Exploring Heterogeneity Among Deniers: Does Denial Predict
Sexual Offender Recidivism Among Distinct Groups of Deniers?

by

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Abstract

In the sexual offender literature, researchers have theorized numerous distinctions between groups of offenders who deny offence responsibility and varying reasons as to why they deny. However, few studies have empirically examined the heterogeneity of deniers or applicability of prior typologies. The purpose of the current study was to provide a more nuanced understanding of the heterogeneity of deniers through developing a profile of their risk using the Static-99R and VRAG-R. Results from a latent class analysis identified four distinct risk profiles, labeled *Moderately Sexually Deviant* (22.5%), *Generally Antisocial* (13.1%) *Diverse Risk* (27.6%) and *Generally Low-Risk* (36.7%). The risk profiles were then compared using pseudo-class draws methods, revealing differences in Attachment to convention and rates of sexual and sexual (including violent) recidivism. Similarities and distinctions between denier subgroups and prior theorized models of denial are discussed.

Keywords: denial, actuarial risk, sexual offending, latent class analysis.

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Exploring Heterogeneity Among Deniers: Does Denial Predict Sexual Offender Recidivism Among Distinct Groups of Deniers?

In regard to criminal behaviour, sexual offences are among those which generate strong emotional responses in acknowledgement of the trauma associated with victimization. Those who are abused often experience more problems with self-blame and post-traumatic stress (Arata & Burkhart, 1996), damage to self-esteem, anxiety, depression, shame, and relationship issues compared to those who are not (Atkeson, Calhoun, Resick, & Ellis, 1982; Littleton et al., 2006; Perilloux, Duntley, & Buss, 2012). Prior research has found that among incarcerated sexual offenders, between 30% to 35% absolutely deny having committed an offence (Hood, Shute, Feilzer & Wilcox, 2002; Kennedy & Grubin, 1992). In the criminal justice system, sexual offenders denying responsibility for their offences is implicated in many decisions concerning offenders, with deniers less likely to be granted early release or parole (Hood, Shute, Feilzer, & Wilcox, 2002; Barbaree, 1991), and more likely to be excluded or removed from treatment programs (McGrath, Cumming, Burchard, Zeoli, & Ellerby, 2010; Ware & Mann, 2012; Yates, 2009). In addition, denial has often been targeted during therapy, conceived of as a risk factor, despite inconsistent evidence of its relationship with risk (Ware & Mann, 2012; Harkins, Beech & Goodwil, 2010). The implications of sexual offender denial in terms of treatment and criminal justice system decisions are inconsistent with the evidence of denial's relationship with actuarial risk, necessity to target in treatment, and the underlying theoretical evidence of why offenders deny responsibility. A few studies have proposed theorized groups of deniers who vary in underlying motives or reasons for denying responsibility. However, these theories of

denial are further complicated by competing conceptualizations of how to assess or operationalize denial. In addition, studies examining denial, demographic information, and psychological differences generally compare deniers with admitters, rather than examining the heterogeneity of deniers alone (Bardwin & Roys, 1998; Nugent & Kroner, 1996). Despite denial being relatively common among sexual offenders and numerous theories as to the underlying nature of denial, there are no definitive answers as to whether these theories and proposed typologies hold true for all sexual offenders who deny responsibility.

Actuarial Risk

The identification of relevant risk factors is paramount to intervention efforts aimed at reducing the unique risks associated with sexual offending. Research has consistently supported correctional interventions based upon the risk-need-responsivity (RNR) model, with treatments following these principles effective for numerous specific populations of offenders (e.g., general offenders, violent offenders, sexual offenders) (Andrews, Bonta, & Hoge, 1990; Dowden & Andrews, 1999a,b, 2000, 2003; Hanson, 2006). The RNR model proposes intervention intensity be matched to the level of risk posed by the individual and targeting dynamic risk factors related to their offending (i.e., criminogenic needs) (Andrews, Bonta, & Hoge, 1990; Andrews & Bonta, 2007). The RNR model further states that non-criminogenic risk factors should not be targeted in treatment, as they do not demonstrate an association to recidivism, and amending these factors does not reduce the offenders' risk of recidivism (Andrews & Bonta, 2007). In addition, the RNR model advises treatments must acknowledge any responsivity concerns the individual displays which may impede treatment engagement with

appropriate adjustments made to maximise efficacy for all offenders (Andrews & Bonta, 2007).

Research examining whether denial is a risk factor associated with sexual recidivism (Yates, 2009), and whether it poses a responsivity issue which impedes treatment efforts has produced mixed findings (Levenson & Macgowan, 2004; Schneider & Wright, 2001, 2004). Currently, risk evaluators assessing sexual offenders frequently include non-empirically validated risk variables, such as denial, in addition to standardized risk assessment instruments, overriding the risk instrument results (McCallum, Boccaccini, & Bryson, 2017; Miller & Maloney, 2013). In addition, 91% of treatment programmes in the United States have listed “offender responsibility” as a treatment target (Ware, Blagden, & Harper, 2018). This focus of treatment practitioners and risk evaluators in targeting denial in treatment and inclusion in risk evaluation violates the principles of the RNR model (e.g., targeting criminogenic needs) and further opposes meta-analytic evidence of the most relevant risk predictors of sexual recidivism in the literature.

In a meta-analytic study consisting of 61 studies, Hanson and Bussiere (1998) found that sexual deviancy (i.e., sexual interest in children, deviant sexual preferences) was the strongest predictor of sexual recidivism, with factors pertaining to criminal lifestyle (e.g., prior offences, antisocial personality) also predictive. Psychological maladjustment factors such as lack of remorse, motivation for treatment, and denial were found to have little or no relationship with recidivism (Hanson & Bussiere, 1998). Hanson and Morton-Bourgon (2005) conducted a follow-up meta-analysis consisting of 82 recidivism studies, finding that the strongest predictors of sexual recidivism were

variables that reflected two risk domains, sexual deviance risk and antisocial orientation ($d = .30$ and $.23$, respectively). Accordingly, sexual deviancy risk factors reflect interest in fetishistic behaviour and illegal sexual behaviour, such as rape and sexual misconduct with children. Conversely, antisocial orientation constitutes antisocial traits such as antisocial personality disorder or specific traits such as history of substance misuse, impulsivity, rule breaking behaviour, or unemployment. Risk factors constituting antisociality have been shown to predict both sexual recidivism as well as non-sexual recidivism in adult as well as adolescent samples (Quinsey, Harris, Rice, & Cormier, 2006; Yates, 2009; Hanson & Morton-Bourgon, 2005). In addition, several studies have indicated that antisocial traits are the most common form of psychopathology found among sexual offenders (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005; Langton et al., 2008). Antisociality over many studies has been shown to share an association with ineffective response to treatment, treatment failure, and recidivism (Levenson & Macgowan, 2004; Nunes et al., 2007; Terry, 2005; Abracen, Looman. & Langton, 2008). Moreover, Hanson and Morton-Bourgon's (2005) meta-analysis found that denial of sexual crime was non-significant ($d = .02$) in predicting sexual recidivism but indicated a small but significant association with any recidivism ($d = .12$). Hanson and colleagues' (1998, 2005) findings make clear prior research, confirming that the risk domains of antisociality as well as sexual deviancy constitute the best predictors of sexual recidivism among sexual offenders whereas denial was found to be not relevant in the prediction of sexual recidivism.

In response to Hanson and Bussiere's (1998) findings, Lund (2000) conducted a qualitative review of the seven studies included in their meta-analysis including a denial

variable, finding denial was operationalized in a multitude of ways across studies (i.e., denial of offence, denial of responsibility, attribution of responsibility for deviant behaviour, thinking errors). In addition, it was noted that denial was often not the primary focus of these studies, possibly explaining the methodological concerns in how denial was measured (Lund, 2000). Lund (2000) further suggested that past studies may have failed to discern a relationship between denial and sexual recidivism due to the moderation of additional variables not examined, such as risk. In accordance with this suggestion, despite the lack of support linking denial with sexual recidivism in the meta-analytic findings, subsequent studies have examined denial and its interaction with actuarial risk in the prediction of sexual recidivism.

Denial Moderated by Actuarial Risk

A few studies have conducted nuanced examinations, assessing whether denial is moderated by actuarial risk, utilizing varying operationalisations of denial and minimization, as well as varying risk measures. These studies have produced varying and often conflicting results (see Table 1). Nunes et al. (2007) found that denial did not independently predict sexual recidivism; however, the relationship between denial and sexual recidivism was moderated by risk. Denial was found to be significantly associated with greater odds of sexual recidivism for low-risk offenders, and conversely a non-significant trend of lower odds for high-risk offenders (Nunes et al., 2007). Harkins et al. (2010) found a similar pattern of results using an “absolute denial” operationalization based upon the 4 item Denial scale from the Sex Offense Attitudes Questionnaire (SOAQ; Procter, 1994). Absolute denial was non-significant as an independent predictor of sexual recidivism, however a significant interaction emerged with denial yet again

associated with higher rates of recidivism for low-risk offenders and lower rates for high-risk offenders (Harkins et al., 2010). Langton et al. (2008) utilizing a dichotomous denial/minimization item from the Response to Treatment Scale (Langton, 2003; Langton, Barbaree, Harkins, & Peacock, 2006) found that the item was neither independently associated with sexual recidivism, nor was its interaction term with risk. They did find however, that the Minimization section from the Denial and Minimization Checklist-III (DCML-III; Langton, Barbaree, & McNamee, 2003) significantly interacted with risk. Adjusted hazard ratios were calculated for specific values on the RRASOR (scores < 3 versus ≥ 3) and Minimization, with high-risk offenders who also display high levels of minimization (score of 5 or more) sexually recidivating at a threefold increase relative to minimization matched low-risk offenders (Langton et al., 2008). Harkins et al. (2015) also found that the interaction between denial and risk was non-significant, however in their study denial was independently associated with sexual recidivism, with deniers sexually reoffending at lower rates irrespective of risk level.

