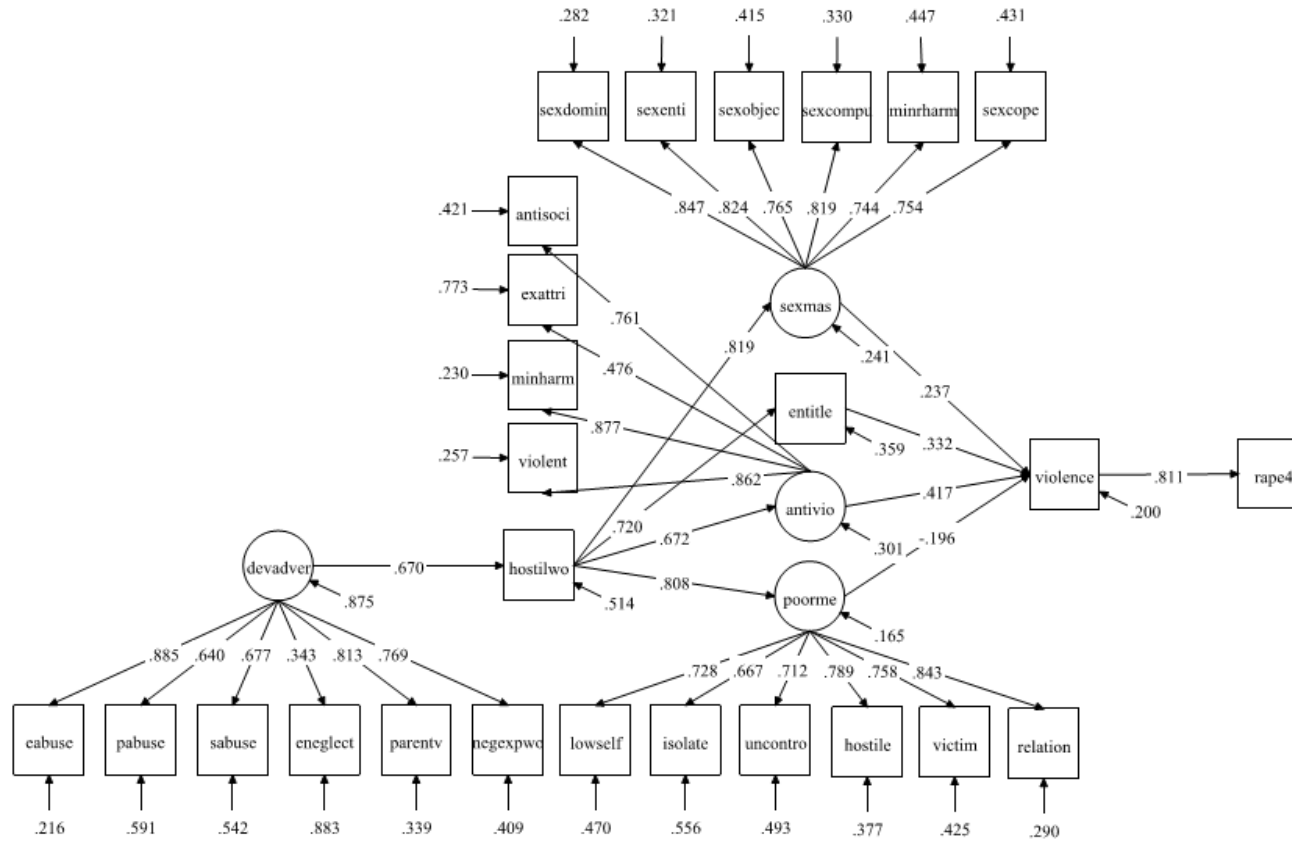
Developmental Model, the inclusion of 'hostility toward women' variable in this model did not add significant explanatory power ($\Delta R^2 = .003, p > .05$), however. Violent behavior was marginally predictive of rape behavior ($\beta = .191, 95\% \text{ CI } -.002-.382, p = .053$). The standardized total effect of all variables in explaining the rape behavior outcome variable was significant ($\beta = .457, 95\% \text{ CI } .302-.612, p < .001$). The standardized simple effect of the distal developmental adversity factor on the rape behavior outcome variable was the strongest ($\beta = .389, 95\% \text{ CI } .210-.568, p < .001$). The direct path between developmental adversities and violence-to-rape behavioral pattern was only marginally significant ($\beta = .057, 95\% \text{ CI } -.004-.119, p = .06$). The standardized indirect effect of developmental adversities on the violence-to-rape behavioral pattern with hostility toward women as the mediating variable was marginally non-significant ($\beta = .011, 95\% \text{ CI } -.005-.027, p > .05$).

Overall, this model is deemed as good as the Direct Developmental Model, attaining adequate model fit. However, hostility toward women does not appear to be a useful mediating variable, having little added value to explain the psychological processes that underlie the development of violence-to-rape behavioral pattern from developmental adversities. The explanatory power of this model is still considered far from satisfactory.

Rape Model 4: All Cognitive Parameters as Mediating Variables

In addition to the 'hostility toward women' variable in the last model, 4 other cognitive parameters namely the 'entitlement variable', the 'sexual masculinity' latent factor, the 'antisocial and violent attitude' latent factor and the 'Poor Me' factor were specified as the more proximate mediating variables in this model, controlling for social desirability. The model as depicted in Figure 9 demonstrated adequate fit of data (RMSEA = .080, 90% CI .071-.088; WRMR = .916), explaining 38.9% of the

Figure 9 All Cognitive Variables as Mediating Variables



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = .236$ at $p < .05$ and $\beta = -.196$ at $p > .05$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); poorme ('Poor Me' schema); lowself (Negative Self Schema); isolate (Social Isolation); nocontro (Uncontrollability); hostile (Hostile World); victim (Victim Stance); relation (Adversarial-Dismissive Relationship); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.354, p < .001$), hostilwo ($\beta = -.070, p > .05$); entitle ($\beta = -.193, p < .005$); sexmas ($\beta = -.138, p > .05$); antivio ($\beta = -.333, p < .001$); poorme ($\beta = -.247, p < .001$); violence ($\beta = -.283, p < .001$) and rape4 ($\beta = -.185, p > .05$) are not shown.

total variance. Relative to previous model, the inclusion of all cognitive parameters in this model added significant explanatory power ($\Delta R^2 = .234, p < .05$). The significant violence-to-rape behavioral pattern ($\beta = .810, 95\% \text{ CI } .598-1.023, p < .001$) in addition implicated this model explained the development of rape behavior in association with violent behavior and that violent behavior was predictive of rape behavior.

The standardized total effect of all variables accounting for the rape behavior outcome variable reached statistical significance ($\beta = .301, 95\% \text{ CI } .196-.406, p < .001$). 3 significant indirect paths from ‘developmental adversities’ to ‘hostility toward women’ impacted on the ‘violence-to-rape’ outcome variable through the influence of mediating variables namely ‘entitlement’, ‘sexual masculinity’ and ‘antisocial/violent attitudes’ respectively ($\beta = .130, 95\% \text{ CI } .012-.199$; $\beta = .105, 95\% \text{ CI } .012-.100$; $\beta = .152, 95\% \text{ CI } .064-.240$, all at $p < .001$). The more distal hostility toward women had the strongest significant effect in this model ($\beta = .301, 95\% \text{ CI } .196-.406, p < .001$). The remaining indirect path mediated by the ‘Poor Me’ factor was non-significant, however ($\beta = -.086, 95\% \text{ CI } -.188-.017, p > .05$). The non-significance of this indirect path could be attributed to the high estimated correlation between the ‘Poor Me’ factor and the ‘sexual masculinity’ and ‘antisocial/violent attitudes’ factors respectively ($r = .791$ and $r = .758$), therefore the variance explained by the ‘Poor Me’ factor being captured by other significant paths.

To sum up, this model is parsimonious with improved explanatory power, revealing the development of violence-to-rape behavioral pattern as mediated by various cognitive mechanisms after experiencing developmental adversities. Notably, hostility toward women which functioned as a distal cognitive parameter was the most influential mediating variable in this model. Hostility toward women impacted on entitlement, sexual masculinity as well as antisocial/violent attitudes in

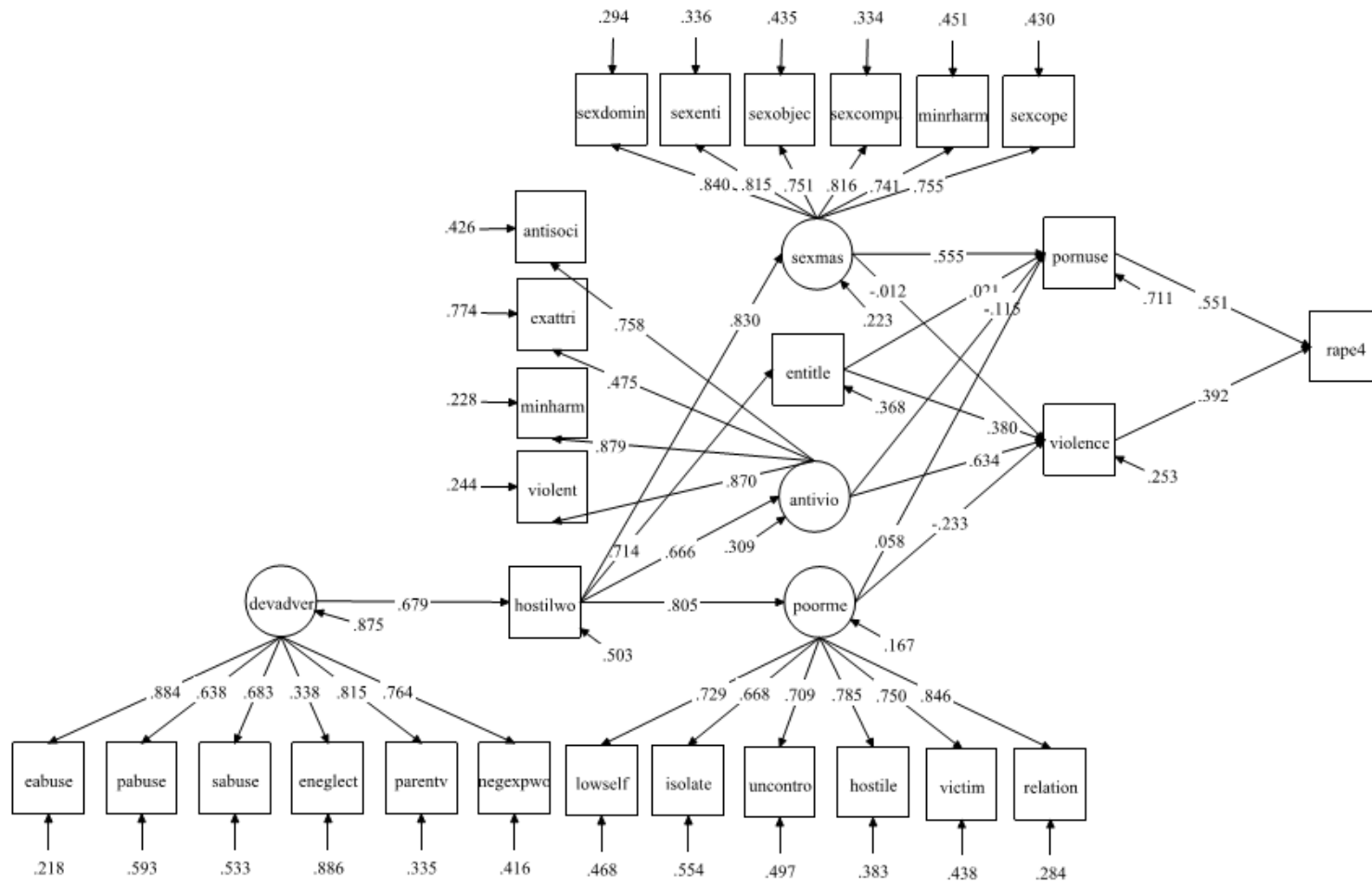
explaining the violence-to-rape behavioral pattern. Nonetheless, the cognitive variables or factors contained in the significant paths are all common to both violent behavior and rape behavior, failing to differentiate the common versus specific cognitive factors in modeling rape behavior in association with violent behavior.

Rape Model 4a: The Developmental Sexual-Aggressive Model

The pornography use variable, which was the last independent variable to be entered in building the model of rape behavior, was specified as a more proximate mediating variable. Like the violent behavior variable, the pornography use variable was behavioral in nature, thereby placing together with violent behavior after the cognitive parameters in this model, all controlling for social desirability. This final model is presented in Figure 10. Results of SEM pointed to adequate model fit (RMSEA = .076, 90% CI .068-.085; WRMR = .905), accounting for 39.2% of total variance on multiple regression analysis. In comparison with the preceding model in Figure 9, the addition of pornography use variable however did not make significant unique contribution to explain rape behavior at the statistical level ($\Delta R^2 = .006\%$, $p > .05$). Note violent behavior was significantly predictive of rape behavior ($\beta = .392$, 95% CI .198-.585, $p < .001$), revealing a violence-to-rape behavioral pattern again.

In fact, this final model made remarkable contribution at the conceptual level. Again, the path implicating violence-to-rape behavioral pattern was significant ($\beta = .392$, 95% CI .198-.585, $p < .001$). The standardized total effect of all variables accounting for the rape behavior outcome variable was also similar to previous model ($\beta = .299$, 95% CI .195-.403, $p < .001$). The major value added with the inclusion of ‘pornography use’ variable in this model was the 3 interesting indirect paths that accounted for the development of rape behavior outcome variable from ‘developmental adversities’ to ‘hostility toward women’ and then the mediation from

Figure 10 The Developmental Sexual-Aggressive Model



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = -.012$, $\beta = -.233$, $\beta = -.115$, $\beta = .058$ are all non-significant at $p > .05$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); poorme ('Poor Me' schema); lowself (Negative Self Schema); isolate (Social Isolation); nocontro (Uncontrollability); hostile (Hostile World); victim (Victim Stance); relation (Adversarial-Dismissive Relationship); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.125$, $p < .001$), hostilwo ($\beta = -.023$, $p > .05$); entitle ($\beta = -.068$, $p < .005$); sexmas ($\beta = -.049$, $p > .05$); antivio ($\beta = -.118$, $p < .001$); poorme ($\beta = -.008$, $p < .001$); pornuse ($\beta = -.002$, $p < .001$); violence ($\beta = -.072$, $p < .001$) and rape4 ($\beta = -.001$, $p > .05$) are not shown.

various proximal cognitive parameters as well as the two behavioral variables. First, the path mediated by 'sexual masculinity' factor and 'pornography use' pointed to a '*Sexual Path*' in explaining rape behavior ($\beta = .172$, 95% CI .070-.275, $p = .001$). The other two indirect paths suggested '*Aggressive Paths*' toward the development of rape behavior. One path was mediated by 'antisocial/violent attitudes' and 'violent behavior' ($\beta = .112$, 95% CI .040-.184, $p < .001$) and the other path had 'entitlement' and 'violent behavior' as mediating variables ($\beta = .072$, 95% CI .026-.119, $p < .005$). A close look at the three paths toward rape behavior, it was found the single Sexual Path alone had a stronger effect than the two Aggressive Paths ($\beta = .132$, 95% CI .057-.206, $p = .001$). The path between the 'Poor Me' factor and violent behavior was non-significant ($\beta = -.233$, 95% CI -.479-.013, $p > .05$) due to its high estimated correlation with the 'sexual masculinity' ($r = .799$) and 'antisocial/ violent attitudes' factors ($r = .752$) respectively.

Examining the effect of each mediating cognitive parameter in this model, 'hostility toward women' was again the most influential ($\beta = .299$, 95% CI .195-.403, $p < .001$). Of the 3 significant proximal cognitive parameters, the sexual masculinity had the largest impact ($\beta = .170$, 95% CI .064-.276, $p < .001$), followed by antisocial/violent attitudes ($\beta = .084$, 95% CI .004-.163, $p = .001$) and then entitlement ($\beta = .078$, 95% CI .011-.145, $p < .05$). As the '*antisocial/ violent attitudes*' and '*entitlement*' contributed to rape behavior via violent behavior, these two cognitive parameters were considered *common cognitive factors* of violent behavior and rape behavior. On the other hand, the mere statistical significance of 'sexual masculinity' cognitive factor in the 'Sexual Path' but non-significance in the indirect path mediated by violent behavior ($\beta = -.003$, 95% CI -.051-.046, $p > .05$) indicated that '*sexual masculinity*' is a *rape-specific cognitive factor*.

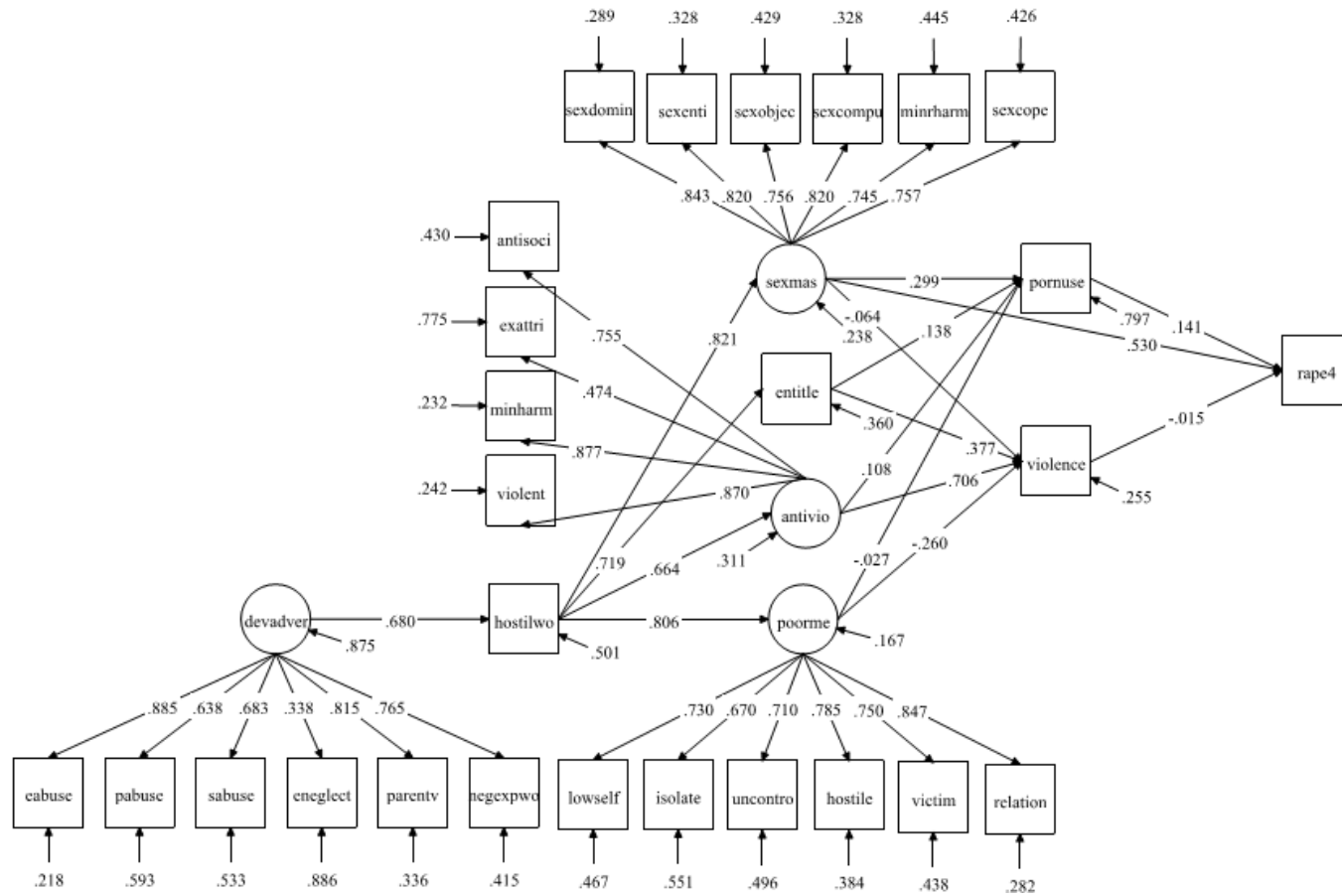
To sum up, this model which incorporated all the independent variables attained

adequate model fit of data with statistical control for social desirability, lent support to the hypothesized development of rape behavior from distal developmental adversities to various cognitive factors /variables and then the proximate pornography use or violent behavior, identified 1 Sexual Path and 2 Aggressive Paths that lead to rape behavior, discriminated cognitive factors specific to rape behavior from those common to both violent and rape behaviors, as well as, revealed the co-occurrence of rape and violent behavior. It enhances understanding of the psychological processes underlying rape behavior in association with violent behavior with reasonably good empirical base and sound theoretical foundation.

