



Multiple murder and criminal careers: A latent class analysis of multiple homicide offenders

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ABSTRACT

Purpose: To construct an empirically rigorous typology of multiple homicide offenders (MHOs).

Method: The current study conducted latent class analysis of the official records of 160 MHOs sampled from eight states to evaluate their criminal careers.

Results: A 3-class solution best fit the data ($-2LL = -1123.61$, Bayesian Information Criterion (BIC) = 2648.15, $df = 81$, $L^2 = 1179.77$). Class 1 ($n = 64$, class assignment probability = .999) was the low-offending group marked by little criminal record and delayed arrest onset. Class 2 ($n = 51$, class assignment probability = .957) was the severe group that represents the most violent and habitual criminals. Class 3 ($n = 45$, class assignment probability = .959) was the moderate group whose offending careers were similar to Class 2.

Conclusion: A sustained criminal career with involvement in versatile forms of crime was observed for two of three classes of MHOs. Linkages to extant typologies and recommendations for additional research that incorporates clinical constructs are proffered.

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1. Introduction

Criminology abounds with typologies that seek to describe relatively homogeneous groupings of criminals. Admittedly, these classification systems face a difficult task because offenders tend to commit versatile forms of antisocial behavior that do not fit exclusively into discrete groups [1,2]. This issue is particularly pronounced in homicide studies, which often contain variably defined groups including serial killers, mass murderers, spree killers, lust murderers, murderesses, organized killers, disorganized killers, and the like. To illustrate, Hickey [3, p. 225] observed that, “depending on the authority one chooses to read, one will find between two and eleven different types of murderers. Some typologies of murder are descriptions of causation, whereas others are diagnostic in nature.”

There are other potential limitations to typologies of homicide offenders. First, the typology is dependent on the researcher’s purpose in creating it—whether for academic publishing or applied

profiling. These different purposes often require different types of variables, such as childhood background, modus operandi, signature, victim selection, paraphilias, and others. Second, the typology is empirically driven by the study group or data that the researcher has. Since data on homicide offenders are not freely available, datasets are commonly derived from news archives [4,5]. For all of these reasons, it is unclear if various typologies of homicide offenders are marked more by similarity or difference. As Fox and Levin [4, p. 442] noted, “Typologies of serial and mass murder often have a troubling but unavoidable degree of overlap among their categories.”

The current study seeks to empirically advance the typological study of homicide offenders. We attempt to identify subgroups of multiple homicide offenders (MHOs) using latent class analysis to form an empirically based taxonomy. Latent class analysis is advantageous because it is able to identify underlying taxonomic structures in data based on unobserved factors. Rather than creating nominal variables of homicide offenders based upon limited data from news reports, we can generate a taxonomy that stems from the criminal behavior of a sizable sample of offenders that have murdered at least two victims. Before delving into the current study, the literature review describes prior typological studies of homicide offenders with an emphasis on those that murdered multiple victims.

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2. Literature review

An array of theoretically and empirically based typologies of homicide offenders exists. Holmes and DeBurger [6] developed one of the most popular typologies of serial killers, defined as offenders that murder at least three victims with stoppages or “cooling-off” periods between the homicides. The typology centers on the motives for killing of four distinct types. *Visionary murderers* are believed to be actively psychotic at the time of their killing and are motivated by either good or evil hallucinatory voices or visions. *Mission-oriented killers* are motivated to remove certain groups of people from society, such as prostitutes [7]. *Power/control-oriented killers* are motivated by the desire to experience the feeling of life-or-death control over their victims. *Hedonistic killers* are theorized to derive psychological satisfaction or thrill from the act of killing (hedonistic killers were further classified into two subgroups called *lust killers* and *thrill killers*).

