

# JUVENILE INMATES IN AN ADULT PRISON SYSTEM

## Rates of Disciplinary Misconduct and Violence

ATTAPOL KUANLIANG

*University of Louisiana at Monroe*

JON R. SORENSEN

*Prairie View A&M University*

MARK D. CUNNINGHAM

*Dallas, Texas*

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Rates of disciplinary misconduct and violence among juvenile male inmates ( $N = 703$ ) admitted to a state prison system from 1998 to 2002 are retrospectively examined. The prevalence and frequency of prison misconduct and violence are higher among juveniles than comparison groups of nearest age youthful adults ( $N = 3,640$ ) and adult prisoners generally ( $N = 33,114$ ), and this disparity between juvenile and adult inmates increases along with the severity of violence. This relationship is found to hold true even when other known correlates of prison violence are considered. In a logistic regression model that included educational level, gang affiliation, offense of conviction, and sentence length, age is found to be the most consistent and strongest determinant of prison violence, with those younger than 18 at entrance to prison being far more likely than adults to be involved in various levels of prison misconduct and violence.

**Keywords:** *disciplinary infraction; incarcerated juveniles; prison misconduct; prison violence; rule violation*

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Although offenders who are less than 18 years old at admission to prison represent a minority of inmates in adult prisons nationwide, they are a growing presence. A Bureau of Justice Assistance publication reported that the number of offenders younger than 18 admitted to state prison more than doubled from 3,400 in 1985 to 7,400 in 1997 (Austin, Johnson, & Gregoriou, 2000). In 2000, juveniles accounted for around 2% of new court commitments to adult state prisons (Sickmund, 2004). The Bureau of Justice Statistics estimated that there were 4,100 new court commitments to adult state prison systems in 2002 involving youth younger than 18 at the time of admission (Snyder & Sickmund, 2006).

The increasing number of juveniles in adult prisons is an outgrowth of two interrelated trends. First, juvenile crimes began a dramatic ascent across the nation during the 1980s.

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From 1984 through 1994, the arrest rate of juveniles for violent offenses increased by 78% (Austin et al., 2000). Diverging from declining adult rates, the crime rate for youth, particularly for violent crimes, continued to rise throughout the early 1990s. For example, although the rate of murder committed by persons ages 25 and older declined by 25% from 1985 to 1994, the homicide rate among 18- to 24-year-olds increased 61%, and among 14- to 17-year-olds, it increased 172% (Fox, 1996). It is important to note that the juvenile crime rate, particularly the violent crime rate, has declined in recent years, returning to the pre-crime wave rate of the mid-1980s (Zimring, 2005).

Second, the increasing incidence and severity of juvenile crime in the 1990s led many to question the efficacy of the juvenile justice system and to call for a harsher response to juvenile crime (Austin et al., 2000). Both federal and state legislatures responded, with 47 states and the District of Columbia revising their laws during the 1990s to facilitate the transfer of juveniles to adult criminal courts (Griffin, Torbet, & Szymanski, 1998). The changes mandated by these laws included lowering the age at which juveniles could be transferred to adult court, expanding the list of crimes for which juveniles could be transferred, and modifying the transfer process, such as by making it easier for prosecutors to file cases directly in adult courts (Parent, Dunworth, McDonald, & Rhodes, 1997). These revisions have had a substantial impact on the adjudication of juvenile offenders. In 2005, more than 23,000 youths younger than 18 years old were prosecuted in the adult criminal court (Perry, 2006). In addition to transferring cases to adult criminal court, 20 states as of 1999 had developed provisions for blended sentencing. Under certain conditions, this allowed juveniles sentenced to lengthy terms in juvenile court to be transferred to the adult correctional system after reaching a particular age (Redding & Howell, 2000). It is not surprising that the marked change in public policy toward juvenile offenders in the past 30 years has resulted in higher numbers of juveniles who enter into adult prisons (Sickmund, Snyder, & Yamagata, 1997).

The expanded presence of juveniles in adult correctional institutions is not without controversy. Some scholars (e.g., Bishop & Frazier, 2000; Ziedenberg & Schiraldi, 1998) have noted that the incarceration of juveniles in adult facilities may increase the potential for creating career criminals among these youth. Criminal trajectories may be encouraged by factors that are common to adult correctional facilities, such as association with hardened adult criminals and lack of rehabilitative programming. Other research has demonstrated that juveniles in adult facilities are at much greater risk of harm than youth in the custody of juvenile institutions (Austin et al., 2000). This includes research examining comparative rates of suicide (Flaherty, 1980), victimization (Austin et al., 2000; Maitland & Sluder, 1998), sexual victimization (Forst, Fagan, & Vivona, 1989), and physical violence by staff (Austin et al., 2000; Forst et al., 1989; Ziedenberg & Schiraldi, 1998).

Less studied has been the potential for juveniles in adult correctional systems to perpetrate acts of violence, as opposed to being targeted for victimization. Research findings of an inverse relationship between inmate age and the commission of prison disciplinary infractions and violence suggest that juvenile offenders may be disproportionately involved as perpetrators as well as victims of aggressive misconduct when placed in adult prisons. Numerous studies have reported that younger prisoners are more likely to participate in institutional violence and other rule infractions during confinement (e.g., Camp, Gaes, Langan, & Saylor, 2003; Cooke, 1998; Cunningham & Sorensen, 2006a, 2006b; Gendreau,

Goggin, & Law, 1997; Harer & Langan, 2001; Sorensen & Pilgrim, 2000; Sorensen, Wrinkle, & Gutierrez, 1998; Wooldredge, Griffin, & Pratt, 2001). However, these studies did not report the disciplinary outcomes for the youngest offenders in these prisons, those who were less than 18 years old when admitted to an adult correctional system.

