AGE, SEX, AND THE CRIME OF CRIMES: TOWARD A LIFE-COURSE THEORY OF GENOCIDE PARTICIPATION

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Abstract

In the past decade, sociologists have drawn on criminological insights to help explain genocide and other mass atrocities. Yet, we know surprisingly little about the perpetrators of these crimes. Does genocide follow the age and sex distribution common to other crimes? Or does it depart from these well-established empirical patterns? We develop and test a life-course model of genocide participation to address these questions using a new data set of perpetrators drawn from Rwanda's *gacaca* courts. Three types of prosecutions are considered: (1) inciting, organizing, or supervising the genocide; (2) killings or other serious physical assaults; and, (3) looting or other offenses against property. We examine the age and sex distributions in each of these three groups and compare them to distributions for analogous criminal offenses. Consistent with classic sociological research on age and crime, we find that participation in genocide declines with age and that the vast majority of people who commit crimes of genocide are men. However, we find that the peak age of genocide offending (34) is older than the peak age for most other types of crime and significantly older than genocide scholars have suggested. We interpret these differences in light of life-course sociology and the expectations of adult citizens under conditions of mass violence.

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More people died as a result of genocide than as a result of all other crimes during the twentieth century (Brannigan and Hardwick 2003; Savelsberg 2010). Despite the scale of this "crime of crimes," few sociologists have systematically examined genocide participation. As Savelsberg (2010) and Hagan and Rymond-Richmond (2008; 2009) demonstrate, however, sociological explanations of crime and genocide are closely connected, from state-level studies of preconditions to individual-level analyses of perpetrators. In line with this, we develop a life-course model to test how the two strongest correlates of crime—age and sex—are linked to genocide.

We focus on the 1994 genocide perpetrated against the Tutsi in Rwanda, where upwards of one million people were killed in a few short months. Using new data from the Rwandan *gacaca* courts—comprising the largest database of perpetrators ever collected—we test whether the age and sex distributions of genocide participants follow the distributions typical of other crimes. We also analyze age- and sex- specific differences across types of genocidal crime, ranging from supervising the violence to killing and looting victims' homes. In so doing, we test hypotheses central to a life-course theory of genocide, while simultaneously testing the scope conditions of both criminology and genocide studies.

We first explain the crime of genocide and argue that life-course research on crime can inform genocide studies. We then review scholarship on the relationships between age, sex, and crime as well as research on genocide perpetrators. Next, we draw upon Rwandan *gacaca* court records to assess who participated in the violence, showing how general features of the life course and distinctive characteristics of genocide account for the patterns we find.

THE CRIME OF CRIMES

Raphael Lemkin, a Polish-Jewish lawyer, coined the term "genocide" during the early 1940s (Power 2003). He combined the Greek word *genos*, which means people or nation, and the Latin suffix *–cide*, which means murder. Soon, this word was codified in the 1948 (1951) United Nations Convention on the Prevention and Punishment of the Crime of Genocide, defining genocide as acts "committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group."[1] This Convention, several international tribunals, and the 1998 (2002) Rome Statute solidified genocide as a crime by most definitions (Sutherland, Cressey, and Luckenbill 1992:4). Scholars have also proposed alternate definitions, though all emphasize actions taken with the intent to destroy a social group (e.g., Horowitz 1976; Kuper 1981; Chalk and Jonassohn 1990; Fein 1993; Chirot and McCauley 2006).

Although the Convention outlawed genocide as a crime, genocides have since occurred in numerous nations, including the tiny African country of Rwanda. After decades of German and Belgian colonialism, Rwanda gained independence in 1962. At the time, there were three recognized ethnic groups—Hutus, Tutsis, and Twa. Tutsis, a numeric minority, had long controlled institutions of power within the country and had been favored by colonists. Independence coincided with a shift in power relations, however, and Hutus came to dominate positions of power and began to discriminate and commit violence against Tutsis.

The successive government (1973) continued to favor Hutus, and discrimination and violence against Tutsis remained prevalent. Tensions heightened on October 1, 1990, when the

[1] The full legal definition is as follows: "Any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such: killing members of the group; causing serious bodily or mental harm to members of the group; deliberately inflicting on the group conditions of life, calculated to bring about its physical destruction in whole or in part; imposing measures intended to prevent births within the group; [and] forcibly transferring children of the group to another group" (United Nations 1948).

rebel army of the Rwandan Patriotic Front (RPF)—Tutsis who had fled Rwanda and wanted to return home—attacked Rwanda, initiating a civil war. After peace negotiations began, sporadic violence and much inflammatory rhetoric against Tutsis persisted, and many government actors feared losing power (Melvern 2000; Straus 2006).

Violence erupted after April 6, 1994, when unknown assailants shot the Rwandan President's plane as it was landing in the capital city. Targeted killing began a few hours afterward, and radio broadcasts and local leaders urged Hutus to attack Tutsis, blaming them for the plane crash and warning that the country was in imminent danger. Many listened, and army officials, leaders, and numerous citizens began killing Tutsis and Hutus who were associated with them throughout the country (Straus 2006). In fact, while government leaders had planned the violence, it was mostly citizens who engaged in murder, looting, and other crimes. Some had been recruited into civilian defense corps and youth wings of political parties prior to 1994, but many others were urged to participate through the radio and other propaganda as the violence unfolded. Several months later, upwards of one million[2] people had been killed and millions were displaced. An estimated 250,000 people had been raped, and many more had lost their homes, their belongings, or been victimized in other ways (Amnesty International 2004; Mullins 2009).

Despite its devastating social impact, genocide has been more commonly studied by historians and legal scholars than by sociologists or criminologists. This neglect may stem, in part, from concerns about trivializing genocide by comparing it with more mundane social phenomena. Genocides have long been viewed as distinct historical events, and comparing genocides to other genocides, let alone to other forms of violence, is sometimes viewed with

[2] Estimates of those killed range between 500,000 and 1,200,000. As we utilize *gacaca* data, we cite the figure reported by the *gacaca* courts, which is 1,050,000.

skepticism or discomfort.[3] Even so, genocide clearly shares elements with social phenomena such as discrimination, war, and crime.

We take up the latter in this article, developing and extending theories of crime and genocide in light of the commonalities between the two phenomena. Like hate crimes (Grattet and Jenness 2001), for example, genocide is defined by the targeting of particular groups. Like war crimes (Rothe 2009), genocide is typically organized by the state (Melvern 2006). Like corporate and organizational crimes (Clinard and Yeager 1980), genocide is characterized by a high degree of planning and social organization (Meierhenrich 2006). Like speeding or digital piracy, genocide can involve high participation levels.[4] Like rioting (Myers 1997) and terrorism (LaFree, Morris, and Dugan 2010), genocide is unstable over time and does not occur every day or every year (Harff 2003). Like gang-related crimes (Short and Strodtbeck 1965; Papachristos, Hureau, and Braga 2013), genocide is often a crime of obedience, in which perpetrators claim they were following orders (Arendt 1963). Finally, like many other crimes (Stolzenberg and D'Alessio 2008; Vandiver 2010), genocide is perpetrated through co-offending, whether it is soldiers, militias, or "ordinary citizens" (Fujii 2009).

We do *not* suggest that genocide should be subsumed under some other criminal offense category, as genocide is unique for its distinctive *combination* of these elements and its explicit focus on the destruction of a social group. Rather, we draw these parallels to show how genocide and other crimes are sufficiently comparable social phenomena and to encourage tests of their

[3] For some exceptions, see Kuper 1981; Lifton and Markusen 1990; Fein 1993; Alvarez 2001; Mann 2005; Shaw 2007; Hagan and Rymond-Richmond 2008; Steinmetz 2008; Campbell 2009; Maher 2010; Savelsberg 2010; Powell 2011; Brannigan 2013; Karstedt 2013.
[4] In Rwanda, over 10 percent of the population participated in the violence (*Gacaca* Final Report 2012). By way of comparison, less than 0.05 percent of the United States population committed homicide that year (UCR 1994).

correspondence. In fact, we argue that we have much to gain from probing the boundaries and scope conditions of genocide and sociological criminology.

To this end, we consider two of the most enduring and widely accepted empirical generalizations in life-course criminology: that (1) crime declines with age; and, (2) males are more likely than females to commit crimes at every age. These strong and robust correlates have been tested on myriad crimes, ranging from embezzlement to homicide. In their influential *American Journal of Sociology* article (1983) and subsequent book (1990), Travis Hirschi and Michael Gottfredson go so far as to characterize the relationships as invariant (1983, p. 554), noninteractive (p. 572-73), and inexplicable (p. 580-81). Understanding the age and sex distribution of people who commit genocide is thus a fundamental building block for a sociological account of genocide, crime, and other forms of violence.

AGE, SEX, AND CRIME

Contemporary life-course criminology has its roots in Quetelet's (1831) observation that age and sex are closely linked to criminal propensity (or *penchant*). Quetelet's French data showed the highest rate of crime among men in their late teens and twenties, and many criminologists have since developed these ideas (Hirschi and Gottfredson 1983, 1990). In fact, the curvilinear relationship between age and crime—which ascends during adoelscence, peaks in early adulthood, then declines—has remained one of the most durable findings in criminology.

This *general* relationship holds across many types of crime, ranging from crimes against property (like theft) to violent crimes (like homicide) and white-collar offenses (like embezzlement). While violent crimes typically peak comparatively earlier and decline more

quickly than white-collar offenses (e.g., Ulmer and Steffensmeier 2014:387),[5] the curves follow a similar curvilinear pattern, a pattern which holds for almost every crime, including those committed in groups.[6] Self-reported criminality tends to begin and peak somewhat earlier than official arrests and convictions of the sort that Quetelet examined, though self-reports also show a similar pattern of initiation, escalation, and desistance (Loeber et al. 1991; Blokland and Nieuwbeerta 2005).