Canter and Wentink [8] empirically tested this typology using homicide crime scene data. Overall, case characteristics from crime scenes were difficult to match to the proposed typology primarily because it was impossible to make inferences about the motivation of the offender. Holmes et al. [9] further developed this typology and applied it to female serial killers. In addition to the aforementioned visionary, hedonistic, and power/control-oriented murderers, Holmes et al. advanced that *comfort serial killers* are motivated to murder for purely material reasons as opposed to psychological gain or to satisfy a paraphilic urge. They also postulated that serial killers are likely to be sociopathic or present some other psychopathological condition.

Holmes and Holmes [10,11] developed a multiple category typology for mass murderers who were defined as offenders who killed at least three people at one time and location. Once again, the typology was driven by the apparent motivation and targeted victims of the killer. The major types of mass murderers are the pseudo-commando (a weapons obsessed person who slaughters random victims), the disciple (the follower of a charismatic leader), the family annihilator (one who destroys his or her family), the religious/ideological killer (a killer driven by their value or belief system), the disgruntled citizen (one who targets people with whom he or she perceives a grievance, usually at work), the set-and-run killer (time bombings or anonymous poisoning of medicine or other public products), the psychotic mass killer, and youthful school shooter.

Myers et al. [12] extended and somewhat challenged some of the prevailing typologies of homicide offenders. According to Myers et al., although motivations such as power, control, and anger directed against a symbolically meaningful group are important, sexual sadism is the ultimate motivating factor behind serial murder. Serial murderers kill to satisfy a paraphilic disorder that inextricably links sexual activity with mortal violence directed against the victim [13]. Indeed, Myers et al. advanced that serial killers should be considered a type of sex offender.

Undoubtedly, the most comprehensive typology of both single and multiple homicide offending is the *Crime Classification Manual* developed by the Federal Bureau of Investigation's National Center for the Analysis of Violent Crime (NCAVC) [14]. The purpose of the *Crime Classification Manual* is to standardize terminology within the criminal justice field, facilitate communication between criminal justice and mental health practitioners, serve as an educational tool, and develop a database for investigative research. Criminal intent is the basis for classifying three crimes, homicide, arson, and rape/sexual assault. The criminal intent categories are criminal enterprise, personal cause, sexual intent, and group cause. Douglas et al. [14] defined 42 types and subtypes of homicide, including contract killing, gang-

motivated murder, product tampering homicide, felony murder, erotomania-motivated murder, domestic homicide, cult murder, extremist murder, and dozens more. Each type of murder is classified according to its defining characteristics, victimology, crime scene indicators frequently noted, staging, and common forensic findings. Moreover, investigative considerations and suggestions for search warrants are provided. The typological approach of the *Crime Classification Manual* was developed from actual case files of the FBI and was intended to serve investigative and profiling functions.

One of the important distinctions in the *Crime Classification Manual* is the idea of organized vs. disorganized killers. Organized killers are characterized by good to high intelligence, high birth-order status, masculine image, and charisma. They tend to be socially and sexually capable, occupationally and geographically mobile, live with a partner, have experienced harsh discipline, control their emotions during crime, and have a high interest in media responses to crime. Disorganized killers are characterized by below-average intelligence, birth-order status, and social immaturity. They seldom date, are often high school dropouts, live alone, had an unemployed father, are nocturnal, and have secret hiding places. Disorganized killers live or work near their crime scenes, are unskilled laborers, and have little interest in media attention. They have high anxiety during their crimes, limited alcohol consumption, and demonstrate significant behavioral change after their murder [14–17].

Using NCAVC data, Dietz, Hazelwood, and Warren [18,19] constructed a typology of the sexually sadistic serial killer developed from twenty offenders that had murdered at least three victims. The offenders' behavior was consistent and characterized by meticulous planning of the killing; torture, bondage, and various sexual acts; and strangulation or stabbing as the manner of death. Offenders reported that they enjoyed the feeling of power and control of victims' lives and were driven by the paraphilia sexual sadism.