Only one study could be identified that reported rates of misconduct among juveniles admitted to an adult correctional system. McShane and Williams (1989) reported on the prison adjustment of 55 offenders who had been younger than age 17 at the commission of their offense but who were generally older than age 18 upon entering Texas adult prisons from 1984 to 1987. Their comparison group included a sample of youthful adult inmates (those 17 through 21 at the commission of their offense) incarcerated during the same time period for serious personal offenses. The authors found that the juvenile offenders performed poorly on several measures of adjustment. Relative to the youthful adult comparison group, those who had begun incarceration as juvenile offenders tended to be housed in higher custody levels and were less likely to have achieved trusty status or work assignments. Furthermore, they were more likely to be reassigned to higher security levels during their first year of imprisonment and less likely to be eligible for physical contact visits. Most relevant to the current study, these juvenile offenders committed significantly higher numbers of major and minor rule violations. Their recalcitrance resulted in their being placed in administrative segregation at a rate nearly 4 times that of their youthful adult counterparts.

McShane and Williams were careful in choosing a control group that was comparable to the juvenile offenders. In any analysis attempting to isolate the influence of age on prison misconduct, it is necessary to consider a host of factors previously found to influence rates of misconduct among adult inmates. Chief among these are educational level (Fernandez & Neiman, 1998; Harer & Langan, 2001; Huebner, 2003), gang affiliation (Gaes, Wallace, Gilman, Klein-Saffran, & Suppa, 2002; Griffin & Hepburn, 2006; Sorensen & Pilgrim, 2000), offense of conviction (Cunningham & Sorensen, 2007; Sorensen & Pilgrim, 2000), and sentence length (Cunningham, Sorensen, & Reidy, 2005; Flanagan, 1980).

From studies examining the relationship between age and prison misconduct, it is clear that the age-crime curve present in the community also exists in the prison system. Unlike studies of crime in the "free world," however, studies of prison misconduct typically begin with young adults (18 years of age or older) so that the data are available to construct only the right-hand side (downward slope) of the age-misconduct curve. In McShane and Williams's study, juvenile offenders were defined as those who had committed crimes under the age of 17. With the exception of a few cases waived directly to the adult system, their sample of juvenile offenders included those that had served the first portion of a blended sentence in the Texas Youth Commission prior to being transferred to the adult prison system. As such, although their age at entrance to prison was not specifically mentioned in the article, very few of those entering prison were actually "juveniles" upon admission. Hence, although their study provides information about the behavior of juvenile offenders transferred to prison as adults, it does not provide information specifically about the behavior of juvenile inmates in adult correctional facilities.

What is known from the McShane and Williams investigation, as well as from other inmate studies, is that rates of prison misconduct and violence are highest among youthful adults (i.e., 18 to 21) and decrease thereafter. What still remains unknown is whether the

left-hand side of the age–misconduct curve mirrors that of the age–crime curve in the free world, where crime rates sharply ascend during the late adolescent years and peak in early adulthood (Blumstein, 1995; Sampson & Laub, 2003). What about juveniles who are not only juveniles at the time of the offense but those who are still juveniles upon entering the prison system? Based on how closely the downward slope of the age–misconduct curve found in studies of adult prisoners mirrors that of the age–crime curve among the free-world population, one might expect that the rate of prison misconduct among juvenile inmates would similarly follow the free-world pattern, rapidly ascending during the late adolescent years and peaking during early adulthood.

Two rationales, however, suggest that juveniles in adult prisons may peak earlier in their assaultive misconduct, deviating from a strict importation view of the age–crime relationship. First, those who reach adult prisons prior to their 18th birthdays differ in many significant ways from the adolescent population in the community. They have committed serious, often personal, crimes and hence are likely to be less amenable to following rules generally. Numerous studies have shown early age of onset to be the best predictor of future offending (Benda, Flynn, & Toombs, 2001; Cottle, Lee, & Heilbrun, 2001; Katsiyannis, Zhang, Barrett, & Flaska, 2004; Schwalbe, Fraser, Day, & Arnold, 2004; Windle & Mason, 2004). The findings from McShane and Williams suggest that this relationship holds true for prison misconduct as well. Those who committed crimes at a younger age were much more likely to violate prison rules than a comparison group of those entering prison for crimes committed when older. Second, numerous stressors and deprivations of the prison environment are likely to have a more severe influence on younger, less developmentally prepared inmates, resulting in greater adjustment problems (Bishop & Frazier, 2000). Given their lack of developmental ability to cope with the deprivations of the prison environment, one might expect that the age–misconduct curve is at its highest point for the youngest inmates entering prison or that the age–misconduct curve rises more steeply and peaks earlier than the age–crime curve in the free world.

## CURRENT STUDY

This study examined the records of juvenile inmates (17 years old or younger at admission) who were in custody of the adult prison system in the State of Florida to determine (a) the extent and severity of violent prison rule misconduct committed by juveniles, (b) how the findings regarding juvenile inmates' misconduct compare with the rate of misconduct among adult prison inmates, and (c) whether any observed differences in rates between juvenile and adult inmates can be explained by other factors typically found to influence rates of misconduct. This study is the first to illuminate the comparative risk that juveniles present when confined in adult prisons.

## METHOD

### PARTICIPANTS

The Florida Department of Corrections (FDOC) provided computerized data files containing disciplinary behavior, as well as demographic, conviction offense, sentence, and

institutional information, for inmates who had been incarcerated during the entire 2003 calendar year.<sup>1</sup> Correctional data from January 1, 1998, to December 31, 2002, were retrospectively searched to identify inmates who were younger than 18 years old upon entering FDOC institutions and who remained in prison through December 31, 2003. This resulted in a sample of 740 juvenile inmates, comprising 703 males and 37 females. For statistical purposes and because differing housing conditions and programming complicated comparability, the female juvenile inmates were excluded from this study. The final sample consisted of the 703 male juvenile inmates.