Rape Model 4b: Developmental Sexual-Aggressive Model adding a Path linking Sexual Masculinity to Rape Behavior

Though the previous model obtained adequate model fit, a path linking sexual masculinity factor to rape behavior was added for the purpose of model improvement according to the modification indices and theoretical relevance. The model presented in Figure 11 reported adequate fit of data (RMSEA = .072, 90% CI .064-.081; WRMR = .863), controlling for social desirability. The difference between this model and the nested previous final model reached statistical significance in the DiffTest ($\Delta\chi^2 = 25.869$, $df = 1$, $p < .001$), indicating this model fared better. However, the violence-to-rape behavioral pattern with violent behavior predictive of rape behavior became non-significant ($\beta = -.014$, 95% CI $-.201$ -.172, $p > .05$). As such, the 2 Aggressive Paths in the Final Model in Figure 10 were lost, leaving only the Sexual Path which elucidated the development of rape behavior from the distal 'developmental adversities' factor to 'hostility to women' and then the proximate 'sexual masculinity' factor ($\beta = .296$, 95% CI $.173$ -.419, $p < .001$). The total effect of all variables accounting for the rape behavior outcome variable in this

Figure 11 The Developmental Sexual-Aggressive Model adding a Path linking Sexual Masculinity to Rape Behavior



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = -.063$, $\beta = .108$, $\beta = -.207$ are all non-significant at $p > .05$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); poorme ('Poor Me' schema); lowself (Negative Self Schema); isolate (Social Isolation); nocontro (Uncontrollability); hostile (Hostile World); victim (Victim Stance); relation (Adversarial-Dismissive Relationship); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.353$, $p < .001$), hostilwo ($\beta = -.070$, $p > .05$); entitle ($\beta = -.183$, $p < .005$); sexmas ($\beta = -.139$, $p > .05$); antivio ($\beta = -.335$, $p < .001$); poorme ($\beta = -.248$, $p < .001$); pornuse ($\beta = -.044$, $p > .05$); violence ($\beta = -.283$, $p < .001$) and rape4 ($\beta = -.111$, $p > .05$) are not shown.

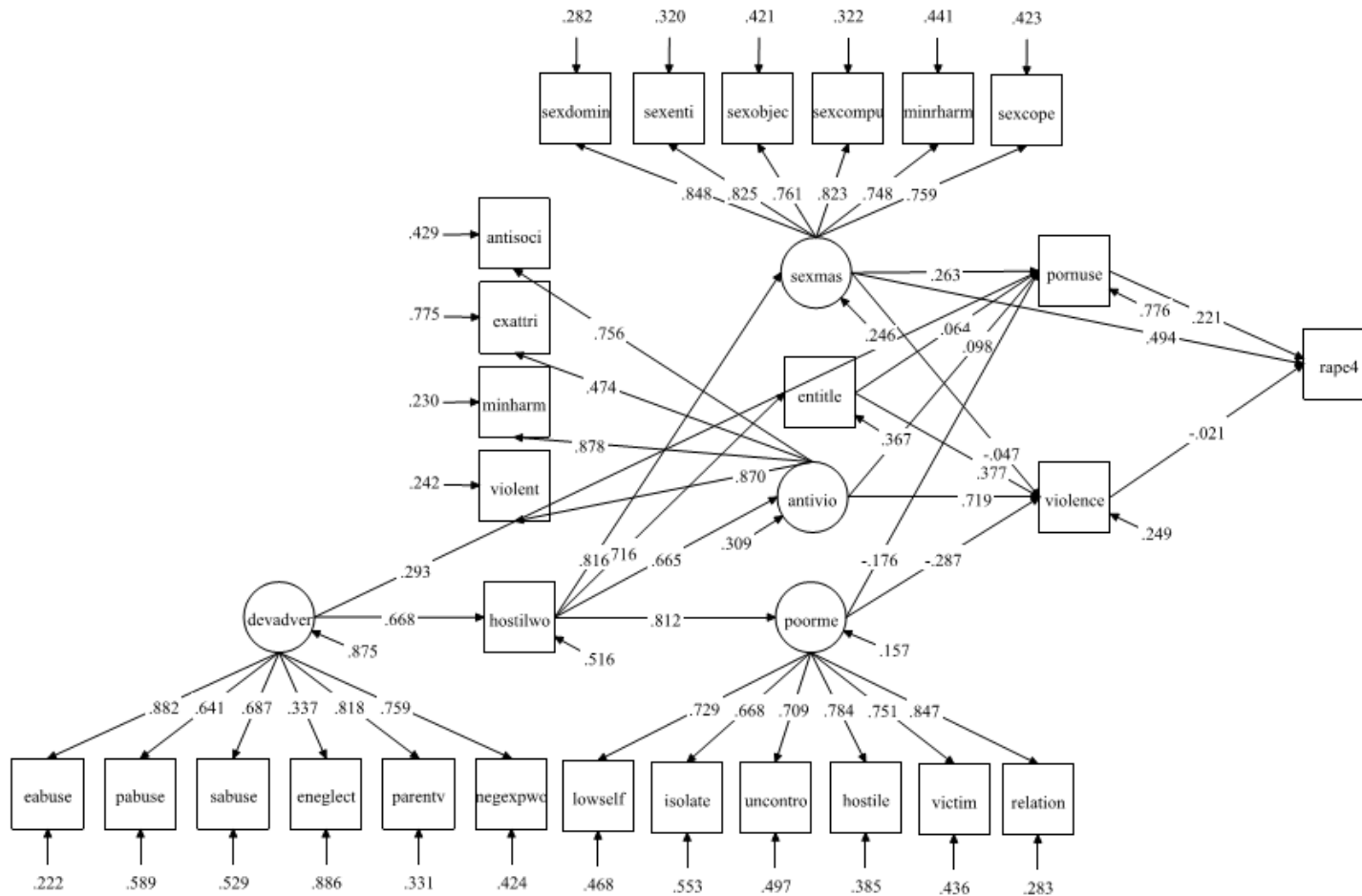
model was $\beta = .329$ (95% CI .220-.439, $p < .001$).

On the one hand, adding the path between sexual masculinity factor and rape behavior improves model fit at the statistical level and presents a simple path to explain the development of rape behavior from developmental adversities to hostility toward women and then the sexual masculinity factor. On the other hand, this model lacks the theoretical richness to account for the development of rape behavior in association with violent behavior given the often co-occurrence of these two behavior.

Rape Model 4c: Developmental Sexual-Aggressive Model adding the Second Path linking Developmental Adversities to Pornography Use

To improve the model fit, a second path that linked the distal developmental adversities factor to the pornography use variable was added on the basis of modification indices and theoretical relevance. This model is diagrammed in Figure 12. Again, the model yielded adequate fit of data (RMSEA = .071, 90% CI .062-.079; WRMR = .843), controlling for social desirability. Comparing this final model with two additional paths against the nested preceding final model with only one additional path, the DiffTest showed statistically significant difference ($\Delta\chi^2 = 16.216$, $df = 1$, $p < .001$), indicating this model fit the data better. Further comparison between this model and the final model with no additional path in Figure 10 again yielded significant difference on the DiffTest ($\Delta\chi^2 = 41.074$, $df = 2$, $p < .001$), suggesting superiority of this model at the statistical level. Also, the path implicating the violence-to-rape behavioral pattern was non-significant ($\beta = -.021$, 95% CI -.208-.166, $p > .05$). The standardized total effect of all variables accounting for the rape behavior outcome variable was $\beta = .354$ (95% CI .245-.464, $p < .001$). Of the 2 significant paths, the path from the distal 'developmental adversities' factor to 'hostility to women' and then the proximate 'sexual masculinity' factor was the

Figure 12 The Developmental Sexual-Aggressive Model adding the Second Path linking Developmental Adversities to Pornography Use



Note. All standardized parameter estimates are significant at $p < .001$, except $\beta = -.047$, $\beta = .098$, $\beta = -.176$ are all non-significant at $p > .05$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); poorme ('Poor Me' schema); lowself (Negative Self Schema); isolate (Social Isolation); nocontro (Uncontrollability); hostile (Hostile World); victim (Victim Stance); relation (Adversarial-Dismissive Relationship); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.353$, $p < .001$), hostilwo ($\beta = -.069$, $p > .05$); entitle ($\beta = -.193$, $p < .005$); sexmas ($\beta = -.139$, $p > .05$); antivio ($\beta = -.335$, $p < .001$); poorme ($\beta = -.247$, $p < .001$); pornuse ($\beta = -.069$, $p > .05$); violence ($\beta = -.184$, $p < .001$) and rape4 ($\beta = -.116$, $p > .05$) are not shown.

strongest ($\beta = .269$, 95% CI .151-.388, $p < .001$). The other path depicted the development of rape behavior from developmental adversities as mediated by pornography use ($\beta = .065$, 95% CI .002-0.128, $p < 0.05$).

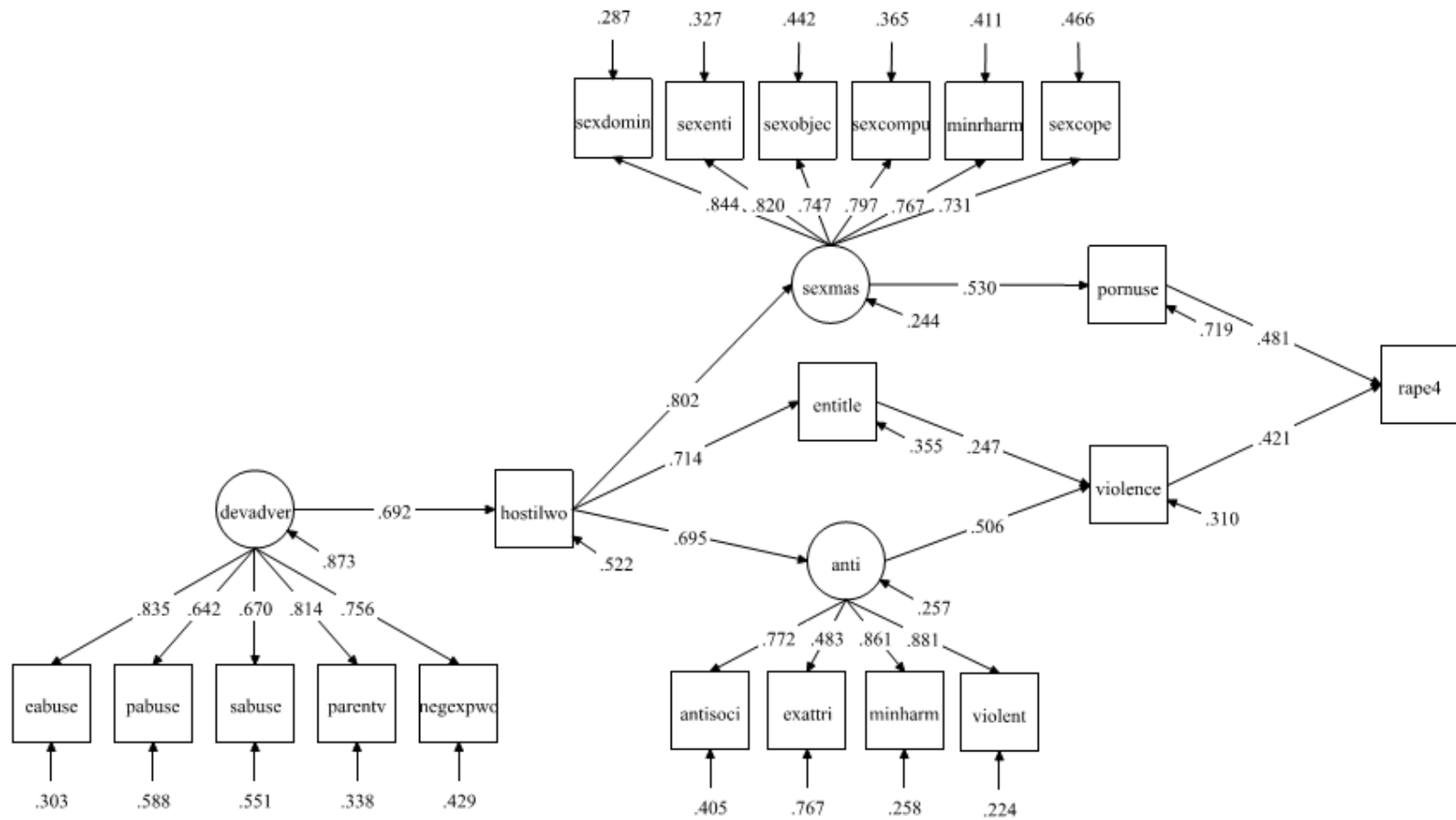
In terms of statistical model fit, this model fares better than the previous model. Theoretically, this model does not add much explanatory power however. The two paths mediated by pornography use have low explanatory power whilst the path that emerged from developmental adversities to hostility toward women and then sexual masculinity contribute to a large extent to the development of rape behavior. However, this model also fails to account for the development of rape behavior in association with violent behavior given the often co-occurrence of these two behavior.

Summing up the structural equation analyses, the *Developmental Sexual-Aggressive Model of Rape Behavior* in Figure 10 is considered the most desirable model. This model showed acceptable fit statistics, accounting for 39.2% of the total variance in rape behavior and supported the violence-to-rape behavioral pattern which indicated the co-occurrence of rape and violent behavior. Rape behavior was explained by 3 paths in this model. The *Sexual Path* together with the 2 *Aggressive Paths* emerged from the distal developmental adversities to hostility toward women and then the other 3 more proximal cognitive parameters namely entitlement, sexual masculinity, or, antisocial/violent attitudes, which ultimately mediated by either pornography use or violent behavior in the development of rape behavior.

Rape Model 5: The Final Developmental Sexual-Aggressive Model

In the interest of parsimony, the 3 non-significant paths, 1 factor and 1 indicator were removed to generate the Final Developmental Sexual-Aggressive Model in Figure 13. They included the path between sexual masculinity and violent behavior,

Figure 13 The Final Developmental Sexual-Aggressive Model



Note. All standardized parameter estimates are significant at $p < .001$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.356, p < .001$); entitle ($\beta = -.233, p < .005$); sexmas ($\beta = -.192, p < .005$); antivio ($\beta = -.336, p < .001$); violence ($\beta = -.211, p < .001$) are not shown.

entitlement and pornography use, as well as, antisocial/violent attitudes and pornography use. The 'poor me' factor was removed from the model given the 2 non-significant paths with pornography use and violent behavior downstream the model. The 'emotional neglect' indicator of the developmental adversities factor was also removed due to its low standardized loading on the factor ($\beta = .338, p < .001$). The non-significant paths between social desirability and hostility toward women, pornography use and rape behavior respectively were also removed. After model trimming, this model which contained all the independent variables was parsimonious with statistical control for the social desirability covariate.

The results of SEM provided an adequate fit to the data (RMSEA = .083, 90% CI .072-.094; WRMR = .866). The trimmed model which was more parsimonious accounted for 36.7% of total variance in rape behavior. After model trimming, there was a slight increase in RMSEA from .076 but a small drop of explained variance from 39.2% which was attributed to the removal of the 'poor me' factor that had shared variance with other independent variables of the model.

The path implicating the violence-to-rape behavioral pattern with violent behavior predictive of rape behavior was significant ($\beta = .421, 95\% \text{ CI } .258-.583, p < .001$). A total of 3 significant paths accounted for rape behavior, amounting to the total standardized effect of $\beta = .295$ (95% CI .202-.388, $p < .001$). The first path that emerged from developmental adversities to hostility toward women and then the sexual masculinity factor and finally pornography use pointed to a '*Sexual Path*' in explaining rape behavior ($\beta = .142, 95\% \text{ CI } .071-.273, p < .001$). The other 2 indirect paths that developed from developmental adversities to hostility toward women were mediated by 2 different proximal cognitive parameters before displaying the violence-to-rape behavioral pattern was suggestive of the '*Aggressive Paths*'. One of these paths was mediated by antisocial/violent attitudes ($\beta = .102, 95\%$

CI .046-.170, $p < .001$) and the other by entitlement ($\beta = .051$, 95% CI .014-.089, $p < .05$). Overall, the Sexual Path had similar effect in the explanation for rape behavior when comparing to the 2 Aggressive Paths in total ($\beta = .154$, 95% CI .096-.225, $p < .001$). The 2 paths in addition elegantly revealed *sexual masculinity and hostility toward women as rape-specific cognitive parameters* whereas the *entitlement and antisocial/ violent attitudes as common cognitive parameters* to violent behavior and rape behavior. Of these cognitive parameters, hostility toward women ($\beta = .295$, 95% CI .202-.388, $p < .001$) had the greatest effect in explaining rape behavior, followed by sexual masculinity ($\beta = .142$, 95% CI .071-.213, $p < .001$), antisocial/violent attitudes ($\beta = .102$, 95% CI .046-.150, $p < .001$) and entitlement ($\beta = .051$, 95% CI .014-.089, $p < .05$).

To conclude, this Final Developmental Sexual-Aggressive Model was the most parsimonious model that showed adequate fit to the data and accounted for 36.7% of variance in rape behavior. Rape behavior was explained by 1 Sexual Path and 2 Aggressive Paths comprising of distal developmental adversities, various cognitive mediators and proximate behavioral variables. The Sexual Path and the two Aggressive Paths in total had similar effect in explaining rape behavior. Violent behavior was found to predict rape behavior, showing a violence-to-rape behavioral pattern. Cognitive mediators were composed of rape-specific cognitive mediators as well as common cognitive mediators to both rape and violent behavior. The model therefore enhanced the understanding of psychological processes that underlie the development of rape behavior. The theoretical richness together with the statistical base of this model supported the final acceptance of this model in the present study.

Replication of the Final Developmental Sexual-Aggressive Model

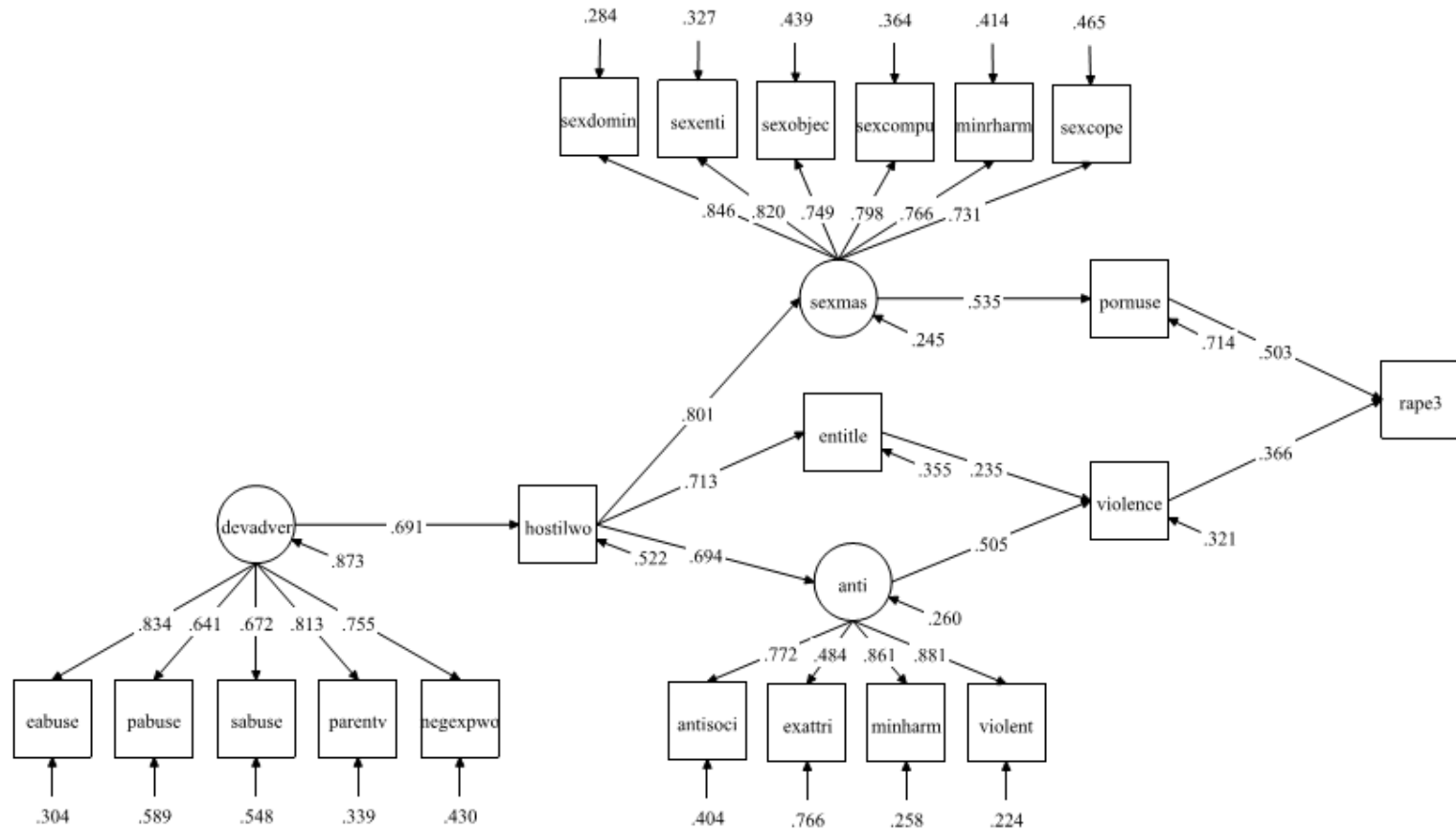
The Final Developmental Sexual-Aggressive Model of Rape Behavior in Figure

13 was modeled with the 4-category of self-report rape behavior outcome variable. To best take advantage of the available self-reported data, the Final Developmental Sexual-Aggressive Model was replicated with two other variants of the self-report rape behavior outcome variable, namely, the 3-category self-report rape behavior and the binary self-report rape behavior. Unlike the 4-category self-report rape behavior which capitalized the high frequency rape behavior, the binary self-report rape behavior only captured the presence and absence of rape behavior. The 3-category self-report rape behavior outcome variable was in the midway between the other two outcome variables. Model replications were carried out for testing model fit, investigating the relationships among the variables and identifying any discrepancies in modeling with the variants of rape behavior outcome variable.