Although these typologies are rich in their attention to the likely motives and criminal profile of multiple homicide offenders, they are rarely empirically developed and tested. Recently, a handful of researchers [20–22] suggested that the study of homicide offenders should move beyond the theoretical development of typologies to more methodologically sophisticated examinations [4]. Two core arguments, one empirical and one conceptual, typify this recent research. The first is that reliable, datasets of homicide offenders should be assembled for the purpose of multivariate analysis of murderers vis-à-vis other criminals. The second is that linkages should be made between the criminal histories, offending correlates, and other background factors of homicide offenders and non-homicide offenders. Specifically, attempts to integrate the study of homicide with broader theoretical perspectives, such as the life-course, psychopathy, or criminal career models, should be made. For instance, Dowden [21] found that approximately 95% of the research on multiple homicide pertains to serial and mass murders, and that little research rigorously attempts to understand homicide studies within a more global criminological context. The current study seeks to fill this void.

3. Methodology

3.1. Sample and data

Extreme offenders, such as homicide offenders, are relatively rare in number, scarcely found in conventional probability samples, and necessitate correctional samples with access to official criminal records [23–25]. The current study uses a sample of 160 convicted and currently incarcerated felons who murdered at least two victims. These data are a subset of a larger exploratory, stratified purposive sample of 654 convicted and incarcerated homicide offenders selected in 2003 from eight states spanning the southern, Midwestern, and Atlantic coast areas of the

United States [20]. Among the original sample, 494 offenders were convicted of a single homicide, thus they were excluded from the current goal of developing a latent class taxonomy of multiple homicide offenders.

Offenders were sampled from Arkansas, Florida, Georgia, North Carolina, New Jersey, Ohio, Oklahoma, and Texas. These states were selected because they provided biographical information (e.g., name, sex, race, and date of birth) on homicide offenders that could be used to purchase their publicly available criminal records. Records contained arrest, judicial, and correctional information and were produced by a clearinghouse with access to criminal justice information in 45 states and Washington, DC. The records service updated its database monthly producing criminal records that although not as reliable as National Crime Information Center (NCIC) “rap-sheets” were valid measures of the offenders’ official criminal history [20,26–29].

3.2. Measures

The dataset contained an assortment of demographic, criminal history, and current offense variables.

Sex: Although some MHOs are females [9,30–31], the overwhelming majority of them are males. Similarly, the current sample is 97% male ($n = 155$) and 3% female ($n = 5$).

Age: MHOs tend to be older than most conventional criminal offenders ([32–33]). The current sample was similarly older than most offender samples ($M = 39.6$, $SD = 9.84$, $Range = 20–78$). Age was recorded as the age when the offender was arrested for their most recent homicide event.

Race and ethnicity: Although the most notorious MHOs (e.g., Ted Bundy, Jeffrey Dahmer, John Wayne Gacy, and Gary Ridgway) have been Caucasian, MHOs come from an array of ethnic backgrounds [32,34]. Four dichotomous racial groups were created: Caucasians ($n = 69$, 43.1%), African Americans ($n = 69$, 43.1%), Hispanics ($n = 15$, 9.4%), and a residual category ($n = 7$, 4.4%) comprised of offenders from Middle Eastern and Asian descent.

Arrest onset: Although age at first arrest is delayed among MHOs compared to other serious offenders [4], an early onset is one of the most powerful correlates of habitual and serious criminal offending [35–37]. Onset was operationalized as a ratio-level variable ($M = 21.8$, $SD = 6.98$, $Range = 14–50$) measuring age at first arrest.