*Comparison group.* A comparison group was comprised of 33,114 male inmates who were 18 years of age or older meeting the same criteria. Because the behavior of incarcerated juveniles was the primary concern in this study, inmates who were 18 years old and older upon entering the FDOC were not treated as “juveniles” in the sample, even if they had been transferred as juveniles to the adult system for the commission of a delinquent act. The group of nearest age inmates, 18 to 20 years old, was extracted from the total adult inmate sample. This group of youthful inmates ( $N = 3,640$ ) served as the group most similar to the juveniles available for comparison.

## MEASURES

*Outcome variables.* Operational definitions of violent prison misconduct can range from a broad measure including all infractions with potentially violent consequences, regardless of whether any overt violence occurred, to a more restricted definition based on the overt commission of an assault or the degree of resultant injury. Examining a continuum of institutional violence provides the most informative base rate data and addresses concerns of overly broad definitions that have plagued research on prison aggression and associated predictive factors (see Edens, Buffington-Vollum, Keilen, Roskamp, & Anthony, 2005). Infraction and injury codes provided by the FDOC from official disciplinary records were aggregated for these analyses. No mechanism was available for estimating or controlling for variations in the discovery or enforcement of rule violations or the coding of misconduct at the time of disciplinary hearings.

For the first phase of the analysis, an array of disciplinary offenses indicative of violent institutional misconduct was identified. To create outcome variables, offenses were reordered into four categories of violent prison misconduct based on the level of seriousness: potentially violent misconduct, all assaultive rule violations, assaults resulting in injury, and assaults resulting in serious bodily injury. Potentially violent misconduct was aggregated from disciplinary infraction codes for threatening an officer, possession of a weapon, escape-related misconduct, rioting, fighting, and the commission of assaults or robberies. Assault was aggregated from any assault-coded misconduct, regardless of the presence of a weapon or severity of injury. Assault with injury was discerned from those assaults requiring first-aid treatment or beyond. Finally, assaults with serious injury (i.e., requiring treatment beyond first aid) were coded as a separate category. For the purpose of the logistic regression analyses, misconduct-related outcome variables were coded as dichotomous variables, a “1” indicating their presence and a “0” their absence.

*Predictive variables.* In addition to illuminating the comparative rates of assaultive institutional misconduct by juvenile offenders in an adult prison system, an objective of the

current research was to determine whether any observed relationship between juvenile status and disciplinary outcomes held when other potentially significant predictors of violence were considered. From the literature on institutional misconduct, it was hypothesized that the following variables would be beneficial in predicting violence: educational grade level, gang affiliation, type of conviction offense, length of sentence, and time to parole eligibility. Because the follow-up period was not standardized, time served was included as a control variable for time at risk.

Several predictive variables were dichotomized for analysis, again with "1" indicating their presence and "0" their absence. For the logistic regression analysis, age was divided into several categories: juveniles, 13- to 17-year-olds; youthful adults, 18- to 20-year-olds (excluded reference category); and adults, 21- to 25-year-olds, 26- to 30-year-olds, 31- to 35-year-olds, 36- to 40-year-olds, and 41-year-olds and older. Age was not included as a continuous variable for two reasons. First, the main concern of the research was with how one particular age group (juveniles) fared relative to those in other age groups. It would be impossible to include "juvenile" as a categorical variable and the remainder of "age" as a continuous variable. Second, it was suspected that the age–violence curve was not linear but would dip more dramatically during the younger years; hence, modeling the curve without breaking age into categories would have required a mathematical transformation of the age variable that would have complicated its interpretation.

Because of the difficulty of distinguishing gang members from nongang members (see Curry, 2000), the indicator for gang affiliation included prisoners who were suspected by staff of being gang members in addition to those who were confirmed gang members. The other dichotomous predictive variable was offense of conviction, violent or nonviolent. Although a more complete breakdown of this variable was possible (Sorensen & Cunningham, in press), the main concern in the current study was whether the initially observed differences in the rates of misconduct between juveniles and adults could be due to some other potentially influential variable. Because the major distinction between juveniles and adults was that juveniles were sentenced to prison much more often for violent offenses and thus were the most plausible confound, that category of conviction offense was included in the logistic regression models.

There were four continuous variables in the current research. The first was the Test of Adult Basic Education (TABE), a standardized educational achievement test administered in the State of Florida's institutions. Because it is a more reliable indicator of achievement than self-reported educational attainment, it was used as the measure of educational level in this study. The second was the length of sentence, recoded as 99 for inmates serving life, death, or terms of imprisonment of 100 years or more. Time served, the third continuous variable, was measured in years from the inmate's date of entrance between January 1, 1998, and December 31, 2002 through December 31, 2003. Because only inmates who served the entire 2003 calendar year were included in this study, the minimum follow-up period was 1 year. The fourth continuous variable, time to parole eligibility for each inmate as of December 31, 2003, was examined to test for a significant correlation between the expected date of release, also measured in years, and prison misconduct.