A study conducted by Peters and Nunes (2018) aimed to examine denial and the moderating influence of risk. The authors were further interested in whether the moderating influence of risk differed depending on the underlying factor structure of the risk items utilized. Thus, they conducted a series of logistic regressions utilizing either the Total Static-99R or modified version divided based upon items reflective of antisocial and sexual deviance risk. They added denial status first in each regression, finding that denial was independently and significantly associated with lower rates of recidivism overall. In each regression deniers of varying risk levels and form of risk consistently reoffended at lower rates than admitters, except for deniers who were highly sexually

deviant. The interaction term between denial status and sexual deviance risk was significant, with higher sexual deviance offenders' denial associated with 85% higher odds of sexual recidivism (Peters & Nunes, 2018).

Table 1. *The relationship between denial and risk*

Study	N	Sample	Operationalization of Denial	Risk Measures	Main effect	Interaction
Nunes et al. (2007) Study 1	489	244 incest offenders, 179 extrafamilial child molesters, 66 rapists.	“Denied committing all index sexual offenses” (dichotomous). Denial assessed primarily pre-trial (55.7%) or pre-sentencing (23.4%)	Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR; Hanson, 1997). Dichotomized at median of 1.	Denial <i>ns</i> (OR = 0.89)	RRASOR x Denial sig. (OR = 0.50*). Denial associated with increased odds of sexual recidivism for low-risk offenders, decreasing odds for high-risk offenders.
Langton et al. (2008)	436	80 intrafamilial child molesters, 147 extrafamilial child molesters, 44 mixed-age offenders, 165 rapists.	Denial/minimization item (Response to Treatment Scale; Langton, 2003; Langton, Barbaree, Harkins, & Peacock, 2006). Dichotomized (no denial/minimization vs. some minimization to complete denial). Denial assessed post-treatment.	RRASOR (Hanson, 1997).	Denial/minimization <i>ns</i> (Adj. HR = 0.93). Nor with subsets of sexual offenders or those who received no-additional treatment (HR not reported).	Dichotomous denial/minimization x risk <i>ns</i> (Adj. HR not reported). Denial/minimization x risk interaction <i>ns</i> for subsets of sexual offenders or those with no additional treatment (HR not reported).
Harkins et al. (2010)	180	82% children victims, 10% adult victims, 5% mixed, 3% non-contact offenses.	Absolute denial (Sex Offense Attitudes Questionnaire; Procter, 1994). Total scores range: 4 to 20. dichotomized at 12. Denial index (Multiphasic Sex Inventory [MSI]; Nichols & Molinder,	Risk Matrix 2000/S (Thornton et al., 2003).	Absolute denial <i>ns</i> (OR = 1.02). Denial index sig. (OR = 0.69*).	Absolute Denial x risk sig. (OR = 0.86*). Low risk deniers associated with higher rates of recidivism, high-risk deniers lower recidivism rates. Denial index x risk sig. (OR = 0.70*). Greater

			1984). Composite of 4 MSI subscales and SOAQ total score, based on number of measures indicating offender is in denial (scores ranging from 0-5).			denial associated with lower rates of sexual recidivism for low and high-risk offenders.
Harkins et al. (2015)	6891	1555 adult victim, 941 intrafamilial child molesters, 1337 extrafamilial child molesters, 1252 child victim (family-status unknown), 1139 for child pornography, 667 for other non-contact offences.	“Does the offender accept responsibility for the current offense(s)?” (Dichotomous). Scored as denier if offender excused offence, shifted blame, minimized seriousness/involvement, claimed out of character, partially or completely denied committing offence.	Modified Risk Matrix 2000/s (Thornton et al., 2003).	Denial <i>ns</i> at 2 year follow-up (OR = 0.76) (trend of higher proportion of admitters sexually recidivating). Sequential Cox regression results including time at risk: Denial sig. (HR = 0.73)** (deniers sexually recidivating at lower rates).	Denial x risk <i>ns</i> (HR not reported).
Peters & Nunes, (2018)	320	Offender subtype not reported.	“Offender has admitted responsibility for any previous sex offence” (Dichotomous; reverse scored).	Modified Static-99R (Helmus, Thornton, Hanson & Babchishin, 2011). Measure divided by Antisocial and Sexual deviance factor structure.	Denial sig. (OR = 0.51)*. (Deniers sexually recidivating at lower rates).	Denial x sexual deviance risk sig. (OR = 1.63)*. (Denial associated with greater rates of sexual reoffending for highly sexually deviant and lower rates for low sexual deviant offenders).

Note. * $p < .05$. ** $p < .01$ *** $p < .001$.

There are several potential explanations for the varying pattern of results found over studies examining denial's relationship with risk and sexual recidivism, including the wide-ranging definitions as to what constitutes denial. More broadly in the sexual offender literature denial has been conceived of, as well as operationalized as simply an offender denying committing an index offence or their offence history (Nunes et al., 2007), referring to the construct as "categorical denial" (Marshall, Thornton, Marshall, Fernandez, & Mann, 2001), "absolute denial" (Barbaree, 1991; Schlank & Shaw, 1996) or "full denial" (Brake & Shannon, 1997). Although slight variations exist between these operationalizations of denial, each refers to a dichotomized group of sex offenders who are either deniers or admitters. Conversely, several researchers have opted to instead conceive of denial as a multifaceted construct, based upon clinical observation, positing that denial is not an all-or-nothing occurrence but varying regarding mechanisms used to reduce responsibility (Schneider, & Wright, 2004). These conceptualizations have more broadly included aspects of offenders minimizing the impact of the offence, cognitive distortions, reliance on external or internal attributions of blame or responsibility for offending, denial of offence planning, denying behavior was wrong as well as denial of sexual deviancy (see Happel & Auffrey, 1995; Levenson & Macgowan, 2004; Lund, 2000; Schneider & Wright, 2001, 2004; Yates, 2009). These varying operationalizations are mirrored in studies examining denial moderated by risk, ranging from a single item reflecting "categorical denial" (Nunes et al., 2007; Peters & Nunes, 2018) to multifactorial operationalizations including aspects of minimization and justification (Langton et al., 2008; Harkins et al., 2010, Harkins et al., 2015). These conflicting definitions of denial (i.e., broad vs narrow) have direct implications for studies examining denial

moderated by risk as they may obscure the relationship between denial, risk and sexual recidivism through inclusion of minimization and other forms of justification/cognitive distortions.

Additionally, over studies there are varying risk measures utilized to examine the interaction between denial and risk. Barbaree, Langton, and Peacock (2006) found through factor analysis that the five most commonly utilized sexual offender actuarial risk measures each loaded onto factors constituting aspects of antisocial risk and sexual deviancy risk to varying extents. These factor analytic findings suggest inconsistency in the item content of sexual offender actuarial risk measures and how the items tap into antisocial and sexual deviance risk, which may lead to inconsistent risk ranks and outcomes over measures (Barbaree et al., 2006; Seto, 2005). Nunes et al. (2007) as well as Langton et al. (2008) both utilized the Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR; Hanson, 1997), which loads almost exclusively on the sexual deviance risk factor (Barbaree et al., 2006). In addition, Harkins and colleagues (2010, 2015) utilized the Risk Matrix 2000/S reflecting risk for sexual violence. Studies examining the concurrent validity of the RM2000/S scale indicate strong correlations with other sexual offending measures, suggesting the scale is tapping into a similar underlying risk construct (i.e., sexual deviancy) (Tully & Browne, 2015). Although the factor structure of actuarial risk measures was only an explicit focus of the study conducted by Peters and Nunes (2018), these studies suggest that denial may specifically interact with risk measures reflecting sexual deviance risk.

Finally, denial's relevance may depend upon the specific type of sexual offender examined. For instance, Nunes et al. (2007) found that denial was associated with

increased recidivism among incest offenders, yet not for offenders with unrelated victims. Thornton and Knight (2007) found denial was associated with increased rates of recidivism for those with adult victims, yet lower rates for those with child victims. Additionally, Harkins et al. (2015) found non-significant trends of lower rates of recidivism for denying offenders with adult victims, along with intrafamilial and extrafamilial child victims. These mixed findings highlight that denial may serve different purposes for different subgroups of sexual offenders, potentially reducing risk for some subgroups or acting as a risk factor for others.

In light of the mixed findings for deniers of varying risk levels, a greater understanding of the relationship between denial, risk, and recidivism can inform the suitability of targeting denial in treatment. Additionally, several theories and typologies of denial have been proposed, with varying reasons, justifications or motivations as to why a sexual offender would deny responsibility for their offence. This suggests deniers may consist of a heterogeneous population with not only varying reasons or justifications for denying but also corresponding underlying differences in their risk profile. As the RNR model advises adapting interventions to target offender's specific risks and needs, understanding how deniers vary in risk and recidivism can inform treatment efforts for varying subgroups of deniers, clarifying the accuracy of theorized models of denial and the utility of risk-based subgroups of deniers in the prediction of sexual recidivism.

Typologies of Denial

Several typologies have been proposed to explain why sexual offenders frequently deny responsibility, including Rogers and Dickey's models of deception (1991). These typologies consist of three models which aim to explain defensiveness among sex

offenders and denial of responsibility: the criminogenic model, the adaptational model, and the pathogenic model. The criminogenic model posits that denial reflects high levels of antisociality among sexual offenders, further evident in their resistance to comply with treatment or assessment (Rogers & Dickey, 1991). There is strong support over several studies that antisocial traits are prevalent among sexual offenders and associated with both treatment failure and sexual recidivism (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005). However, among the few studies which have examined psychopathology, antisociality and denial specifically, the findings generally indicate that admitters demonstrate higher levels of both features relative to deniers (Ware, Blagden, & Harper, 2018; Wasyliv, Grossman, & Haywood, 1994; Lanyon, 1993; Lanyon & Lutz, 1984; Harkins, Beech, & Goodwill, 2010).