Contemporaneous offenses and criminal history: Because MHOs frequently commit other crimes during the course of murdering their victims, DeLisi and Scherer [20] also collected data on several contemporaneous offenses. Four of these offenses, drug violations ($M = .04$, $SD = .25$, $Range = 0–2$), rape ($M = .38$, $SD = 1.26$, $Range = 0–13$), weapons offenses ($M = .29$, $SD = 1.73$, $Range = 0–21$), and burglary ($M = .54$, $SD = 1.04$, $Range = 0–6$), were included in the current analyses. Seven measures of prior conviction history of criminal justice status were significant in t -test or logistic regression models in the study by DeLisi and Scherer [20]. These were prior prison sentences ($M = 1.54$, $SD = 1.92$, $Range = 0–9$), felony convictions ($M = 3.01$, $SD = 3.81$, $Range = 0–22$), parole sentence ($M = 1.84$, $SD = 2.48$, $Range = 0–15$), robbery ($M = .46$, $SD = 1.17$, $Range = 0–10$), aggravated assault ($M = .44$, $SD = 1.22$, $Range = 0–8$), burglary ($M = .66$, $SD = 1.56$, $Range = 0–10$), and larceny ($M = .76$, $SD = 1.40$, $Range = 0–17$). Additional data on the number of victims killed by the homicide offenders, prior arrest history, and other correlates appear in Table 1.

3.3. Analytical plan

Because the study sample represents a relatively large sample of multiple homicide offenders, this research offers a unique opportunity to develop an empirically based taxonomy. As mentioned above, the initial objective was to utilize variables from the DeLisi and Scherer [20] study that were found to be significant in either t -tests or in logistic regression models to differentiate single vs. multiple homicide offenders in order to form meaningful homogeneous latent classes. The contribution of indicator variables (i.e., measurable characteristics actively involved in class formation) in forming homogeneous profiles was assessed in an iterative process until all indicator variables were statistically significant (see Table 2). It is important for indicator variables to be statistically significant in order to conclude that these variables are contributing to the discrimination between latent classes. The R^2 values in Table 2 illustrate how much variance in each indicator variable is explained by the latent class solution, in the present case the 3-class solution.

Latent variable analysis whether in the form of latent class analysis (LCA), latent class growth analysis (LCGA), latent transition analysis (LTA), or other variants of finite mixture modeling have become increasingly popular methods because of their ability to identify underlying structures in data based on unobserved quantities [38]. Latent variable modeling possesses numerous advantages not found in the related techniques of k -means or hierarchical cluster analysis. For example, latent variable modeling does not rely on common assumptions that are easily violated, such as normality and linearity. Moreover, latent class models rely on person-based or case probabilities as opposed to distance or ad hoc probabilities to form maximum likelihood derived classes and subsequent goodness-of-fit indices. Similar to cluster analysis, however, final class solutions depend entirely on variables that are originally entered into the analysis.

Table 1
Sample characteristics of multiple homicide offenders ($N = 160$).

Variable	N (%)	M (SD)	Range
Gender			
Male	155 (97%)		
Female	5 (3%)		
Ethnicity			
African-American	69 (43.1%)		
White	69 (43.1%)		
Latina/Latino	15 (9.4%)		
Multiethnic/other	7 (4.4%)		
Age		39.6 (9.8)	27–78
Age of onset (arrest)		21.8 (6.9)	14–50
Prevalence (homicide victims)			
2	104 (65.0%)		
3	39 (24.4%)		
4	8 (5.0%)		
5	4 (2.5%)		
6	2 (1.3%)		
7	1 (0.6%)		
8	1 (0.6%)		
9	1 (0.6%)		
Prior arrests			
0	61 (38.1)		
1	11 (6.9)		
2	13 (8.1)		
3	16 (10.0)		
4	12 (7.5)		
5	7 (4.4)		
6	11 (6.9)		
7	4 (2.5)		
8	5 (3.1)		
9	4 (2.5)		
10 or more	16 (10.0)		