## PROCEDURES

Descriptive statistics for the predictive variables were calculated for juvenile and adult inmates (both the youthful and entire sample) to provide an overview of the demographic

**TABLE 1: Descriptive Characteristics of Juvenile, Youthful, and Adult Inmates<sup>a</sup>**

<i>Characteristic</i>	<i>Juvenile (N = 703)</i>			<i>Youthful (N = 3,640)</i>			<i>Adult (N = 33,114)</i>		
	<i>M</i>	<i>SD</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>%</i>
Age at entry	17.1	0.8		19.7	0.8		32.9	10.2	
Educational grade level (TABE)	7.0	3.0		7.9	3.2		7.6	3.4	
Gang member <sup>b</sup>			11.1			8.7			4.1
Violent conviction offense			72.3			59.1			49.3
Sentence length <sup>c</sup>	10.7	15.6		12.1	19.6		16.1	23.9	
Time served as of December 31, 2003	2.9	1.4		2.8	1.4		2.8	1.4	
Time to parole as of December 31, 2003 <sup>c</sup>	7.0	15.9		8.5	20.1		11.7	24.6	

NOTE: TABE = Test of Adult Basic Education; FDOC = Florida Department of Corrections.

a. Juvenile includes those younger than 18, youthful includes those age 18 through 20, and adult includes all inmates 18 years of age and older at admission to FDOC.

b. Gang membership suspected or confirmed.

c. For inmates serving life, death, or terms of imprisonment of 100 years or more, values were recoded to 99 years.

characteristics of each group. The prevalence and rate of various types and categories of aggressive misconduct were then calculated for juvenile and youthful/adult inmates, as well as for specific juvenile and adult age groups. Logistic regression models were used to identify the most significant risk factors related to binary prison misconduct outcomes for the combined sample of juvenile and adult prisoners.

## RESULTS

### DESCRIPTIVE DATA

Table 1 displays the descriptive characteristics of juvenile prisoners and the comparison groups. The mean age of the juvenile inmates at admission was 17 years old, about half the average age of the adult inmates (33 years old) but more similar to the youthful adult sample at just under 20 years of age. Striking in its developmental implications, 1 in 10 juvenile inmates was 15 years old or younger at admission.

Juvenile and youthful/adult prisoners had similar levels of academic underachievement, as reflected by their TABE scores. All groups were performing academically at the seventh-grade level. It is not surprising that just more than twice as many juvenile as adult inmates were affiliated with gangs, either confirmed or suspected by prison officials, although again juveniles were more comparable to the youthful adult subsample. Three fourths of the juvenile inmates were committed to prison for a violent offense, as compared to approximately half of the adult inmates. This overrepresentation reflects the types of offenses prompting their transfer to adult court. On average, however, adult inmates received longer sentences, also reflected in their time to eligibility for parole. The juvenile and adult inmates had similar average time periods "at risk" in prison, each group serving nearly 3 years by the end of 2003.

### COMPARATIVE INCIDENCE OF INSTITUTIONAL MISCONDUCT

Table 2 presents comparative data on disciplinary violations indicative of institutional violence among juvenile and adult inmates. Among all groups of inmates, fighting was the

**TABLE 2: The Comparative Prevalence (Frequency) of Potentially Violent Prison Misconduct Among Juvenile, Youthful, and Adult Inmates**

<i>Disciplinary Violation</i>	<i>Prevalence (Frequency) of Misconduct</i>		
	<i>Juvenile</i>	<i>Youthful</i>	<i>Adult</i>
Threaten officer	16.1% (.230)	11.3% (.152)	7.3% (.102)
Weapon possession	8.0% (.087)	5.1% (.054)	2.3% (.024)
Riot	7.4% (.081)	3.0% (.031)	1.1% (.011)
Fighting	24.0% (.307)	18.4% (.222)	9.6% (.110)
Assault (no weapon)	20.8% (.272)	11.8% (.147)	5.1% (.065)
Assault with weapon	4.3% (.046)	2.0% (.021)	0.8% (.008)
Robbery	0.1% (.001)	0.1% (.001)	0.01% (.0002)

**TABLE 3: Annual Rate of Disciplinary Outcomes per 1,000 Juvenile, Youthful, and Adult Inmates**

<i>Disciplinary Outcome</i>	<i>Juvenile</i>	<i>Youthful</i>	<i>Adult</i>	<i>Ratio of Juvenile to:</i>	
				<i>Youthful</i>	<i>Adult</i>
Total violations	2,558.48	1,895.41	937.17	1.3 : 1	2.7 : 1
Potentially violent rule violations	353.17	227.84	116.59	1.6 : 1	3.0 : 1
All assaultive rule violations	109.38	61.02	26.59	1.8 : 1	4.1 : 1
Assaults resulting in injuries	21.59	9.95	4.89	2.2 : 1	4.4 : 1
Assaults resulting in serious injuries	7.86	2.69	1.38	2.9 : 1	5.7 : 1

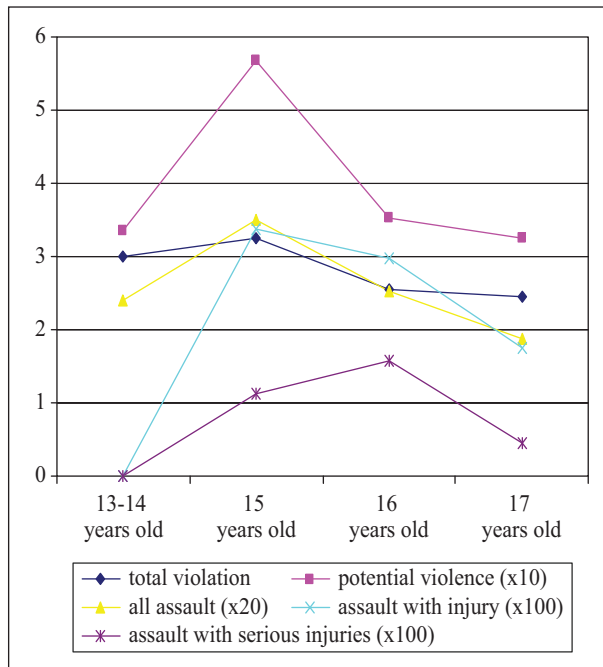
most common type of violent misconduct, followed by either assaults without a weapon or threats against staff. For each type of misconduct, both the prevalence and frequency among juvenile inmates was higher than that exhibited by youthful/adult inmates.