Model 6a The Final Developmental Sexual-Aggressive Model with 3-category Self-Report Rape Behavior

Figure 14 presents the Final Developmental Sexual Aggressive Model with the 3-category self-report rape behavior outcome variable, which coded 0 for a score of 0, 1 for a score of 1, and 2 for scores above 2. Like the preceding Final Model, the result of SEM indicated adequate model fit (RMSEA = .083, 90% CI .072-.094; WRMR = .829), accounting for 35.1% of total variance in the 3-category self-report rape behavior. There was no change in the structural model. This resulting model also revealed a significant violence-to-rape behavioral pattern ($\beta = .365$, 95% CI .190-.540, $p < .001$). The standardized total effect of all variables accounting for the 3-category self-report rape behavior outcome variable came from 3 significant paths ($\beta = .280$, 95% CI .184-.376, $p < .001$). The '*Sexual Path*' emerged from distal 'developmental adversities' to 'hostility toward women', and then 'sexual masculinity' factor and the proximate mediating variable 'pornography use' in the

Figure 14 The Final Developmental Sexual-Aggressive Model with 3-category Self-Report Rape Behavior



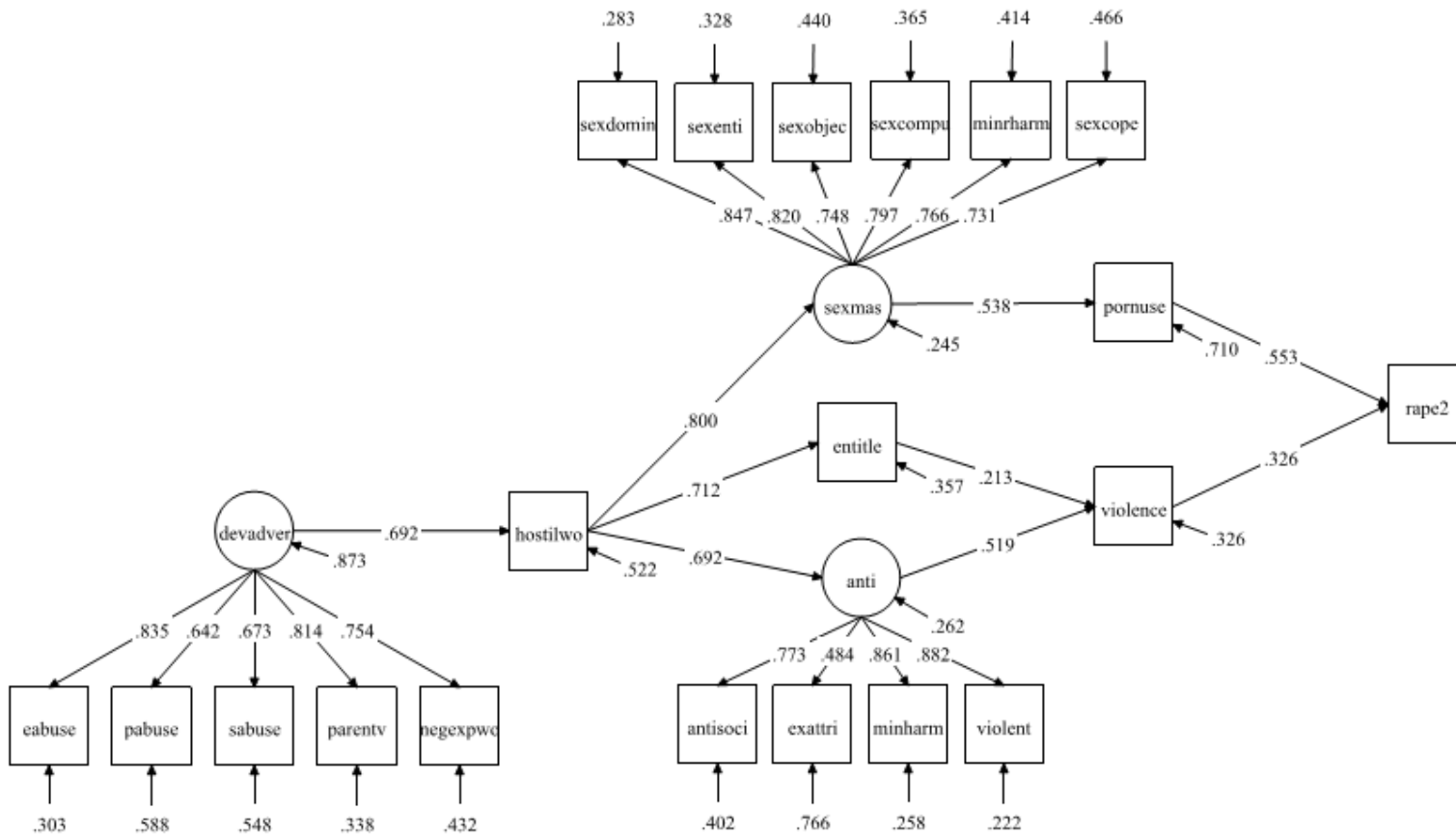
Note. All standardized parameter estimates are significant at $p < .001$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.356, p < .001$); entitle ($\beta = -.233, p < .005$); sexmas ($\beta = -.193, p < .005$); antivio ($\beta = -.366, p < .001$); violence ($\beta = -.217, p < .001$) are not shown.

development of rape behavior ($\beta = .149$, 95% CI .074-.224, $p = .001$). The standardized total effect of the 2 Aggressive Paths in total ($\beta = .131$, 95% CI .057-.204, $p = .001$) was comparable to the single Sexual Path. The 2 '*Aggressive Paths*' described the development of violence-to-rape behavioral pattern from 'developmental adversities' to 'hostility toward women', and then the 'antisocial/violent attitudes' mediator ($\beta = .088$, 95% CI .032-.145, $p < .005$), or the 'entitlement' mediator ($\beta = .042$, 95% CI .009-.071, $p < .05$). In other words, the 3 paths to rape behavior (1 Sexual Path and 2 Aggressive Paths), the violence-to-rape behavioral pattern, the rape-specific cognitive mediator, as well as, the common cognitive mediators to rape and violent behavior were successfully replicated in this model that utilized the 3-category self-report behavior as outcome variable.

Model 6b The Final Developmental Sexual-Aggressive Model with Binary Self-Report Rape Behavior

Figure 15 portrays the Final Developmental Sexual-Aggressive Model with 'binary' outcome variable rape behavior, that is, presence of rape behavior or absence of rape behavior. Similar to the Final Model, SEM analysis resulted in adequate model fit (RMSEA = .083, 90% CI .072-.094; WRMR =.875), explaining 34.2% of total variance in binary self-report rape behavior. As expected, the explained variance in the final model based on simple binary outcome variable was the lowest in comparison to the model with outcome variable that captured more variance and capitalized high frequency rape behavior like the 4-category rape behavior (36.7% of explained variance). When compared to the Final Model in Figure 13, the structural model remained unchanged. This model revealed a significant path implicating the violence-to-rape behavioral pattern ($\beta = .326$, 95% CI .138-.513, $p = .001$). The standardized total effect of all variables accounting for the binary self-report rape

Figure 15 The Final Developmental Sexual-Aggressive Model with Binary Self-Report Rape Behavior



Note. All standardized parameter estimates are significant at $p < .001$. devadver (Developmental Adversities); eabuse (Emotional Abuse); pabuse (Physical Abuse); sabuse (Sexual Abuse); eneglect (Emotional Neglect); cts_pv (Parental Violence); negexpwo (Negative experience with female); hostilwo (Hostility toward women); entitle (Entitlement); sexmas (Sexual Masculinity); sexdomin (Sexual Dominance); sexenti (Sexual Entitlement); sexobjec (Women as Sex Object); sexcompu (Sexual Compulsivity); minrharm (Minimize Rape Victim Harm); sexcope (Sex as Coping); antivio (Antisocial/Violent Attitudes); antisoci (Tolerance of Law Violation); exattri (External Blame); miniharm (Minimize Harm Done); violent (Violent Attitudes); pornuse (Pornography Use); violence (Violent Behavior); rape4 (Rape Behavior). For simplicity, paths between social desirability and devadver ($\beta = -.356, p < .001$); entitle ($\beta = -.233, p < .005$); sexmas ($\beta = -.195, p < .005$); antivio ($\beta = -.366, p < .001$); violence ($\beta = -.220, p < .001$) are not shown.

behavior was $\beta = .280$ (95% CI .180-.380, $p < .001$). The 3 significant paths were the same but with different magnitude. The '*Sexual Path*' that emerged from 'developmental adversities' to 'hostility toward women', and then 'sexual masculinity' and the ultimate mediating variable 'pornography use' in the development of rape behavior became a stronger path ($\beta = .165$, 95% CI .085-.245, $p < .001$). The other 2 paths belonged to the '*Aggressive Paths*' which described the development of the violence-to-rape behavioral pattern from 'developmental adversities' to 'hostility toward women', and then the 'antisocial / violent attitudes' mediating factor ($\beta = .081$, 95% CI .023-.138, $p < .05$), or the 'entitlement' mediating variable ($\beta = .034$, 95% CI .003-.065, $p < .05$). The standardized total effect of these 2 Aggressive Paths in explaining rape behavior ($\beta = .115$, 95% CI .040-.190, $p < .005$) was less than the single Sexual Path. Again, this model successfully replicated the 3 paths toward rape behavior (1 Sexual Path and 2 Aggressive Paths), the violence-to-rape behavioral pattern, the rape-specific cognitive mediators, as well as, the common cognitive mediators to rape and violent behavior.

While the structural model of the Final Developmental Sexual-Aggressive Model was replicated with different variants of rape behavior, there were changes in the relative importance of the single Sexual Path versus the two Aggressive paths in total as given in Table 11. An intriguing finding was the decreasing trend in the standardized total effect of the Sexual Path from $\beta = .165$ to $\beta = .142$ when the variants of rape behavior outcome variable reduced the ability to capitalize the high-frequency rape behavior, changing from 4-category rape behavior to the 3-category rape behavior to the simplified binary data that differentiated only the presence and absence of rape behavior. Conversely, there was an increasing trend in the standardized total effect of the Aggressive Paths from $\beta = .115$ to $\beta = .154$ with increasing gradation in the rape behavior outcome variable from simple binary data to

Table 11 The standardized total estimate and standard error of the Sexual Path and the two Aggressive Paths on the variants of rape behavior outcome variable

Outcome variable	Sexual Path		Two Aggressive Paths (Entitlement-Aggressive; Antisocial/Violent-Aggressive)		Both paths	
	Standardized total estimate	Standard error	Standardized total estimate	Standard error	Standardized total estimate	Standard error
4-category rape behavior	.142	.036	.154*	.019; .029	.296	.048
3-category rape behavior	.149	.038	.131*	.017; .029	.280	.049
Binary rape behavior	.165	.041	.115*	.017; .029	.280	.051

Note. All $p < .001$ except * $p < .05$.

3-category and then the 4-category data. This reflects the Aggressive Path had stronger impact than the Sexual Path in predicting rape behavior with a wider range of frequency. The Aggressive Path is more important to repeat rape behavior with higher frequency. Researchwise, increasing the variance of the rape behavior outcome variable which helped capture more information about the outcome variable improved the statistical power to detect fine variability within the rape behavior.

All in all, the Final Developmental Sexual-Aggressive Model of Rape Behavior attained adequate model fit in the replications involving 3 variants of self-report rape behavior as the outcome variable. There is convergent evidence to support the acceptance of this model to explain rape behavior in Chinese offenders which accounted for a range of 34.2% to 36.7% of the variance. A summary of model comparisons is listed in Table 12.

Table 12 Summary of Model Comparisons

Model	RMSEA	WRMR	Adjusted R^2
1. Violence-to-Rape Behavioral Pattern (Figure 3)	.000	.000	10.1%*
2. Simple Developmental Model (Figure 4)	.116	.843	15.9%
3. Simple Developmental Model adding a path between developmental adversities and rape behavior (Figure 5)	.076	.589	---
4. Hostility toward Women as a Mediating Variable (Figure 6)	.144	1.048	15.5%
5. Hostility toward Women as a Mediating Variable adding a path between developmental adversities and violent behavior (Fig 7)	.112	.833	---
6. Hostility toward Women as a Mediating Variable adding the 2 nd path between developmental adversities and rape behavior(Fig8)	.079	.614	---
7. All Cognitive Variables as Mediating Variables (Figure 9)	.080	.916	38.9%
8. Developmental Sexual-Aggressive Model (Figure 10)	.076	.905	39.2%
9. Developmental Sexual-Aggressive Model adding a path linking Sexual Masculinity to Rape Behavior (Figure 11)	.072	.863	---
10. Developmental Sexual-Aggressive Model adding the 2 nd path linking Developmental Adversities to Pornography Use (Fig 12)	.071	.843	---
11. Final Developmental Sexual-Aggressive Model with 4-category self-report rape behavior (Figure 13)	.083	.866	36.7%
12. Final Developmental Sexual-Aggressive Model with 3-category self-report rape behavior (Figure 14)	.083	.829	35.1%
13. Final Developmental Sexual-Aggressive Model with binary self-report rape behavior (Figure 15)	.083	.875	34.2%

* Of the 10.1% explained variance, social desirability constitutes 7.9%

CHAPTER TEN

DISCUSSION

Present study which represents a pioneering attempt to empirically model rape behavior per se successfully constructed and replicated the resulting Developmental Sexual-Aggressive Model of Rape Behavior based on the three variants of self-report rape behavior in a Chinese offender sample consisting of rapists and violent offenders, taking into consideration the co-occurrence of rape and violent behavior. A number of important findings are worth to highlight. First, distal developmental adversities, a host of cognitive mediators namely hostility toward women, sexual masculinity factor, antisocial / violent attitudinal factor and entitlement, together with the more proximate behavioral variables namely pornography use and violent behavior all contribute to explain rape behavior after controlling for social desirability. While hostility toward women and sexual masculinity constitute rape-specific cognitive constructs exemplifying the cognitive content-specificity hypothesis postulated by Beck (1976), antisocial/violent attitudes and entitlement are cognitive factors common of both rape and violent behavior. The strongest cognitive factor is hostility toward women which emerges early on in the developmental model. Three etiologic paths underlying the development of rape behavior have been identified: one Sexual Path and two Aggressive Paths. The extent of influence between the Sexual Path and the two Aggressive Paths in total is comparable but the two Aggressive Paths become more influential to repeat rape behavior with higher frequency. The Aggressive Paths not only render empirical support to the co-occurrence of rape and violent behavior but more importantly reveal a violence-to-rape behavioral pattern and illuminate the psychological mechanisms underlying their co-occurrence. Furthermore, the present work progresses beyond earlier studies by modeling actual rape behavior in offender sample instead of self-reported likelihood-to-rape in college

students sample (e.g. Demare, Lips & Biere, 1993) and sexual aggression ranging from less serious kissing, petting and caressing body parts to non-consented sex by force and/or with a weapon (e.g. Knight & Sims-Knight, 2003; Lim & Howard, 1998; Lussier, Proulx & LeBlanc, 2005; Malamuth, 1986). All these empirical findings help advance our knowledge of rape behavior and therefore advance clinical assessment and treatment of the convicted rapists for public safety purpose, benefitting from the research strategy of studying rape behavior and its co-occurring violent behavior together within a single, unifying model.

The Developmental Sexual-Aggressive Model

Utilizing the three variants of self-report rape behavior as the outcome variable, there were converging findings in the present study showing a replicable structure in the Developmental Sexual-Aggressive Model of Rape Behavior. All the independent variables are found to be significantly associated with the rape behavior outcome variable after controlling for social desirability, with the exception of early onset of pornography use and the 'poor me' factor. The model explicates three paths to rape behavior that emerges from distal developmental adversities to hostility toward women and then the various proximal cognitive constructs including sexual masculinity, antisocial/violent attitudes and entitlement and finally the behavioral precursors, either pornography use or violent behavior. The model also lends empirical support to the co-occurrence of rape and violent behavior with violent behavior being predictive of rape behavior. In an effort to delineate the psychological processes underpinning rape behavior in association with violent behavior, the model features a developmental perspective, a multi-factorial approach containing a wide array of cognitive and behavioral variables, as well as, common and specific cognitive variables, adequate empirical base and good explanatory utility.

As the first empirically supported theory-derived model of rape behavior, the explanatory power of the Developmental Sexual-Aggressive Model with an explained variance of 34.2% to 36.7% is superior to or at least as good as other empirically based models of sexual aggression that accounted for 26% to 39% of the variance in the less serious sexually aggressive behavior (Knight & Sims-Knight, 2003; Lussier, Proulx & LeBlanc, 2005; Malamuth, 1991). Integrating the variables of interest, this model offers a comprehensive conceptualization specific to rape behavior which is largely consistent with existing literature and theoretically interpretable.

Distal Developmental Adversities Factor

Parallel to previous models of sexual aggression and criminal violence (Anderson & Anderson, 2008; Harris, Rice & Lalumiere, 2001; Malamuth, 1986), the Developmental Sexual-Aggressive Model of Rape Behavior also starts with developmental adversities as a distal factor. The developmental adversities factor is composed of emotional abuse, parental violence, negative experience with female, sexual abuse and physical abuse of which emotional abuse contributed most to the factor, followed by the other indicators in order. Emotional neglect was removed from the developmental adversities factor in the course of model building given its low loading on the factor.

Of these five indicators, negative experience with female warrants particular attention. The negative experience with female indicator refers to maltreatment, abandonment and/or humiliation by female in childhood, broken family due to father's extra-marital affair, and, rejection, desertion or betrayal by a romantic partner. Present study is the first to establish an empirically supported positive link between these negative experiences with female and rape behavior, though negative experience with female was subsumed under the developmental adversities factor and the link

was intervened by a set of mediating variables in the resulting model of rape behavior. Simple correlation between negative experience with female and rape behavior was the highest ($r = .397$) when compared to other indicators of the factor. Its loading on the developmental adversities factor ($\beta = .739$) was middle-ranking among other indicators ($\beta = .612-.831$). Present findings are in line with rapists' report of experiences of being humiliated, degraded or betrayed by a woman (Ward, Hudson, Johnston & Marshall, 1997), Beck's (1999) remarks about the obsession with memories of past rejection or humiliation by women in rapists and the Chinese community's belief about the experience of these various types of negative experience with female in Chinese rapists (Tang, Wong & Cheung, 2002). Both present and previous findings reflect negative experience with female as a developmental antecedent that fuels strong resentment and hostility toward women which in turn leads to the use of rape to punish or to retaliate against the female, or to release the accumulated negative emotion. Nonetheless, previous work fails to show an empirical association between negative experience with female and rape behavior and to include negative experience with female in modeling sexual aggression.

The inclusion of other four indicators namely emotional abuse, parental violence, sexual abuse and physical abuse in the developmental adversities factor as a distal factor to rape behavior in the resulting model is supported by previous empirical findings (e.g. parental violence and child abuse containing a combination of both sexual and physical abuse in Confluence Model of Sexual Aggression (Malamuth, 1986) and in the model sexual aggression in Singaporean men (Lim & Howard, 1999); parental violence and sexual abuse in the model of sexual activity (Lussier, Proulx & LeBlanc, 2005); sexual abuse in the model of sexual coercion (Schatzel-Murphy, Harris, Knight & Milburn, 2009); physical abuse as a predictor of violent and criminal behavior in adolescence and adulthood (Herrenkohl, Herrenkohl, Egolf & Russo,

1998; Widom, 1989); emotional maltreatment, referring to both emotional abuse and neglect, as a stronger predictor of externalizing problem than physical abuse (Mullen, Martin, Anderson, Romans & Herbison, 1996).