Some researchers have found that higher Psychopathy Checklist Revised scores (PCL-R; Hare, 2003) were related to denial, but only among rapists and not child molesters (Thornton, & Knight, 2007). These findings are generally inconsistent with the prediction of the criminogenic model suggesting that all deniers, not just rapists, should display greater levels of antisociality compared to admitters, and consequentially poor treatment outcomes. The findings from Thornton and Knight (2007) and other studies highlighting the greater degree of antisociality among rapists, compared to child molesters, may suggest that this reason for denial is specific to denying rapists who may display greater levels of antisociality (e.g., antisocial personality, antisocial traits, substance abuse, unemployment) as well as psychopathy (Firestone, Bradford, Greenberg, & Serran, 2000; Thornton & Knight, 2007). According to this formulation of denial motivation, several features of these deniers can be hypothesized, including: high

levels of antisociality (i.e., antisocial actuarial risk), history of alcohol or substance problems, rejection of convention (i.e., employment, social isolation; lacking close relationships with others due to antisocial nature), a greater proportion of rapists, and demonstrate unwillingness to participate in sexual offender treatment.

Rogers and Dickey's (1991) adaptational model states that when faced with an adversarial setting, the offender decides that they have more to lose from disclosing or admitting guilt. This model is based upon decision theory, suggesting offenders chose to lie based upon its expected utility and fear of condemnation or legal ramifications (Rogers & Dickey, 1991). As such, if the offender perceives the benefits of denial outweighing the consequences, they will maintain their denial (Blagden et al., 2011a, 2011b). Research conducted by Lord and Willmot (2004) and others provide some support for the adaptational model, finding that denying offenders often deny responsibility following the weighing of several factors to protect themselves. This includes consequences to perception (e.g., negative perception from friends or family, lessened self-esteem), trying to retain freedom, and negative external repercussions (i.e., reprisal) (Lord & Willmot, 2004; Ware & Mann, 2012). Denial and neutralizations more broadly, have also been construed as consistent with cognitive dissonance management, with denial serving to protect one's self-concept by using excuses or justifications to reduce shame and maintain a pre-existing self-concept (Maruna & Copes, 2005). Qualitative research has found some indirect support for this, as deniers frequently hold negative views of sexual offenders and do not view themselves in the same manner (Blagden, Winder, Gregson, & Thorne, 2014). It has further been suggested by Stice (1992) that cognitive dissonance and shame can be reduced through alcohol consumption

to reduce guilt and the dissonance between an individual's self-identity and actions. Accordingly, some deniers may engage in alcohol or drug consumption to reduce or neutralize the incompatibility between their identity and actions, however alcohol and substance use is also associated with antisociality and by extension the criminogenic model.

The motivations behind denial in the adaptational model further coincides with attribution theory and neutralization theory, which both suggest that offenders may reference or blame the victim's actions or rely upon other justifications or excuses as a causal explanation for their actions in order to reduce guilt, anxiety, shame and protect one's self-esteem (Försterling, 1988; Maruna & Copes, 2005; Sykes & Matza, 1957). Denial of responsibility, under this typology can be construed as an offender perceiving the offence in a way to avoid responsibility, claiming the offence was accidental, or due to circumstance (Maruna, & Copes, 2005). Furthermore, some researchers have conceived of denial as a transitional strategy, utilized to protect one's self-concept during periods of change (Janoff-Bullman, & Timko 1987). Nevertheless, this theory of denial may explain why some offenders maintain denial even after being incarcerated, as Mann, Webster, Wakeling, and Keylock (2013) found that incarcerated sex offenders who denied their offenses report fearing the stigma and potential assaults from other prisoners associated with being identified as a sex offender.

Ware and Mann (2012) suggest three reasons why a sexual offender may deny: 1) to maintain freedom, reputation, social status or support from close others; 2) they are attempting to reduce shame and protect their self-esteem; or 3) they intend upon continuing offending and denial is a guise to maintain their deviance. The idea that some

deniers may be motivated to deny due to the associated costs of offending, such as loss of prosocial attachments, is further reflected by the Personal, Interpersonal and Community-Reinforcement perspective (PIC-R) principle 8 which states the rewards and costs for criminal or noncriminal behavior can influence an individual's likelihood of committing a criminal act (Andrews, 1982). This principle is in line with the first reason for denying described by Ware and Mann (2012) and the adaptational model, suggesting some deniers may be motivated to deny due to greater attachment to convention and perceived consequences to admitting responsibility (e.g., stable job prior to incarceration, social support, financial security). As such, deniers under the adaptational model can be hypothesized to have lower levels of actuarial antisocial risk, and contrary to the criminogenic model have greater attachments to convention, leading them to deny in order to protect their self-identity and pro-social attachments (i.e., education, financial stability, job, social support).

The final model, the pathogenic model, is rooted in psychoanalytic theories consisting of offenders suppressing or hiding their impulses and desires. Accordingly, those who suppress aspects of themselves may believe in their claims of innocence. The authors further acknowledge that the pathogenic model and its theoretical roots in psychoanalytic theory have faded in popularity (Rogers & Dickey, 1991). However, the notion that offenders may in fact believe the claims or justifications they make, fits with several theories of denial derived from cognitive schema, cognitive distortion, and neutralization theories. Cognitive theory (Beck, 1964, 1967, 1976) has been implicated as one explanation as to the etiology and purpose of denial and cognitive distortions among sexual offenders (Yates, 2009). Accordingly, attitudes, beliefs, and assumptions about the

world are contained within an individual's cognitive schema and shaped through past experiences. It has been suggested that among individuals who have faced trauma during development, their perceptions can become dysfunctional, inflexible or distorted (Beck et al., 2004). Several cognitive schemas have been proposed which when coupled with risk factors may facilitate an individual believing sexual aggression is acceptable or fitting in certain circumstances (Mann & Beech, 2003; Yates, 2009; Mann & Hollin, 2001). Recontextualizing the pathogenic model of denial as a group of offenders who may truly believe their distorted perceptions of their offences may permit a more parsimonious model of denial, not reliant on hypothetical psychoanalytic constructs (e.g., unconscious denial, repression). In addition, a cognitive theory informed extrapolation of the pathogenic model provides more testable research questions (e.g., do some deniers have a greater probability of past trauma such as physical or sexual victimization in their development?)

Research conducted by Kennedy and Grubin (1992) aimed to examine sexual offender denial among specific subgroups of deniers through a novel method of assessment not solely reliant on offenders' self-report data. These researchers relied upon semi-structured interview techniques to gather the offenders account of their offense, which was then cross-referenced against legal files (i.e., forensic evidence, medical and psychological reports). Offenders were then scored on seven theorized dimensions of denial, on a three-point scale, including: denial of charges, denial of responsibility for offense, internal attribution of blame, external attribution of blame, denial of an abnormal sexual preference, denial of a negative effect on the victim and denial of the need for social sanction (Kennedy & Grubin, 1992). After conducting cluster analysis of the denial

scales, the researchers identified four sub-groups, each associated with different demographic variables (i.e., age, victim sex, psychological distress) coining them ‘rationalizers’, ‘externalizers’, ‘internalizers’, and ‘absolute deniers’ (Kennedy & Grubin, 1992). However, the identified subgroups only comprised of one group who completely denied offence responsibility, with the other groups containing a mix of admitters and deniers. The ‘rationalizers’ were generally willing to admit to their offence but claimed they helped the victim, they were least likely to victimize females, most likely to target an unknown victim, and significantly more likely to display paraphilias (87%), and consist of the highest proportion of those with 2 or more prior sex convictions (67%). The ‘externalizers’ were most likely to blame the victim or third party and deny harming the victim. The ‘internalizers’ admitted causing harm to victim, displayed elevated psychological distress, and had significantly fewer prior sex offences. Finally, the ‘absolute denial’ group consisted predominantly of those who victimized adult females and were least likely to feel as if they could benefit from treatment. Furthermore, ‘absolute deniers’ admitted significantly fewer paraphilias and consisted of a significantly greater proportion of ethnic-minorities. These findings are generally inconsistent with other studies which have attempted to identify criminogenic, demographic and personality features that differentiate groups of admitters and deniers, with some studies finding deniers to be older and having lower IQ scores, and others finding no significant differences (Ware, Blagden, & Harper, 2018; Balwin & Roys, 1998; Langevin, 1988; Haywood & Grossman, 1994).