This overrepresentation of juveniles in prison misconduct and violence is most starkly depicted in Table 3, which presents comparative data on progressively more serious aggregate disciplinary outcomes as an annual rate per 1,000 inmates. Two observations are notable. First, the rate for all three groups markedly decreased as the severity of inmate misconduct increased. Second, the more serious the misconduct, the greater the overrepresentation of juveniles in comparison to adults was. The far right columns of Table 3 report the associated ratio between juvenile and youthful/adult rates of misconduct. In comparison to adults, juvenile prisoners had more than twice the rate of total disciplinary infractions, 3 times the rate of potentially violent misconduct, 4 times the rate of assault, more than 4 times the rate of assault with injury, and almost 6 times the rate of assault with serious injury. Although the ratio of juvenile to youthful adult prisoners was not as high, the pattern was similar, increasing from 30% more total violations to nearly 3 times the rate of assaults resulting in serious injuries.

#### AGE AND VIOLENT INSTITUTIONAL INFRACTIONS

Figure 1 presents the age trajectories for the rate of all five types of disciplinary outcomes committed by juvenile inmates. As shown in the figure, all types of aggregated violent misconduct illustrate an analogous trend, with age showing an inverse but also somewhat curvilinear relationship to institutional misconduct. Generally, the older the

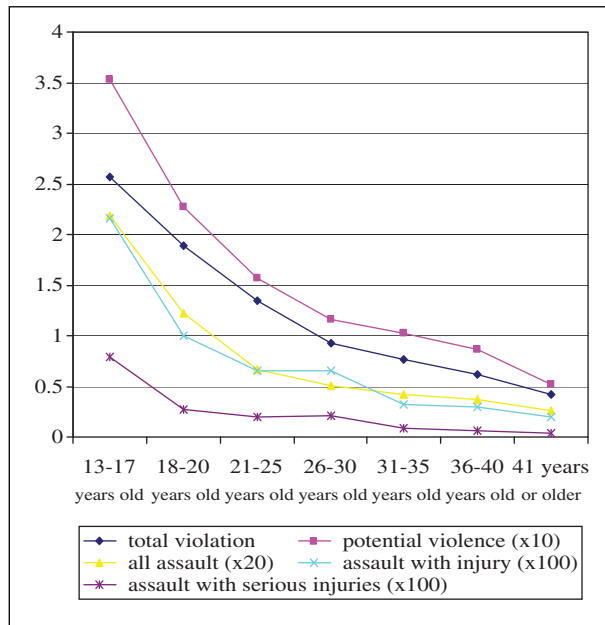




**Figure 1: Annual Infraction Rate for Juvenile Inmates by Age**

juvenile inmates upon entering the institutions, the less likely the inmates were to engage in violent misconduct. However, the peak for violent misconduct was among the 15-year-old age cohort, except for assault with serious injury, which crested at the entrance age of 16. The very youngest cohort of inmates, those 13 to 14 years old, presented an exception to the inverse relationship between age and infractions. This youngest group of inmates had lower levels of misconduct than the 15 year olds, and they did not commit any assaults resulting in injury. A caveat involves the timing of violence during the incarceration tenure. Acts of violence peaked 15 to 17 months following a juvenile inmate's incarceration, suggesting that the actual age at which juvenile prisoners committed violent acts was typically a year older than their age at entrance.

Figure 2 displays the age trajectories for the rate of violent prison infractions among the juvenile and adult prison populations. In this figure, inmates who entered prison when they were juveniles, younger than 18, were combined into one group, a 13- to 17-year-old age group. The adult population, inmates who were 18 and older upon entering the institutions, was categorized into the same six age groups described earlier. Like the trend noted among juveniles, the trend for adult inmates demonstrates parallel trajectories, illustrating a consistent negative relationship between age and various levels of violent institutional misconduct. The group with the highest of all institutional infraction rates was the juvenile age group. The lowest of all misconduct was found among the 41-year-old and older age group, whereas the remaining groups showed at first a steep and then more moderate decline as inmates' age upon entering the prison system increased.



**Figure 2: Annual Infraction Rate for All Prisoners by Age Categories**

#### LOGISTIC REGRESSION ANALYSIS

Logistic regression analysis was employed to distinguish characteristics between the juvenile and adult inmates who were more likely to be involved in various disciplinary outcomes and to determine whether factors commonly associated with rule violations among adult prisoners could account for the observed disparity in rates of misconduct between the juvenile and adult prisoners. Collinearity diagnostics suggested a strong relationship between time to parole and sentence length. Because these two variables were redundant and because sentence length had the strongest relationship to the outcome measures, time to parole was dropped from the proceeding logistic regression models. Although the control variable—time served—and the constant were included in the models, they were excluded from the tabular presentation.

In Table 4, the logistic regression coefficients for the combined sample of juvenile inmates on each of the five aggregated outcome measures are reported. The overall omnibus Area Under the Curve measures, ranging from .682 to .729, suggest that the models were moderately and consistently successful at predicting disciplinary outcomes. To gauge the consistency of influence for each individual predictor among prisoners, Table 4 should be read across. With the exception of violent conviction offense, the remaining predictor variables were found to be consistently related to the outcome variables.