The general age-crime relationship also holds across time and space. For example, Gottfredson and Hirschi (1990) studied crime in the United States and the United Kingdom in both the 19th and 20th centuries, concluding that the curves were similar in each setting. Subsequent researchers have identified some historical variation (O'Brien and Stockard 2009), with Steffensmeier and colleagues (1989) suggesting an older peak age during earlier periods in the United States. Nonetheless, the *basic* curvilinear pattern has been observed in several different eras. Similarly, a robust, general age-crime relationship is apparent across studies in diverse nations (Bohannan 1960; Junger-Tas, Marshall, and Ribeaud 2003; Pridemore 2003; Fabio et al. 2006; Antonaccio et al. 2010; Nivette 2011), though the age-crime curve may be somewhat flatter outside highly age-stratified Western societies (Steffensmeier et al. 1989).

Clearly, strict "invariance" is likely untenable (see also Greenberg 1985; Farrington 1986; Steffensmeier et al. 1989; Steffensmeier and Streifel 1991; Gartner and Parker 1990; Uggen 2000; Tittle, Ward, and Grasmick 2003; Piquero, Farrington, and Blumstein 2003; O'Brien and Stockard 2009; Telesca et al. 2012). Nevertheless, a general relationship in which

[5] Less information is available for property crimes similar to genocidal looting, though the age distribution of those arrested for rioting tends to be significantly younger (Briggs 2012:284).
[6] While some argue that co-offending accounts for the age-crime relationship (e.g, Warr 1993), the inverse-U distribution remains for co-offending (Stolzenberg and D'Alessio 2008).

crime rises in the teens and early twenties and then falls precipitously exists for almost every type of crime across space and time.

The similarly strong relationship between sex[7] and crime has been described as "virtually a truism in criminology" (Heimer 2000:428). Specifically, males are overwhelmingly more likely than females to commit most criminal and delinquent offenses (Quetelet 1831; Wilson and Herrnstein 1985; Gottfredson and Hirschi 1990; Chesney-Lind and Shelden 2004).
As with age and crime, the relationship between sex and crime holds across offenses (Giordano and Cernkovich 1997; Mears, Ploeger, and Warr 1998), self-reported and official measures (Schwartz and Steffensmeier 2012), time (Steffensmeier and Allen 1996), and space (Kruttschnitt 1993; Piquero, Brame, and Moffitt 2005; Antonaccio et al. 2010).

Again, however, this association is not invariant (Antonaccio et al. 2010; Vandiver 2010; Zimmerman and Messner 2010), as the differential between men and women is smaller in magnitude for less serious crimes, such as crimes against property (Quetelet 1831) (Schwartz and Steffensmeier 2012). There is also evidence of a diminishing U.S. gender gap (Heimer 2000; Steffensmeier et al. 2006; Lauritsen, Heimer, and Lynch 2009, but see Schwartz et al. 2009), as well as some cross-national variation (Junger-Tas, Terlouw, and Klein 1994; Junger-Tas et al. 2003). Yet, none of these studies challenge the basic finding that males offend at significantly higher rates than females, a pattern found across type of crime, time, and space.

Thus, much research has established that participation in crime declines with age and that males are more likely to engage in criminal behavior. And while we have considered age and sex separately, the age-crime relationship appears quite similar for males and females (Gottfredson and Hirschi 1990; see also D'Unger, Land, and McCall 2002). Due to the strength of these

[7] We use the term "sex" in this paper because this accurately reflects the data we analyze, though most of the explanations we draw upon are linked to gender.

relationships, Gottfredson and Hirschi posited that they are invariant, noninteractive, and *inexplicable*.[8] Others attempt to explain these associations using life course concepts. While biology and developmental psychology certainly play a part (e.g., Gove 1985), sociological theories emphasize age-graded and gendered transitions into adult work and family roles. Control-based theories view these transitions as informal social controls (Laub and Sampson 1993), whereas symbolic interactionist theories highlight their implications for identity and the inconsistency of criminal behavior with the prescribed role expectations of adult citizens (Massoglia and Uggen 2010). In each case, factors such as getting a job, becoming a parent, and spending less time with delinquent peers help account for the decline in crime in adulthood. In fact, Sweeten, Piquero, and Steinberg (2013) explain up to 69 percent of the drop in crime from ages 15 to 25 by adjusting for employment, marriage, peer exposure, and psychosocial development.[9]

Applying these theories to genocide would consequently suggest that the modal participants should be men in their late teens and early twenties. Several accounts of genocide, including the genocide in Rwanda, would support this hypothesis. As we explain below, however, there is also reason to hypothesize a later peak age for genocide – and a distribution that more closely approximates that of military and other government service.

GENOCIDE, CRIME, AND THE GENDERED LIFE COURSE

Although criminologists have devoted relatively little attention to the perpetrators of genocide, researchers in genocide studies have studied perpetrators in both the Holocaust (e.g., Adorno

[8] Gottfredson and Hirschi did recognize some differences and attributed them to variation in the opportunity to commit crimes. For example, few teenagers are in a position to embezzle funds.
[9] "Criminal career" studies similarly confirm this (Piquero, Farrington, and Blumstein 2003).

1950; Hughes 1963) and Rwanda (e.g., Straus 2006; Fujii 2009). To date, these studies have arrived at one enduring finding—perpetrators[10] of genocide are "normal." For example, Browning's *Ordinary Men* (1998) argued that members of German Police Battalion 101, who committed many murders during the Holocaust, were ordinary family men of working-class backgrounds. This idea of the "banality of evil" (Arendt 1963) has found much support in other studies (Milgram 1974; Zimbardo 2007; but see Goldhagen 1996; Perry 2013), and scholars typically agree that those who commit genocide are not markedly different from their fellow citizens.

Such characterizations reflect a reaction against assumptions that genocide perpetrators are marked by psychiatric disorders, an assumption often made about people who commit other crimes.[11] In discrediting claims that perpetrators of genocide are evil or psychologically unstable, however, scholars have often de-emphasized their distinguishing social characteristics. For example, research on perpetrators has focused on men but rarely discussed sex differences (for some exceptions, see Sharlach 1999; Jones 2002; Adler, Loyle, and Globerman 2007). As noted above, one of the most famous studies of perpetrators is titled *Ordinary Men*. Similarly, 95 percent of Mann's (2000) sample of over 1,500 presumed German war criminals were men. As women's roles during the Holocaust were gendered (e.g., nurse) and as women held subordinate roles in many sectors of society during the 1940s, generalizing beyond this period is potentially problematic. Yet, this finding is echoed in other genocides. In Verwimp's (2005) small sample of perpetrators in Rwanda, 91 percent were men. And Straus (2006) limited his interviews with Rwandan perpetrators to men, as his preliminary research indicated most perpetrators were men.

[10] While we define "perpetrators" as people who participated in the genocide, we recognize that some Rwandans were both killers and rescuers, often within the same week (Fujii 2009).
[11] Rates of substance use, phobias, and impulse control disorders are indeed higher among prisoners than non-prisoners (Schnittker, Massoglia, and Uggen 2012).

While no studies (to our knowledge) have systematically addressed the age of people who commit genocide, age has also been theorized. For example, most scholars of the 1994 genocide in Rwanda suggest that the vast majority of perpetrators were *young* men, much in line with the criminological research cited above. Many have documented how youth militias, like the *Interahamwe,* played a large role in the violence (e.g., Mamdani 2001; Melvern 2006). Discussions of citizens who were not directly recruited also point toward work and family markers during the transition to adulthood. An expert on the genocide noted, "Of the nearly 60 percent of Rwandans under the age of twenty, tens of thousands had little hope of obtaining the land needed to establish their own households or the jobs necessary to provide for a family" (Des Forges 1999:14). In other words, young men had few options available to them, which may have influenced participation in the genocide.

Similarly, Jones (2002) argues that young Rwandan men became perpetrators due in part to a gender crisis induced by a crippled economy. Economic prospects dimmed in the late 1980s, when the price of coffee, which accounted for 75 percent of Rwanda's trade, dropped sharply (Prunier 1995). At the time, most men were self-employed agriculturalists and needed land to marry (Jones 2002), which helps explain why the average age of marriage was 26.8 years (IPUMS 2012). Family formation was further impeded by the economic crisis and Rwanda's extremely high population density.

Beyond criminological studies of age, these observations are in line with studies of political and ethnic violence that direct attention to youth. Many analyses of civil war, for example, suggest that violence is committed by young men and that "youth bulges" influence the onset of political and ethnic violence (Gurr 1970; Goldstone 1991; Urdal 2006). In general, these studies argue that higher percentages of young men translate to more potential perpetrators.

Thus, much literature on genocide, as well as other forms of political and ethnic violence, falls in line with criminological theories of younger perpetrators.

Nevertheless, data from some studies paint a different picture, finding much older perpetrators than the general age-crime distribution or theories of youth bulges would suggest. Browning reports an average age of 39 among men in German Police Battalion 101 (Browning 1998). Similarly, in a study of 1,581 presumed German war crimes, Mann (2000) observed an average age of 32 to 41 (see also Brustein 1996). Though it could be argued that the age of Holocaust perpetrators was driven by recruitment efforts, similar patterns have been observed in small-scale studies of Rwanda, where there were fewer formal recruitment efforts. For example, Straus' (2006) interviewees had a modal age range of 30 to 39. Similarly, Verwimp (2005) analyzed 65 perpetrators and found an average age of 33, while McDoom (2014) interviewed several hundred perpetrators, many of whom were in their thirties.