Apart from a link to later rape behavior or sexual aggression as in the present model, there is a general agreement in literature that varying types of developmental adversities are associated with overlapping patterns of disorders or problematic behavior in adulthood such as interpersonal problem, decreased self-esteem, conduct problem, aggression, suicidal behavior, substance abuse problems and psychiatric disorders (Mullen, Martin, Anderson, et. al., 1996). This implicates developmental adversities as a general distal factor that contributes to varying form of adult psychopathology or problem behavior. People growing up with developmental adversities tend to espouse hostile cognitions, harbor feelings of inadequacy, have difficulty to regulate negative emotion and behavior and develop an exaggerated need to control people, leading to problem behavior and psychopathology of varying kinds including the rape and violent behavior of interest in the present study (Huesmann, 1988; Malamuth, 1991; Newcomb & Bentler, 1986; Prentky, Knight, Sims-Knight, Straus, Rokous & Cerce, 1989; Shackman & Pollak, 2014). As a general distal factor with virtually no specificity in explaining rape behavior, the explanatory power of developmental adversities on rape behavior is expected to be modest, accounting for 8.6% of the total variance after deducting the variance explained by social desirability. Adding the cognitive mediators with more specificity to rape behavior in the link between developmental adversities and rape behavior helps uncover the psychological processes underlying the rape behavior, enhancing the explanatory power of the Developmental Sexual-Aggressive Model of Rape Behavior with an additional explained variance of 20.8% and conversely shedding light on why not all individuals with developmental adversities display rape behavior subsequently.

Hostility toward Women

Beginning with the developmental adversities factor, all mediators go through 'hostility toward women' before impacting on rape behavior in the Developmental Sexual-Aggressive Model of Rape Behavior. Hence, among a host of cognitive mediators intervening the relationship between developmental adversities and rape behavior, rape behavior is most explained by hostility toward women. Apart from being the most important cognitive mediator of this multivariate model, it is worth mentioning that hostility toward women is the most distal mediator, implicating an individual who displays rape behavior has adopted hostile attitudes toward women early on after experiencing developmental adversities of various kinds while other cognitive processes will be emerged afterwards. According to the model, stronger hostility toward women is associated with more rape behavior. Nevertheless, hostility toward women alone makes no unique contribution to account for rape behavior, contributing no additional explained variance when entered into the model. Only with the inclusion of other more proximal cognitive mediators that the model adds substantial explanatory power, amounting to an added 21.2% explained variance in rape behavior.

Present research finding replicates previous research evidence of the role of hostility toward women in sexual aggression. The importance of hostility toward women is particularly implicated in the Hostile Masculinity Path in the Confluence Model of Aggression against Women (Malamuth, 1986) and the Hierarchical-Mediational Confluence Model (Malamuth, 2003). Though the hostile masculinity factor is a blend of two concepts namely hostility and dominance pertaining to women, the particular high loading of hostility toward women on the hostile masculinity factor ($\beta = .83$) indicates its pervasive influence on the factor. Using the Multidimensional Inventory of Development, Sex, and Aggression (MIDSA), it is found that the

Hostility to Women Scale differentiates rapists even among criminal samples (MIDSA, 2008). Comparing repeat sexual assaulters to past sexual assaulters who did not re-offend during the follow-up period, the repeaters harbored significantly stronger hostility toward women than the past sexual assaulters (Abbey & McAuslan, 2004). There are also empirical findings of the feelings of anger toward women in rape-prone individuals (Lisak & Roth, 1988), and, significant correlations between sexual arousal to rape and hostility toward women (Malamuth, 1986). However, contradictory research finding is observed in modeling sexual aggression in young Singaporean men (Lim & Howard, 1998).

The conflicting findings of hostility toward women are in fact related to the varying severity of the sexual aggression outcome variable. Present study targeted specifically rape behavior which represents the most severe form of sexual aggression. Sexual aggression in the study with Singapore sample covered less severe sexual aggression as it was measured by the 19-item Coercive Sexuality Scale which largely referred to relatively mild sexually coercive behavior ranging from holding a woman's hands, kissing a woman, placing hands on a woman's breast, unfastening woman's clothes to touching a woman's genital area against her will, with only 8 items tapping rape behavior (e.g. 'threatened to use physical aggression with woman to get sex from her'). The series of Confluence Model lie in between. Sexual aggression in the Confluence Model was measured by the 10-item Sexual Experiences Survey with 6 items tapping rape and attempted rape behavior and the remaining on fondling, kissing or petting. It is therefore surmised that the impact of hostility toward women increases with more severe form of sexual aggression, explaining its prominent role in the present Developmental Sexual-Aggressive Model of Rape Behavior. This argument is strengthened by the converging evidence from a recent study comparing risk factors for sexual coercion and rape behavior (which is termed

sexual aggression in the study), acknowledging rape behavior as a more severe form of sexual violence relative to sexual coercion (DeGue, DiLillo & Scalora, 2010).

The study points out hostility toward women as the only predictor of rape behavior but not the other two predictors namely generalized aggression and emotional abuse, differentiating the two forms of sexual violence with varying severity. Besides, the empirically derived taxonomic models of rapist in early work give other empirical support. The vindictive rapists in the Massachusetts Treatment Centre Rapist Typology: Version 3 (Knight & Prentky, 1990) target women as their exclusive focus of anger. Tracing back to the Groth Typology (1979) and Hazelwood-Burgess Typology (1987), the angry rapists and anger-retaliatory rapists all harbor anger and rage toward women or whom the victim symbolize, using rape as a kind retaliation.

Theoretically, developmental adversities of various kinds lead to elevated and lingering poor affect as well as development and maintenance of problem behavior as a consequence of overly hostile attributions and over-attention to cues that indicate threat (Dodge, Bates & Pettit, 1990; Dodge, 2006; Shackman & Pollak, 2014).

Following social learning theory (Bandura, 1973), with the experience of these developmental adversities in early life, an individual imitates the adults who model hostile attribution bias in their interaction, use of violence of various forms with little regard of others' feelings, degradation of women and sexualized coping of emotional distress. Neuroimaging research has in fact provided circumstantial support by the consistent findings that children with conduct disorder and/or aggressive behavior show increased activity in amygdala when responding to social threat but decreased activity in anterior cingulate and ventromedial prefrontal cortex that involves in the regulation of affect and behavior (Crowe & Blair, 2008; Siever, 2008).

In addition to revealing hostility toward women as a potent cognitive factor contributing to rape behavior, the present study is the first to report hostility toward

women as an early cognitive process in the development of rape behavior. In present model of rape behavior, early formation of the hostile attitudes toward women is related to negative experience with female throughout the developmental history as well as well as experience of other forms developmental adversities of which the individual perceives the female as the culprit who has hurt him. This echoes the cognitive model of psychopathology stipulating that cognitions are developed and maintained by related life experience (Beck, 1976). However, no previous modeling of sexual aggression has placed hostility toward women as a distal mediator, developing early on in the culmination of rape behavior. Hostility toward women which is subsumed under the hostile masculinity mediator in the Confluence Model of Sexual Aggression (Malamuth 1986; Malamuth, 2003) is found to be proximal to sexual aggression. It is probably attributable to failing to identify negative experience with female as the early precursor of sexual aggression and targeting a range of less serious to more serious sexual aggression instead of the more serious rape behavior.

Three Paths to Rape Behavior

From the distal developmental adversities factor and then hostility toward women, the Developmental Sexual-Aggressive Model further explains rape behavior with three paths, unraveling the various psychological processes that underlie the development of rape behavior after experiencing developmental adversities and harboring hostile attitudes toward women. The three paths which encompass one Sexual Path and two Aggressive Paths explain rape behavior altogether. All the three paths commonly start with developmental adversities and then hostility toward women which in turn influences different combination of the idiosyncratic proximal mediators that characterize each path to rape behavior. Explicating multiple paths to

explain rape behavior is in keeping with prior attempts of empirical modeling which also specify multiple pathways to the same clinical outcome, for example offending behavior (Moffitt, 1993) and alcoholism (Cloninger, 1987).

Sexual Path

The Sexual Path that emerges from developmental adversities has an impact on rape behavior through the influences of hostility toward women and then sexual masculinity and finally pornography use. According to this model, the Sexual Path stipulates that higher level of developmental adversities enhances hostility toward women which in turn heightens sexual masculinity and therefore engages in more pornography use to bring about rape behavior. The proximal mediators, which surround the belief of using sex to assert the masculine identity and concern the use of pornography in ordinary life, focus on sexuality and form the hallmark of the Sexual Path to rape behavior. Amidst the often co-occurrence between rape and violent behavior, the Sexual Path exemplifies the unique component of variance in rape behavior.

Sexual masculinity. Sexual masculinity is the second most important cognitive mediator in the present model of rape behavior. Albeit conceptually separable, the six indicators that form the sexual masculinity construct namely sexual dominance, sexual entitlement, uncontrollable sex, women as sex object, sex as coping and minimization of rape victim rape all characterize men's use of sex to dominate women, to degrade women as sex object and to cope with emotional distress which are all entitled by the masculine identity. Hence, the sexual masculinity construct with a preponderant emphasis on sex is different from hostile masculinity in the series of Confluence Model of which men's need for domination is driven by hostility toward women (Malamuth, 1986; Malamuth, 2003). In the process of culminating rape behavior in the present model, the sexual masculinity mediator is strongly influenced

by hostility toward women which is emerged from the developmental adversities. As expected, higher level of sexual masculinity is associated with more rape behavior.

The importance of sexual masculinity to the development of rape behavior corresponds quite well with previous empirical findings. In the series of Confluence Model (Malamuth, 1986; Malamuth, 2003), the impact of the interaction effect of sexual promiscuity and hostile masculinity on sexual aggression is that higher level of sexual promiscuity together with higher level of hostile masculinity will bring more sexual aggression. This largely mirrors the effect of hostility toward women on rape behavior via the sexual masculinity mediator in the present model, that is, stronger hostility toward women and more use of sex to assert masculine identity will increase rape behavior. The difference is that the present study emphasizes different sexual motives underlying a masculine identity whereas the Confluence models stress on different sexual partners in sex life. Furthermore, the emphasis on sex in the sexual masculinity construct receives support from the indirect impact of sex drive on sexual aggression in Singaporean men (Lim & Howard, 1998), the role of hypersexuality in explaining sexual coercion (Knight & Sims-Knight, 2009) and the direct impact of sexualization on sexual conviction (Lussier, Prolux & LeBlanc, 2005). The stress of domination and control over women in the sexual masculinity construct is also typical of the power rapists, one of the three types of rapist in Groth Typology, who fulfill their needs for dominance and control through rape (Groth, Burgess & Homstrom, 1977). From the perspectives of explanatory power and clinical utility, the sexual masculinity construct is superior to both hostile masculinity and sexualization constructs. The sexual masculinity construct is a constellation of measurable and conceptually separable cognitive variables that gives reasons to sex in men's view, therefore helps capture the diverse motives behind rape behavior, assess the varying dysfunctional sex attitudes of rapists with psychometrically sound questionnaires and

identify treatment targets for various types of rapist. In brief, the present study fills in the empirical and theoretical gap by clarifying the interrelations among these cognitive mechanisms, sorting out how they combine to explain rape behavior, and integrating the different motives for sex in a unifying model of rape behavior.

Pornography use. The proximal behavioral mediator or behavioral precursor of the Sexual Path is pornography use. The importance of pornography use in developing rape behavior conforms to many prior studies. In developing explanatory model of sexual criminal activity, the sexualization pathway which is found to be specific to sexual criminal activity has pornography as its most influential component when compared to sexual compulsivity and impersonal sex (Lussier, Proulx & LeBlanc, 2005). A meta-analysis of 46 studies found exposure to explicit pornography was moderately correlated with increased sexual perpetration (Oddone-Paolucci, Genius & Violato, 2000). In addition, Vega and Malamuth (2007) found that pornography use added unique contribution to the prediction of sexual aggression on top of other risk factors in the Confluence Model namely hostile masculinity, impersonal sex and general hostility both as a main effect and in interaction with other risk factors. Concerning the interaction effect, for individuals with high hostile masculinity, impersonal sex and general hostility, more pornography use would increase sexual aggression. On the contrary, pornography use would have little predictive value for those who were low on other risk factors. While the finding of both main and interaction effect is in line with earlier conclusion made by Seto, Maric and Barbaree (2001), the Sexual Path of the present model is largely consistent with the main effect with no inclusion of the general hostility variable (or hostile world in our hypothesized model). In present Sexual Path, hostility toward women that emerged from developmental adversities influences sexual masculinity which then influences pornography use to bring about rape behavior. Each of the mediators

namely hostility toward women, sexual masculinity and pornography use has its unique contribution to explain rape behavior, accounting for the unexplained variance from other predictors of the model.

With regard to the nature of pornography, experimental research shows violent pornography is associated with increased risk for sexual aggression but not non-violent pornography (e.g. Donnerstein & Linz, 1998). On the other hand, Gunter (2002) remarked non-aggressive pornography might associate with increased risk for sexual aggression in the real world but research in naturalistic settings often produced mixed results. For the present study, pornography use, which demonstrates a positive association with rape behavior, covers a range of sexual behavior from consented to non-consented sex with force and even physical violence. At the conceptual level, sexual preferences for rape may be conditioned via repeated exposure to violent and non-consented sex in the pornographic material (Laws & Marshall, 1990), an individual may imitate the violent sex scene in the pornography according to the social learning theory (Bandura, 1973) or pornography further reinforces distorted sex attitude in non-violent pornographic materials by providing false cues that women are willing to engage in sex without prior courtship (Lalumiere, Harris, Quinsey & Rice, 2005).

Early onset of pornography use was originally hypothesized as another indicator of pornography use in the present study. It was not included in ultimate modeling of rape behavior given its low effect-size correlation with rape behavior in the first place. This finding mirrors the result of a meta-analysis of pornography use showing convicted sex offenders had slightly earlier age onset of pornography use when compared to the non-criminals but the difference was not significant (Allen, D'Alessio & Emmers-Sommer, 2000).

Overall, the Sexual Path of the present Developmental Sexual-Aggressive Model

of rape behavior has its unique features while sharing some similarities with previous models of sexual aggression. This is understandable as the present model is the first empirical model of rape behavior in specific whereas the others are models of less severe sexual aggression which covers a range of sexual coercive behavior to rape behavior. The present Sexual Path highlights the central and distinct role of hostility toward women in developing rape behavior and also repeat rape behavior relative to the less serious and non-repeat sexual coercion (Abbey & McAuslan, 2004; DeGue, DiLillo & Scalora, 2010; Lim & Howard, 1998). Besides, the sexual masculinity mediator offers a range of sexual motives to assert masculine identity in the development of rape behavior such as a motive to dominate women, to degrade women as sex object and to cope with emotional distress. This Sexual Path is largely reminiscent of the interaction effect of sexual promiscuity and hostile masculinity that developed from childhood adversities in the series of Confluence Model (Malamuth, 1986; Malamuth, 2003), with the exception of no emphasis on impersonal sex. Compared to the sexual path in Singaporean model of sexual aggression (Lim & Howard, 1998), the present Sexual Path surrounds the various sexual motives while the Singaporean model stresses on impersonal sex. Similar to the sexualization path in Lussier, Proulx and LeBlanc's (2005) model, pornography use also has a crucial role in the present model. However, the sexualization path has much less influence on sexual aggression relative to the externalization path while the present model shows similar effect of the two paths.

Aggressive Paths

Like the Sexual Path, the two Aggressive Paths start with developmental adversities which then influence hostility toward women before going through the two different cognitive mediators, namely antisocial / violent attitudes and entitlement, to develop violent behavior and the subsequent rape behavior. According to this model,

the Aggressive Paths stipulate that higher level of developmental adversities enhances hostility toward women which in turn heightens antisocial / violent attitudes or entitlement and therefore engages in more violent behavior and later rape behavior. The proximal behavior mediator or behavioral precursor which is violent behavior characterizes the Aggressive Paths that lead to rape behavior. Violent behavior as a predictor of rape behavior in the Aggressive Paths not only empirically validates the often co-occurrence of rape and violent behavior but also reveals a violence-to-rape behavioral pattern in this first empirical model of rape behavior. In other words, present finding demonstrates a sequential co-occurrence with temporal precedence of violent behavior over rape behavior as hypothesized.

The proximal behavioral mediator or behavioral precursor of the two Aggressive Paths to rape behavior is violent behavior. In the Aggressive Paths, violent behavior is predictive of rape behavior, implying a behavioral sequence from general violent behavior to rape behavior, thereby forming the violence-to-rape behavioral pattern. Unlike the Sexual Path with a strong sexual motive, the Aggressive Paths imply an aggressive motive in rape behavior which is in line with Groth, Burgess and Holmstrom (1977) and Quinsey (1984) who postulated rape behavior as another manifestation of violent behavior or interpersonal violence. Quinsey (1984) further substantiated the link between rape and violent behavior with neurological findings which reveal the two behaviors share similar neurological structures. In fact, the link between rape and violent behavior has been well recognized in the theory-and-data driven Massachusetts Treatment Centre Rapist Typology: Version 3 (MTC:R3; Knight, 1999; Knight & Prentky, 1990). The nine types of rape all involve different degree and type of violence. For instance, the pervasively angry rapists and the sadistic rapists display reactive violence at large, reacting to provocation with violent behavior or gaining personal gratification with excessive

violence. For the opportunistic rapists, their violence use is aimed at subduing the victim which is termed instrumental violence. The role of violent behavior in the development of rape behavior in the present empirically-driven model also accords with the findings in previous studies. One empirical support comes from the Aggressive Path in the model of sexual aggression in Singaporean men of which non-sexual aggression is predictive of sexual aggression (Lim & Howard, 1998). However, non-sexual aggression in the Singaporean model which refers to aggressive acts against women in a conflicting intimate relation has a narrower definition than the general violent behavior in present study. Besides, in the Three-Path Model which models on the more broad antisocial / aggressive behavior and sexual coercion in both offender and community samples instead of more specific violent behavior and rape behavior as in the present study, antisocial / aggressive behavior brings forth sexual coercion directly or indirectly through aggressive sexual fantasy (Knight & Sims-Knight, 2003). Apart from structural equation modeling of sexual aggression, the violence-to-rape behavioral pattern revealed in the present study converges to other forensic findings, including the progression of offence severity from aggravated assault to robbery to rape (Elliot, 1994), and, an earlier age onset for violent offence as opposed to sexual offence (Lussier, LeBlanc & Proulx, 2005).

Antisocial/Violent-Aggressive Path. What distinguishes between the two Aggressive Paths is the proximal cognitive mediator. The Aggressive Path that ranks the second most influential path to rape behavior is mediated by antisocial/violent attitudes. This *Antisocial/Violent-Aggressive Path* starts with developmental adversities which in turn influences the hostility toward women and then the antisocial / violent attitudes to develop violent behavior and the subsequent rape behavior. The path posits that higher level of developmental adversities increases hostility toward women which in turn heightens the antisocial / violent attitudes to

develop more frequent violent behavior and then rape behavior.

According to this model, the antisocial / violent attitudinal mediator influences rape behavior to a lesser extent when compared to the two preceding cognitive mediators namely hostility toward women and the sexual masculinity factor. Underlying the antisocial / violent attitudinal mediator is minimization of harm done, violent thinking, criminal attitudes and external blame. The tendency to minimize the harm done following criminal or violent act likely justifies the violent thinking and criminal attitudes in an individual. The weight of external blame is relatively low in this construct. Apparently, the essence of this construct lies in the violent thinking and criminal attitudes which in combination fuel the rape behavior in the present model. Higher level of antisocial / violent attitudes is associated with more rape behavior.

Present finding of the influence of antisocial / violent attitudes on rape behavior is congruent with many previous studies. Rapists are known to be predominantly criminal generalists committing offence other than rape alone (Harris, Mazerolle & Knight, 2009; Harris, Smallbone, Dennison & Knight, 2009). The role of callous-unemotional traits and antisocial behavior / aggression in predicting sexual coercion in the Three-Path Developmental Model (Knight & Sims-Knight, 2003, 2009), the externalization path to sexual conviction (Lussier, LeClerc, Cale & Proulx, 2007), as well as a path from general deviance to sexual criminal activity over and against the sexualization path in another model postulated by Lussier, Proulx & LeBlanc (2005) implies the presence of antisocial / violent attitudes, albeit direct empirical investigation of the relationship between these attitudes and rape behavior / sexual aggression still remains absent before the present study. Descriptive studies supporting the presence of minimization schema in rapists and violent attitudes in violent offenders including rapists are also evident (Bard, Carter, Cerce, et. al. 1987;

Slaby & Guerra, 1988). Theoretically, the antisocial / violent attitudes rationalize the use of violence or rape behavior as a means to achieve personal goals at the expense of other's welfare, as well as neutralize the guilt and distress arising from breaking social norms and the possible negative consequences, thereby becoming less empathic toward the harm done on the victims (Collie, Vess & Murdoch, 2007).