Educational level (TABE) was found to be a significant predictor and also demonstrated a negative relationship with all outcome variables. These findings suggest that prisoners who had lower scores on the TABE exam had an increased likelihood of committing acts of prison misconduct. Using the exponent of the regression coefficient ( $Exp(B)$ ) shows an

**TABLE 4: Logistic Regression Models Predicting Disciplinary Outcomes Among Inmates (Combined Samples)**

Predictor Variables	Models				
	Total Violation	Potential Violence	All Assaults	Assault With Injuries	Assault With Serious Injuries
13 to 17 years old	0.545**	0.590***	0.574***	0.797***	1.232***
SE	.189	.085	.104	.198	.328
21 to 25 years old	-0.866***	-0.567***	-0.746***	-0.497***	-0.241
SE	.068	.046	.071	.150	.268
26 to 30 years old	-1.367***	-0.811***	-0.942***	-0.498**	-0.320
SE	.068	.049	.079	.158	.284
31 to 35 years old	-1.659***	-0.963***	-1.204***	-1.125***	-1.074**
SE	.068	.051	.086	.192	.357
36 to 40 years old	-1.988***	-1.155***	-1.238***	-1.236***	-1.301***
SE	.068	.054	.088	.203	.395
41 years old or older	-2.553***	-1.752***	-1.854***	-1.783***	-2.015***
SE	.066	.056	.096	.220	.460
TABE	-0.071***	-0.091***	-0.117***	-0.084***	-0.059*
SE	.004	.004	.008	.016	.027
Gang member	1.107***	0.613***	0.533***	0.502**	0.563*
SE	.100	.059	.087	.174	.289
Violent conviction offense	-0.178***	0.004	0.132**	0.006	-0.194
SE	.028	.030	.051	.108	.192
Sentence length	0.003***	0.002***	0.002*	0.004	0.007*
SE	.001	.001	.001	.002	.003
AUC	0.727***	0.682***	0.703***	0.696***	0.729***
SE	.003	.004	.006	.013	.022

NOTE: TABE = Test of Adult Basic Education; AUC = Area Under the Curve.

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

average decrease (across models) of about 10% in disciplinary infractions for each yearly increase in educational achievement. Inmates with gang affiliations were more likely to have been involved in all types of disciplinary violations. Adult prisoners who were suspected or confirmed gang members had nearly twice the likelihood, on average, of engaging in disciplinary violations in comparison to those who were not affiliated with gangs. Length of sentence was found to be positively related on all of the outcome measures and statistically significant on all but one. Although consistent, this relationship was slight in comparison to the influence of the other predictor variables.

Age at entry to the institution represents the strongest predictive category of variables in these models. Consistent with previous research, as the age at entry among adult prisoners increased, the likelihood of prisoners' various levels of violent prison misconduct violations decreased. Relative to the excluded reference category of youthful adult inmates (18 to 20-year-olds), inmates entering prison when they were 21 to 25 years old had the smallest negative regression coefficients, meaning that they were most similar to those in the reference category. Nonetheless, the odds ratio indicates that those in the 21- to 25-year-old age group were, on average, just more than half as likely to be involved in acts of disciplinary misconduct in comparison to those in the 18- to 20-year-old age group. Prisoners in the 26- to 30-year-old age group were just less than half as likely to be involved in disciplinary infractions, on average, in comparison to the reference group. For inmates in the 31- to

35-year-old and 36- to 40-year-old groups, the figure decreased to one third and one quarter as likely, respectively. Among the oldest age of entry group in this study, those older than 40, the odds of engaging in various types of disciplinary violations in comparison to those in the 18- to 20-year-old age group were only about one fifth as likely.

The biggest news is that related to the juvenile inmates. As noted in the bivariate analyses, inmates entering prison as juveniles were significantly more likely to become involved in prison rule violations even when the effects of the other potential confounds were taken into consideration in these models. Compared to the nearest age cohort, juveniles were 77% more likely, on average, to become involved in overall violations, potential violence, and general assaultive behavior. Furthermore, inmates who were juveniles upon entrance to the FDOC were 2.2 times as likely to commit an assault that resulted in injuries than their youthful adult counterparts and 3.4 times as likely to commit assaults that resulted in serious injuries controlling for other factors included in the models.

## DISCUSSION

The current study examined prison misconduct among juveniles in an adult prison system. The most prevalent violation for juvenile prisoners, as with adults, was fighting, followed by either assaults without a weapon or threatening an officer. Consistent with prior research, as the severity of reported violent misconduct increased among both juvenile and adult inmates in this study, the associated prevalence and rate progressively declined. Also consistent with other correctional data, the rate of assaults resulting in serious injury were low (Cunningham, Reidy, & Sorensen, 2008; Texas Department of Criminal Justice, 2007). The rate of these most serious assaults was 7.86 per 1,000 among the juvenile prisoners, 2.69 per 1,000 among youthful adult prisoners, and 1.38 per 1,000 among all adult prisoners.

An inverse relationship was found between age of the inmate and institutional misconduct across the range of severity levels from age 15 to 16 forward. The overrepresentation of juvenile inmates increased as the severity level of violence increased. Given that juveniles were most typically involved in misconduct during their second year of incarceration, the age-misconduct curve tends to resemble closely the more general age-crime curve found in the free world (Blumstein, 1995; Sampson & Laub, 2003). Although the explanation for these differences in the age-graded propensity for crime and misconduct is beyond the scope of this study (see Tittle & Grasmick, 1997), the strength of the association between juvenile inmates and prison misconduct and the shape of the age-misconduct curve would appear to lend support to an "importation" (i.e., the primacy of pre-prison and extra-prison variables inmates bring with them to the institution) as opposed to a "deprivation" (i.e., the primacy of prison-specific variables acting on the inmates) model in explaining the observed misconduct in this study (see Berg & DeLisi, 2006; Brown, 1990; Gover, MacKenzie, & Armstrong, 2000; Lawson, Segrin, & Ward, 1996). Before adopting this conclusion, however, alternative hypotheses should be considered. The nature of the data in this study did not allow scrutiny of the extent to which violence among these inmates was associated with their institutional vulnerability, fear of victimization, or retaliation in response to actual or threatened victimization. Such preemptive or retaliatory behaviors to ward off future victimization would have important "deprivation" elements. Such an alternative deprivation-related hypothesis would be consistent with MacKenzie's (1987) observation that the desire for

isolation from others and the fear of being victimized could possibly explain higher rates of misconduct committed by younger inmates.