The final indicator variables (see Table 2) were prior prison sentences, prior parole sentences, prior felony convictions, and prior burglary, robbery, aggravated assault, and theft convictions. In latent class analysis, covariates can be entered simultaneously with indicator variables without the additional computational steps necessary with traditional cluster analytic procedures. Models were run using Latent GOLD[®] 4.0 software [39] with the goal of analyzing one to four classes. We could have included five or more classes but were concerned with maintaining parsimony and clarity in forming profiles. Final optimal class solutions were based on maximum likelihood estimation using the Bayesian Information Criterion (BIC). Lower BIC values indicate model improvement. Additional fit indices such as class error, number of parameters, and entropy were also generated. Class assignment probabilities were also examined to assess class homogeneity. We also employed bootstrapping methods to compare model fit between final class determinations, thus adding increased validation with respect to the final number of formed classes. Bootstrapping is a re-sampling technique that relaxes the assumptions made about the distribution of variables and performs a large number of random iterations to compare fit indices between models [40]. The bootstrapping procedure included 500 random iterations. Finally, class plots and covariates across administrative records profiles were generated to compare classes and describe the final multiple homicide offender profiles.

Table 2
Contribution of indicator variables in discriminating between latent classes of MHOs.

Indicator	Wald	p-value	R ²
Prior burglary	10.81	0.004	20.0
Prior prison	28.53	<.0001	59.3
Prior felony	34.58	<.0001	67.6
Prior parole	26.26	<.0001	53.6
Prior robbery	13.54	0.001	24.8
Prior assault	8.93	0.01	17.3
Prior theft	15.54	0.0004	32.1

Note: Log linear parameter estimates utilized effect coding.

4. Results

4.1. Estimates and assignment probability

Tables 3 and 4 display the results for our one to four class estimates. As shown in Table 3, all four classes show low class error (<0.1%) and high entropy values. Entropy values range from 0 to 1 with values closer to 1.00 indicating greater class separations and homogeneity. Thus, high class entropy assesses the relative “purity” and distinction of class solutions. Examination of BIC values indicates that the 3-class solution (BIC [LL] = 2648.15) is the best fit to the data. Recall that lower BIC values represent improvement over models with higher values. Next, we compared the 3-class solution with the 2-class solution using bootstrapping statistical procedures. Results of this technique confirmed that the 3-class solution was a better fit (-2LL difference = 154.42, $p < .0001$) than the 2-class option. Table 4 reveals the posterior class assignment probability for the 3-class solution. High diagonal values, as readily apparent in Table 4, indicate that the quality of the classification is also high [41].

4.2. Latent class profiles of MHOs

As shown in Fig. 1, the 3-class solution represents a prior offense gradient ranging from low offending (few prior offenses) (Class 1), to moderate offending (Class 3), to high offending (most prior offenses) (Class 2). The severe prior offense subgroup of MHOs (Class 2) had the earliest onset for arrest (mean age = 18.7) and was characterized by numerous felonies ($M = 7.34$, $SE = 0.55$), prison experiences ($M = 3.50$, $SE = 0.27$), and parole violations ($M = 4.29$, $SE = 0.41$). The lowest offending group (Class 1) was relatively free of prior offenses and also had the latest age of onset for arrest (mean age = 25.1). The medium group (Class 3) was more similar to Class 1 except for mean levels of prior felonies, prison sentences, and prior parole violations that followed a pattern similar to Class 2, albeit less severely. The overall disparity between classes in terms of prior offenses is marked and readily apparent, there was no cross-over between classes except for age of first arrest where early to later onset followed the severity-based gradient. Finally, Class 1 showed no previous convictions for murder unlike Classes 2 and 3.

4.3. Further elucidation of classes using covariate characteristics

Table 5 reveals mean scores and percentages across indicator variables and covariates for each class. Estimates for the overall

Table 3
Fit indices for latent classes.

No. of classes	LL	BIC (LL)	Npar	L ²	df	Class error	Entropy
1	-1462.16	3244.05	63	1856.87*	97	0.000	100.0
2	-1200.81	2761.95	71	1334.17*	89	0.013	95.6
3	-1123.61	2648.15	79	1179.77*	81	0.026	94.1
4	-1103.35	2648.25	87	1139.26*	73	0.051	90.8

The bold represents that the 3-class solution was the best fit to the data. LL = log likelihood. BIC = Bayesian Information Criterion. Npar = number of parameters.
* $p < .0001$.

Table 4
Assignment probability by class.