To account for these late peak ages, a life-course theory of genocide must look beyond standard criminological research and studies of youth bulges. Instead, a peak age in the thirties more closely approximates the age of military personnel and political leaders. According to the 2002 Rwandan census, the median age is 30 for army personnel, 38 for those in parliament or government service, and 40 for village heads or traditional chiefs. Although the census did not record these categories prior to 1994, records of mayors and other leaders at the International Criminal Tribunal for Rwanda point to a similar age range: the modal age of those elected to parliament in 1988 was 36 to 40 (IPU 2014).[12]

[12] Men also predominate in military and government service in Rwanda. Women comprise only 2 percent of the army and roughly 15 percent of government and village leadership positions (IPUMS International 2014), though the female share of select government positions has risen dramatically since the genocide (Burnet 2008).

More generally, age-graded adult role expectations—becoming a productive citizen at work, a responsible citizen in family life, and an active citizen in one's community—may continue to guide behavior during periods of genocidal violence. The expectations of good citizens, however, may be inverted in such times. To the extent that potential perpetrators are called upon to defend their nation and their families against some grave threat, crimes of genocide may be aligned with the gendered role expectations of responsible adult citizenship. Just as delinquent youth typically "age out" of crime as they take up the duties of adult citizenship, so too may citizens "age into" genocide participation as they attempt to fulfill the very same duties and role obligations.

Thus, while some studies suggest that perpetrators of genocide are younger, others point toward an older distribution that more closely approximates that of the military or political leaders. In Rwanda, the violence was often planned by government and military officials and led by soldiers within the Rwandan Armed Forces and related militias. Differences in the type of genocidal crime may therefore help account for the different ages observed in prior studies. Planning mass violence, committing rape, and killing are all crimes of genocide, while looting a house was also considered a genocidal crime in Rwanda. Yet, the age of people committing these disparate crimes may vary considerably, in line with the criminological research cited above. Most notably, this work suggests that those who execute the genocide will be younger than those who plan it. Indeed, high-profile trials at international tribunals often involve middle-aged defendants who used government or military positions of authority to plan and supervise genocide. Accordingly, a number of historians have noted that perpetrators of genocide have higher levels of authority and social capital, which are both associated with age (Hughes 1963; Mamdani 2001; Weitz 2003).

Sex differences may also be apparent by type of genocidal crime. With regard to looting, both criminological and genocide scholarship suggest greater female participation in property crimes relative to violent crimes (Jones 2002). With regard to violence, both women and men tend to kill in ways reflecting socially approved gender role behavior (Jurik and Winn 1990), with women more likely to kill in the home and in situations of domestic conflict. Women make up approximately two percent of all sex offenders and, relative to men, they tend to victimize family members rather than acquaintances or strangers (Vandiver and Walker 2002). We thus anticipate greater female participation in looting than in killing or rape.

Thus, based on these literatures, we identify three hypotheses (1-3) regarding age and genocide, two hypotheses regarding sex and genocide (4-5), and one hypothesis regarding their intersection (6). Hypotheses 1 and 2 draw two competing predictions from life-course theory, while the others are largely complementary.

- *Hypothesis 1: Age and Generality of Crime*. Consistent with general age-invariant arguments, the age distribution of genocide should parallel the age-crime distribution for other crimes.

- *Hypothesis 2: Age and Government/Military Service*. Consistent with extant research on the authority position and career stage of perpetrators, the peak age for genocide should be in the thirties or forties, or later than for other crimes.

- *Hypothesis 3: Age and Offense Specificity*. Consistent with variations in the age distribution of analogous non-genocide offenses, we expect a later peak age for planning genocide than for killing or for property-related genocide offenses.

- *Hypothesis 4: Sex and Generality of Crime*. Consistent with sex-based arguments, we expect the sex distribution of genocide to approximate the sex distribution of other crimes.

- *Hypothesis 5: Sex and Offense Specificity*. Consistent with greater female participation in non-genocide property offenses than in non-genocide violent offenses, we expect more women to be involved in genocide-related looting than in genocide-related killing or planning.

- *Hypothesis 6: Sex-Specific Age Invariance*. Consistent with literature suggesting sex invariance in the age-crime curve, we expect the age distribution of genocide for men to approximate the age distribution of genocide for women.

THE GACACA DATA FILE

To test these hypotheses, we analyze a new dataset of over one million cases tried in the Rwandan *gacaca* courts. Some high-ranking officials who planned the genocide were tried at the International Criminal Tribunal for Rwanda (ICTR) or through the existing national court system, but Rwanda also needed to respond to the mass public participation in the violence. Thus, the Rwandan government created the *gacaca* court system in 2002.

These courts were modeled after traditional Rwandan community courts (see Clark 2010; Bornkamm 2012; and identifying citation 2014 for more information about the court system). Cases tried at the *gacaca* courts were categorized into one of three types of genocidal crime:

- *Category 1:* People accused of planning, organizing, or supervising the genocide; people who acted in positions of authority or leadership at high levels; people who incited genocide; and people who committed acts of rape or sexual torture.
- *Category 2:* Perpetrators or accomplices who intentionally killed someone or injured someone through acts intended to kill her or him. This category also included those who committed dehumanizing acts on the dead, torture, and other criminal acts against people.
- *Category 3:* People who committed offenses against property, such as looting.

Through a partnership with the Rwandan National Commission for the Fight Against Genocide, we compiled a database of records from more than 12,000 *gacaca* courts. In total, these courts tried 1,958,634 cases (*Gacaca* Final Report 2012). Notably, this is a database of cases, not perpetrators. If a person was accused of a Category 2 and a Category 3 crime, he or she was tried in two separate cases. Similarly, if people were accused of crimes in more than one region, they were tried in separate cases in each region (as is often the case in the U.S. criminal

justice system). To ensure the robustness of our results, however, we also replicated our analyses after removing these duplicates.[13]

Data are excluded for several reasons. First, 3.5 percent of cases were tried when defendants were absent.[14] As the year of birth is missing for many of these cases, and as age may be associated with the ability to flee, these cases are excluded. In addition, approximately 9 percent of cases were tried in appeal courts. We here consider only first trials, as age and sex may be associated with the ability to seek an appeal. Further, youth under the age of 14 in Category 1 or 2 were not tried by the *gacaca* courts but were instead to be sent directly to a youth correctional facility (youth under the age of 14 in Category 3 were tried by the courts). Thus, they are not included in the database, though the comparatively small number of youth would be unlikely to influence our results.[15] Lastly, the year of birth is unknown for about 25 percent of cases.[16] Far fewer data are missing in regard to sex, but we restrict the dataset to cases in which the age of the defendant is also known, which does not alter the sex distribution.

Overall, our analytic sample contains 1,068,192 cases. These can be separated into the three categories of cases detailed earlier, which we term organizing or inciting (Category 1), killing (Category 2), and looting (Category 3). In total, there were 52,564 cases in the organizing and inciting category; 315,916 cases in the killing category; and 699,712 cases in the looting

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[13] Specifically, we eliminated all duplicates where the defendant's name, mother's name, father's name, and year of birth were the same. As there were spelling errors in the data, we also tried eliminating duplicates where just the defendant's year of birth and name were the same. For each, we kept the most severe category in the database.

[14] These included cases against those who did not appear in court 30 days after they were summoned. In total, about 72,900 of the cases (3.5 percent) were tried in absence.

[15] Some youth under the age of 14 in Categories 1 and 2 are included in the database, though we cannot ascertain whether these are errors. Excluding them does not alter results.

[16] Higher percentages of missing data were found in the two regions with the highest numbers of cases tried, suggesting that, while missingness may not be random, it is likely linked to institutional constraints on data collection. It is also possible that some defendants did not know their date of birth, and nonsensical birthdates are excluded (less than one percent).

category. These numbers constitute the total cases tried and do not indicate the outcome of the case; they are thus analogous to arrest data rather than conviction data. This is preferable for our purposes because arrest data provide more complete information on age and sex and because conviction may be associated with the defendant's age or sex. Nevertheless, we also replicated the analysis on convictions to ensure the robustness of our findings. In total, 18 percent of the 1,068,192 cases considered here were acquitted (compared to 14 percent of all cases).

These data are official data and thus subject to the constraints that come with all official data. In particular, official reports overlook the so-called "dark figure" of crimes not known to authorities (Biderman and Reiss 1967) and are subject to the biases of those who make and enforce the law. Self-reported data also tend to show somewhat earlier peak ages (Loeber et al. 1991; Blokland and Nieuwbeerta 2005) and narrower gender gaps (Schwartz and Steffensmeier 2012) than official statistics, particularly for less serious offenses.

Beyond the biases inherent in official data, some have suggested that the government of Rwanda has a particular interest in controlling or manipulating information about genocide perpetrators. We have seen no evidence to suggest that the data we analyze were subject to such manipulation; we obtained these data in a disorganized state and assembled them ourselves. Nonetheless, like other court systems, the *gacaca* trials were not immune from corruption (Kirkby 2006). For example, communities sometimes discovered that the judges they had elected had participated in the violence. Additionally, there are scattered cases of individuals being brought to the court for revenge (Clark 2010). It is unclear how these injustices could bias our findings, though we remain confident that such corruption was not widespread. And, because we analyze the full *gacaca* data file—with 1,068,192 cases included in our analytic sample—our analysis is not subject to the sampling errors common to other studies of court data.

Analytic Strategy

We rely upon simple yet powerful descriptive statistics. We start by examining the age and sex distributions in the *gacaca* court data. Then, to test the hypotheses of our life-course model, we compare these distributions against age and sex distributions of other crimes. Ideally, we could compare age and sex distributions from the genocide to distributions for crimes committed in Rwanda during the early 1990s. However, crime data before the genocide do not exist. We thus examine 1994 arrest data from the United States and post-genocide data from Rwanda. The U.S. data come from the FBI's Uniform Crime Reporting Program (UCR), which provides comprehensive national-level arrest data. Rwanda crime data were obtained directly from the Office of the Prosecutor (NPPA 2010), as further explained below.