The logistic regression models found three factors identified in prior research to have predictive utility in the current study. These were educational achievement (inversely related), prison gang affiliation (directly related), and sentence length (directly related). Even while controlling for the influence of these variables, the relationship between age and prison misconduct held. Just as in other studies, age was found to be the strongest and most consistent (inverse) predictor of prison misconduct and violence (Gendreau et al., 1997). The current study demonstrated progressively lower rates of violent prison misconduct among successively older cohorts of adult inmates at admission to prison.

### **CORRECTIONAL IMPLICATIONS**

Although the findings of this study have obvious important preventative implications for the focusing of staffing and programming resources on younger prisoners as well as on juvenile inmates in adult prisons, specific correctional implications are limited. In the absence of more information regarding these offenders, the interactional context of their misconduct, and their housing and programming, it is not possible to make even rudimentary recommendations for the management of juvenile inmates in an adult prison system. For example, it is unclear whether their overrepresentation in prison violence would be reduced (i.e., diffusing or “settling” effect) or increased (i.e., elevated victimization anxiety) by dispersing them among an older inmate population.

The progressive decline in all severities of misconduct as the age at admission to prison increased among inmates is important in several respects. First, this finding is consistent with a large body of research cited earlier demonstrating the strong relationship between age and institutional misconduct. Second, by disaggregating violent misconduct by varying levels of seriousness, the current results demonstrate that the previously referenced age-related inverse effect holds across all levels of misconduct and violence. Third, and consistent with other research (Cunningham et al., 2008; Flanagan, 1979, 1980; Sorensen & Cunningham, 2007; Sorensen & Pilgrim, 2000), age-related reductions in prison misconduct were demonstrated even for offenders who entered prison at an older age. This finding counters intuitive assertions that offenders who have “defied” the typical pattern of desistance from criminal behavior by committing offenses in the community at an older age might exhibit higher than expected levels of prison misconduct.

The academic underachievement of both juvenile and adult inmates in relation to their levels of offending in prison points out the importance of correctional educational programming. This recommendation has clear potential for positively affecting recidivism rates. Whether advances in literacy would be accompanied by reductions in prison misconduct is dependent on whether this factor is considered an importation or deprivation variable. In other words, although greater literacy at entrance into prison is associated with lower rates of institutional misconduct, it is not demonstrated by the current data whether advances in academic capability while in prison have a similar effect.

### **FUTURE RESEARCH**

Juvenile institutional misconduct is a relatively new issue deserving of further attention from scholars and penologists. Future research investigating comparative juvenile prisoner

misconduct may wish to consider combining self-report surveys and official records to provide a greater contextual understanding of the findings as well as to compare the uniformity of findings from two types of data sources. Moreover, data from other jurisdictions should be retrieved to test the consistency and external validity of these findings.

Clearly, the identification of comparative rates of institutional misconduct and violence among juvenile inmates in adult prisons is only the first step. Other predictor variables, if added in future research, could enhance the ability to discern and clearly explain the causes of prison violence among juvenile inmates. For example, institutional variables such as the inmate-to-staff ratio, prison crowding, program availability, and facility conditions have been shown to influence prison misconduct in previous research. Location and incident-level information relating to violent infractions should be examined to identify precursors to, and “hot spots” for, inmate violence. Furthermore, additional individual-level variables, such as those related to family background, drug or alcohol abuse, and mental health, may also increase the explanatory power of the models.

### NOTE

1. The FDOC was considered to be an optimal correctional context to study this issue. Approximately 7,000 juveniles have been tried as adults in Florida annually in recent years, making Florida a leader among states in the nation in trying juveniles as adults. Additionally, Florida housed approximately 10% of the 16,000 juveniles incarcerated in U.S. prisons (Reid, 2002).

### REFERENCES

- Austin, J., Johnson, K. D., & Gregoriou, M. (2000). *Juveniles in adult prisons and jails a national assessment* (Bureau of Justice Assistance Report No. NCJ 182503). Washington, DC: Bureau of Justice Assistance.
- Benda, B. B., Flynn, C. R., & Toombs, N. J. (2001). Recidivism among adolescent serious offenders: Prediction of entry into the correctional system for adults. *Criminal Justice and Behavior, 28*, 588-613.
- Berg, M. T., & DeLisi, M. (2006). The correctional melting pot: Race, ethnicity, citizenship, and prison violence. *Journal of Criminal Justice, 34*, 631-642.
- Bishop, D., & Frazier, C. (2000). Consequences of transfer. In J. Fagan & F. E. Zimring (Eds.), *The changing borders of juvenile justice: Transfer of adolescence to the criminal court* (pp. 227-276). Chicago: University of Chicago Press.
- Blumstein, A. (1995). Youth violence, guns, and the illicit-drug industry. *Journal of Criminal Law and Criminology, 86*, 10-36.
- Brown, G. C. (1990). Violence in California prisons: A test of the importation and deprivation models. *Dissertation Abstracts International, 51*(09), 3229A. (UMI No. 9103379)
- Camp, S. D., Gaes, G. G., Langan, N. P., & Saylor, W. G. (2003). The influence of prisons on inmate misconduct: A multi-level investigation. *Justice Quarterly, 20*, 501-533.
- Cooke, D. J. (1998). The development of the Prison Behavior Rating Scale. *Criminal Justice and Behavior, 25*, 482-506.
- Cottle, C. C., Lee, R. L., & Heilbrun, K. (2001). The prediction of criminal recidivism in juveniles: A meta-analysis. *Criminal Justice and Behavior, 28*, 367-394.
- Cunningham, M. D., Reidy, T. J., & Sorensen, J. R. (2008). Assertions of “future dangerousness” at federal capital sentencing: Rates and correlates of subsequent prison misconduct and violence. *Law and Human Behavior, 32*, 46-63.
- Cunningham, M. D., & Sorensen, J. R. (2006a). Actuarial model for assessing prison violence risk: Revisions and extensions of the risk assessment scale for prison (RASP). *Assessment, 13*, 253-265.
- Cunningham, M. D., & Sorensen, J. R. (2006b). Nothing to lose? A comparative examination of prison misconduct rates among life-without-parole and other long-term high-security inmates. *Criminal Justice and Behavior, 33*, 683-705.
- Cunningham, M. D., & Sorensen, J. R. (2007). Capital offenders in Texas prisons: Rates, correlates, and an actuarial analysis of violent misconduct. *Law and Human Behavior, 31*, 553-571.
- Cunningham, M. D., Sorensen, J. R., & Reidy, T. J. (2005). An actuarial model for assessment of prison violence risk among maximum security inmates. *Assessment, 12*, 40-49.
- Curry, G. D. (2000). Self-reported gang involvement and officially recorded delinquency. *Criminology, 38*, 1253-1274.
- Edens, J. F., Buffington-Vollum, J. K., Keilen, A., Roskamp, P., & Anthony, C. (2005). Predictions of future dangerousness in capital murder trials: Is it time to “disinvent the wheel.” *Law and Human Behavior, 29*, 55-86.