	Class 1	Class 2	Class 3
Class 1	.999	.000	.001
Class 2	.000	.957	.043
Class 3	.001	.040	.959

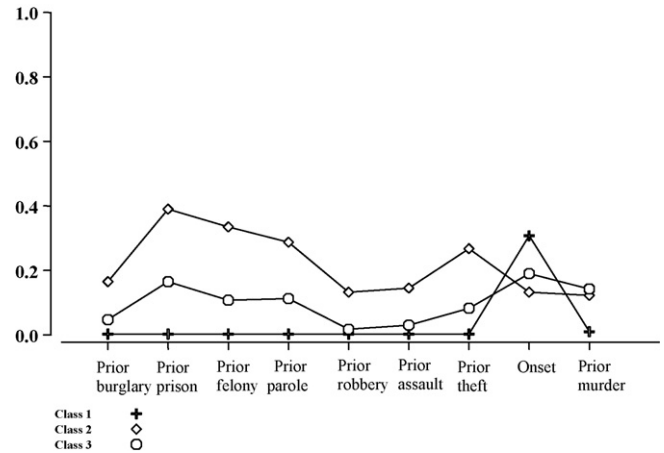


Fig. 1. Profiles of high, moderate, and low offending MHO latent classes. Note: Scale represents standardized mean.

model and differences between classes based on indicator variables were statistically significant ($p < .0001$). This result is expected given the high probability of class assignment and entropy levels. Within the context of MHOs, Class 2 ($n = 51$) was the most serious and was also characterized by higher levels of contemporaneous burglary, rape, and weapons violations. The high offending subgroup was entirely male and predominately Caucasian and African American. Class 1 ($n = 64$) was relatively free of

Table 5
Comparison of prior offenses, demographic, and contemporaneous offenses across classes.

Indicator variables	Class 1 N = 64 M (SE)	Class 2 N = 51 M (SE)	Class 3 N = 45 M (SE)	(χ^2 , F p-value)
Prior burglary	0.01 (0.01)	0.63 (0.33)	0.47 (0.14)	<.0001
Prior prison	0.01 (0.01)	3.50 (0.27)	1.47 (0.18)	<.0001
Prior felony	0.02 (0.02)	7.34 (0.55)	2.32 (0.22)	<.0001
Prior parole	0.01 (0.02)	4.29 (0.41)	1.65 (0.15)	<.0001
Prior robbery	0.01 (0.01)	1.30 (0.25)	0.15 (0.07)	<.0001
Prior assault	0.01 (0.01)	1.15 (0.27)	0.23 (0.08)	<.0001
Prior theft	0.01 (0.01)	1.85 (0.26)	0.57 (0.15)	<.0001
External covariates				
Age	38.1	42.3	38.8	0.01
Age of first arrest	25.1	18.7	20.7	ns
Prior murder	0.02	0.24	0.28	ns
Gender				
Male	0.94	100.00	0.98	ns
Female	0.06	0.00	0.02	
Ethnicity				
Caucasian	0.45	0.44	0.38	ns
African-American	0.36	0.47	0.49	
Hispanic	0.13	0.05	0.11	
Other	0.06	0.04	0.02	
Gang member				
No	0.97	0.97	0.94	ns
Yes	0.03	0.03	0.06	
Prior arrests	3.12	5.09	6.37	0.02
Prior drugs	0.05	0.14	0.13	0.02
Contemporaneous offenses				
Drugs	0.03	0.05	0.03	ns
Weapon	0.11	0.64	0.14	ns
Rape	0.14	0.82	0.22	ns
Burglary	0.45	0.89	0.27	ns

Note: Class 1 means and standard error rounded up to 0.01.

prior offenses and also had the latest age of onset for arrest (mean age = 25.1). This subgroup was also comprised of the largest proportions of females (6%) and Hispanics (13%). Class 3 ($n = 45$), although possessing less prior offenses than Class 2, resembled Class 1 to a greater extent.