The data from Rwanda help address potential concerns about making comparisons across nations, while the 1994 U.S. comparison data help address potential concerns about making comparisons across historical periods. While it may seem odd to compare crimes across countries, a vast body of comparative criminological research supports such comparisons. We also age-adjusted our data to account for different population structures, both across nations and across periods. To do so, we use a standard demographic measure of the percentage of people in an age group who committed a crime, divided by the percentage of the population in that age group.[17] We use 1991 Rwandan census data (IPUMS International 2012)—the census just preceding the genocide— and U.S. Census Bureau estimates from 1994 to age-adjust curves. Again, these are official data and subject to the concerns noted above.

We compare the age and sex distributions of crimes in *gacaca* Categories 1 (organizing and inciting), 2 (killing), and 3 (looting) against non-genocide offenses that share similar

[17] We also tried standardizing by the percentage of people age 10 to 64 (rather than the entire population), which did not change the peak ages in any of the categories.

characteristics. For each category, a number of comparisons could be conducted, though we focus on one comparison per category for simplicity. Specifically, we compare the age and sex of the looting category with the age and sex of people arrested for burglary, as both represent crimes against property. We compare the killing category against homicide.[18] Lastly, we compare Category 1, organizing and inciting genocide, against crimes of terrorism in the United States, as terrorism is also an extreme form of political and/or ethnic violence. Terrorism is not included in the UCR, and there is no comprehensive database of terrorist ages. We thus rely upon a report of Al-Qaeda suicide bombings as well as Al-Qaeda convictions in the United States (Simcox and Dyer 2013). This report includes 171 actions between 1997 and 2010.

To compare these data, we start by comparing the age distributions. This involves comparing the modes of the curves as well as the skew, which is a measure of curve asymmetry, and the kurtosis, which is a measure of curve peakedness. A standard normal distribution has a skew of 0 and kurtosis of 3.[19] We also compare indices of dissimilarity, which are the percentages of arrests that would have to be redistributed among age groups to achieve congruence between two curves (see Steffensmeier et al. 1989 for the formula). Finally, we compare the sex distributions of the perpetrators. We could compute *t*-tests to provide formal tests of the difference in proportions, but our unusually large sample size would permit detection of trivial differences that are statistically significant but practically insignificant. We therefore report differences in the percentage male and female for each offense category.

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[18] We also examined age distributions for the lesser offense of aggravated assault, which shows similar patterns and is thus excluded.

[19] SAS and SPSS typically subtract 3 from kurtosis values, reporting "excess kurtosis"; we report kurtosis based on the Stata *summarize* command, which does not make this deduction. Note also that some argue that kurtosis measures both the peakedness and the heaviness of tails, though other interpretations have been proposed (see Balanda and MacGillivray 1988).

THE GENERALITY AND DISTINCTNESS OF GENOCIDE

Age of Perpetrators of Genocide

Figure 1 presents the age of all defendants in the 1,068,192 *gacaca* court cases. It is immediately evident that there *is* a clear age-genocide curve. If there was no relationship and perpetrators comprised a random draw from the population, we would expect the curve to mirror the population of Rwanda, which skewed heavily toward youth (see Appendix A). Perpetrators of genocide may be "normal" or "average" in certain respects, but they are heavily concentrated in particular age groups.

[Figure 1 about here]

The modal age of all defendants is 30-34. More precisely, the mode, median, and mean age of the defendants is 34, and the curve approaches normality. This finding lends preliminary support to the life course hypothesis that perpetrators of the genocide were in their thirties and forties (Hypothesis 2). In doing so, it lessens support for our hypothesis regarding age and the generality of crime (Hypothesis 1), which is surprising in light of general theories of crime as well as Rwanda scholars' beliefs that the majority of participants were *young* men.

[Figure 2 about here]

We also hypothesized that ages may differ by type of genocidal crime, potentially explaining the presence of both young and comparatively older perpetrators (Hypothesis 3). To assess this, Figure 2 shows the *gacaca* cases by category of crime. Contrary to our hypothesis, the age distributions for the three categories are not meaningfully different. All have the same mode of 30-34, and, as the skew and kurtosis of each curve illustrate, they are remarkably

similar.[20] Looting skews slightly older, which may be linked to the lack of physical strength required for the activity. Nevertheless, while acts tried in the three *gacaca* categories are clearly different, the similar age structures suggest that genocidal crimes are specific instances of a more unified social phenomenon. This reflects the broader social organization and process of genocide—they are separate crimes but are *also* part of a single historical event.

Yet, while different categories of crime tried at the *gacaca* courts show similar age patterns, a brief examination of the 79 high-profile cases tried[21] at the International Criminal Tribunal for Rwanda (ICTR) reveals a different pattern. Figure 3 shows the ages of ICTR defendants in 1994. Here, the mode is a full 10 years older than the mode for cases tried at the *gacaca* courts. While far fewer defendants were tried at the ICTR, this pattern suggests that there may be some difference in the ages of those who plan genocide at the highest levels. For the case of Rwanda (as in many other genocides), those who planned the genocide were in positions of power within the government or other powerful institutions, and such positions are positively associated with age. A peak age in the mid-forties also parallels that of other crimes requiring authority and social organization, such as corporate criminal conspiracy (Steffensmeier, Schwartz, and Roche 2013).

[Figure 3 about here]

Thus far, we have shown that the age distribution of genocide in Rwanda peaked at 34, unlike general age-crime curves, which peak during late adolescence or the early twenties. In addition, this peak is consistent across types of genocidal crime, though there is some evidence

[20] By way of comparison, Appendix B compares the age-crime distributions of the analogous crimes that we examine shortly.
[21] This also includes those aquitted and appeals. The modal age of those found guilty is 40-44.

that those tried at the ICTR were markedly older. Next, we compare the age-crime curves for genocide to non-genocidal crimes, which will allow us to further assess Hypothesis 1.

Comparing Age-Crime Curves

Panels A, B, and C of Figure 4 show the three categories of *gacaca* court crimes—looting, killing, and organizing and inciting—compared against burglary, homicide, and terrorism, respectively. These curves are age-adjusted to facilitate comparison across countries; age adjusting the data from Rwanda results in a 10-year increase in the modal age due to the comparatively younger age structure of Rwanda.

Each of the graphs in Figure 4 illustrates similar patterns. The mode is much later for the three categories of genocidal crimes (indicated by solid lines) than it is for the respective comparative crimes (indicated by dashed lines). In fact, while the mode is 15-19 for burglary, and homicide, it is 40-44 for genocidal looting and killing. The mode is slightly later for terrorism—20-24—and slightly earlier for organizing and inciting genocide—35-39—but the clear differences between the categories remain.

Table 1 summarizes the mode, skew, kurtosis, and index of dissimilarity for each of the curves in Figure 4. The age distributions of burglary, homicide, and terrorism are all much more positively skewed than the age distributions for genocidal looting, killing, or organizing and inciting. The age distributions of burglary, homicide, and terrorism also each have comparatively higher kurtosis, indicating a more peaked distribution than for crimes of genocide. In addition, the index of dissimilarity, which was constructed using homicide as the norm, confirms that age-crime curves of genocide are measurably different than age-crime curves of the comparison crimes. Steffensmeier and colleagues (1989) use 15 as a cut-off for assessing differences in curves. By this standard, all curves are significantly different from the age-crime curve for

homicide. But, the three curves for crimes of genocide have indices of dissimilarity that are almost double those for the analogous crimes considered.

[Table 1 about here]

To summarize, we find evidence that age is associated with the crime of genocide, though we reject Hypothesis 1, as the three categories of genocide are significantly different from the age-crime curves for the analogous crimes considered. This lends some support to life-course Hypothesis 2—that the age curve of genocide peaks later than the curve for comparable crimes. Regarding Hypothesis 3, results are mixed. Our analysis of *gacaca* court data reveals remarkable similarity in the curves for different crimes, indicating that seemingly different crimes of genocide, such as looting and killing, are strongly intertwined. Yet, a brief examination of the defendants at the ICTR illustrates that the key orchestrators of the genocide may have been comparatively older than those committing other genocidal crimes, though we interpret this result with caution due to the small sample size.

Sex of Perpetrators of Genocide

Turning to the sex of perpetrators, males were defendants in 91 percent of the 1,068,192 *gacaca* cases. Again, this does not mirror the population, which was approximately 51 percent female in 1991. To test sex-based arguments and offense-specificity arguments, Figure 5 compares the sex distributions of Category 3 (looting) to burglary, Category 2 (killing) to that of homicide, and Category 1 (organizing and inciting) to that of terrorism.

The sex distributions of looting (Category 3) and burglary are quite similar, with 10.8 percent women and 10.4 percent women, respectively. There is greater variability in the comparison of killing and homicide (5.5 percent women and 9.9 percent women, respectively).

Lastly, 5.5 percent of women were tried in Category 1 (organizing and inciting), compared against a similar 4.7 percent of women in Al-Qaeda terrorism. Moreover, only one woman was tried by the ICTR. This evidence provides strong support for Hypothesis 4, as the sex distribution of genocide looks very similar to the sex distribution of other offenses. Consistent with variations in the sex distribution of analogous non-genocide offenses, we also see a higher percentage of women involved in looting during genocide than in killing or inciting and planning, which supports Hypothesis 5.