Taking the Antisocial/Violent-Aggressive Path as a whole, it is consistent with a number of theoretical accounts. First, an individual growing up in a hostile environment will imitate the use of violence to solve problem and to adopt the violent attitude underlying the hostility he experienced and observed according to the social learning theory (Bandura, 1973). From the attachment perspective, a hostile developmental environment fails to provide adequate skills for an individual to relate to others in a pro-social manner and with empathy toward others (Marshall & Barbaree, 1990). The control theorists in addition argue that the lack of constraint of adults toward the children in their developmental years hinders the development of self-control which favours the culmination of an antisocial lifestyle (Farrington, 1992). Again, there is psycho-physiological basis for the link between antisocial / violent attitudes and violent behavior. Relatively low levels of serotonin have been consistently related to antisociality and aggression (Henry & Moffitt, 1997; Raine, 1997). This path in fact is most consistent with Gannon, Collie, Ward and Thakker's (2008) conclusion that 'rapists --- like general violent offenders --- are typically versatile and violent in their offending behavior (p.984)'.

Entitlement-Aggressive Path. The other Aggressive Path which has an impact on rape behavior to a lesser extent is mediated by entitlement. This *Entitlement-Aggressive Path* begins with developmental adversities which in turn influences the hostility toward women and then entitlement to develop violent behavior and the subsequent rape behavior. This path posits that higher level of

developmental adversities increases hostility toward women which in turn promotes the sense of entitlement to develop more frequent violent behavior and then rape behavior.

Of all the cognitive mediators, the role of entitlement is the least in explaining rape behavior in the present model. Unlike sexual entitlement subsumed under the sexual masculinity factor, entitlement refers to a general belief that one deserves special privileges because of superiority over other people, therefore his needs have to be met on demand even beyond the bounds of social rule and regulation. In other words, the belief of special rights in general entitlement does not limit to sexual right alone. Present model illustrates that the entitlement mediator is strongly influenced by the hostility toward women which in turn is affected by the various or a combination of different development adversities. Specifically, greater sense of entitlement is associated with more rape behavior.

The role of general entitlement in explaining rape behavior is in consensus with the empirical testing of the Narcissistic Reactance Model of Sexual Coercion which shows a positive association between narcissism as marked by inflated sense of entitlement and rape-related beliefs that blame the rape victims for the sexual aggression, rationalize sexual coercion and punish women with good reasons (Bushman, Bonacci, Dijk & Baumeister, 2003). In the light of general entitlement and sexual entitlement, the individuals believe rape victims desire or even benefit from their sexual advance despite rejections or protests against such advance, having little empathy toward the rape and continuing exploitation against the victims. There are mixed findings pertaining to the role of general entitlement and sexual entitlement in predicting and explaining rape behavior when studying these two variables together, however. In a mediation model testing the relationships among masculinity, general entitlement, sexual entitlement and rape cognitions, it is demonstrated that general

entitlement predicts sexual entitlement which ultimately predicts the likelihood of raping (Hill & Fischer, 2001). General entitlement is a relatively distal variable while sexual entitlement is proximal to the likelihood of raping outcome variable. In the study examining the predictability of sexual narcissism and general narcissism to various types of sexual aggression, it was found that general narcissism alone predicted sexual coercion, attempted or completed rape, and, likelihood of sexual aggression. However, when sexual narcissism was added to the multiple regression analysis, sexual narcissism predicted all three types of sexual aggression while general narcissism lost its predictive power (Widman & McNulty, 2010). In other words, sexual narcissism outperformed general narcissism in accounting for the variance of sexual aggression, probably due to its specificity to sexual aggression. The inclusion of both general entitlement and sexual entitlement in the present empirically derived model of rape behavior shows general entitlement makes unique contribution to explain rape behavior though it covaries highly with other cognitive mediators ($r = .686-.771$) and in particular sexual masculinity ($r = .697$) of which sexual entitlement is the second most influential indicator ($\beta = .820$).

With regard to the whole Entitlement-Aggressive Path, there are some points of convergence in forensic literature. An individual growing up with developmental adversities where his needs are not met in the developmental years will form strong sense of entitlement as a result of the insecure attachment (Polaschek & Ward, 2002). Also, the hostile environment where an individual grows up endorse and model cognitions that certain people have special entitlement to achieve personal goals relative to others, be it sexual or violent, in accordance with the social learning theory (Bandura, 1973). Empirically, there is an evidence relates to the predominant role of psychopathy in developing criminal violence in the Two-Path Model (Harris, Rice & Lalumiere, 2001). The attitudes of entitlement and ownership that underlie the

psychopathic tendency contribute to the lack of empathy toward others, therefore exploiting people and the environment to achieve personal goals with no limit. Moreover, a recent study of adolescent sex offenders reports the entitlement schema is significantly more prevalent in those assaulting adults than those against younger children (Richardson, 2005).

Relative importance. An important finding about the three Paths is that the explanatory power of the Sexual Path in the developmental processes underpinning rape behavior is comparable to that of the combined effect of the two Aggressive Paths. In other words, the sexual motive for using sex to dominate and control women, to cope with emotional distress and to degrade women as sex objects in order to assert the masculine identity boosts pornography use, which ultimately fuels rape behavior is as important as the aggressive motive arising from antisocial / violent attitudes and a general sense of entitlement. Both sexual and aggressive motives are inherent in the development of rape behavior. According to the model, the Sexual Path and the two Aggressive Paths have to operate together to form rape behavior, the empirical finding of low rape conviction in violent offenders (Correctional Services Department, HKSAR 2005; Fagan & Wexler, 1988; Lagan & Levin, 2002) is therefore likely related to the absence of the Sexual Path in these violent offenders' offending behavioral repertoire. It is probable that most of the violent offenders do not use sex to assert their masculine identity and engage in frequent pornography use as commonly as the rapists. A converging empirical finding comes from Milner and Webster's study (2005), showing higher level of sexual entitlement in rapists than in violent offenders. Conversely, Lalumiere, Harris, Quinsey & Rice's (2005) remark that 'rapists share many characteristics with other violent offenders and that most rapists are often violent in non-sexual ways (p.5)' can be explained by the Aggressive Path. With reference to the Aggressive Path, violent behavior as driven by antisocial

/ violent attitudes and entitlement is the precursor of rape behavior, reflecting a violence-to-rape behavioral pattern. The violent behavior displayed by a rapist is predictive of his later rape behavior.

More intriguing in the present study is that the Aggressive Paths are shown to be more influential while the Sexual Path turns less important to repeat rape behavior with higher frequency. It is related to the antisocial / violent attitudes that largely underlie the Aggressive Path, rationalizing the use of general violence and then sex to attain personal goals with little regard to the interest of other people. In support of this argument, externalization, which refers to disrespecting authority figure, engaging in reckless behavior, stealing and committing fraud, being hostile and aggressive toward others and using alcohol / drug, is found to have greater influence than sexualization on the official frequency of sexual activity (Lussier, Proulx & LeBlanc, 2005). Also, antisocial personality disorder has been identified as a risk factor of sexual recidivism in a meta-analysis (Hanson & Bussiere, 1998), and, antisocial orientation as one of the two major predictors of sexual recidivism in both adult and adolescent sex offenders (Hanson & Morton-Bourgon, 2005). In a study comparing repeat sexual assaulters to past sexual assaulter (who did not repeat sexual assault during the follow-up period), the repeat sexual assaulters has significantly more delinquent behavior than the latter (Abbey & McAuslan, 2004), though sexual assaulters do not limit to rapists but include also sexual assaulters involving in non-consented sexual contact. In fact, local data reveal 6.8% of rapists reconvict violent offence within 3 years of discharge which is twofold that of sexual re-conviction of any kind (Correctional Services Department, HKSAR 2005). A similar trend is observed in overseas rapists as well (Hanson & Bussiere, 1998; Quinsey, Harris, Rice & Cormier, 2006).

The 'Poor Me' factor

The 'Poor Me' factor which is formed by negative self schema, social isolation, uncontrollability, hostile world, victim stance and adversarial-dismissive intimacy is removed from the model, not including in any of the three paths. It is likely related to its high effect-size factor correlation with other cognitive mediators namely entitlement ($r = .702$), sexual masculinity ($r = .622$), hostility toward women ($r = .596$) and antisocial/ violent attitudes ($r = .367$). It is originally hypothesized that the sense of inferiority coupled with low locus of control but strong general hostility and hostility toward women fuel an individual to exhibit violent behavior and then rape behavior. However, when all the aforesaid cognitive mediators were put together to explain rape behavior in the model, the explained variance of 'Poor Me' factor in rape behavior was taken over by all other cognitive mediators, attenuating the contribution of the 'Poor Me' factor and leaving it with no unique explained variance in the model alongside other cognitive mediators. In fact, the more specific uncontrollable sex under the sexual masculinity factor and the more specific hostility toward women which constitute significant cognitive mediators of the present model likely capture the shared variance with the more general uncontrollability and hostile world under the 'Poor Me' factor. It seems that these two cognitive mediators with more specificity to rape behavior have more explanatory power.

Rape-Specific and Common Cognitive Factors

The results of the present study reconcile evidence for the common and specific cognitive factors leading to rape behavior. Hostility toward women and the sexual masculinity factor which comprises sexual dominance, sexual entitlement, women as sex object, uncontrollable sex, minimize rape victim harm and sex as coping all constitute etiologic cognitive constructs specific to the expression of rape behavior,

differentiating rape behavior from violent behavior. Conceptually, hostility toward women is specific to the development of rape behavior albeit a component of both the Sexual and Aggressive Paths. On the one hand, being influenced by the specific negative experience with female as well as other more general forms of developmental adversities perpetrated by female family members, the hostility toward women escalates to the reliance of sex to assert the masculine identity and then heightens the pornography use before attacking women with rape behavior. It is this Sexual Path that explains why rapists rape whereas many violent offenders who do not espouse these rape-specific cognitions do not rape in spite of the often co-occurring rape and violent behavior. On the other hand, hostility toward women expands into general antisocial / violent attitudes and sense of entitlement in the weaker Aggressive Paths with hostile attitude itself drives the aggressive component of rape behavior. Hostility toward women in the Aggressive Paths does not necessarily target women alone as in the Sexual Path, but generalizes the hostile attitudes to various life aspects over time, bringing a more general hostility bias underlying violent behavior (Dodge, Bates & Pettit, 1990). Hostility toward women in fact plays a similar role in the Confluence Model (Malamuth, Linz, Heavey & Barnes, 1995). By contrast, cognitive constructs that are common to both rape and violent behavior include antisocial attitudes, violent attitudes, minimize harm done and external blame which comprise the antisocial / violent attitudes factor, as well as, the sense of entitlement. In other words, these common cognitive constructs form the etiologic commonalities of rape and violent behavior, giving good reason to Lalumiere, Harris, Quinsey and Rice's (2005) remarks that 'rapists share many characteristics with other violent offenders' and the high violent recidivism rates in rapists (Correctional Services Department, HKSAR 2005; Hanson & Bussiere, 1998; Quinsey, Harris, Rice & Cormier, 2006). Importantly, the presence of both

rape-specific and common factors in the co-occurred rape and violent behavior in the present study explains the distinguishable manifestation of rape and violent behavior though these two behaviors commonly co-occur.

The empirically supported rape-specific cognitive constructs and cognitive constructs common to rape and violent behavior in the present study contribute to the cognitive model of psychopathology which stipulates the importance of cognitions in the development, maintenance and treatment of various disorders or problem behavior (Beck, 1976). As the first empirical investigation of cognitive content-specificity hypothesis in rape research, the present study is the first to report seven rape-specific cognitions, demonstrating rape and violent behavior can be distinguished on the basis of these specific cognitions. In other words, cognitive content-specificity hypothesis can go beyond clinical disorder and extend to various types of offending behavior as represented by rape behavior in the present study. On the other hand, the five common cognitions shared by both rape and violent behavior underlie some of the observed co-occurrence of the two behavior, offering some etiologic cognitive processes that account for the often co-occurring rape and violent behavior. In fact, identification of both common and specific factors to explain comorbid disorders is commonplace in co-occurrence / comorbidity research (e.g. social anxiety and depression (Cho & Telch, 2005), anxiety and depression (Beck & Perkins, 2001), and, habitual smoking and alcohol dependence (Bierut, Rice, Goate, Hinrichs & Saccone, 2004)).

Model Appraisal

As the first empirical model of rape behavior, the resulting Developmental Sexual-Aggressive Model of Rape Behavior fares better than five earlier multi-factorial quantitative models of sexual aggression in accordance to the

guidelines for scientific theory appraisal proposed by Ward, Polaschek and Beech (2006). The present model achieves adequate empirical base, internal coherence among the various underpinning psychological mechanisms, good unifying power to have integrated several theories of sexual aggression, enhanced explanatory depth as well as rich clinical and research fertility.

First, the major similarities between the Confluence Model of coerciveness against women (Malamuth, 1991) and the present model of rape behavior include a developmental perspective and the emphases on hostility toward women, masculinity, sexuality and antisociality, though the interplay among these varying aspects of emphases is different. As developmental models, both start with developmental adversities but the present model embodies negative experience with female in addition to parental violence and child abuse. It is partially due to the negative experience with female that elicits hostility toward women early on in the present developmental model while the Confluence Model has early emergence of antisociality as measured by delinquency. The sexual paths in both models play a dominant role but the present model surrounds multiple motives for sex like domination over women, coping with emotional distress, degrading women and asserting masculinity whilst the Confluence Model stresses on multiple sex partners. The present model asserts masculinity through sex and forms the sexual masculinity construct while masculinity drives hostile and degrading attitudes toward women in the hostile masculinity path of the Confluence Model. Targeting the more severe form of sexual aggression in the present model of rape behavior, the two aggressive paths with violent behavior as the behavioral precursor are integral to the developmental of rape behavior. Unlike the Confluence Model that lumps sexual and nonsexual aggression into the coercive against women outcome variable, the present model shows violent behavior as a precursor to rape behavior by treating them

as two separate variables for empirical validation. From the assessment and treatment points of view, the incorporation of various cognitive variables and clearly defined behavioral precursors in the present model better facilitates clinical work by providing a coherent organization of the many variables involved. Yet, the Confluence Model apparently provides a good research and theoretical basis to further investigate the more specific rape behavior in present empirical modeling.

The Hierarchical-Mediational Confluence (HMC) Model (Malamuth, 2003) represents the author's replication and refinement on the earlier Confluence Model by studying sexual aggression and non-sexual aggression separately. Such research strategy is similar to the present study though the resulting model delineates more serious form of sexual aggression, namely, rape behavior. Again, hostility toward women, sexual dominance and emphasis on sexuality which are specific factors of sexual aggression are alike in the HMC and the present model. Unlike the hostile world variable being removed from the present model, the proneness to general hostility explains both sexual and nonsexual aggression against women in the HMC model, and, even predicts the more specific 'hostility toward women' subsumed under the hostile masculinity factor. Being one component of the 'poor me' factor, hostile world makes no significant unique contribution in explaining both rape and violent behavior as the explained variance of the 'poor me' factor has been taken over by sexual masculinity, antisocial / violent attitudes and entitlement. Nonetheless, the antisocial orientation which surrounds the proneness to general hostility in the HMC model has been captured in the present model by the antisocial/violent attitudes and general entitlement. As common factors, both antisocial/violent attitudes and general entitlement fuels violent behavior which in turn develops into rape behavior. In a broad sense, both models explain sexual aggression with a combination of sexuality and antisocial orientation while non-sexual aggression is accounted by

antisocial orientation only. The major difference between the two models is the absence of predictability of non-sexual aggression to sexual aggression.

The third model is the Two-Path Model of Criminal Violence which subsumes sexual violence under the broader criminal violence (Harris, Rice & Lalumiere, 2001). The hallmark of this model is the predominant role of psychopathy in accounting for criminal violence relative to the neuropsychological insults such as infancy problem and obstetrical complications in a sample of violent offenders. Psychopathy which is about callousness toward the welfare of others, pervasive irresponsibility, irritability and a profound lack of remorse constitutes a strong explanation for criminal violence of which sexual assault is just one of the many types. In fact, general entitlement and antisocial/violent attitudes of the present model capture the psychopathic tendency in the Two-Path Model, explaining both sexual and non-sexual violence. In contrast, the present model explicates the development of rape behavior and violent behavior in separate, therefore the sexual path which contains rape-specific factors plays a unique role on top of the aggressive paths which delineate the violence-to-rape behavioral pattern. All in all, these more broad-based and general cognitive / personality features underlie the development of violent behavior in both model but the present model unify more measurable factors that can be easily translated into treatment targets for clinical use.

Similar to the Three-Path Developmental Model (Knight & Sims-Knight, 2003, 2009), the present model starts with developmental adversities and then explains sexual aggression with three paths. Both have a sexual path and an antisocial/violent path leading to sexual aggression. The difference lies in the third path of which the Three-Path model stresses on callousness-unemotionality while the present model concerns the sense of entitlement, though both constructs are characteristics of psychopathic personality traits. Nonetheless, progressing beyond the many theories

of sexual aggression, the present model incorporates more forms of developmental adversities, a variety of sexual motives underling the sexual path, a few cognitions that form the antisocial/violent path, offering more explanatory depth in rape behavior.

Lastly, Lussier, Proulx and LeBlanc (2005) explained the official sexual activity with the general deviance pathway and the specific sexualization pathway whereas the present model accounts the severe rape behavior with aggressive paths and a sexual path. Both take a developmental perspective, starting the models with childhood victimization and studying sexual aggression with its often co-occurred general criminal activity or violent behavior. Instead of targeting behavioral variables as in Lussier, et. al.'s model, the present model entails a myriad of cognitive mediators and two behavioral precursors which are readily used for treatment purpose, highly enhancing the clinical fertility and explanatory depth not available in similar models of sexual aggression.

Clinical Implications

The advantage of the present developmental model of rape behavior with a chain of psychological processes from distal developmental adversities to various cognitive mediators and then the behavioral precursors before the ultimate rape behavior is providing multiple entry points for intervention to stop the progression toward potential rape behavior. As such, the present empirically based model guides the design of preventive intervention strategies of which successful intervention at each entry point brings discontinuity of a particular risk factor, thereby disrupting the potential negative chain effect downstream the model for distal prevention of rape behavior.

Primary prevention. The distal developmental adversities factor of the present

model constitutes a potential starting point for intervention. Intervention that helps decrease the incidence of the constellation of developmental adversities namely emotional abuse, parental violence, negative experience with female, sexual abuse and physical abuse in the general population can be useful means to prevent the generation of cognitive mediators and behavioral precursors that lead to later development of rape behavior. Such preventive strategy at the primary prevention level aims at preventing the onset or the overall incidence in the general population.

Some developmental adversities prevention programs intervene at the parent level. According to the ecological theories of child maltreatment (Azar, 2002; Belsky & Vondra, 1989), child abuse and neglect of various types are consequences of a complex interaction of child functioning, parent functioning and environmental factor which in combination adversely affect parent functioning. In other words, child abuse and neglect are severe manifestations of parenting problem. A meta-analysis of 40 evaluation studies of early prevention programs for families with young children at risk for physical abuse and neglect showed a significant decrease in abusive and neglectful parenting style with a mean effect size of .26 (Geeraert, den Noortgate, Grietens & Onghena, 2004). At-risk families targeted by these early prevention programs referred to those whose parents had psychological problem, history of child abuse, drug problem, unwanted pregnancy and negative attitude toward children. These programs which were delivered prenatally or six months after delivery equipped the parents with positive parenting skills and increased social supports for the parents, thereby reducing the incidence of physical abuse and neglect and lessening the negative experience with female if these abusers are female family members.

Other primary prevention efforts work at the children level. The school-based child sexual abuse prevention program is one of them. This type of educational

program provides skills training to facilitate the children's ability to identify dangerous situations, refuse the sexual abuser's approach, to break off the interaction and to disclose the incident to trusted adults. Participants of these prevention programs can be as young as 3 in pre-school or the older youths in primary school (Zwi, O'Brien, Tait, et. al., 2007). The first empirical study demonstrating the effectiveness of this type of sexual abuse prevention program in reducing the incidence of child sexual abuse was conducted by Gibson and Leitenberg (2000). Of the 511 female undergraduates who reported participation in sexual abuse prevention program in school, 8% reported subsequent experience of sexual abuse as opposed to 14% of those who did not ever have a prevention program. However, whether such positive impact can be generalized to male participants of the child sexual abuse prevention program remains unknown. More recently, Finkelhor (2009) even remarked studies were inconclusive as to whether this type of education program can reduce sexual victimization, though the participants showed more protective skills in simulated sexual advance. He therefore urged for further well-designed research to evaluate the program effectiveness as well as continuous development of this type of education program.