Gibbons, de Volder, and Casey (2003) aimed to replicate the methodology utilized by Kennedy and Grubin (1992) and assess the cluster typologies previously

found. Examination of the relationship between the scales indicated two groups of intercorrelated variables from the Spearman's ρ correlation matrix (Gibbons, de Volder, & Casey, 2003). The first scale group, referred to as "crime and punishment" consisting of denial of negative effect on victim, responsibility for the offense, need for social sanction, and the need for treatment (Mean $r = 0.45$). Acceptance of responsibility was further highly correlated with acknowledgement of negative effect on victim ($r = .64$), as well as motivation to accept therapy ($r = .53$). The second grouping of variables, which they called "attributional style" indicated a smaller intercorrelation (i.e., denial of abnormal sexual preference, internal and external attributions of blame) (Mean $r = .33$). These scales reflect rational explanations as to why the offender offended rather than the morality regarding their actions. There were two patterns of attributional styles present in the sample the authors utilized, the first consisting of denial of abnormal sexual preference and reference to temporary abnormal internal factors and the second, acceptance of abnormal sexuality and attributions primarily to external/environmental pressures (i.e., reference previous sexual abuse as explanation for sexual preference) (Gibbons, de Volder, & Casey, 2003). Utilizing cluster analysis of the denial variables for non-absolute deniers, the agglomeration coefficient method indicated that the greatest increase of within-group heterogeneity occurred when moving from a two-cluster to a three-cluster model, providing support for the three-subgroup model found by Kennedy and Grubin (1992). In regard to mean denial scale scores between rapists and child molesters, the only significant differences were for internal attributions scale, and denial of abnormal sexual preference scale, with rapists scoring higher on both (Gibbons, de Volder, & Casey, 2003). Among denial groups it was found that the least pervasive

denial group contained a greater number of child molesters, whereas the moderately pervasive denial group of rapists, while the high and absolute denial groups were evenly split between rapists and child molesters. Although broader conceptualizations of denial including minimizations are not the focus of the current study, these findings may suggest that denier subgroups may vary regarding willingness to participate in treatment as well as depending upon specific subtype of sexual offender (i.e., rapist, child molester).

In contrast to the original study, Gibbons and colleagues (2003) found that the labels given to the different groups were not completely accurate, as both the 'internalizer' group and 'externalizer' groups attributed blame using either forms of attribution, but almost exclusively utilized one form (Kennedy & Grubin, 1992; Gibbons, de Volder, & Casey, 2003). In acknowledgement, the authors opted to instead refer to the groups according to the level of denial displayed over the varying scales. The highly pervasive denial group fit closely with the 'externalizer' group in the original study, while the moderate group indicated a stronger reliance on internal attributions than the 'internalizers' in the original study. In respect to the characteristics of the offenses, the least pervasive denial group had a significantly greater number of victims than any of the other groups and were most likely to have offended against the victim on more than one occasion, a potential product of the high proportion of child molesters in this group. In terms of admitting paraphilias, the lowest denying group in both studies were more likely to admit their abnormal sexuality. In addition, the authors found motivation or willingness to take part in treatment to be negatively related to the extent of denial. This finding did not occur within the original study but may further indicate validity beyond the mere face validity inherent in these denial scales (Kennedy & Grubin, 1992; Gibbons,

de Volder, & Casey, 2003). Finally, the low pervasiveness denial group indicated the greatest degree of psychological distress, as measured by the General Health Questionnaire (GHQ-28; Goldberg, 1978) (Gibbons, de Volder, & Casey, 2003). The findings of these studies fit well with both *Neutralization* theory by Sykes and Matza (1957) as well as the Rogers and Dickey's *Psychogenic Model* of denial, postulating that denial serves as a defense against feelings of shame, guilt, or psychological distress. In summation, the authors suggest that these denial groups may not represent qualitatively different groups of deniers, as originally suggested by Kennedy and Grubin (1992), but rather groupings of offenders whose denial relates to differences in the degree and form of cognitive distortions/minimizations utilized. These findings further supplement the theorized typologies by Rogers and Dickey (1991), indicating that deniers may vary in their willingness to take part in treatment, differ in how they negate responsibility for their actions, as well as why they may be doing so (e.g., to decrease psychological distress or shame).

In the greater sexual offender literature numerous variables, including recidivism risk, use of violence, age of victim, motivation, and offender age among others have been utilized in the development of theoretical and statistically developed typologies of subgroupings of offenders (Chu & Thomas, 2010; Ennis, Buro, & Jung, 2014; Kaseweter, Woodworth, Logan, & Friemuth, 2016). As proposed by Gibbons (1975) criminal typologies should be clear, parsimonious, comprehensive, and comprise of mutually exclusive categories in order to be as useful as possible. In acknowledgement of these objectives many studies have turned to person-centered statistical techniques such as latent class analysis (LCA) and latent profile analysis (LPA) to develop typologies

regarding female sexual offenders, violent sexual offenders, among other typologies regarding specific sexual offender populations (Miller, Turner, & Henderson, 2009; Healey, Beauregard, Beech, & Vettor, 2014; Kaseweter, Woodworth, Logan, & Friemuth, 2016). However, no known studies have utilized these techniques to examine the heterogeneity of denying sexual offenders or to determine the applicability of theoretical typologies of denier subgroups utilizing actuarial risk variables and additional variables relevant to denial.

The Current Study

Research on denial's importance to sexual offending, relationship with actuarial risk and recidivism and underlying theoretical function have been explored to varying extents. Although sexual offenders who deny offence responsibility have been studied in varying ways, research on this group of offenders is still limited, with mixed evidence of both its significance and function. The purpose of the current research is to fill current research gaps by assessing denial through person-centered analyses. Specifically, LCA will be utilized to explore the heterogeneity of deniers and uncover whether subtypes of deniers exist in accordance with theorized denial typologies and previously discerned denier subgroups. As mixed evidence suggests that denial may be moderated by risk, items from the Static-99R and VRAG-R reflecting antisocial and sexual deviance risk will be utilized in the construction of the LCA model. This will allow for varying typologies of sexual offender denial to be compared with the identified classes based upon risk-relevant predictors of recidivism. The identified classes will be further be compared utilizing additional variables potentially relevant to denier subgroups discerned by Kennedy and Grubin's (1992) among others to supplement the Static-99R and VRAG-

R, including: Treatment willingness, Attachment to convention, Childhood victimization and Subtype of sexual offender. In addition, two forms of recidivism will be included in follow-up comparisons, sexual and violent (including sexual) recidivism. These denial related variables will be included as distal outcome variables following identification of the correct number of classes and examined to assess their relationship with the identified classes. The inclusion of relevant risk characteristics along with additional denial relevant variables and recidivism outcomes will allow for the examination of classes of distinct denier subgroups and examine the relevance of Rogers and Dickey's typologies of denial. Due to the exploratory nature of this study, I do not propose any specific hypotheses regarding the number of classes.

However, as Rogers and Dickey have proposed three models of deception this may suggest as many as three groups of deniers who vary regarding underlying reasons or motives for denying. If their typology is correct a three class LCA solution of deniers should best fit the data. As acknowledged, prior research has found that the following Static-99R items reflect antisociality: Age at release (young age; Age 18-34.9), Never lived with partner, Index nonsexual violent convictions, Prior nonsexual violent convictions, and Prior sentencing dates (Nunes & Cortoni, 2008; Barbaree et al., 2006). As such, if the criminogenic model is accurate, a group of deniers with higher probabilities on these Static-99R items should be identified in the LCA model. In addition, as substance issues are related to antisociality, VRAG-R Item 3 (History of alcohol or drug problems) should also be probable among these offenders, along with lower probabilities of offenders willing to take part in treatment, attachment to convention and consist predominantly of those with adult victims (i.e., rapists). Although

the adaptational and pathogenic models were not explicitly informed by actuarial risk, utilizing a cognitive theory informed interpretation of the pathogenic model would suggest a group of deniers who may present a mix of sexual deviance and antisocial risk but demonstrate higher probabilities of past sexual or physical victimization. Finally, in line with the adaptational model, a third class of deniers should have the lowest probabilities of antisocial and sexual deviance risk items, no or little previous history of offending (i.e., Static-99R item 4 “Any prior non-sexual violence convictions”, item 5 “Number of prior sex offences”) and as they have something to lose from disclosing responsibility, demonstrate a higher probability of attachment to convention (e.g., employment, higher education, financial stability, social support).

Methods

Sample and Procedures

The sample for the current study has been drawn from an archival dataset consisting of adult male sexual offenders incarcerated and released from Canadian federal prisons during the 1990s. This sample was obtained from a larger sample used in a previous study by Nunes, Hermann, Malcom & Lavoie (2013); denial was not examined in that study. A portion of the dataset was previously utilized to examine denial status (i.e., Admitters vs. deniers), and the moderation of actuarial risk in the prediction of sexual and violent (including sexual) recidivism (Peters & Nunes, 2018). Information for all sexual offenders who deny responsibility for all sexual offences was extracted. Denial was reverse coded from the original dataset under the category of Complete Sex Offence History, and was operationally defined as, “Offender has admitted responsibility for any previous sex offence” (Item 161 in Appendix of Motiuk & Porporino, 1993, p.

100). To enable LCA, only individuals with complete offender data will be utilized for the present study, resulting in a final sample consisting of 134 offenders denying offence responsibility for all past sexual offending (Motiuk & Brown, 1996; Motiuk & Porporino, 1993). This sample reflects a representative sample of all sexual offenders who categorically deny offence responsibility under the supervision of the Correctional Service of Canada for the period in which it was collected (Motiuk & Brown, 1996).

Measures

Indicator Items

Static-99R. The Static-99R (S99-R; Helmus, Thornton, Hanson & Babchishin, 2011) is an actuarial risk assessment scale designed to predict sexual recidivism. It is composed of 10 items: (1) age at release, (2) ever lived with a lover for at least 2 years, (3) any index non-sexual violence convictions, (4) any prior non-sexual violence convictions, (5) number of prior sex offense charges/convictions, (6) prior sentencing dates, (7) any non-contact sex offense convictions, (8) any unrelated victims, (9) any stranger victims, and (10) any male victims. Total scores produced from this measure can range between -3 and 12, with higher scores denoting heightened risk of recidivism.