[Figure 5 about here]

Lastly, to test Hypothesis 6 and assess age and sex together, Figure 6 includes sex-specific age-crime curves. In all cases, the curves are very similar, though those for women peaked slightly later than those for men, paralleling the pattern in U.S. arrest data for homicide, burglary, and several other crimes (see Uniform Crime Reports 2013, Tables 39 and 40). In addition, males were more likely than females to offend at every age, which confirms that this enduring finding within criminology extends to genocide (Steffensmeier and Streifel 1991).

[Figure 6 about here]

Non-Genocidal Crime in Rwanda

To ensure that our findings are not an artifact of crime in Rwanda more broadly, we also examined crime data from Rwanda. Again, while it would be ideal to compare our results with crime data from pre-1994 Rwanda, such data do not exist. Because it is difficult to obtain current crime information on Rwanda, we made an official request to the Office of the Prosecutor to

obtain data for all cases introduced to this Office in 2010.[22] We chose this period because genocidal violence likely influenced crime patterns in the years immediately following 1994.[23]

Examining the age at which the case was introduced to the Prosecutor, the modal age category for murder in Rwanda was 20-24 in 2010. Likewise, 89 percent of cases for murder involved men. Looking at a slightly broader category of crime—including murder, homicide, and attempted homicide—the modal age category at the time of prosecution was 25 to 29, with 84 percent[24] of cases involving men (see Appendix C).

These crime data provide reassurance that the comparatively older age distribution for genocide is not simply a reflection of an older age distribution of crime in Rwanda. While some of the statistics point toward a somewhat older age crime curve (peaking between 25 to 29), it is clear that the modal age for non-genocidal killing in Rwanda is less than 34. In addition, the Rwandan crime data show that approximately 11 percent of homicide offenders in 2010 were women, which is somewhat larger than the 5.5 percent of women in the *gacaca* killing category (2) yet approximates the U.S. sex distribution of homicide. In sum, the differences we observe between genocidal crimes and non-genocidal crimes do not appear to be artifacts of unusual age- or sex-patterning of non-genocidal crime in Rwandan.

To address potential concerns regarding the markedly different levels of development in U.S. and Rwanda in 1994 (Steffensmeier et al. 1989), we also examined the earliest U.S. data

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[22] These data include 286 cases of murder and an additional 390 cases of homicide, attempted homicide, homicide premeditation, and the murder of parents or children where age and sex was known (a small percentage of cases had missing data on age, while only 2 cases were missing information on sex). These data include the age at which a case was introduced to the Prosecutor rather than the age of arrest, which would likely be somewhat lower.

[23] Although the genocide also influenced the age distribution in Rwanda, census data show that 62 percent of the population were under 25 years old in 2012, mirroring the young population distribution shown in Appendix A (IPUMS 2014).

[24] Infanticide is predominantly committed by females (thus the decrease in percent male).

available, taken from the beginning of the UCR program in 1935. In these data, the mean age for homicides is indeed older at 25-29 (though there were only eight more homicides committed by people ages 25-29 than ages 20-24), while the mean age for burglary is 20-24. Nevertheless, these ages remain markedly younger than the median age of 34 for genocide.[25]

TOWARD A LIFE-COURSE THEORY OF GENOCIDE

This analysis of participation in genocide has developed a life-course model to test two of the most enduring findings in sociological criminology—the age and sex distributions of offenders. After analyzing the largest existing database of perpetrators, we now know that genocide participation in Rwanda followed a distinctive age-crime curve and that the vast majority of people who committed crimes of genocide were men. Considering age and sex in combination, a full 75 percent of the genocidal crimes were committed by men between the ages of 18 and 45. Such evidence should encourage theory and research that explicitly connects life-course criminology with genocide studies. Like participation in other crimes, participation in genocide is socially structured and stratified by demographic characteristics.

We find that the sex distribution of genocide perpetrators closely mirrors that of other criminal offenses and that more women were involved in crimes against property than crimes against people, as much criminological research would suggest. Fewer women were involved in genocidal homicide (5.5 percent) than other homicide in Rwanda or the United States (10-11

[25] Because informal militias and civilian-defense corps who were recruited prior to 1994 may have altered the population of perpetrators, we also considered crimes committed by soldiers. Existing studies of U.S. soldiers have found the modal age of rape and aggravated sexual assault to be 20 to 24 (Department of Defense 2012). Similarly, a study of U.S. Air Force homicides in 1991 reported an average age of 26 (McDowell, Rothberg, and Lande 1994).

percent), which may be linked to sex segregation in the military and government service (only 2 percent of the army was female).

Yet, while the sex distribution of genocide perpetrators does not radically depart from other criminal offenses, the age distribution is quite distinctive in one important respect: the modal age of Rwandan genocide perpetrators was 34, which is significantly older than research on age and crime would suggest. Beyond this, an average age of 34 (and, when taking the population structure into account, 44) contradicts much scholarship on youth bulges and arguments by Rwanda scholars that the majority of perpetrators were *young* men.

As 34 was hardly young in 1994 Rwanda, these findings point to life-course processes that structure participation rates. In particular, the age distribution of genocide participation appears to track the median age of government, political, and military workers. As noted, some genocide scholars have argued that those who plan genocide are in positions of organizational authority, which requires social capital. This likely explains why those at the ICTR had an average age of 44 in 1994. Yet, hundreds of thousands of individuals tried by the *gacaca* courts did not have access to authority and power and were not members of the military or government employees, so this explanation cannot hold for most participants. Moreover, the peak age of 34 is consistent for all three offense categories—inciting and organizing violence, homicide, and crimes against property.

To explain these findings, we return to the fundamental tenets of life-course theory. According to most explanations of crime and the life course, people desist from crime (or do not commit crime in the first place) due to the age-graded social controls in their lives, such as marriage and steady employment. This is also likely the case during genocide, and the absence of such controls may explain some of the participation among youth in their late teens and early

twenties. However, the nature of genocide in Rwanda—and genocide more broadly—points toward a preponderance of significantly older genocide perpetrators. Specifically, shared understandings of the expectations of adult citizens partially drive patterns in age and crime—for people to "grow up," there is a cultural expectation that they must inevitably "settle down" (Massoglia and Uggen 2007, 2010).

During genocide, however, this process is turned on its head. Genocides are frequently framed through the lens of duty and honor. In fact, perpetrators often believe they are acting to protect their family or nation from outsiders who are seen as dangerous or even subhuman; this was particularly the case in Rwanda, where Tutsis were seen as outsiders who were attacking Rwanda through a civil war and, thus, as enemies of the nation. In this sense, Rwandan citizens were called upon to defend their nation and their families, so crimes of genocide were thus aligned with the gendered role expectations of responsible adult citizenship. Similarly, radio stations broadcasting propaganda during the genocide used the euphemism "work" to refer to the crimes (Jones 2002), which again closely parallels gendered adult role expectations. Thus, in contrast to other criminological theories suggesting that people must "age out" and desist from crime to be accorded adult status, some adults may participate in genocide *because* they believe they are fulfilling their duties as adult citizens.

Other factors associated with age and the life course may have also influenced the older participation rate. Fujii (2009) and McDoom (2014) have suggested that social ties facilitated participation in the genocide. This argument is well in line with criminology's differential social organization theory, which suggests that social ties can actually facilitate crime in certain cases. Social ties increase over the life course (Laub and Sampson 2006), which may also account for

the shift in the age distribution (while other social controls may explain why those with presumably even more social ties, such as the elderly, were less often participants).

While our data come from Rwanda, there is some evidence that our findings generalize to other genocides. For example, the age distribution of the small subset (132) of perpetrators tried at the International Criminal Tribunal for the Former Yugoslavia has a modal age of 40-44. Likewise, the average age of 110 individuals tried by the War Crimes Chamber of the State Court of Bosnia, which tried cases similar to *gacaca* Category 1 crimes, was 30 (Court of Bosnia and Herzegovina 2013). The data from the Holocaust cited above also support a later age peak. Because Rwanda saw broader public participation than most genocides, an important question for future research is whether the relatively late peak age we observed will generalize to other episodes of genocide.

Of course, every genocide also has distinctive features and a unique history that may influence such patterns. For example, the genocide in Rwanda took place a few decades after Hutus complained of marginalization. Radio broadcasts urging Hutus to participate in the violence drew upon memories and ideas of this marginalization as propaganda, which may have had a stronger impact on the cohorts of citizens with such memories. The education system also began teaching particularly discriminatory messages against Tutsis when Rwanda gained independence (Gasanabo 2004; King 2013), and the first cohort subject to these messages would likely have been in their mid-thirties in 1994. While the specific nature of these memories and experiences differs across genocides, however, an age-graded response is likely quite general.

Although our empirical findings are clear, this study is not without limitations. As we noted above, we rely upon newly available official data with certain imperfections—some perpetrators escaped prosecution, some data are missing, and we have a relatively small amount

of information on each case. In addition, the age and sex distribution of the Rwandan population changed quite rapidly during the genocide, perhaps even on a daily basis. Nevertheless, the demographics of potential perpetrators—generally Hutus—likely did not change considerably until much of the population fled Rwanda in July, 1994, when the vast majority of genocidal crimes had already been committed. We are also cognizant that some participants were members of the army and that others were recruited, which may have influenced these patterns. Nevertheless, the recruitment of youth militias, such as the *Interahamwe,* would only skew the distribution toward younger participants. Lastly, we are unable to access court data from the Rwandan national court system. These courts tried the cases deemed most serious in *gacaca* Category 1, though the comparatively small number would likely have little impact on the overall pattern of results reported here.

While theories of the life course and sociological criminology have great power to inform genocide studies, the reverse is also true. As we test the scope conditions of these theories on the crime of genocide, we find that the age and sex distributions of genocide perpetrators follow the well-established general patterns observed across offenses, historical periods, and societies. Yet, we also find that the age distribution of genocide perpetrators—whether they are engaged in looting, killing, or planning genocide—is markedly older than that for almost any other crime, including crimes that share similar elements.