5. Discussion

Prior typologies of multiple homicide offenders have centered on the purported motive of the offender, their selection of victims, and psychopathological factors, such as paraphilias [3]. The current study took a different approach. Using a relatively large sample of 160 multiple homicide offenders that had killed at least two victims, our empirically based taxonomy followed recent research [20] that was grounded in the criminal careers perspective and located murder within the larger context of life-course antisocial behavior. The current typology is an improvement over prior efforts in three ways. First, it is empirically based and not the result of speculative categories. Second, it is parsimonious with three empirically distinct classes derived from a large study group of 160 MHOs. Third, the classes are mutually exclusive and reflect important theoretical distinctions found in the extant criminological literature. Of course, the current study did not contain many important variables that would provide insight to the empirical taxonomy developed herein. For example, the offender's motive, victim selection, psychosocial background (e.g., psychiatric diagnoses, abuse and victimization history, psychopathology), and attitudes were unknown. Consequently, matching the current findings to pre-existing typologies is obviously speculative. At the very least, however, we can use extant typologies as a theoretical guide to place our empirical findings in their proper context. In this sense, the current research is exploratory and future attempts to replicate the methods with different data are encouraged.

Three distinct classes emerged. Class 1 was the low offending group characterized by minimal criminal history and an arrest onset at age 25. At face value, Class 1 would appear to contain offenders who unexpectedly “snap” and commit multiple murders. This is reconcilable with Holmes and Holmes' [10–11] “family annihilator” and “disgruntled citizen” types. These are multiple homicide offenders who destroy their immediate family or work colleagues following some perceived, life-changing precipitant, such as work termination or a spouse's desire to divorce the defendant [42]. It is likely, even probable, however, that such offenders are not altogether healthy before the precipitating incident. For example, Palermo [43] examined 49 mass killers whose crimes occurred between 1949 and 1995 and found that their lives reflected severe psychiatric problems, including psychosis, depression, paranoia, and antisocial behavior. According to Palermo, offenders are burdened with these mental health problems and “through the vicissitudes of life, often came to perceive society and/or some of its members as responsible for their personal suffering” [43, pp. 2–3]. Finally, Class 1 also connects with a surprising but consistent finding in the homicide studies literature, namely the equivocal relationship between criminal history and multiple murder. As Fox and Levin [4, p. 449] assessed, “systematic research on the criminal histories of multiple murderers is lacking, among a number of well-known, “boy-next-door” serial and mass murderers, the absence of any prior criminal involvement is conspicuous.” Clearly more research is needed to provide answers as to why some individuals with ostensibly no criminal history escalate to a multiple homicide event. One potential fruitful area for future research is to explore the relationship between psychiatric conditions that may explain the sudden explosion of violence among individuals with no prior

criminal history. Likely candidates are Intermittent Explosive Disorder, Paranoid Schizophrenia, and Delusional Disorder Paranoid Type [52].

Class 2 was the high offending, extreme group characterized by extensive criminal histories, sustained involvement in multitudinous forms of violence, and recurrent contact with the criminal justice system. The 51 offenders in Class 2 averaged more than seven prior felony convictions and nearly four prior prison sentences, had the earliest arrest onset, and were comprised entirely by males. As shown in Table 5, Class 2 offenders were significantly more likely to commit rape, burglary, and weapons offenses in concert with their murders. This is consonant with Myers' [44] investigation of the psychiatric history, criminal history, and family background of sixteen juvenile sexual homicide offenders. Myers found that sexual homicide offenders were marked by an impaired capacity to feel guilt, neuropsychiatric vulnerabilities, serious school problems, child abuse victimization, family dysfunction, history of interpersonal violence, prior arrests, sadistic fantasy, psychopathic personality traits, and personality disorder diagnosis [45].