In the present study, the Static-99R was scored from data derived from the original dataset and additional criminal records provided from the Canadian Police Information Center (CPIC). Limits inherent in the data resulted in Item 2 and Item 5 to be coded with proximal information closest to what the instruction manual requests. For instance, Item 2 (“Ever Lived with lover for at least two years?”) was instead coded based upon marital status at the time of the index offence. Item 5 requested data on both prior sex offence charges and convictions whereas the data only permitted reliable

information regarding convictions. Item 7 (“Any convictions for non-contact sex offences?”) could not be coded, as the requisite information was not included in the data. Items 1, 3, 4, 6, 8 to 10 were scored in accordance with the original coding manual. Due to the missing item, total scores could range between -3 and 9. The total sample of deniers displayed on average a low-moderate total Static-99R risk score ($M = 2.40$, $SD = 2.60$), with a range of scores between -3 and 8 on the measure. For the LCA, two items had to be dichotomously recoded in order to be utilized as indicator variables. Item 1 (“Age at release”) was dichotomized with those between ages of 18-34.9 (Young age) scored as 1 and those 35+ scored as 0 and item 5 (“Prior sex offences”) was dichotomized with those with 1 or more convictions scored 1 and those with no prior convictions scored 0. Table 2 presents the Static-99R items based upon underlying risk factor structure (Nunes & Cortoni, 2008).

Table 2. Static-99R Items

Antisociality	Sexual Deviance
1. Age at release (Young age)	5. Prior sex offences
2. Ever Lived with lover for at least two years	8. Any Unrelated victims
3. Index non-sexual violence – Any convictions	9. Any Stranger victims
4. Prior non-sexual violence – Any convictions	10. Any Male victims
6. Prior sentencing dates (excluding index)	

Note. Item 7 (“Any convictions for non-contact sex offences”) could not be coded. Item division strategy adapted from Nunes and Cortoni (2008).

Violence Risk Appraisal Guide-Revised (VRAG-R). The VRAG-R (Harris et al., 2015) is an actuarial measure consisting of 12 items reflecting different risk factors relevant to sexual and violent reoffending. In the present study, a specific VRAG-R item non-redundant with the Static-99R and potentially related to denier subgroups and

antisocial risk was scored from data available in the original dataset. Item 3 (“History of alcohol or drug problems”) was scored from several proximal items in the original dataset, including: “History of alcohol abuse as a teenager”, “History of drug abuse as a teenager”, “Offender consumed alcohol at time of sex offence or immediately prior to most recent sex offence”, “Offender used drugs at time of sex offence or immediately prior to most recent sex offence”, and “Offender has used alcohol and/or drugs during or immediately prior to any sexual offence.” VRAG-R Item 3 was scored in accordance with the original coding instruction, with scores ranging from -2 to 4. In order to be utilized as an indicator item of class membership it was dichotomized at the median, with those scoring lower than 3 scored 0 and those above 3 points scored 1.

Distal Outcomes: Denial relevant variables

Attachment to Convention. Four aspects of attachment to convention were included in this composite measure: *employment status, financial stability, level of education, social attachment*. Offenders were coded on a five-point scale (0-4), with a 4 denoting yes on each of the four aspects of attachment to convention and a greater degree of attachment to convention. These items were recoded from demographic variables derived from the original dataset. Employment status was recoded from, “Employment status at the time of the current offence.” Financial stability was reverse coded from, “Financial problems during the year prior to current offense.” Level of education was recoded from the item, “College or university prior to current offence.” Social attachment was reverse coded from the item, “A social isolate at the time of the current offence.” Social isolate was coded yes in the original dataset if the offender lacked significant or close relationships with others or has been described as or has admitted to difficulties in

maintaining relationships with others (Motiuk & Brown, 1996). The total sample of deniers displayed a moderate average total attachment to convention score ($M = 2.08$, $SD = 1.16$).

Treatment Willingness. Willingness to take part in treatment is dichotomously coded from the original dataset, recoded from the item, “Offender expressed interest in sex offender treatment program for most recent sex offence.” Offenders were dichotomously coded (0; uninterested, 1; interested in sexual offender treatment). Among those without missing information, ($n = 121$) 36.36% of deniers were willing to take part in treatment.

Sexual Offender Subtype. Offenders were categorized, classified as rapists, child molesters or mixed, using offence type information regarding victim age information recoded from the item, “Victim Age-Sex category.” Among the entire sample of deniers, 77 (57.5%) were exclusively child molesters, 41 (30.6%) rapists and 15 (11.2%) mixed offenders.

Childhood victimization. Offenders history of physical and sexual abuse as children was dichotomously recoded from the items, “Victim of sexual abuse before the age of 16”, “Physical abuse of the offender by parent(s) and/or primary caregiver(s) before the age of 16.” Offenders were scored with a 1 if they had experienced either form of victimization. 50 offenders (37.3%) displayed a history of physical or sexual victimization, and 84 (62.7%) displayed no history of victimization.

Recidivism. Recidivism is defined as a new criminal conviction following release and was previously coded from CPIC records between December 2009 and July 2010 (Malcom, 2011). Two forms of recidivism were coded for based upon CPIC records,

sexual recidivism as well as violent (including sexual) recidivism. Among those with available recidivism data, 15.7% ($n = 21$) had at least one sexual reoffence occurrence and 39.6% ($n = 53$) had at least one sexual or violence reoffence. In terms of recidivism follow-up period, the average was 18.83 years or 226 months ($SD = 34.27$).

Statistical Analysis

Latent class analysis (LCA) is a person-centered statistical technique used on categorical data and was applied to empirically detect qualitatively distinct underlying groups of sexual offenders who deny responsibility for past sexual offences (Collins & Lanza, 2010; Hagenaars & Halman, 1989; Muthen & Muthen, 2000). Multiple indicator variables are used in LCA in order to identify otherwise unobservable individuals' patterns based on indicator variables, elucidating homogeneous groups within the data (Muthen & Muthen, 2000). LCA shares similarities with cluster analysis as it creates classes based upon selected indicator variables, but utilizes the maximum likelihood estimate to model the classes (Muthen & Shedden, 1999; Muthen & Muthen, 2008). Two parameters of importance are produced by LCA: the class membership probabilities of each individual along with class membership probabilities based upon the indicator variables. The proportion of the total sample within each class is reflected by the class membership probabilities whereas the probability that an individual in a given class would endorse or score 1 on an item is reflected by the item probabilities. In the present study, LCA was used to discover potentially distinct underlying subtypes of denying sexual offenders, as well as to explore the predictive ability of the model.

The data were analyzed utilizing SPSS v25 (IBM SPSS, 2017) for the initial stage of data analyses for descriptive and inferential statistics. Exploratory LCA models were

estimated in *Mplus*, v8 (Muthen & Muthen, 1998-2017) statistical software. All models utilized the expectation-maximization algorithm of the robust maximum likelihood estimator (MLR) in order to estimate mixture model parameters (Muthen & Sheddon, 1999; Muthen & Muthen, 2008). In order to ensure the class solutions do not converge on a local solution, 500 random sets of start values were requested for each model along with the best 50 retained for the final optimization. These values were doubled in order to replicate and confirm the final class solution. As this study is examining actuarial risk-based distinctions between deniers, 9 items from the Static-99R and 1 item from the VRAG-R representing sexual offender relevant risk items were selected as the indicator items to define the latent classes. Following entering the risk items as indicator variables a series of models were fit to the data. I elected to run one through five-class models as prior studies have found as many as four distinct subgroups of deniers. Several fit criteria were requested for each class solution in order to compare models of varying numbers of latent classes and to aid selection of the best fitting model (Nylund, Asparouhov, & Muthen, 2007).

In LCA a number of fit criteria are routinely utilized in enumeration procedures to determine the best fitting model solution, including the Akaike information criterion (AIC; Akaike, 1987), Bayesian information criterion (BIC; Schwarz, 1978) as well as the sample size-adjusted Bayesian information criterion (SSABIC; Schwarz, 1978; Sclove, 1987). As these are penalized fit statistics, complex models produce higher AIC, BIC or SSABIC values, thus the model with the lowest value on these fit statistics provides evidence of the best fitting model (Collins & Lanza, 2010). Along with these criterion, I utilized the Lo-Mendell Rubin Likelihood Ratio Test (LMR-LRT; Lo, Mendell, & Rubin,

2001) as well as the Bootstrap Likelihood Ratio Test (BLRT; McLachlan & Peel, 2000) to assess whether the addition of one more class significantly improved the model fit. For both the LMR-LRT and BLRT, a significant p -value indicates that the model with one additional class ($K + 1$) provides a better fit to the data than K class model. For the BLRT criterion 200 bootstrapped samples were drawn for each model. Classification errors were also assessed by inspection of the entropy coefficients, with models with lower classification errors preferred over less accurate models in predicting group membership. The entropy coefficient is an index of class distinctiveness, with potential values ranging between 0 to 1. Entropy values exceeding .8 are understood as indicative of high levels of discriminability between classes (Muthen & Muthen, 2007; Ramaswamy, Desarbo, & Reibstein, 1993). Finally, additional evaluation concerning theoretical and empirical interpretability of each model were considered, with each class solution visually inspected to evaluate the interpretability of each model.