There are promising programs like the Chicago Child-Parents Centers program that intervenes at both the parent and children levels, providing comprehensive educational support as well as child and family support for 1539 economically disadvantaged families. This school-based program requires parents to be active participants in their child's education, adopting a child-centered approach to their social and cognitive development. At the 15-year follow-up, only 5% of the pre-school group who had participated in the program at pre-school stage had a report of child abuse and neglect from age 4 to 17 which was significantly lower than the 10.3% in the non-preschool group. In fact, there are other outcome variables in this

large-scale program evaluation. Most relevant to the present study is the arrest data. Again, the pre-school group showed significantly better outcomes than the non-school group in terms of arrests of any type of offence (16.9% vs. 25.1%) and violent arrests (9% vs. 15.3%) (Reynolds, Temple, Robertson & Mann, 2001, 2002).

For parental violence or intimate partner violence, the only primary prevention strategy with effectiveness to prevent the actual violence is the school-based dating violence prevention program run in secondary school or tertiary institution (World Health Organization, 2010). The Safe Dates is the only program that has been evaluated using a randomized-controlled design, revealing significant reduction in dating violence perpetration at all four follow-up periods (Foshee, et. al., 2005) which in turn is assumed to be preventive of intimate partner violence in later life as dating violence is a risk factor for intimate partner violence (Foshee, Reyes & Wyckoff, 2009; Smith, White & Holland, 2003).

Secondary prevention. If any of the unfortunate developmental adversity does happen, secondary prevention efforts should target individuals having experienced these developmental adversities with a view to undermining the adverse impacts of these adversities, that is, the emergence of the various cognitive mediators and behavioral precursors of rape behavior. Alternatively, individuals showing one or more cognitive mediators and behavioral precursors of rape behavior also constitute targets for secondary prevention because they are at risk for rape behavior. Such kind of early intervention, if successful, will hinder the progression to rape behavior according to the present model.

Rape prevention literature review finds positive short term outcome in two interventions with high-risk males that target cognitions supportive of rape behavior (Schewe & O'Donohue, 1996). The Rape Supportive Cognitions intervention focuses on modifying cognitions condoning rape behavior such as sexual entitlement,

women as sex object and other rape myths. The Victim Empathy / Outcome Expectancies intervention targets minimization of rape victim harm and problematic interpretation of rape victims' reaction. 74 high-risk undergraduates as identified by high score on the Attraction to Sexual Aggression Scale were randomly assigned to one of the two intervention groups or no-intervention control group. Pre-post assessment found that the two intervention groups were significantly more effective than the no-intervention group. The Rape Supportive Cognitions intervention group in particular yielded clinically significant differences on the Attraction to Sexual Aggression Scale, Acceptance of Interpersonal Violence Scale, the Rape Myth Acceptance Scale and Adversarial Sexual Beliefs Scale; whereas the Victim Empathy / Outcome Expectancies intervention group resulted in clinical significance in the first two scales only. In fact, the success of intervention targeting cognitions supportive of rape in at-risk males is not surprising given the well-established effectiveness of cognitive-behavioral treatment in mental health field and the forensic context (Gendreau, 1995; Leahy, 2011).

Targeting violent behavior as one of the behavioral precursors of rape behavior, the school-based violence prevention program named the Fourth R holds particular promise for those with developmental adversities (Crooks, Scott, Ellis & Wolfe, 2011). The Fourth R program consisting of 21-session classroom curriculum emphasizes knowledge, awareness and skills-development in relation to dating violence, safe sex, substance use and peer violence, promoting healthy and non-violent relationships. Outcome study on the 1722 students from 20 schools showed that participation in the Fourth R program had a strong buffering impact on violent delinquency for those with developmental adversities, both at post-test and the two-year follow-up. Besides, three cognitive-behavioral treatment programs targeting people whose violent behavior resulted in criminal conviction have positive impact as well. The Violence

Prevention Program which is a prison-based program for violent offenders in New Zealand (Polaschek, Wilson, Townsend & Daly, 2005) and the Violence Reduction Program (Andrews and Bonta, 2003) both challenge antisocial beliefs, schemas and behavior supporting the use of violence as well as enhancing empathy toward the victim. Treatment completers of both program showed lower rates of violent recidivism in comparison to the matched control groups. The schema-focused therapy for violent offenders target the early maladaptive schemas rooted in childhood factors as well as adult maladaptive schemas contributing to violence use (Bernstein, Arntz & de Vos, 2007). One of the core schemas is entitlement which makes one feel self-righteous to violence use. This sense of entitlement may come from witnessing his parents' violence toward each other in order to get what they want. As the schema-focused therapy for violent offenders is still in development, no empirical outcome study is available currently.

The other behavioral precursor of rape behavior that can be an entry point for intervention is pornography use. Preliminary empirical finding with randomized control design supports the use of Acceptance and Commitment Therapy for the treatment of compulsive pornography use (Crosby, 2011). Compulsive pornography use refers to an inability to control the use of pornography, resulting in impairment at work and in relationships as well as personal distress. The Acceptance and Commitment Therapy targets processes that reduce the effect of inner experiences on the urge to use pornography on one hand and enhance the effect of personal values facilitating more meaningful non-pornography activities on the other hand. In comparison to the waitlist group, the active treatment group had a significant 93% and 84% decrease in the self-reported hours of pornography use per week, both at post-treatment and 20-week follow-up. The waitlist control group received the treatment after the waiting period and combining them with the earlier treatment

group showed an effect size from pre-treatment to post-treatment of 1.86. There are other psychosocial interventions for treating pornography use but no randomized control investigation has been done. Nevertheless, medication can help reduce sexual pre-occupation as indicated by frequent pornography use. In a recent meta-analysis of experimental and repeated measure studies, antidepressants showed positive effect in treating disinhibited sexual motivation (Kafka, 2003). The readiness of the at-risk males to take medication to curb pornography use is uncertain.

Aside from informing multiple entry points for intervention, the present model also helps early identification of potential high risk individuals in terms of rape behavior. One apparent advantage of the present model is that each variable is measurable and psychometrically sound assessment tools for each variable are available. School-based systematic assessment procedure with these assessment tools will help screen out children and adolescents espousing the cognitive mediators and displaying behavioral precursors of rape behavior, facilitating timely arrangement of the aforementioned secondary prevention strategies for the at-risk individuals to prevent further progression into actual rape perpetration. In fact, an urgent need for systematic and scientifically sound assessment procedures to dig out the at-risk group for rape prevention has been put forward by Knight and Sims-Knight (2009).

Tertiary prevention. Tertiary prevention refers to the rehabilitation of rapist in this context, that is, preventing the rapist from re-committing rape behavior. As an empirically adequate and theoretically comprehensive model of rape behavior validated in rapist sample, the Developmental Sexual-Aggressive Model serves as a vital theoretical guide to the assessment and treatment of convicted rapists to achieve the ultimate goal of public safety for the first time in rape literature.

The foundation of effective treatment on rapists lies in accurate clinical assessment of which the cornerstone rests on an empirically sound and theoretically

comprehensive model that explicates the range of psychological mechanisms and their interrelationships in the development of rape behavior. In terms of clinical assessment, the present model enriches the risk-needs assessment of rapists which is fundamental to identifying high-risk rapists for intensive treatment and spelling out treatment targets salient to preventing future rape according to the evidence-based Risk-Needs-Responsivity Approach to effective offender rehabilitation (Andrews & Bonta, 2003). While responsivity factors which refer to a person's learning style or abilities that have potential to affect treatment response fall beyond the realm of the present model, the present model helps tailor-make the risk and needs factors specific to rapist to enhance the prediction of future rape behavior. Risk factors are historical factors that do not change over time such as conviction history and abusive childhood. Needs factors are criminogenic factors that can be changed through intervention and such change will alter the risk of re-offending. Recent risk assessment employs both risk and needs factors in the prediction of re-offending. The combined use of the Static-99R (Helmus, Thornton, Hanson & Babchishin, 2012) and Stable-2007 (Hanson, Harris, Scott & Helmus, 2007) in predicting sexual re-offending is one example. However, the assessment tools are designed for generic sexual offenders. Taking note of the widely recognised differences between rapist and child molesters (Hudson & Ward, 1997; Simon, 2000), incorporating the variables of the present empirically based model of rape behavior into Static-99R and Stable-2007 will likely augment the predictive accuracy of sexual and violent recidivism in rapists per se. While the two assessment tools include hostility toward women, sex as coping, lack of concern for others (which is minimization of victim harm in present model), sexual pre-occupation (which captures pornography use in the present model), prior sentencing dates (which incorporates antisocial thinking in the present model), other essential predictors of rape behavior of the present model are left out, namely, sexual

entitlement, sexual dominance, women as sex object, violent attitudes and tendency, general entitlement, negative experience with female and other developmental adversities.

Moreover, the variables contained in the Developmental Sexual-Aggressive Model correspond to the needs factors or treatment targets of which their change will likely reduce future rape behavior. The clinical fertility of the model is further demonstrated by its close match with the cognitive-behavioral approach which has been established as the choice of treatment for rapists and other sex offenders worldwide (Hanson, Gordon, Harris, et al., 2002; Lösel & Schmucker, 2009). The model embodies a host of cognitive variables and behavioral precursors by which cognitive restructuring of the various cognitive mediators and behavioral modification of the two behavioral precursors will effect change according to the cognitive-behavioral approach. Targeting the core components of the model namely the antisocial / violent cognitive factors, hostility toward women and the violent tendency in the treatment process addresses specifically the hostile, antisocial and aggressive traits typical of rapists that have been downplayed in the generic sexual offender treatment programs. The combined role of the Sexual and Aggressive Paths in the present model further lays theoretical ground for Polaschek, Calvert and Gannon's (2009) earlier call for targeting inappropriate attitude toward women together with general attitudes toward violence, criminality and revenge in effective treatment of rapists. The distal developmental adversities in addition give clinical cues to the emergence of various dysfunctional cognitions that lead to rape behavior. Following the cognitive-behavioral paradigm (Beck, 1976) and the concomitant schema therapy (Young, Klosko & Weishaar, 2003), pervasive dysfunctional cognitions are rooted and further entrenched by the developmental experiences of various stages. Identification of the link between the developmental adversities and

the multitude of dysfunctional cognitions helps turn the dysfunctional cognitions into more functional cognitions through more objective and realistic perception of the past experiences. Lastly, the behavioral precursors of the present model of rape behavior namely pornography use and violent behavior can be regarded as the high risk situation or high-risk behavior according to the Relapse Prevention Model (Marlatt & Gordon, 1985). In the present model, these two behavioral precursors are predictors of rape behavior, therefore equipping a rapist with effective self-regulation skills to cope with these high-risk behaviors will most probably reduce rape re-offending under the relapse prevention framework. From a prevention point of view, intervening at these two behavioral precursors is a window of opportunity to prevent the onset of rape behavior at the outset.

A follow-up treatment question following the co-occurrence between rape and violent behavior as well as the antisocial / violent attitudinal factor inherent in the present model of rape behavior is whether a rapist needs to attend sexual offender treatment program, violence prevention program and other treatment program targeting general antisocial behavior. An even more perplexing issue is which of the three types of treatment program should be first attended. Similar treatment issue arises in the treatment approach for comorbid clinical disorders like depression and social anxiety, alcoholism and internalizing disorders, bipolar disorder and insomnia (Craske, 2012; Gruber, Eidelman & Harvey, 2008; Kushner, Wall, Krueger, Sher, Maurer, et. al., 2011). Instead of the traditional disorder-specific treatment approach, Barlow, Allen and Coate (2004) recently proposed the Transdiagnostic Treatment of Emotional Disorders, targeting the common elements of multiple emotional disorders simultaneously in the treatment process. Positive treatment outcomes are accumulating in the literature (Boisseau, Farchione, Fairholme, Ellard & Barlow, 2010; Brown, Antony, & Barlow, 1995; McEvoy, Nathan & Norton, 2009). This

treatment approach confers a number of practical and clinical advantages over therapies designed to treat specific disorders such as greater efficiency, sustainability of treatment effects and prevention of the re-occurrence of comorbid disorders following treatment of an index offence (Addis, Wade, & Hatgis, 1999; Barlow, Allen & Coate, 2004). Undoubtedly, the applicability of the transdiagnostic treatment approach to treating the co-occurred rape and violent behavior remains an empirical question given the weight of the common Aggressive Paths is similar to the specific Sexual Path in the Developmental Sexual-Aggressive Model.

Research Implications

Filling in the theoretical gap to better explain rape behavior and to advance the treatment direction and effectiveness on convicted rapists will not be made possible by studying rape behavior as a separate entity, without investigating simultaneously its co-occurring violent behavior. Present study offers a new perspective on how to design research on offending behavior. Forensic literature has well documented the co-occurrence between rape and violent behavior as well as and the similarities between rapist and violent offenders in studying their offending history, recidivism risk, predictors of recidivism and other psychological correlates (Elliott, 1994; Gannon, Collie, Ward and Thakker, 2008; Hanson & Bussière, 1998; Lalumière, Harris, Quinsey & Rice, 2005; Looman, Abracen, DiFazio, & Maillet, 2004; Simon, 2000; Smallbone, Wheaton & Hourigan, 2003). However, there has been no empirical attempt with a deliberate intent to examine these two co-occurring offending behaviors together in order to unravel the pattern of co-occurrence and the underlying mechanisms of the co-occurrence. Lussier, Lecler, Cale & Prolux (2007) noted the co-occurrence of general offending and generic sexual offending, and went further to argue sexual offending as another behavioral manifestation of general

offending through a process of heterotypic continuity, which means meaningful continuity in the course of sexual offending but its manifestation changes over time. Their research team even empirically validated an explanatory model of sexual criminal activities in a group of sexual aggressors with early and persistent antisociality directly predicting sexual criminal activities (Lussier, Prolux & LeBlanc, 2005). Nevertheless, they studied the co-occurrence of general and sexual offending behavior at the behavioral level, concluding a myriad of authority-conflict behavior, reckless behavior, covert antisocial behavior and overt aggressive behavior as predictors of general sexual offending. Excluding psychological variables that can be easily translated into treatment targets in explaining the co-occurrence, their studies have little clinical fertility, not making much contribution to the treatment process of offending behavior which largely follows the cognitive-behavioral paradigm in the field. Instead, the present research strategy of studying the psychological mechanisms underlying the pattern of co-occurrence of the problem behaviors of interest with both developmental and cognitive perspectives better informs the etiology, course and treatment of the co-occurred behaviors and makes strong and direct implications for clinical work.

In this connection, future research endeavours should not treat sexual offending literature and general offending literature as discrete literatures, and, study a specific type of offending behavior in isolation. Continued empirical validation on Lussier and his colleagues' explanatory model of the generic sexual criminal activity can be expanded to include psychological variables that are empirically relevant to generic sexual criminal activity and its co-occurred general criminal activity in order to unravel the underlying mechanisms contributing to their co-occurrence.

Psychological variables that have good potential to explain both types of criminal behavior include antisocial orientation which is shown to be good predictors of sexual

and general criminal behavior respectively in a meta-analysis of recidivism studies ($d = .23$; $d = .52$), intimacy deficits ($d = .15$; $d = .10$) and adverse childhood environment ($d = .09$; $d = .10$) (Hanson & Morton-Bourgon, 2005).

Co-occurrence study in offender population can also extend beyond offending behavior, benefitting from the integrative quantitative model of adult externalizing spectrum and related empirical validation of the externalizing disorders (Kendler, Davis, & Kessler, 1997; Krueger, Markon, Patrick, Benning & Kramer, 2007; Markon & Krueger, 2005). According to this line of research, the occurrence and co-occurrence of drug dependence, alcohol dependence, conduct disorder, antisocial behavior and impulsive, aggressive personality traits are conceptualized as elements within a coherent externalizing spectrum, being united by substantial etiologic mechanisms while having their own specific underlying mechanisms that drive their distinctive behavioral manifestations. In view of the prevalence of substance abuse in offender population and the research evidence of substance use history being predictive of criminal recidivism in a meta-analysis (Cottle, Lee & Heilbrun, 2001), future research can examine the co-occurrence between substance abuse and general offending behavior and explore the role of potential underlying psychological factors like poor self-regulation, negative social influence, antisocial attitudes and drug as coping (Dawes, Clark, Moss, Kirisci & Tarter, 1999). Additionally, referencing the integration of personality with psychopathology constructs by incorporating impulsive, aggressive personality traits in the externalizing spectrum, future research can consider discerning the co-occurrence and the underlying mechanisms of incest offending, marital rape behavior and grandiose, egocentric personality traits of which incest offenders and marital rapists are known to have these personality traits (Hanson, Gizzarelli & Scott, 1994; Bergen, 1996). Potential common psychological mechanisms include an inability to develop emotionally intimate close relationship

with an adult (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2004), sense of entitlement (Bergen, 1996; Russell & Peacock, 1995), machiavellianism which means seeing others as weak and justifying taking advantage of others (Christie & Geis, 1970; Thornton, 2003) and a lack of concern for others (Hanson, Harris, Scott & Helmus, 2007). Specific psychological factors can be assuming an adult status to the victim daughter, child sex sexual being and sexual entitlement (Wilson, 1999). As such, the research strategy helps promote knowledge of the pattern of co-occurrence and broaden the empirical basis for cognitive-behavioral interventions for these problem behaviors.

In fact, present empirical modeling of rape behavior which demonstrates its sequential co-occurrence with violent behavior can cross-fertilise the research on externalizing spectrum. While earlier research on externalizing spectrum cuts across substance problems, personality disorders, and childhood psychopathology that are treated as discrete categories in the Diagnostic and Statistical Manual of Mental Disorders (4th ed., text. rev.; DSM-IV-TR; American Psychiatric Association, 2000), psychosexual problem or paraphilia have not yet been taken into consideration. Present study which illustrates the co-occurrence of rape and violent behavior with the latter predicting the former suggests rape behavior to be a good candidate for inclusion within the externalizing spectrum on the basis of the presence of impulsive, aggressive personality trait in this spectrum and the shared neurological structure of rape and violent behaviors (Quinsey, 1984). In other words, present findings helps respond to Krueger's call for follow-up research to uncover the breadth of the externalizing spectrum.

Moreover, present finding of the sequential and heterotypic co-occurrence of violent and rape behavior provides several avenues for further investigation. Sequential co-occurrence is defined as one disorder or problem behavior reliably

precedes the other (Angold, Costello, & Erkanli, 1999). Present study demonstrates violent behavior is predictive of rape behavior, suggesting a violence-to-rape behavioral pattern. Clearly, the temporal ordering of violent and rape behavior observed in the present cross-sectional design awaits further validation in longitudinal studies despite empirical supports of increasing onset age from less serious violent offence to rape conviction (Elliott, 1994; Loeber, Wung & Keenan, et. al., 1993; Lussier, LeBlanc & Proulx, 2005). In terms of lifetime co-occurrence, it is imperative to disentangle the behavioral progression after the first onset of rape behavior, taking note of the considerable research evidence of more violent than sexual recidivism in both rapist and violent offenders (Correctional Services Department, HKSAR, 2005; Hanson & Bussière, 1998; Langan & Levin, 2002; Quinsey, Harris, Rice, & Cormier, 2006). Clarification of the pattern of the co-occurrence over the lifespan helps illuminate the conceptual understanding of their co-occurrence. Heterotypic co-occurrence refers to the co-occurrence of two disorders or problem behaviors from different diagnostic groupings (Angold, Costello, & Erkanli, 1999). The two co-occurred behaviors have meaningful continuity in the course of development but with different manifestations over time. Seemingly, rape and violent behavior represents heterotypic co-occurrence as mentioned by Lussier, Lecler, Cale and Prolux (2007) for general criminal behavior and sexual offending. Angold and his colleagues have proposed several reasons for the heterotypic co-occurrence: (1) heterotypic co-occurrence as a marker of severity, (2) one behavior is another manifestation of the co-occurred behavior, (3) one behavior is caused by the other co-occurred behavior, (4) the two co-occurred behaviors share some common etiologic factors while having some specific factors, and, (5) the co-occurrence as a marker for specific subtype of a broadband disorder or behavioral syndrome. More rigorous investigations into the co-occurrence of rape and violent

behavior are needed to tease out the complex relationships between the two behaviors of interest.