Furthermore, the pathology of Class 2 offenders is suggestive of two important theoretical perspectives. First, their high-rate and enduring criminal history is consistent with Moffitt's [25] life-course persistent offender, a group that is theorized to commit the most extreme forms of crime, such as murder and rape. Second, although we had no measures of the construct, we strongly suspect that Class 2 offenders are psychopathic, perhaps prototypical psychopaths. A sizable literature has shown that offenders who commit sexual serial homicides are significantly likely to be psychopathic [46–49]. This is a critical yet relatively simple direction for future research. If offenders who murder multiple victims are shown to be quintessential psychopaths, preferably using multiple measures of the construct, then there might be little need to develop new typologies of MHOs. Instead, multiple homicide offending could be subsumed under the pathological behavioral umbrella of psychopathy [50–51].

Class 3 is the moderate group whose offending trajectory (Fig. 1) follows the same general pattern as Class 2, but their criminality is not as pronounced. Empirically, the existence of a “moderate” group of multiple homicide offenders is consistent with criminal career researchers that similarly discovered a group that commits crimes at high levels across the life-course but below the extraordinarily high levels of the most severe group [26–27]. Similar to Class 2 but unlike Class 1, a multiple homicide event is not wholly surprising for Class 3 offenders given their extensive criminal histories and contact with the criminal justice system.

What typologies best match the three classifications produced from these data? Given the lack of criminal history of Class 1, we believe these offenders may follow the mental health problem-devastating precipitant scenario observed in research by Holmes, Holmes, DeBurger, Hickey, and their colleagues. The appropriate label should match the victims; thus the husband who kills his spouse and children out of financial ruin seems to fit the “family annihilator” label. With so much missing information, however, this assessment is obviously speculative and requires additional research—a conclusion similarly reached by Canter and Wentink [8].

For Classes 2 and 3 homicide offenders, there is firmer empirical ground to articulate a specific typological match. We point to three typologies from the *Crime Classification Manual*: felony murder, sexual homicide, and sadistic murder. Felony murder is the commission of one or more murders during the commission of a serious property crime, such as robbery or burglary. In felony murders, property crime is the primary

motivation and murder secondary. Within the felony murder typology are two subtypes. Indiscriminate felony murder occurs when a homicide is planned in advance of committing the felony without a specific victim in mind. Situational felony murder is unplanned prior to the commission of the felony whereby the murder is committed out of panic, confusion, or impulse [14, pp. 64–72]. Sexual homicide, which can be subdivided into organized, disorganized, or a mixed hybrid category, involves sexual activity as the basis for the sequence of acts leading to a death (or multiple deaths). Performance and meaning of this sexual element vary with the offender. Sadistic murder is committed by someone with an established and enduring pattern of sexual arousal in response to sadistic imagery. Sexual gratification is obtained from torture, degradation, and violence that is translated into criminal action that results in death [14, pp. 136–144].

Case studies for offenders who have committed felony murder, sexual homicide, or sadistic murder overwhelmingly reflect habitually violent and antisocial people with lengthy criminal histories, comparable to those in the severe group (Class 2) and moderate group (Class 3). In all three scenarios, multiple homicides serve as the crescendo of a life of crime. The current analyses provide some guidance to law enforcement officials in terms of the likely criminal justice background of suspects in multiple homicide cases. Offenders in Class 2 averaged more than seven prior felonies, more than four parole sentences, and had been imprisoned between three and four times. In addition to these recurrent correctional involvements, their mean levels of offending were several times those of other known felons and serious offenders in the current data. In other words, the extremity and prodigious nature of the criminal history of the Class 2 offender could be helpful for investigative purposes. In the same way, clinicians and researchers should focus on offenders whose behavioral histories simply dwarf the records of their criminal peers when evaluating the suitability of offenders for treatment programs. Offenders with voluminous criminal histories coupled with prior involvement in serious crimes including armed robbery and armed burglary are statistically at risk to commit multiple homicides. Finally, while the current research is an incomplete empirical taxonomy, it provides a template on which to construct additional research to hopefully arrive at a complete homicide typology that can further inform prevention, treatment, and correctional needs.

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