Supplemental Analyses

Following the construction of the baseline model, with the best number of classes determined (Nylund-Gibson & Masyn, 2011), I conducted Pearson's chi-square analyses to compare each of the classes on the indicator variables. These analyses were calculated to identify the distinctive features of the identified classes as well as to confirm that the differences between classes on the indicator variables are statistically significant. I then analyzed additional variables potentially relevant to denial to assess their differential association with class membership. These analyses were conducted to further validate the class solution, providing additional descriptive information on how the denier subgroups vary. Including these additional variables directly in the model could invalidate the

identified mixture model by shifting the latent class variable as it is no longer measured simply by the original indicator variables (Asparouhov & Muthen, 2014). Thus, the pseudo-class method was utilized (Asparouhov, 2010; Clark & Muthen, 2009), specifically the Auxiliary function, to include these additional variables in the model to assess the relationship between classes and the distal outcomes, without shifting the identified latent classes. Following Asparouhov and Muthen's (2014) recommendations regarding the use of auxiliary variables, I utilized Lanza et al.'s (2013) auxiliary function for categorical distal outcomes (i.e., recidivism outcomes, treatment willingness, childhood victimization, sex offender subtype) and the BCH auxiliary function for continuous distal outcomes (attachment to convention). Lanza et al.'s (2013) auxiliary method is based upon draws from the posterior probabilities, producing equality tests across latent classes (Lanza, Tan, & Bray, 2013). The differences between attachment to convention scores were compared using the auxiliary function with BCH weights. This method accounts for any classification error of class membership and avoids class shifting through applying weights to individuals based upon their posterior probabilities of class membership. The modified BCH method is the most robust method for examining relationships between classes and continuous distal outcomes (Bakk & Vermunt, 2016; Bolck, Croon, & Hagenaars, 2004). Both methods avoid potential shifting of the latent classes based upon the inclusion of the additional distal outcome variables. For each auxiliary variable, I evaluated conditional class specific means, based upon the estimated latent class model. Given the small sample size and exploratory nature of the study, each distal outcome variable was entered and analyzed independently.

Results

Underlying Latent Structure

To identify meaningful risk-based subgroups of deniers, I conducted a LCA. Table 3 highlights fit information for the LCA models with one through five latent classes. Examination of the results in Table 3 indicates that the two-class solution has superior fit-criterion values for all criterion relative to the one-class solution, providing evidence of at least two distinct homogeneous subgroups. The two-class solution has the lowest BIC compared to the competing models, with the BIC for the three and four-class models producing slightly higher values. The AIC, SSABIC and BLRT all support the five-class model with the four-class model also producing similar values. The non-significant LMR-LRT p -value for the five-class solution indicates the model is not superior to the four-class solution, whereas the four-class solution is the superior model when compared to the three-class solution. The three, four and five-class solutions each have high entropy coefficients, exceeding 0.80 indicating that the indicator items were highly distinctive among the varying class solutions (Muthen & Muthen, 2007). Taken together, the four-class solution was selected as the best fitting model in describing the inherent subgroups of denying sexual offenders in the population based upon its superior LMR-LRT p -value, similar AIC and SSABIC values to the five-class model and superior overall interpretability of the model relative to the five-class solution.

Table 3.
Fit indices for LCA models with 1-5 classes.

No. of Classes	AIC	BIC	SSABIC	LMR- LRT	BLRT	Entropy
1	1612.67	1641.65	1610.01	-	-	-
2	1518.66	1579.52 ^a	1513.10	.05	<.001	0.85
3	1492.28	1585.01	1483.79	.03	<.001	0.94 ^a
4	1467.75	1592.35	1456.34	.05^a	<.001	0.92
5	1458.08 ^a	1614.56	1443.75 ^a	.35	<.001	0.92

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SSABIC = Sample-size adjusted BIC; LMR-LRT = Lo-Mendell Rubin Likelihood ratio test; BLRT = Bootstrap likelihood ratio test. Bolded values indicate the best model fit was chosen.

^a Best-fitting model according to that criterion.

The item probability plots for the four-class model and class distributions for the sample are presented in Figure 1. As mentioned, the item probabilities reflect the probability that members of a specific class would endorse the indicator items utilized to differentiate the latent classes. These class probabilities provide a descriptive account of the four identified subgroups of deniers. For instance, if a class had a high mean probability for the sixth indicator variable (S99-R Item 6: Prior sentencing dates excluding index), it would suggest that individuals in that specific class had a high probability of prior sentencing dates. Indicator variables in which class member's probability proportions exceed .7 or fall short of .3 are indicative of high or low probability of members endorsing these items (Masyn, 2013).

Figure 1. Conditional item probability profile for the four-class model.

Class 1 accounts for 22.5% of the sample and is distinguished by all members of this denier subgroup endorsing two S99-R items reflective of sexual deviance risk: Any unrelated victims and Any stranger victims. They further displayed a moderate probability of Prior sex offences and a low probability of Any male victims. In terms of items reflective of antisocial risk, these offenders displayed low probabilities on numerous items, including: Age at release (young age; ages 18-34.9), (N)ever lived with a partner, Index non-sexual violence convictions, History of alcohol or drug problems and moderate probability of Prior non-sexual violence convictions. Compared to the other classes these offenders were least likely to have offended against Any male victims and the most likely to have Prior sex offences. Given these patterns of findings this group was *Moderately Sexually Deviant*.

Class 2 consisted of 13.1% of the sample and reflected a group of deniers who were characterized by their level of antisocial risk, with all offenders in this subgroup displaying Prior sentencing dates (exceeding four or more) and the highest probabilities of Prior non-sexual violence convictions. They further had a moderate probability of a History of alcohol or drug problems. Despite their generally antisocial nature they displayed the lowest probability of (N)ever lived with a partner. Across sexual deviance items these offenders displayed low probabilities, including the lowest probability of Any unrelated victims and no probability of Any stranger victims. In accordance with these findings these deniers were labeled *Generally Antisocial*.

Class 3 deniers accounted for 27.6% of the sample and was comprised entirely of offenders between the age of 18-34.9 (Item 1; Age at release) with almost every offender in this group endorsing the item Any unrelated victims. These offenders were marked by a mix of antisocial and sexual deviant risk and were labeled *Diverse Risk*. They further displayed the highest probability of History of alcohol or drug problems, and a moderate probability of Never lived with a partner. Only among Prior sex offences and Any male victims did these offenders display low probabilities.

Finally, Class 4 deniers reflected the remaining 36.7% of the sample and represented a group of deniers with a low-risk profile. These offenders displayed low probabilities across all risk items, demonstrating no probability of Prior sentencing dates or Any stranger victims. This group only displayed one probability exceeding 30% with the item Any unrelated victims. These deniers consistently displayed the lowest probability over the risk items, with the exception of (N)ever lived with a partner and

Any male victims which demonstrated consistently low probabilities among all classes. Given their low-risk profile these offenders were labeled *Generally Low Risk*.

Distinctiveness of Classes on Indicator Items

A series of Pearson's chi-square analyses were then conducted to examine the proportional differences between the four subgroups of deniers across risk items (see Table 4). The comparisons indicated large and significant differences across the classes on all the risk items apart from Any male victims ($\chi^2 = 0.65, p = 0.89$). The proportion of offenders in class 3 who endorsed the Age at release item (100%; $\chi^2 = 72.43, p < .001$) and (N)ever lived with a partner item (57%; $\chi^2 = 23.77, p < .001$) were significantly higher relative to the other three classes. Endorsement of the item Index non-sexual violence (any convictions) was relatively more probable among classes 2 (39%) and class 3 (46%) compared to class 1 (27%) and class 4 (8%) ($\chi^2 = 16.90, p < .01$). Prior non-sexual violence (any convictions) (83%; $\chi^2 = 40.19, p < .001$) were most common among class 2 offenders along with Prior sentencing dates (100%; $\chi^2 = 65.87, p < .001$). Class 1 offenders displayed the highest proportion of individuals endorsing Prior sex offences (37%; $\chi^2 = 16.94, p < .01$), Any unrelated victims (100%; $\chi^2 = 65.98, p < .001$) and Any stranger victims (83%; $\chi^2 = 93.65, p < .001$). A History of alcohol or drug problems was most common among class 3 deniers (87%) but was also relatively prevalent in class 2 (50%) ($\chi^2 = 57.19, p < .001$).

Table 4.

Pearson's chi-square comparisons of four-class solution on item-responses for indicator variables

Item	Class 1 % (n)	Class 2 % (n)	Class 3 % (n)	Class 4 % (n)	χ^2	Cramer's V
1. Age at release	23 (7)	28 (5)	100 (37)	14 (7)	72.43***	.74
2. Never lived with	20 (6)	11 (2)	57 (21)	14 (7)	23.77***	.42
3. Index non-sexual violence (any convictions)	27 (8)	39 (7)	46 (17)	8 (4)	16.90**	.36
4. Prior non-sexual violence (any convictions)	50 (15)	83 (15)	32 (12)	6 (3)	40.19***	.55
5. Prior sex offences	37 (11)	28 (5)	11 (4)	4 (2)	16.94**	.36
6. Prior sentencing dates	53 (16)	100 (18)	30 (11)	0 (0)	65.87***	.70
7. Any unrelated victims	100 (30)	22 (4)	95 (35)	33 (16)	65.98***	.70
8. Any stranger victims	100 (30)	0 (0)	46 (17)	0 (0)	93.65***	.84
9. Any male victims	10 (3)	17 (3)	16 (6)	14 (7)	0.65	.07
10. History of alcohol or drug problems	27 (8)	50 (9)	87 (32)	8(4)	57.19***	.65

Notes. Class 1 ($n = 30$, 22.5%), Class 2 ($n = 18$, 13.1%), Class 3 ($n = 37$, 27.6%) Class 4 ($n = 49$, 36.7%).