Limitations

One notable value of the present study that is based on an one-wave cross-sectional design and retrospective data lies in providing preliminary empirical evidence of the sequential co-occurrence of violent and rape behavior in the resulting model. Without an experimental study or a prospective longitudinal research framework, a firm conclusion on the causal relationship between these two behaviors and the underlying casual mechanisms cannot be drawn, not to mention the potential bias in retrospective data due to memory recall. For obvious ethical reasons, experimental studies cannot be conducted with human participants in rape research, in other words, evidence from stronger inference designs cannot be obtained. Only longitudinal research can establish such causal relationship between violent and rape behavior, and a long enough follow-up period in longitudinal research to test the progression of rape behavior afterwards, bearing in mind the mounting research evidence of the higher violent recidivism versus sexual recidivism in rapists (Hanson & Bussière, 1998; Quinsey, Harris, Rice, & Cormier, 2006). The continuities and discontinuities of violent and rape behavior over time as well as the underlying mechanisms obviously require more rigorous empirical investigation with longitudinal design. Again, to delineate the interplay of specific and common factors to these two often co-occurred behaviors over time in the resulting Developmental Sexual-Aggressive Model, further replication in prospective longitudinal studies is needed. On the basis of the initial success using cross-sectional design in the present study, it is a prime time to embark more resource-intensive prospective longitudinal studies to investigate the onset, course,

co-occurrence and the possible recurrent course of rape and violent behavior as well as the underlying mechanisms contributing to their co-occurrence. Targeting adolescents with high risk of rape behavior will be particularly helpful in these longitudinal studies.

Another methodological issue relates to the sample. On the one hand, the use of offender sample in studying rape behavior in the present study allows clinical implications to be made directly for clinical assessment and treatment of convicted rapist. On the other hand, referral bias is unavoidable in the offender sample as many of the rape incidents are left unreported, uncharged and non-convicted in the criminal justice system. As such, use of non-offender sample in the general population remedies the potential biased information obtained from the offender sample and allows calculation of the rate of association between rape and violent behavior. Malamuth (1986, 1991) recruited subjects from college undergraduates and asked them to answer questionnaire items on sexual coercion and related variables. To enhance data accuracy, Malamuth informed the subjects their questionnaire would be kept anonymous, refraining them from being caught as a result of research participation. In similar vein, the referral bias may also have an impact on the resulting correlates of rape and violent behavior observed in the present study, replication of the present model of rape behavior with non-offender sample is therefore of paramount importance for understanding the etiology and development of rape behavior. Of course, longitudinal and population based studies with sample size large enough for identification of the correlates of rape and its co-occurring violent behavior is time-consuming and expensive. Also, the present study is sampled on Chinese offenders. The generalizability of the present model of rape behavior awaits confirmation from replication study with offender sample in the western countries as Funk (1993) has highlighted the role of culture in affecting attitudes toward sexual

aggression, mentioning that culture that legitimizes sexual aggression will promote rape behavior. As the first empirical study modeling rape behavior in association with violent behavior, the present study recruited violent offenders in general, regardless of the gender of the victims. Similar to the rapists assaulting female victims alone in the present study, future replication studies can select only violent offenders assaulting against women to rule out the possible confounding effect of victim gender in explaining the development of rape behavior.

The small sample size is another limitation of the present study. It precludes the examination of the relative importance of the three paths to rape behavior among various subtypes of rapist like stranger rape, date rape, marital rape, gang rape and persistent rape. Date rapists are described to be hypersexual and prone to engage in sexual talk with female and in gang rape (Kanin, 1984, 1985; Lisak & Roth, 1988), therefore the Sexual Path with sexuality as the central tenet may be more influential. For marital rape, both the Entitlement-Aggressive Path and the Sexual Path appears to be prominent given the empirical evidence that marital rapists believe they are entitled to sex on demand and to gain power and control upon the perception of their inmate partner as their own possession (Bergen, 1996; Russell & Peacock, 1995). All these hypotheses which suggest varying etiologic processes for different rapist subtypes and therefore make important implications for the assessment and treatment of rapists known to have considerable heterogeneity can be tested with a large sample.

Concerning the measurement method, present empirical modeling is based on self-reported data with statistical control for social desirability which is similar to the empirical validation of the Confluence Model of Sexual Coercion (Malamuth, 1986; Lim & Howard, 1998). Following the common use of multiple sources of measurement in research on child psychopathology (Ferguson & Horwood, 2001; Liu, Cheng & Leung, 2011; Moffitt, Caspi, Rutter & Silva, 2001), use of official criminal

data for rape behavior and interview-based data for other variables as an attempt of multi-method measurement in future replication study to further validate and refine the model is worth considering despite the well-noted potential referral bias inherent in the criminal justice system and possible subjectivity in clinical rating.

While the explanatory utility of the resulting Developmental Sexual-Aggressive Model of Rape Behavior is comparable to other models of sexual coercion reviewed, further empirical investigation of candidate factors that may account for the unexplained variance of the present model is salient to better understanding of the rape behavior. Because a great deal of the developmental adversities are brought by older family members, it is possible that the association between the developmental adversities and the later rape behavior and its co-occurred violent behavior represents genetic transmission of some underlying predisposition, indicating a genetic factor of violence shared by the older family members and the individuals displaying rape behavior after early experience of developmental adversities (Burgess, Hazelwood, Roukas, Hartman & Burgess, 1987; Jespersen, Lalumiere & Seto, 2009; Harris, Rice & Lalumiere, 2002). In fact, the importance of gene-environment interplay in antisocial behavior has been underlined in developmental psychology (Rutter, Kim-Cohen & Maughan, 2006; Rutter & Silberg, 2002). In addition to the genetic factor, the model of rape behavior will be more complete by including protective factors which help explain why some individuals with history of developmental adversities will not display later rape behavior. Social support, resilience and the monoamine oxidase A (MAOA) gene are potential protective psychological and genetic factors that may mediate the short-term and long-term effects of developmental adversities, and therefore the continuities and discontinuities of rape behavior and its often co-occurred violent behavior (Caspi, McClay, Moffitt, Mill, Martin, et. al., 2002; Gilgun, 1990; Jespersen, Lalumiere & Seto, 2009).

Conclusion

Integrating and building upon prior research, the present cross-sectional study represents a pioneering effort in investigating a chain of psychological processes underlying the rape behavior and its often co-occurring violent behavior. The resulting Developmental Sexual-Aggressive Model of Rape Behavior fits the data adequately and provides a theoretically consistent set of findings. Combining present research strategy and developmental criminological approach, future research impetus can focus on the commonalities and distinctions as well as the continuities and discontinuities in the developmental path of the co-occurred problem behaviors in offender population across the lifespan using prospective longitudinal design, with a view to developing empirically based theoretical model for the advancement of offender treatment and the ultimate goal of public safety.

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Appendix 1

參與《性暴力及暴力的研究》同意書

研究名稱： 性暴力及暴力的研究

研究目的： 本研究旨在了解性暴力與暴力行為的關係、發展途徑，以及背後的思想模式、成長經歷；對改善所提供的心理服務將有莫大幫助。

研究對象： 250 位曾犯性暴力或暴力罪行的在囚人士

研究員： 李潔珊（香港中文大學研究生）

在囚人士參與研究的性質： 填寫問卷（約 1.5 小時）

在囚人士參與研究的期間： 二零一二年七月至二零一三年七月

在囚人士參與此項研究可能發生的主要風險： 並無嚴重的風險或不安，但問卷涉及性思想、童年經歷及性經驗，研究員亦會翻查心理記錄及犯罪資料背景。

所有資料將會保密，只會用於此項研究。能識別個別參與者身份的資料將會被刪除。你的參與是出於自願，並不會影響刑期和在懲教所內之待遇。你對是次研究的疑問已獲得研究員詳盡及圓滿的解答。若你同意參與是次研究，請於以下簽署。

姓名： _____（編號）

簽名： _____

日期： _____

Appendix 2

這份問卷的題目是一般人用來形容自己的。請小心閱讀，並決定這些題目是怎麼形容了你。作答不分對與錯，不用花太多時間在任何一條題目。整份問卷只以研究編號作記錄，一切保密，包括涉及性思想、是否真實作答的題目。

Marlowe-Crowne Social Desirability Scale-Short Form (MC-C; Reynolds, 1982)		
1. It is sometimes hard for me to go on with my work if I am not encouraged. 若得不到別人的鼓勵，我有時會難以繼續自己的工作。	True 是	False 否
2. I sometimes feel resentful when I don't get my way. 當我不能隨心所欲時，我有時會憤憤不平。	True 是	False 否
3. On a few occasions, I have given up doing something because I thought too little of my ability. 有時候我會因小看自己的能力而放棄去做某些事情。	True 是	False 否
4. There have been times when I felt like rebelling against people in authority even though I know they were right. 我曾經想跟那些有權威的人對抗，雖然我明明知道他們是對的。	True 是	False 否
5. No matter who I'm talking to, I'm always a good listener. 不管與誰談話，我都是一個好的傾訴對象。	True 是	False 否
6. There have been occasions when I took advantage of someone. 我曾經多次在別人身上找「著數」。	True 是	False 否
7. I'm always willing to admit it when I make a mistake. 我時常願意承認自己的過錯。	True 是	False 否
8. I sometimes try to get even rather than forgive and forget. 有時我寧可以牙還牙，也不願意寬恕或忘記別人的不是。	True 是	False 否
9. I am always courteous, even to people who are disagreeable. 我總是謙恭有禮的，即使對令人討厭的人也不例外。	True 是	False 否
10. I have never been irked when people expressed ideas very different from my own. 當別人的意見與想法跟我很不相同時，我從不感到厭煩。	True 是	False 否
11. There have been times when I was quite jealous of the good fortune of others. 我有時會妒忌別人的好運氣。	True 是	False 否
12. I am sometimes irritated by people who ask favours of me. 我有時會被有求於我的人觸怒。	True 是	False 否
13. I have never deliberately said something that hurt someone's feelings. 我從未故意用說話去傷害別人。	True 是	False 否

Childhood Trauma Questionnaire: Short Form (CTQ:SF)		Strongly disagree 非常不同	Disagree 不同意	Undecided 無意見	Agree 同意	Strongly agree 非常同意
		1	2	3	4	5
When I am growing up ... 在我成長的過程中.....						
1.	People in my family called me things like 'stupid', 'lazy' or 'ugly'. 我家中的人叫我為「愚蠢」、「懶惰」或「醜陋」。	1	2	3	4	5
2.	(R) There was someone in my family who helped me feel that I was important or special. 家中曾經有人令我覺得自己重要及特別。	1	2	3	4	5
3.	(R) I felt loved. 我覺得被愛。	1	2	3	4	5
4.	I thought that my parents wished I had never been born. 我想我的父母希望沒有生過我。	1	2	3	4	5
5.	I got hit so hard by someone in my family that I had to see a doctor or go to hospital. 我曾被家人重打以致需要看醫生或入院。	1	2	3	4	5
6.	People in my family hit me so hard that it left me with bruises or marks. 我曾被家人重打以致留有瘀傷或疤痕。	1	2	3	4	5
7.	I was punished with a belt, a board, a cord, or some other hard object. 我曾被腰帶、木板、繩索或其他硬物懲罰。	1	2	3	4	5
8.	People in my family looked out for each other. 我的家人互相照應。	1	2	3	4	5
9.	People in my family said hurtful or insulting things to me. 家人對我說出一些傷害性或侮辱性的說話。	1	2	3	4	5
10.	I believe that I was physically abused. 我相信我曾經被身體虐待。	1	2	3	4	5
11.	I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor. 我曾被重打以致被一些人如老師、鄰居或醫生發現。	1	2	3	4	5

12.	I felt that someone in my family hated me. 我覺得家中有人憎恨我。	1	2	3	4	5
13.	People in my family felt close to each other. 我的家人關係親密。	1	2	3	4	5
14.	Someone tried to touch me in a sexual way, or tried to make me touch them. 曾經有人嘗試對我進行性方面的撫摸或嘗試逼我撫摸他們。	1	2	3	4	5
15.	Someone threatened to hurt me or tell lies about me unless I did something sexual with them. 曾經有人威脅要傷害我或抹黑我，除非我與他們有性接觸。	1	2	3	4	5
16.	Someone tried to make me do sexual things or watch sexual things. 曾經有人迫我性接觸或看一些與性有關的事物。	1	2	3	4	5
17.	Someone molested me. 曾經有人性騷擾(or 調戲)我。	1	2	3	4	5
18.	I believe that I was emotionally abused. 我相信我在情緒上被虐待。	1	2	3	4	5
19.	I believe that I was sexually abused. 我相信我被性虐待。	1	2	3	4	5
20.	(R) My family was a source of strength and support. 家庭是我的力量及支持來源。	1	2	3	4	5

Physical Violence subscale of Conflict Tactics Scale (CTS-PV)

When you are growing up ...
在你成長的過程中.....

1.	Did either of your caregivers slapped, pushed or kicked each other? 你的照顧者曾否掌摑、推撞或踢對方？	1	2	3	4	5
2.	Did either of your caregivers threw, smashed, hit or kicked something to each other? 你的照顧者曾否向對方掉、打碎、打或踢東西？	1	2	3	4	5
3.	Did either of your caregivers attacked continuously for several minutes with a stick, club or other harmful object to each other? 你的照顧者曾否以木棒、棍或其他傷害性的東西持續幾分鐘攻擊對方？	1	2	3	4	5
4.	Did either of your caregivers use a knife or other lethal weapon to each other? 你的照顧者曾否向對方使用刀或其他致命武器？	1	2	3	4	5

請依照犯案時的你作答以下的問卷。

Hostility subscale of Aggression Questionnaire (AQ; Buss & Perry, 1992)		Strongly disagree 非常不同意	Disagree 不同意	Undecided 無意見	Agree 同意	Strongly agree 非常同意
1.	I am sometimes eaten up with jealousy. 我有時妒忌心會很重。	1	2	3	4	5
2.	At times I feel I have gotten a raw deal out of life. 我有時感到上天對我不公平。	1	2	3	4	5
3.	Other people always seem to get the breaks. 我覺得其他人比我幸運得多。	1	2	3	4	5
4.	I wonder why sometimes I feel so bitter about things. 我弄不清為何有時對事物都覺得怨恨。	1	2	3	4	5
5.	I know that 'friends' talk about me behind my back. 有些所謂朋友在我背後說我是非。	1	2	3	4	5
6.	I am suspicious of overly friendly strangers. 我對過份友善的陌生人會有懷疑。	1	2	3	4	5
7.	I sometimes feel that people are laughing at me behind my back. 我有時感到有人在背後取笑我。	1	2	3	4	5
8.	When people are especially nice, I wonder what they want. 當別人對我特別好，我會懷疑他們的動機。	1	2	3	4	5

Criminal Attitudes to Violence Scale (CAVS)	Strongly disagree 非常不同意	Disagree 不同意	Undecided 無意見	Agree 同意	Strongly agree 非常同意
1. If somebody insults me or my family I feel better if I beat them up or threaten them. 如果有人侮辱我或我的家人，打他或恐嚇他會讓我覺得好過點。	1	2	3	4	5
2. Lots of people are out to get you so you have to be violent. 很多人都會加害你，因此你要使用暴力。	1	2	3	4	5
3. When I get violent, what I want most is to teach the other people a lesson. 當我暴力起來時，我最想的是能教訓對方一頓。	1	2	3	4	5
4. Men should be allowed to sort their differences out by fighting. 男人應被容許以打鬥解決分歧。	1	2	3	4	5
5. If somebody puts me down, I feel like I have to fight them or threaten them to get back my pride. 若有人小看我，我覺得我要打他或恐嚇他以奪回尊嚴。	1	2	3	4	5
6. The best thing about being violent is that it gets my anger out of my system. 暴力最好的地方是可以令我發洩憤怒。	1	2	3	4	5
7. Fighting between men is normal. 男人之間打鬥很正常。	1	2	3	4	5
8. After a fight I feel happy if I won and depressed if I lost. 打架之後，贏了我會很高興，輸了我會很沮喪。	1	2	3	4	5
9. Some people have to be treated roughly because they lack feelings that can be hurt. 有些人需要被粗暴對待，因他們缺乏被受傷害的感覺。	1	2	3	4	5
10. My loyalty to my friends or gang is more important than avoiding violence. 對朋友或群黨忠心，比遠離暴力更重要。	1	2	3	4	5
11. I am more likely to be violent when another person shows me up in public. 若有人在公開羞辱我，我更有可能使用暴力。	1	2	3	4	5
12. The best lesson a man can teach his son is how to fight. 一個男人對他兒子最好的教育是教他打架。	1	2	3	4	5
13. It is important to fight when's your gang's honour is threatened. 當你的群黨的榮譽受到威脅，打鬥是很重要的。	1	2	3	4	5
14. I believe that you have to use violence to get through to some people. 我相信你要使用暴力去令人明白你。	1	2	3	4	5

15. The best thing about being violent is that it makes the other people get into line. 暴力最好的地方是可把他人捲入事件。	1	2	3	4	5
16. When your main business is crime, being violent is just part of the job. 當你主要靠犯案謀生，暴力只是工作中一部分。	1	2	3	4	5
17. It's necessary to carry a gun or a knife if you live in a rough neighbourhood. 若你居住於複雜的社區，帶備刀或槍是必要的。	1	2	3	4	5
18. If a person hits you, you have to hit them back. 如果有人打你，你要打回對方。	1	2	3	4	5
19. If I assault or rob someone, chances are I'll get away with it. 若果我襲擊他人或搶劫，逃脫的機會是有的。	1	2	3	4	5
20. Violence is an important part of my culture, even if it is against the law. 即使觸犯法例，暴力是我生活文化的重要部分。	1	2	3	4	5

<p style="text-align: center;">Young Schema Questionnaire: Short Form (YSQ-SF)</p>	Disagree strongly 非常不同意	Disagree 不同意	Disagree slightly 小小不同意	Agree slightly 小小同意	Agree 同意	Agree strongly 非常同意
<i>Entitlement Scale</i>						
<p>1. I have a lot of trouble accepting “no” for an answer when I want something from other people. 當我想向他人要一些東西，我很難接受「不」作為一個答案。</p>	1	2	3	4	5	6
<p>2. I’m special and shouldn’t have to accept many of the restrictions placed on other people 我很特別，我不能接受一般人需要面對的種種規範。</p>	1	2	3	4	5	6
<p>3. I hate to be constrained or kept from doing what I want. 我痛恨被拘束或被限制去做想做的事。</p>	1	2	3	4	5	6
<p>4. I feel that I shouldn’t have to follow the normal rules and conventions other people do. 我覺得我不用如他人一樣遵守一般的規定或慣例。</p>	1	2	3	4	5	6
<p>5. I feel that what I have to offer is of greater value than the contributions of others. 我覺得我可以作出比他人更有價值的貢獻。</p>	1	2	3	4	5	6
<i>Insufficient Self-Control Scale</i>						
<p>1. I can’t seem to discipline myself to complete routine or boring tasks. 我似乎不能有紀律地完成常規或沉悶的工作。</p>	1	2	3	4	5	6
<p>2. If I can’t reach a goal, I become easily frustrated and give up. 如我不能達成目標，我會很容易感到挫敗及想放棄。</p>	1	2	3	4	5	6

3. I have a very difficult time sacrificing immediate gratification to achieve a long-range goal. 我很難為長遠的目標犧牲眼前的滿足。	1	2	3	4	5	6
4. I can't force myself to do things I don't enjoy, even when I know it's for my own good. 即使是為我個人著想，我也不能強迫自己做一些不喜歡的事。	1	2	3	4	5	6
5. I have rarely been able to stick to my resolutions. 我很少可以堅持我的決定。	1	2	3	4	5	6
<i>Defectiveness Scale</i>						
1. No man/woman I desire could love me once he/she saw my defects. 當知道我的缺點，沒有一個我傾慕的女人會愛我。	1	2	3	4	5	6
2. No one I desire would want to stay close to me if he/she knew the real me. 當認識真正的我，沒有一個我傾慕的人會接近我。	1	2	3	4	5	6
3. I'm unworthy of the love, attention, and respect of others. 我不值得別人的愛、關注及尊重。	1	2	3	4	5	6
4. I feel that I'm not lovable. 我覺得我不惹人喜愛。	1	2	3	4	5	6
5. I am too unacceptable in very basic ways to reveal myself to other people. 我的本質太不能被接受，以致我不會向別人展示自己。	1	2	3	4	5	6

<p style="text-align: center;">The Tolerance of Law Violation subscale of the Criminal Sentiments Scale: Modified (CSS:M-TLV)</p>	<p style="text-align: center;">Agree 同意</p>	<p style="text-align: center;">Undecided 無意見</p>	<p style="text-align: center;">Disagree 不同意</p>
<p>1. People like me must break the law to get ahead. 像我這樣的人，有時需要違法才能在生命中得到成就。</p>	2	1	0
<p>2. Successful people break the law to get ahead. 大部分成功的人都以違法來獲得成就。</p>	2	1	0
<p>3. You shouldn't break the law to try to get ahead in life. (R) 你不應該破壞法紀去往上爬。</p>	2	1	0
<p>4. It's OK to break the law, but don't get caught. 只要你沒有被逮捕，違反法律是沒有問題的。</p>	2	1	0
<p>5. People commit crimes when they think they won't get caught. 如果知道自己不會被捕，大部分人都會犯法。</p>	2	1	0
<p>6. There is never a good reason to break the law. (R) 從來都不會有合理的理由去犯法。</p>	2	1	0
<p>7. A hungry man has the right to steal. 一個飢餓的人有權偷竊。</p>	2	1	0
<p>8. It's OK to get around the law, as long as you don't break it. 只要你實際上沒有犯法，走法律罅是沒有問題的。</p>	2	1	0
<p>9. Only obey laws that seem reasonable. 你應該只遵守那些合理的法律。</p>	2	1	0
<p>10. It's best to earn an easy living, even by breaking the law. 如果有更加容易的方法去賺錢，即使那方法需要犯法，你都應該去做。</p>	2	1	0