It would be premature to suggest that this line of research could inform efforts to prevent or control genocidal violence. Nevertheless, greater knowledge and understanding of the risk factors associated with planning, killing, and looting may prove valuable in crafting interventions before, during, and after genocides occur. The age and sex distributions observed here suggests

that a targeted set of interventions geared to young and middle-aged men may be especially useful in retarding or arresting genocidal violence.

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Table 1. Summary of Age-Crime Curve Comparisons

	Mode	Skew	Kurtosis	Index of Dissimilarity
Property (3)	40-44	0	1.83	39.89
Burglary	15-19	1.64	5.23	16.76
Killing (2)	40-44	0.12	1.65	33.7
Homicide	15-19	1.54	4.05	-
Organizing and Inciting (1)	35-39	0.11	1.68	34.08
Terrorism	20-24	0.97	3.28	23.64

Figure 1. Age of All *Gacaca* Defendants (Not Age-Adjusted)

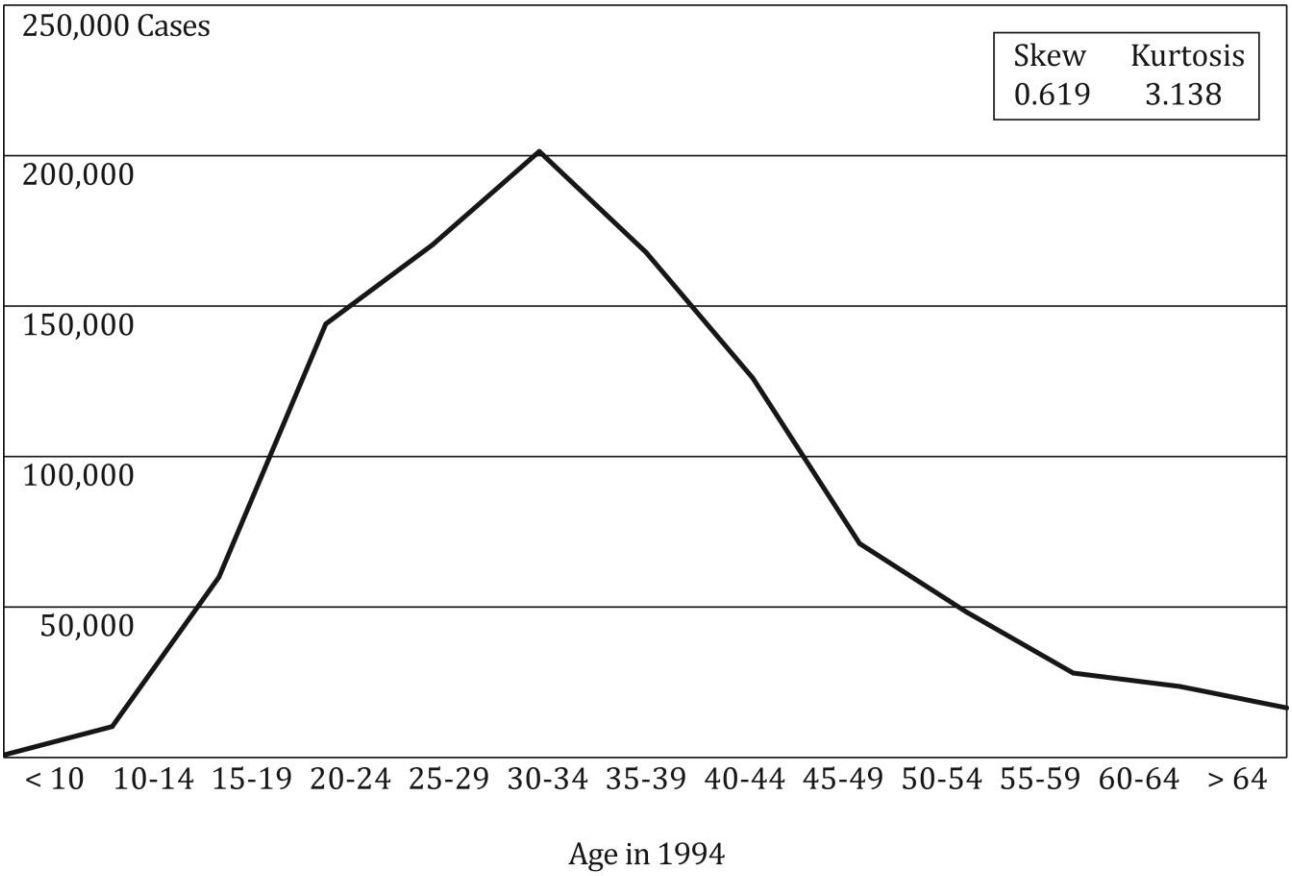
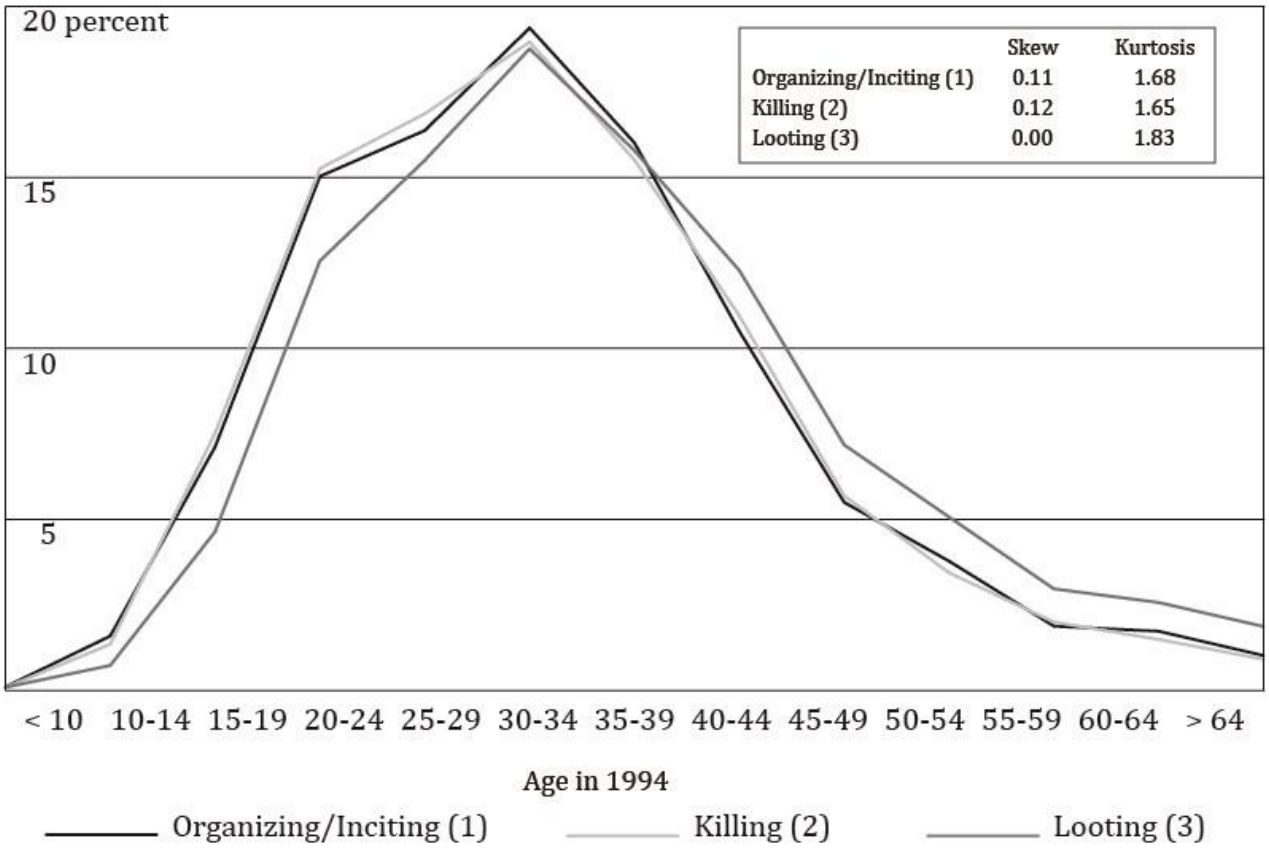


Figure 2. Age of *Gacaca* Defendants by Category of Crime (Not Age-Adjusted)



Note: The y-axis displays the percent in an age group rather than the number in order to facilitate comparison.