* $p < .05$, ** $p < .01$, *** $p < .001$

Distal Outcomes

To test the predictive validity of the risk-based denier classes yielded by LCA I compared these groups over theorized denial relevant variables, recidivism and sexual offender subtype to discern any significant differences between classes. These distal comparisons were conducted utilizing the auxiliary function, with chi-square tests examining the mean or probability differences across the classes on these items reported (see Table 5). The classes significantly differed ($\chi^2 = 86.15$, $p < .001$) over sex offender

type. Class 1 offenders displayed a mix of offenders who victimize children (30%), adults (43%) or a mix of both (27%). Classes 2 (65%) and 4 (93%) consisted predominantly of those with children victims, whereas class 3 consisted predominantly of those with adult victims (61%). Pairwise comparisons of sex offender type revealed significant differences between class 1 and 4 ($\chi^2 = 42.66, p < .001$) and 3 and 4 ($\chi^2 = 41.53, p < .001$). The classes further differed on Attachment to convention score ($\chi^2 = 23.44, p < .001$). More specifically, classes 1 and 4 ($\chi^2 = 4.68, p < .05$) and classes 3 and 4 significantly differed ($\chi^2 = 21.68, p < .001$). No comparisons between Treatment willingness or Victim of sexual or physical violence were significant (see Table 5). The probabilities of recidivism (sexual and sexual/violent) across the four classes were marginally significant for sexual recidivism ($\chi^2 = 7.46, p = .058$) and significant for sexual/violent recidivism ($\chi^2 = 29.07, p < .001$). In terms of sexual recidivism there were no significant pairwise differences. However, there were significant differences between classes 1 and 4 ($\chi^2 = 5.50, p < .05$), 2 and 4 ($\chi^2 = 12.85, p < .001$) along with 3 and 4 ($\chi^2 = 15.45, p < .001$) on sexual/violent recidivism.

Table 5.

Relations of the four latent classes to the outcome variables.

	Offender Victims Type			Denial Relevant Variables			Follow-up Recidivism	
	Child M.	Rapist	Mixed	Treat-Will	S/P Victim	Attach-Con	Sexual	Sexual/Violent
Class 1	0.30 (0.09)	0.43 (0.10)	0.27 (0.08)	0.41 (0.10)	0.37 (0.10)	1.99 (0.25)	0.11 (0.07)	0.40 (0.10)
Class 2	0.65 (0.13)	0.21 (0.11)	0.13 (0.10)	0.22 (0.11)	0.40 (0.15)	1.96 (0.28)	0.27 (0.12)	0.62 (0.12)
Class 3	0.32 (0.10)	0.61 (0.09)	0.07 (0.05)	0.35 (0.10)	0.43 (0.10)	1.51 (0.18)	0.28 (0.12)	0.68 (0.13)
Class 4	0.93 (0.04)	0.03 (0.03)	0.04 (0.03)	0.40 (0.08)	0.33 (0.07)	2.61 (0.14)	0.06 (0.03)	0.14 (0.05)
χ^2		(6) = 86.15***		(3) = 2.15	(3) = 0.79	(3) = 23.44***	(3) = 7.46	(3) = 29.07***
1 vs. 2		(2) = 4.76		(1) = 1.55	(1) = 0.02	(3) = 0.01	(1) = 1.62	(1) = 1.73
1 vs. 3		(2) = 3.96		(1) = 0.12	(1) = 0.13	(3) = 2.22	(1) = 1.33	(1) = 2.27
1 vs. 4		(2) = 42.66***		(1) = 0.001	(1) = 0.13	(3) = 4.68*	(1) = 0.38	(1) = 5.50*
2 vs. 3		(2) = 7.92*		(1) = 0.78	(1) = 0.02	(3) = 1.78	(1) = 0.002	(1) = 0.15
2 vs. 4		(2) = 4.10		(1) = 0.86	(1) = 0.20	(3) = 4.30*	(1) = 2.92	(1) = 12.85***
3 vs. 4		(2) = 41.53***		(1) = 0.14	(1) = 0.65	(3) = 21.68***	(1) = 3.25	(1) = 15.45***

Note: Analyses were performed with BCH and DCAT procedures in Mplus 8. Child M. = Child molesters, Treat-Will = Willingness to take part in treatment; S/P Victim = Victim of sexual or physical violence during childhood/adolescence; Attach-Con = Attachment to convention. Relations between four latent Classes and categorical outcomes presented as probability, Standard Error (SE), and for continuous outcomes; M (SE).

* $p < .05$

** $p < .01$

*** $p < .001$

Discussion

In acknowledgement of the mixed findings of studies examining denial's relationship with actuarial risk, this study sought to explore the heterogeneity of 134 denying sexual offenders through the examination of risk relevant predictors of sexual offending. To address this, I utilized latent class analyses to identify homogeneous subgroups of deniers. As past research has not specifically examined the utility of previously theorized typologies of denier subgroups there were no guiding hypotheses regarding the correct number of classes. Using LCA as a more robust method compared to more traditional cluster analysis (Lubke & Muthen, 2007; Muthen, 2001; Vermunt & Magidson, 2002), a four-class solution revealed the best interpretability and satisfactory model fit. Four distinct groups of deniers emerged using risk items from the Static-99R and VRAG-R: *Moderately Sexually Deviant*, *Generally Antisocial*, *Diverse Risk and Generally Low-Risk*, with the identified subgroups related to varying probabilities on risk items reflective of antisociality or sexual deviancy. Furthermore, results from follow-up comparisons revealed a refined account of the varying relationships between identified subgroups and other denial relevant variables and recidivism outcomes, including: Sex offender subtype, Attachment to convention and two forms of recidivism. However, examination of Treatment willingness and Childhood victimization revealed no significant differences between groups. Examination of distinct risk-based groups of deniers produced unique insights into the potential applicability of previously theorized denier typologies, providing some indication of potential reasons why sexual offenders may deny responsibility.

Class 1 deniers, referred to as *Moderately Sexually Deviant* reflected a group of deniers who displayed predominantly aspects of sexual deviance risk and low

probabilities on many antisociality specific risk items. These deniers were further characterized by every offender in this group having offended against Unrelated and Stranger victims. In terms of subtypes of sexual offenders, this group displayed the greatest variability of offenders with different victim types, consisting of 30% child molesters, 43% rapists and 27% mixed victims. Furthermore, these deniers displayed the greatest probability of the four-classes of containing offenders who have victimized both adults and children, highlighting the lack of specificity of victim type among these deniers. Of the four classes, the *Moderately Sexually Deviant* deniers displayed the greatest probability of Treatment willingness, although non-significantly greater than the other classes. Their rates of recidivism were 11% for sexual offences and 40% for sexual (including violent) offences.

These deniers did not fit with any of the models proposed by Rogers and Dickey (1991). Furthermore, this profile is somewhat inconsistent with a previous study (Peters & Nunes, 2018) which examined denial moderated by risk, finding deniers with high levels of sexual deviancy to be associated with elevated odds of sexual recidivism. However, Peters and Nunes (2018) dichotomized a modified Static-99R consisting of sexual deviancy items in order to compare deniers above and below the median. As these offenders displayed high probabilities on only two sexually deviant risk items, it is likely many of these deniers would not score as high-risk on measures reflective of sexual deviancy. Their elevated rates of sexual (including violent) recidivism are also somewhat surprising given their low probabilities of endorsing many of the antisocial items. They did however display a higher, albeit moderate probability, of Prior non-sexual violence

convictions compared to Prior sex offences indicating these deniers pose a greater risk for violent (including sexual) recidivism than sexual alone.

Class 2, termed *Generally Antisocial*, consists of a group of deniers who were characterized by their antisocial nature. These offenders were likely to be older, display persistence with their offending behaviour with every offender displaying four or more Prior sentencing dates, a moderate probability of a History of alcohol or drug problems and a high probability of Prior non-sexual violence convictions. Furthermore, these deniers were most often child molesters (65%), with a low probability of victimizing Unrelated victims and no probability of Stranger victims. This suggests that these offenders consist of a high proportion of intra-familial child molesters or those who know their victims. Although non-significant, these deniers were also least likely to be willing to take part in treatment. Their unwillingness to take part in treatment is in accordance with the Criminogenic model, which posits that antisocial deniers should be unwilling to do so (Rogers & Dickey, 1991). Interestingly, although these offenders displayed high rates of sexual (27%) and sexual (including violent) recidivism (62%) they represented only 13.1% of the sample. This finding suggests that this group of more antisocial child molesters are relatively rare among denying sexual offenders. These findings also fit with other studies which have found recidivistic child molesters are likely to display criminal versatility, engaging in not only sexual offences but also non-sexual violence (Looman & Abracen, 2010; Nilsson et al., 2014; Nunes et al., 2007). In line with Hanson and Morton-Bourgon's (2005) observation, sexual offenders most likely to recidivate appear to be a group of persistent sexual offenders displaying an antisocial orientation, substance issues and likely impulsive with self-regulation issues.

Class 3 offenders, called *Diverse Risk*, consisted of a group of deniers who displayed a mix of sexual deviance and antisocial risk. They were all younger (between ages 18 and 35), predominantly rapists (61%) and almost always offended against Unrelated victims and displayed evidence of a History of alcohol or drug problems. Around one third of *Diverse risk* deniers consisted of child molesters (32%). Furthermore, these offenders were moderately unlikely to have ever lived with a partner, with few *Diverse Risk* deniers having committed prior sex offences. These offenders further displayed significantly lower levels of Attachment to convention relative to *Generally Low-risk* deniers and the lowest levels overall. These findings are generally consistent with the Criminogenic model as well as other studies suggesting that Criminogenic deniers should display aspects of antisociality, substance issues, rejection of convention and reflect a greater proportion of rapists (Firestore, Bradford, Greenberg, & Serran, 2000; Rogers & Dickey, 1991; Thornton & Knight, 2007).

Finally, class 4 offenders reflected a group of deniers with a low-risk profile, referred to as *Generally Low-Risk*. These offenders were predominantly over the age of 35, unlikely to have either Index non-sexual violence or Prior non-sexual violence convictions, Prior sex offences or evidence of a History of alcohol or drug problems. Furthermore, among these deniers there was no offenders with four or more Prior sentencing dates or offences against Any stranger victims. However, around one third of these deniers had offended against Any unrelated victims. In terms of types of sexual offenders, this group overwhelming consisted of child molesters (93%). *Generally Low-Risk* deniers demonstrated the lowest rates of sexual (6%) and sexual (including violent) (14%) recidivism. They further displayed significantly higher levels of attachment to

convention compared to the other denier subgroups. These findings are consistent with the Adaptational model and theories of pro-social attachment, with these offenders consisting of a group of deniers with a low-risk profile, including a lack of prior violent or sexual offences, and greater levels of Attachment to convention (Andrews, 1982; Rogers & Dickey, 1991).