<p style="text-align: center;">Minimization subscale of the How I Think Questionnaire (HIT-M)</p>	Disagree strongly 非常不同意	Disagree 不同意	Disagree slightly 小小不同意	Agree slightly 小小同意	Agree 同意	Agree strongly 非常同意
1. People need to be roughed up once in a while. 偶爾人需要被粗暴對待。	1	2	3	4	5	6
2. You have to get even with people who don't show you respect. 你要對不尊重你的人報復。	1	2	3	4	5	6
3. Everybody lies, it's no big deal. 人人都講大話，沒有甚麼大不了。	1	2	3	4	5	6
4. If you know you can get away with it, only a fool wouldn't steal. 如果知道可以逃脫，只有愚蠢的人才不去偷竊。	1	2	3	4	5	6
5. Only a coward would ever walk away from a fight. 只有懦夫才會放棄打鬥。	1	2	3	4	5	6
6. Stores make enough money that it's OK to just take things you need. 商店賺夠了，所以隨便拿取你想要的東西是沒有問題的。	1	2	3	4	5	6
7. A lie doesn't really matter if you don't know the person. 如果你不認識那個人，說一個謊話沒甚麼問題。	1	2	3	4	5	6
8. Everybody breaks the law, its' no big deal. 人人都犯法，根本沒有甚麼大不了。	1	2	3	4	5	6
9. Taking a car doesn't really hurt anyone if nothing happens to the car and the owner gets it back. 如果車子安然無恙，而車主又可以取回車子，偷車是沒有傷害任何人的。	1	2	3	4	5	6

External Attribution subscale of the Revised Gujdonsson Blame Attribution Inventory (BAI-EA)		
1. I am entirely to blame for the crime(s). (R) 這個罪行完全歸咎於我。	True 是	False 否
2. I did not deserve to get caught for the crime(s) I committed. 我所犯的罪行是不值得被捕的。	True 是	False 否
3. I am responsible for my criminal act(s). (R) 我應為我的犯罪行為負責。	True 是	False 否
4. I should not blame myself for the crimes(s) I committed. 我不應為我所犯的罪行而責怪自己。	True 是	False 否
5. I should not blame other people for my crime(s). (R) 我不應為我犯的罪行而責怪他人。	True 是	False 否
6. Society is to blame for the crime(s) I committed. 我所犯的罪行是社會的錯。	True 是	False 否
7. I should not be punished for what I did. 我不應為我做過的事而受罰。	True 是	False 否
8. In my case the victim was largely to blame for my crime(s). 在我的情況，受害人才最值得被責怪。	True 是	False 否
9. I would not have committed any crime if I had not been seriously provoked by the victim(s) / society. 若果我不是被受害人 / 社會激怒，我是不會犯下任何罪行。	True 是	False 否
10. I deserved to be caught for what I did. (R) 我是值得為我所做過的而被捕。	True 是	False 否
11. I was in no way provoked into committing a crime. (R) 我不會被挑釁去犯罪。	True 是	False 否
12. Other people are to blame for my crime(s). 我的罪行是他人的責任。	True 是	False 否
13. I could have avoided getting into trouble. 我本來可以避免捲入麻煩的。	True 是	False 否
14. I had very good reasons to commit the crime(s) I did. 我有很足夠的理由去犯下我的罪行。	True 是	False 否
15. I have to excuse for the crime(s) I committed. 我要為自己所犯的罪行表示歉意。	True 是	False 否

<p style="text-align: center;">Self-Pity Scale of the Streßverarbeitungsfragenbogen (SVF)</p>	Disagree strongly 非常不同意 Disagree 不同意 Undecided 無意見 Agree 同意 Agree strongly 非常同意				
When I upset by something or somebody, 當我被一些人或事情所困擾，					
1. I feel a little sorry for myself. 我有點同情自己。	0	1	2	3	4
2. I envy others to whom such things don't happen. 我會妒忌其他沒有這個經歷的人。	0	1	2	3	4
3. I have the feeling that luck is never on my side. 我覺得幸運從不在我身邊。	0	1	2	3	4
4. I can't understand why I am always the one who has had bad luck. 我不明白為何我總是不幸的那位。	0	1	2	3	4
5. I think that bad things always seem to happen to me. 我覺得壞事總發生在我身上。	0	1	2	3	4
6. I ask myself why this had to happen to me of all people. 我問自己為何從眾人中偏偏選中我。	0	1	2	3	4

<p>The Revised Hostility toward Women Scale (Lonsway & Fitzgerald, 1995)</p>	<p>Strongly disagree 非常不同意</p> <p>Undecided 無意見</p> <p>Strongly agree 非常同意</p>						
	1	2	3	4	5	6	7
<p>1. I feel that many times women flirt with men just to tease them or hurt them. 我覺得很多時候女人與男人調情只為了要作弄或傷害他們。</p>	1	2	3	4	5	6	7
<p>2. I believe that most women tell the truth. 我相信大部分女人講真話。</p>	1	2	3	4	5	6	7
<p>3. I usually find myself agreeing with (other) women. 我發覺自己時時迎合女性。</p>	1	2	3	4	5	6	7
<p>4. I think that most women would lie just to get ahead. 我覺得大部分女人都會為了向上爬而講大話。</p>	1	2	3	4	5	6	7
<p>5. Generally, it is safer not to trust women. 一般來說，不相信女人比較安全。</p>	1	2	3	4	5	6	7
<p>6. When it really comes down to it, a lot of women are deceitful. 當回到現實，許多女人都是騙人的。</p>	1	2	3	4	5	6	7
<p>7. I am easily angered by (other) women. 我很易被女人激怒。</p>	1	2	3	4	5	6	7
<p>8. I am sure I get a raw deal from the (other) women in my life. 我肯定我生命中的女人對我非常不公平。</p>	1	2	3	4	5	6	7
<p>9. Sometimes (other) women bother me by just being around. 女人有時單單在附近出現，已煩擾了男人。</p>	1	2	3	4	5	6	7
<p>10. (Other) Women are responsible for most of my troubles. 我大部分的煩惱都因女人而起。</p>	1	2	3	4	5	6	7

Women as Sex Objects Scale	Completely disagree 非常不同意				
	Completely disagree 非常不同意	Disagree 不同意	Undecided 無意見	Agree 同意	Completely agree 非常同意
1. Unconsciously, girls always want to be persuaded to have sex. 潛意識中，女孩總想被說服去性交。	1	2	3	4	5
2. Sexually active girls are more attractive partners. 性行為活躍的女孩是比較吸引的伴侶。	1	2	3	4	5
3. An attractive woman should expect sexual advances. 一個有吸引力的女人應該預期有人提出性需求。	1	2	3	4	5
4. It bothers me when a man is interested in a woman only if she is pretty. 如果一個男人對女人有興趣只因她長得漂亮，會令我感到困擾。	1	2	3	4	5
5. There is nothing wrong with men being primarily interested in woman's body. 男人的主要興趣在女人的身體並沒有錯。	1	2	3	4	5
Sexual Entitlement subscale of Hanson Sex Attitude Questionnaire (HSAQ-SE)					
1. A person should have sex whenever it is needed. 每當有需要的時候就應該有性行為。	1	2	3	4	5
2. Women should oblige men's sexual needs. 女人應該滿足男人的性需要。	1	2	3	4	5
3. Everyone is entitled to sex. 每個人都有性行為的權利。	1	2	3	4	5
4. Sex must be enjoyed by both parties. (R) 性行為應該是雙方都享受的。	1	2	3	4	5

5. Men need sex more than women do. 男人比女人更需要性。	1	2	3	4	5
6. I have a higher sex drive than most people. 我比大部分人有更多性需要。	1	2	3	4	5
7. I am often bothered by thoughts of having sex. 我時時被性交的想法所困擾。	1	2	3	4	5
8. I have no trouble going without sex if my partner is not interested. (R) 若我的伴侶沒有興趣，不進行性交是沒有問題的。	1	2	3	4	5
9. A man who is denied sex suffers more than a woman who has sex when she does not want it. 一個男人被拒絕性交，比起一個女人不情願地性交更痛苦。	1	2	3	4	5
Sex as Coping Scale (self-construct)					
幻想 / 幻想時自慰 / 看一些有關強迫一個成人性交的色情影像或影片					
1. 幫我忘記憂慮	1	2	3	4	5
2. 幫我麻醉負面情緒	1	2	3	4	5
3. 令我覺得放鬆	1	2	3	4	5
4. 給我興奮的感覺	1	2	3	4	5
5. 給我日常生活得不到的滿足	1	2	3	4	5
6. 是生活中唯一快樂的來源	1	2	3	4	5
7. 幫助解決懶悶及空虛的感覺	1	2	3	4	5

<p style="text-align: center;"><i>Social Isolation Scale</i> <i>of Young Schema Questionnaire: Short Form</i> <i>(YSQ: SF)</i></p>	<p style="text-align: center;">Completely agree 非常同意 Agree 同意 Agree slightly 小小同意 Disagree slightly 小小不同意 Disagree 不同意 Completely disagree 非常不同意</p>					
	1	2	3	4	5	6
<p>1. I don't fit in. 我不合群。</p>	1	2	3	4	5	6
<p>2. I'm fundamentally different from other people. 我本質上與其他人不同。</p>	1	2	3	4	5	6
<p>3. I don't belong: I'm a loner. 我不屬於任何群體，我是一個孤獨的人。</p>	1	2	3	4	5	6
<p>4. I feel alienated from other people. 我與他人感覺疏離。</p>	1	2	3	4	5	6
<p>5. I always feel on the outside of groups. 我時時感到處於群體的外圍。</p>	1	2	3	4	5	6

<p style="text-align: center;">Relationship schema (1-5 from <i>Adversarial Heterosexual Beliefs Scale</i>; 6-11 self-constructed items)</p>	<p style="writing-mode: vertical-rl; text-orientation: upright;">Strongly disagree 非常不同意</p> <p style="writing-mode: vertical-rl; text-orientation: upright;">Undecided 無意見</p> <p style="writing-mode: vertical-rl; text-orientation: upright;">Strongly agree 非常同意</p>						
<p>1. In dating relationships people are mostly out to take advantage of each other. 在拍拖關係中，人通常是互相利用的。</p>	1	2	3	4	5	6	7
<p>2. If you don't show who's boss in the beginning of a relationship you will be taken advantage of later. 若你在一段關係的初期並沒有顯示誰是主導，你將會被佔便宜。</p>	1	2	3	4	5	6	7
<p>3. Most people are pretty devious and manipulative when they are trying to attract someone of the opposite sex. 每當嘗試吸引異性，大部分人都頗不坦率及慣於操控他人。</p>	1	2	3	4	5	6	7
<p>4. Men and women are generally out to use each other. 一般來說，男人及女人都是互相利用。</p>	1	2	3	4	5	6	7
<p>5. It's impossible for men and women to truly understand each other. 男人及女人無法真正了解大家。</p>	1	2	3	4	5	6	7
<p>6. 有性無愛是可以的。</p>	1	2	3	4	5	6	7
<p>7. 我享受與不同性伴侶隨意進行性行為。</p>	1	2	3	4	5	6	7
<p>8. 從沒打算與女人認真，只當男女關係是一場遊戲，不相信會天長地久。</p>	1	2	3	4	5	6	7
<p>9. 對男女關係認真，只會令自己受傷害。</p>	1	2	3	4	5	6	7
<p>10. 男女關係靠不住，凡事都是要信自己。</p>	1	2	3	4	5	6	7
<p>11. 習慣將任何事都放在心裡，沒有需要告訴其他人，連身邊的伴侶也不例外。</p>	1	2	3	4	5	6	7

<p style="text-align: center;">Sexual Compulsivity Scale of the Multidimensional Assessment of Sex and Aggression (MASA-SC)</p>	<p style="text-align: center;">Completely disagree 非常不同意 Disagree 不同意 Undecided 無意見 Agree 同意 Completely agree 非常同意</p>				
	0	1	2	3	4
<p>1. I am not able to control my sexual behavior. 我不能控制我的性行為。</p>	0	1	2	3	4
<p>2. I have not been able to stop myself from a sexual act, even when I wanted to stop. 即使我想停止，我從來未曾可以停止自己進行性行為。</p>	0	1	2	3	4
<p>3. I have had a problem controlling my sexual feelings. 我一直有困難控制自己的性慾。</p>	0	1	2	3	4
<p>4. I have had to fight sexual urges. 我一直需要對抗性衝動。</p>	0	1	2	3	4
<p>5. Sexual feelings overpower me. 性慾征服我。</p>	0	1	2	3	4
<p>6. I can't stop thinking about sex. 我不能停止想起性。</p>	0	1	2	3	4
<p>7. I have felt an overpowered urge to do a sexual behavior that I had thought about. 我覺得有一股無法抵抗的慾望要去進行一個一直想做的性行為。</p>	0	1	2	3	4
<p>Sexual Dominance Scale (SDOM)</p>					
<p>1. I have sexual relations because I like the feeling that I have someone in my grasp. 我有發生性關係，因我喜歡感覺到有人在我的掌握中。</p>	0	1	2	3	4

2. I have sexual relations because like many people I enjoy the conquest. 我有發生性關係，因我與許多人一樣喜歡征服別人的感覺。	0	1	2	3	4
3. I have sexual relations because it makes me masterful. 我有發生性關係因它令我覺得有權威的感覺。	0	1	2	3	4
4. I have sexual relations because I like having the feeling of having another people submit to me. 我有發生性關係，因我喜歡有人服從我的感覺。	0	1	2	3	4
5. Because I like teaching the less experienced people how to get off. 因我喜歡教導經驗較少的人如何開始性交。	0	1	2	3	4
6. Because in the act of sex more than at any other time I get the feeling that I can really influence how someone feels and behaves. 因為相比其他情況，性交過程中，我覺得可以真正影響他人的感覺及行為。	0	1	2	3	4
7. Because I like it when my partner is really open and vulnerable to me. 因為我喜歡性伴侶對著我開放及脆弱的時刻	0	1	2	3	4
8. Because when my partner finally surrenders to me I get this incredible satisfying feeling. 因為當我的性伴侶最終向我投降，我得到難以言喻的滿足感。	0	1	2	3	4

Minimise Harm Done on Rape Victim of Bumby Rape Scale	Strongly agree 非常同意			
	Strongly disagree 非常不同意	Disagree 不同意	Agree 同意	Strongly agree 非常同意
1. As long as a man does not slap or punch a woman in the process, forcing her to have sex is not as bad. 只要過程中不掌摑或擊打女性，強迫她進行性行為並非那麼差。	0	1	2	3
2. Most women are sluts and get what they deserve. 大部分女人都是蕩婦，得到她們應得的結果。	0	1	2	3
3. On a date, when a man spends a lot of money on a woman, the woman ought at least to give the man something in return sexually. 約會時，當男人花了很多錢在女人身上，女人應該起碼以性作回饋。	0	1	2	3
4. Just fantasizing about forcing someone to have sex isn't all that bad since no one is really being hurt. 幻想強迫他人性交無甚不妥，因為沒有人真正受害。	0	1	2	3
5. (Self-constructed): 她已經有性經驗，與她性交沒甚麼大不了。	0	1	2	3
6. (Self-constructed): 過程中她有性滿足，強迫她性交無甚不妥	0	1	2	3
7. (Self-constructed): 酒精或毒品已令她迷迷糊糊，之後發生的性交不會令她受到傷害。	0	1	2	3
8. (Self-constructed): 若不與我性交，我不會借錢給她還債，她那裡有損失。	0	1	2	3

	Never 從來沒有	Once or very rarely (only a few times) 一直以來只有一次或幾次	Rarely (a few times a year, but less than once a month) 很少(一年幾次, 少於每月一次)	Sometimes (once or twice a month) 有時(每月一至兩次)	Fairly often (once or twice a week) 時常(每星期一至兩次)	Very often (almost every day) 非常頻密(接近每天)
Pornography Use Scale (self-construct)						
1. 由細到大,我從雜誌、電影、動畫或網上所看(回答 a-f)...	0	1	2	3	4	5
a) 有關異性的裸體。						
b) 有關成年男女之間的性行為。						
c) 有關成年男女之間的性行為,但女方有反抗,表現得不願意。	0	1	2	3	4	5
d) 涉及與成年女性性交前或性交時一些困綁、擊打臀部、使用手扣和其他傷害身體的行為。	0	1	2	3	4	5
e) 描繪男性的裸體或與男性的性行為。	0	1	2	3	4	5
f) 描繪兒童的裸體或與男性的性行為。	0	1	2	3	4	5
2. 在____歲,我第一看過以上的色情雜誌、電影、動畫或網站。						

<p style="text-align: center;">Negative Experience with Female Scale (self-construct)</p> <p>在我成長的過程中.....</p>	Never True 從未發生	Rarely true 很少發生	Sometime True 有時發生	Often True 時常發生	Very Often True 非常頻密發生
1. 被母親或繼母拋棄	1	2	3	4	5
2. 被母親或繼母嚴重地懲罰 / 批評 / 羞辱 / 忽視	1	2	3	4	5
3. 被女性如姊妹、親戚、師長、同學、同事等嚴重地懲罰 / 批評	1	2	3	4	5
4. 父親或繼父因其他女人拋棄家庭	1	2	3	4	5
5. 被女友拋棄 / 欺騙 / 背叛	1	2	3	4	5
6. 被成年女性拒絕	1	2	3	4	5

Physical Aggression subscale of Aggression Questionnaire (AQ; Buss & Perry, 1992)		Completely disagree 非常不同意	Disagree 不同意	Undecided 無意見	Agree 同意	Completely agree 非常同意
1.	Once in a while I can't control the urge to strike another person. 我間中會失控出手打人。	1	2	3	4	5
2.	Given enough provocation, I may hit another person or threaten him. 若有人惹起我把火，我會打他或恐嚇他。	1	2	3	4	5
3.	If somebody hits me, I hit back. 若有人打我，我會還擊。	1	2	3	4	5
4.	I get into fights or threaten people a little more than the average person. 我比一般人較常打架或恐嚇他人。	1	2	3	4	5
5.	If I have to resort to violence to protect my rights, I will. 如有需要，我會使用暴力保護自己的權利。	1	2	3	4	5
6.	There are people who pushed me so far that we came to blows or verbal threat. 若別人迫得太過份，我會動武或恐嚇他。	1	2	3	4	5
7.	I can think of no good reason for ever hitting a person or threatening him. (R) 不論任何原因，我都不會打人或恐嚇他人。	1	2	3	4	5
8.	I have threatened people I know. 我曾威脅過自己認識的人。	1	2	3	4	5
9.	I have become so mad that I have broken things. 我曾生氣到要毀壞物件。	1	2	3	4	5

<p style="text-align: center;">Sexual Experience Survey (SES)</p>	<p style="text-align: center;">How many times since age 14? 十四歲後，發生過 多少次？</p>			
<p>1. a) You have attempted sexual intercourse with a woman when she did not want to by threatening or using some degree of physical force (twisting her or his arm, holding her down, etc.) but intercourse <i>did not occur</i>? 在對方不願意時，你曾透過威脅或使用一定程度武力（扭她的手臂、按低她等）<u>嘗試與女性性交</u>，但性交並沒有進行？</p> <p>b) You have attempted sexual intercourse with a woman when she did not want to by giving her alcohol or drugs but intercourse <i>did not occur</i>? 在對方不願意時，你曾透過給她酒精或藥物<u>嘗試與女性性交</u>，但性交並沒有進行？</p>	0	1	2	>3
<p>2. a) You have engaged in sexual intercourse with a woman when she did not want to by overwhelming her with continual arguments and pressure? 在對方不願意下，透過持續的爭吵及壓力去沖擊她，<u>你曾與女性性交</u>？</p> <p>b) You have engaged in sexual intercourse with a woman when she did not want to by using your position of authority (boss, supervisor, camp counselor, teacher, etc.)? 在對方不願意下，透過你權威的身份(上司、主管、營地導師、老師等)，<u>你曾與女性性交</u>？</p> <p>c) You have engaged in sexual intercourse with a woman when she did not want to by threatening or using some degree of physical force (twisting her arm, holding her down, etc.)? 在對方不願意下，透過威脅或使用一定程度武力（扭她的手臂、按低她等），<u>你曾與女性性交</u>？</p> <p>d) You have engaged in sexual intercourse with a woman when she did not want to by giving her alcohol or drugs? 在對方不願意下，透過給她酒精或藥物，<u>你曾與女性性交</u>？</p>	0	1	2	>3