Figure 3. Age of ICTR Defendants

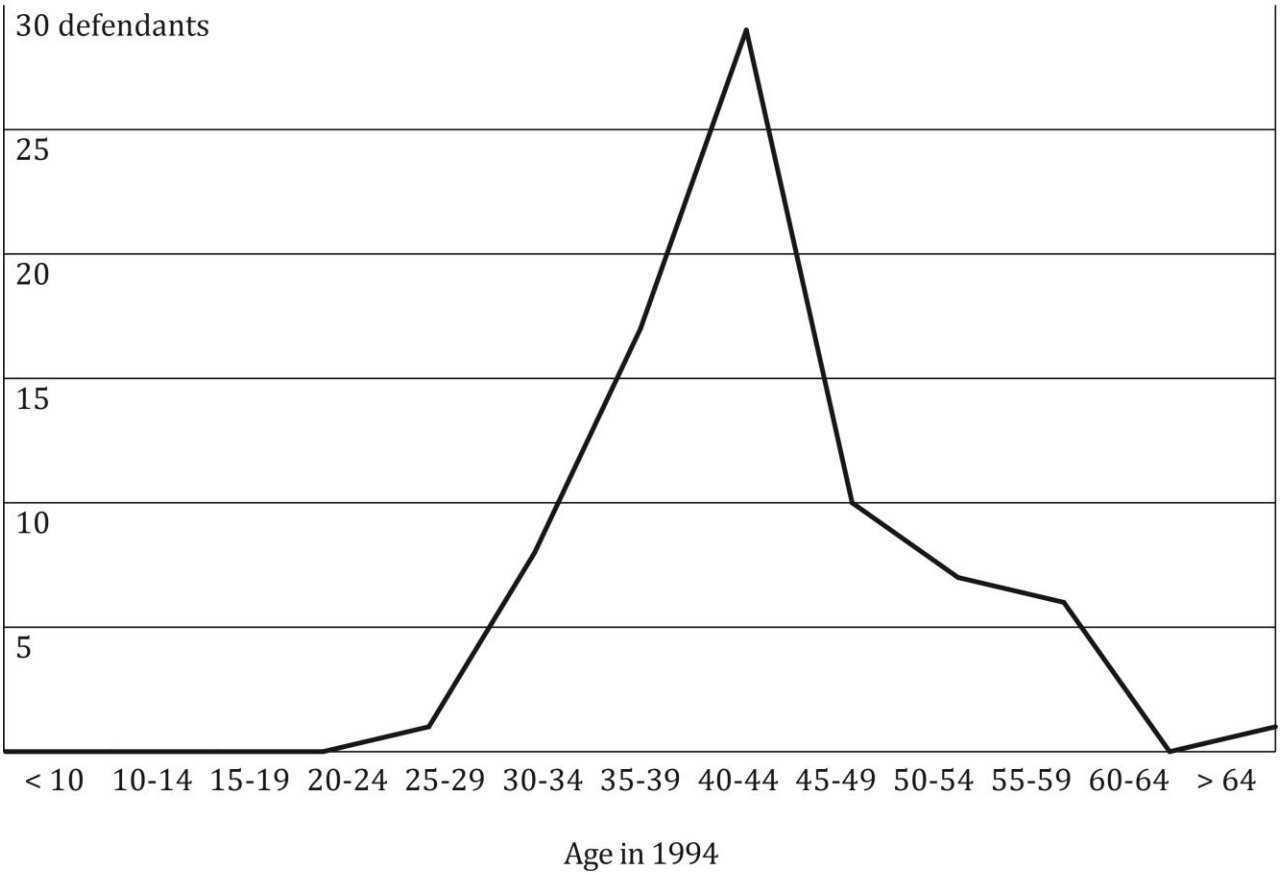
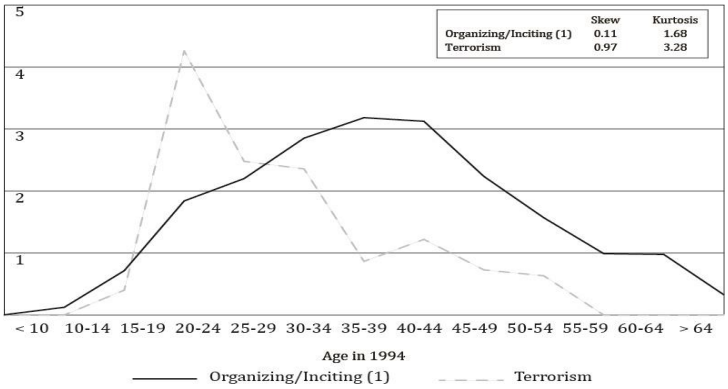
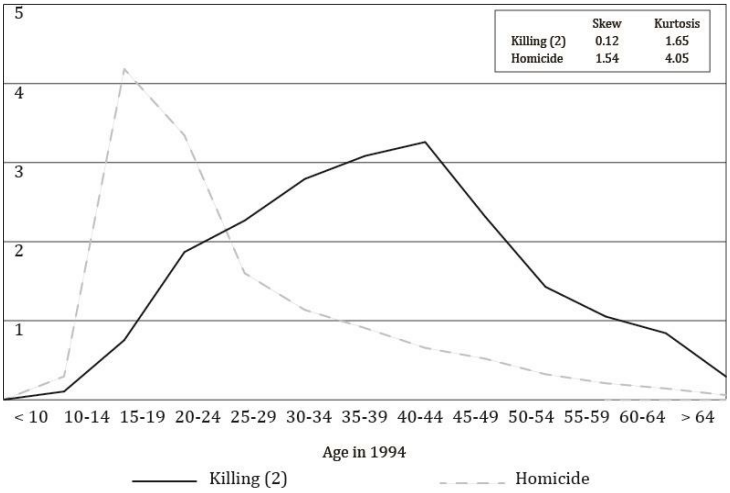


Figure 4. Comparison of *Gacaca* Crimes with Select Crimes (Age-Adjusted)





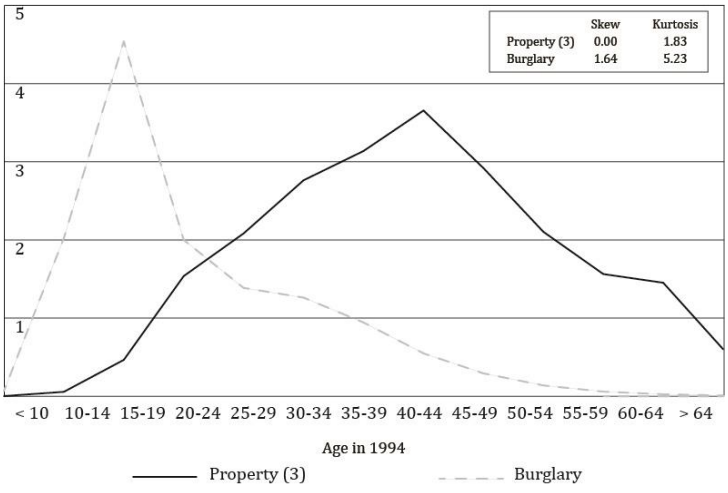


Figure 5. Sex Distributions of *Gacaca* Crimes versus U.S. Crimes (1994)

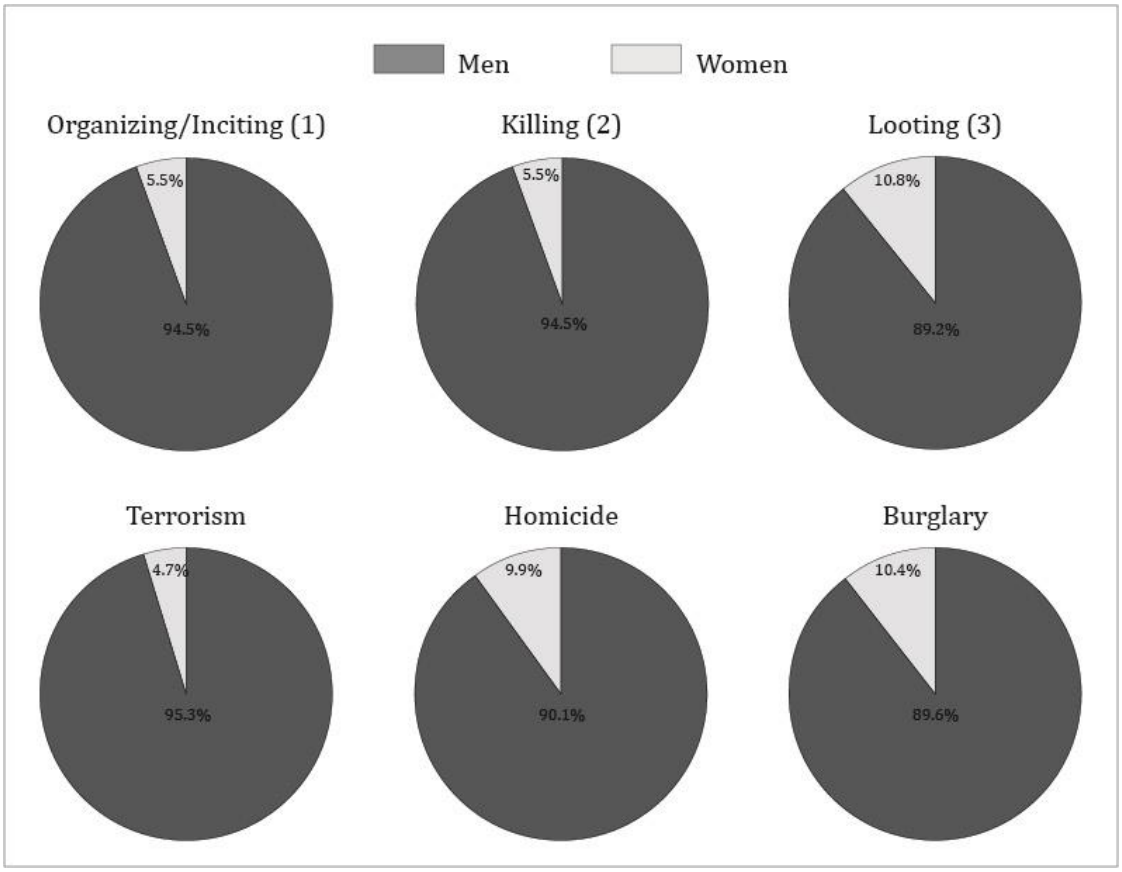
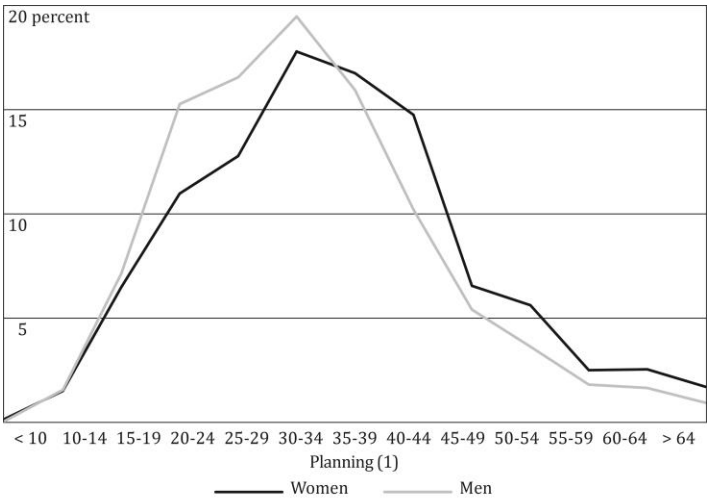
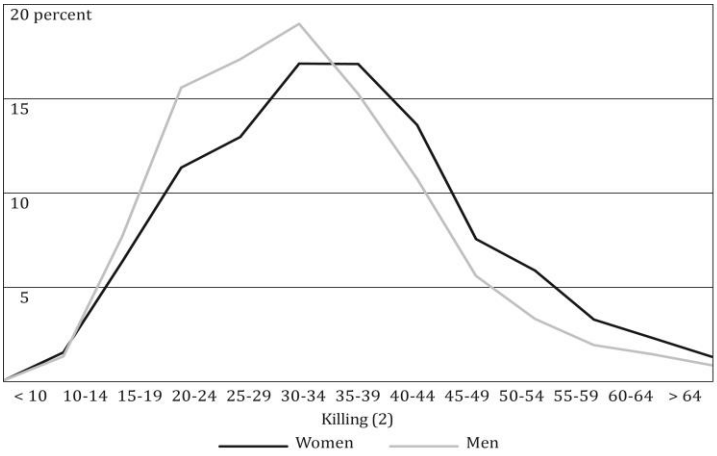
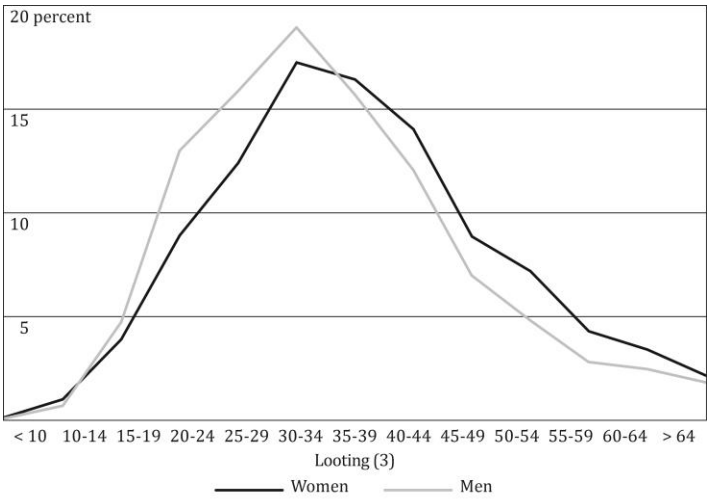