The results of the current study add support to the characterization of deniers as a heterogeneous group and highlight the risk-based distinctions evident amongst denier subgroups. Furthermore, this study contributes to research which has theorized potential underlying distinctions and reasons as to why deniers may deny responsibility for their offences. Specifically, through the inclusion of denial relevant variables and sex offender actuarial risk items I was able to provide some evidence of the applicability of Roger and Dickey's (1991) models of deception. Rogers and Dickey (1991) theorized that deniers fall into one of three different types (i.e., Criminogenic, Adaptational, Pathogenic) based upon their motivation for denying. However, as shown using LCA, deniers may be better understood through four distinct subtypes with varying risk profiles. The findings add preliminary support to the Adaptational model through the identification of *Generally Low-risk* deniers who exhibited higher levels of attachment to convention and little evidence of prior offending. In addition, two groups of deniers emerged which pertained to the Criminogenic model, the *Generally Antisocial* and *Diverse Risk*. The *Generally Antisocial* group displayed elevated levels of antisocial risk, in accordance with the Criminogenic model. However, contrary to past research (Thornton & Knight, 2007) highlighting the antisocial nature of rapists, this subgroup consisted primarily of child molesters and displayed moderate levels of Attachment to convention. Conversely, the

Diverse Risk group displayed moderate to high levels of antisocial risk, the lowest levels of Attachment to convention and consisted primarily of rapists, in line with the Criminogenic model. However, these offenders also displayed some indications of sexual deviance risk. These variations suggest that some offenders who may be classified as Criminogenic based upon Rogers and Dickey's (1991) typology instead fall into one of two subtypes of deniers when examined by risk profile. Finally, the non-significant results for Childhood victimization did not support the cognitive theory informed interpretation of the Pathogenic model.

Implications

Researchers examining sex offenders have frequently attempted to type sex offenders for varying purposes (see Miller, Turner, & Henderson, 2009). One important reason to do so is to provide guidance for treatment and management efforts for differing groups of sexual offenders using variables which have direct treatment relevance, such as actuarial risk distinctions. In line with this aim and the RNR model, this study highlights key risk-based differences between identified groups of deniers. These risk-based distinctions highlight the complexity of varying denier risk profiles and provide preliminary direction for which subgroups of deniers pose the greatest risk of recidivism. Despite the common practice of excluding denying sexual offenders from treatment efforts, these findings indicate that *Generally Antisocial* and *Diverse Risk* deniers pose the greatest actuarial risk and rates of both sexual and sexual (including violent) recidivism. Thus, these deniers should receive the most attention in rehabilitative efforts. More specifically, these two groups of deniers displayed the highest probabilities of items reflective of antisociality, including a History of alcohol or drug problems. As the

VRAG-R item (“History of alcohol or drug problems”) is scored based upon alcohol or drug issues during adolescence and substance use involved in the current and previous offences, it is likely that substance issues may be a significant issue for these deniers and tied to their offending behaviour. Indeed, substance issues are one of the central eight risk factors of criminality (Andrews & Bonta, 2006, 2010; Bonta, Blais, & Wilson, 2014), with many studies finding violent offenders report a high frequency of alcohol or drug use at the time of their offending (Greenfeld & Henneberg, 2001; Kazemian & Le Blanc, 2004; Martin, Bryant & Fitzgerald, 2001). Research consistently indicates that around 50% of convicted rapists, adolescent perpetrators of sexual assault and college men who have committed sexual assault consumed alcohol in the commission of their crimes (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004). As sexual offenders who use alcohol tend to be more impulsive, use alcohol during sexual events and share similar attitudes about use (Abbey et al., 2004), efforts aimed at alleviating these deniers’ risk for future offending should address their use of alcohol or drugs.

Limitations and Strengths

This study has a few limitations which should be noted when considering the findings. Although there are no clear guidelines concerning the appropriate sample size to conduct a LCA, the sample was on the smaller side which may have limited the statistical power to detect small differences between subgroups. For instance, the probabilities for the item Any male victims were very low for all subgroups, which may lead to difficulty in discerning statistically significant differences amongst this small sample. However, other studies examining specific subpopulations of sexual offenders have been conducted with similar sample sizes (see Kaseweter, Woodworth, Logan, & Friemuth, 2016;

Pedneault, Harris, & Knight, 2012). Additionally, as the study was conducted on a sample of only denying sexual offenders, it is impossible for the LCA to identify additional classes that may exist in the population if there are no individuals reflective of those subgroups within the sample. Thus, the identified subgroups only reflect sex offenders who deny responsibility for their sexual offences as opposed to admitting sexual offenders. As studies examining denial, demographics and psychological distinctions have typically compared deniers with admitters (Bardwin & Roys, 1998; Nugent & Kroner, 1996), our intention was to specifically examine deniers alone in order to add to the scarcity of information concerning their heterogeneity. Nonetheless, replication of these analytical methods with a larger sample of both admitters and deniers could provide further guidance as to the distinctiveness of these risk-based subgroups and whether admitters display similar patterns of risk and recidivism. In addition, inferring deniers' potential motivations for denying their offences based upon their risk profile and endorsement of additional denial relevant variables is difficult and the results of this study should be interpreted with this limitation in mind. This study is limited in the variables which could be included in the analysis due to its archival nature. Future studies could utilize more direct measures reflecting offenders' potential motivations or forms of denial and minimization, including how they minimize responsibility for their offending behaviours (e.g., blaming victim, referencing external factors).

The Static-99R is a well-validated measure in the assessment of both violent and sexual recidivism, with items assessing aspects of antisocial and sexual deviancy risk. However, in certain instances the Static-99R coding was modified, utilizing proximal information for certain items or removal of the item ("Any convictions for non-contact

sex offences”) as it could not be accurately coded. More specifically the items (“Age at release”) and (“Prior sex offences”) along with the VRAG-R item (“History of alcohol or drug problems”) were recoded in order to be included as indicator items. Dichotomizing these items may have negative implications for the predictive accuracy of those items, if too many or few individuals received a score of 1 or 0 on these item then they may not be appropriately distinguishing deniers with varying degrees of that risk factor, potentially decreasing the predictive power of the items (Hunter & Schmidt, 1990). However, despite these limitations, we were still able to identify four subgroups, indicating that the LCA was still able to discern statistically significant risk distinctions between the classes over the varying item probabilities, even among a small sample.

This study also has a number of strengths. As previous mentioned, prior research has theorized potential reasons as to why sexual offenders frequently deny offence responsibility. However, few studies have attempted to examine the applicability of these subtypes and typologies of deniers. Thus, to my knowledge this study was the first to empirically derive a typology specific to denying sexual offenders through examination of their unobserved heterogeneity. Using LCA I was able to discover previously unknown distinctions between denier subgroups and clarify the relationship between these subgroups over Attachment to convention and recidivism. Although these findings are exploratory, they provide a nuanced picture of the risk distinctions evident among deniers, providing further evidence of the heterogeneity of this population and associated rates of recidivism.

Future Directions

The results of this exploratory analysis highlight the utility of LCA to discern key distinctions between denying sexual offenders and distinctions in terms of risk and recidivism. Future research is needed that further validates the patterns that were identified in this study and that explores whether these distinctions and unique patterns of risk are similarly applicable to admitters or are unique to deniers. Future research could also explore additional items from other well validated sexual offender actuarial risk measures or additional variables pertinent to deniers' varying motivations for denying. The extent to which perpetrators remain within a specific subgroup over time could also be examined through longitudinal research designs.

In conclusion, the findings clearly indicate that considerable distinctions in risk are evident amongst deniers. This suggests the practice of excluding or removing deniers from treatment is ill-advised. Research could further examine the utility of these subgroups for informing treatments aimed at addressing the specific risks and needs evident among subgroups. Evidence supportive of these identified risk-informed subgroups could contribute to a better understanding of the heterogeneity of denying sexual offenders, suggesting which groups require the most intensive rehabilitation efforts and addressing relevant risk factors evident amongst denier subgroups, in accordance with effective rehabilitation principles (Andrews & Bonta, 2010).

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Appendix A

Static-99R

Question Number	Risk Factor	Codes		Score
1	Age at release	Aged 18 to 34.9 Aged 35 to 39.9 Aged 40 to 59.9 Aged 60 or older		1 0 -1 -3
2	Ever Lived With	Ever lived with lover for at least two years? Yes No		0 1
3	Index non-sexual violence - Any Convictions	No Yes		0 1
4	Prior non-sexual violence - Any Convictions	No Yes		0 1
5	Prior Sex Offences	Charges 0 1,2 3-5 6+	Convictions 0 1 2,3 4+	0 1 2 3
6	Prior sentencing dates (excluding index)	3 or less 4 or more		0 1
7	Any convictions for non-contact sex offences	No Yes		0 1
8	Any Unrelated Victims	No Yes		0 1
9	Any Stranger Victims	No Yes		0 1
10	Any Male Victims	No Yes		0 1

Appendix B**VRAG-R Item 3**

Risk Factor	Codes	Score
HISTORY OF ALCOHOL OR DRUG PROBLEMS	___ Alcohol problem before age 18 ___ Illegal drug problem before age ___ Alcohol involved in prior offense ___ Illegal drug involved in prior offense ___ Alcohol involved in current offense ___ Illegal drug involved in current offense	< 3 points = -2 3 points = 0 4 points = +1 > 4 points = +4