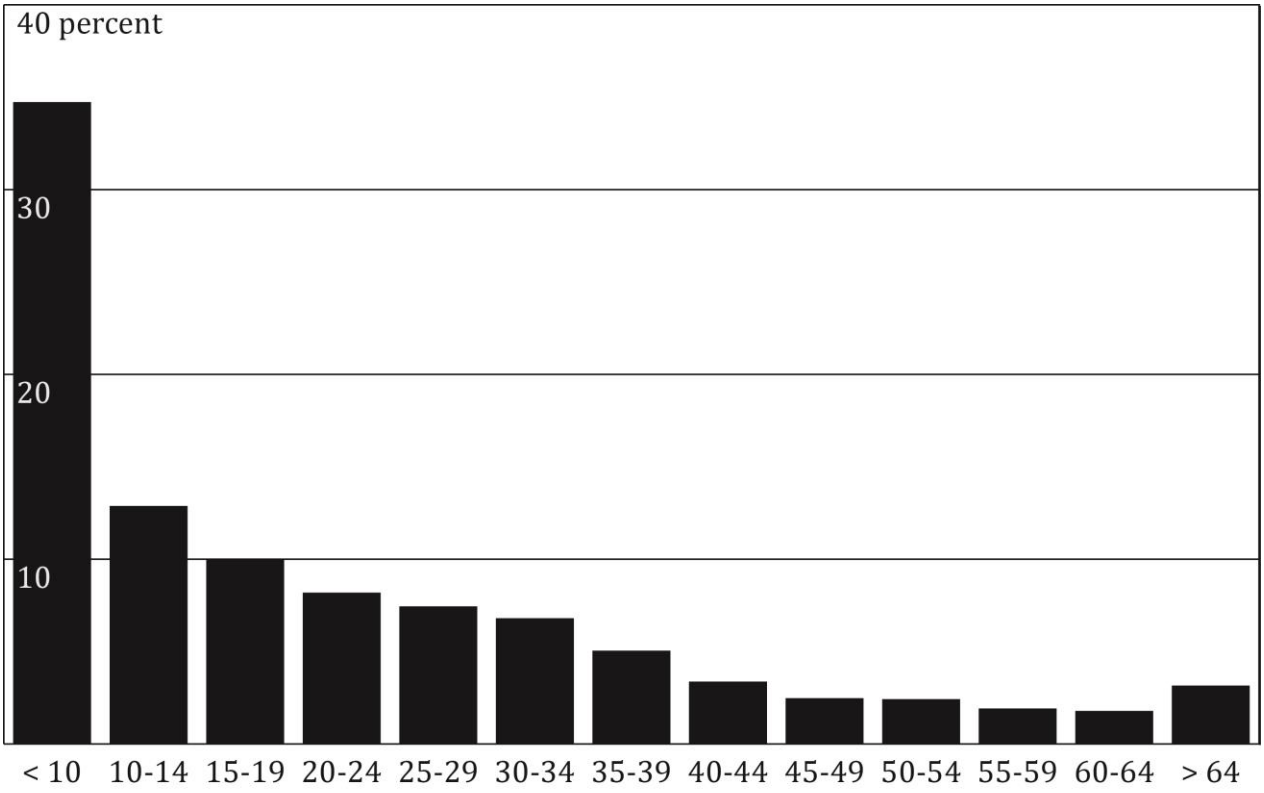
Figure 6. Sex-Specific Age-Crime Curves for Organizing and Inciting (1), Killing (2), and Looting (3)



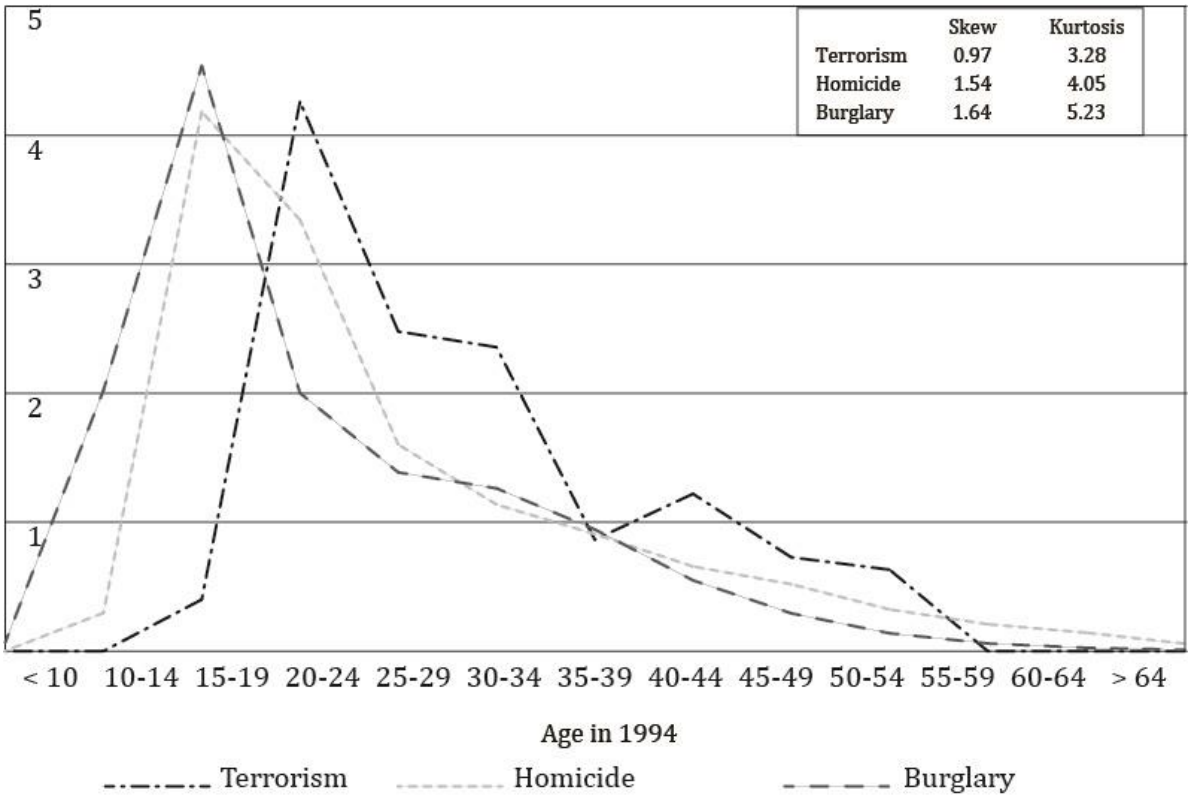




Appendix A. Age Structure of Rwandan Population, 1991



Appendix B. U.S. Age Distributions for Comparison Crimes, 1994



Appendix C. Age Distribution of Homicide, Murder, and Attempted Homicide in Rwanda, 2010