- Fernandez, K. E., & Neiman, M. (1998). California's inmate classification system: Predicting inmate misconduct. *The Prison Journal, 78*, 406-422.
- Flaherty, M. G. (1980). *An assessment of the national incidence of juvenile suicide in adult jails, lockups, and juvenile detention centers*. Urbana-Champaign: Community Research Forum, University of Illinois at Urbana-Champaign.
- Flanagan, T. J. (1979). *Long-term prisoners: A study of the characteristics, institutional experience and perspectives of long-term inmates in state correctional facilities*. Unpublished dissertation, School of Criminal Justice, State University of New York at Albany.
- Flanagan, T. J. (1980). Time served and institutional misconduct: Patterns of involvement in disciplinary infractions among long-term and short-term inmates. *Journal of Criminal Justice, 8*, 357-367.
- Forst, M., Fagan, J., & Vivona, T. S. (1989). Youth in prisons and state training schools. *Juvenile and Family Court Journal, 39*, 1-14.
- Fox, J. A. (1996). *Trends in juvenile violence: A report to the United States Attorney General on current and future rates of juvenile offending*. Washington, DC: Bureau of Justice Statistics.
- Gaes, G. G., Wallace, S., Gilman, E., Klein-Saffran, J., & Suppa, S. (2002). The influence of prison gang affiliation on violence and other prison misconduct. *The Prison Journal, 82*, 359-385.
- Gendreau, P., Goggin, C. E., & Law, M. A. (1997). Predicting prison misconducts. *Criminal Justice and Behavior, 24*, 414-431.
- Gover, A. R., MacKenzie, D. L., & Armstrong, G. S. (2000). Importation and deprivation explanations of juveniles' adjustment to correctional facilities. *International Journal of Offender Therapy and Comparative Criminology, 44*, 450-467.
- Griffin, M. L., & Hepburn, J. R. (2006). The effect of gang affiliation on violent misconduct among inmates during the early years of confinement. *Criminal Justice and Behavior, 33*, 419-448.
- Griffin, P., Torbet, P., & Szymanski, L. (1998). *Trying juveniles as adults in criminal court: An analysis of state transfer provisions* (Office of Juvenile Justice and Delinquency Prevention Report No. NCJ 172836). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Harer, M. D., & Langan, N. P. (2001). Gender differences in predictors of prison violence: Assessing the predictive validity of a risk classification system. *Crime & Delinquency, 47*, 513-536.
- Huebner, B. M. (2003). Administrative determinants of inmate violence: A multilevel analysis. *Journal of Criminal Justice, 31*, 107-117.
- Katsiyannis, A., Zhang, D., Barrett, D. E., & Flaska, T. (2004). Background and psychosocial variables associated with recidivism among adolescent males: A 3-year investigation. *Journal of Emotional and Behavioral Disorders, 12*, 23-29.
- Lawson, D., Segrin, C., & Ward, T. (1996). Relationship between prisonization and social skills among prison inmates. *The Prison Journal, 76*, 293-309.
- MacKenzie, D. (1987). Age and adjustment to prison: Interaction with attitudes and anxiety. *Criminal Justice and Behavior, 14*, 427-447.
- Maitland, A. S., & Sluder, R. D. (1998). Victimization and youthful prison inmates: An empirical analysis. *The Prison Journal, 78*, 55-73.
- McShane, M. D., & Williams, F. P., III. (1989). The prison adjustment of juvenile offenders. *Crime & Delinquency, 35*, 254-269.
- Parent, D., Dunworth, T., McDonald, D., & Rhodes, W. (1997). *Key legislative issues in criminal justice: Transferring serious juvenile offenders to adult courts* (National Institute of Justice Report NCJ 161840). Washington, DC: National Institute of Justice.
- Perry, S. W. (2006). *Prosecutors in state courts, 2005* (Bureau of Justice Statistics Report No. NCJ 213799). Washington, DC: Bureau of Justice Statistics.
- Redding, R. E., & Howell, J. C. (2000). Blended sentencing in American juvenile courts. In J. Fagan & F. E. Zimring (Eds.), *The changing borders of juvenile justice: Transfer of adolescence to the criminal court* (pp. 145-179). Chicago: University of Chicago Press.
- Reid, S. T. (2002). *Criminal justice* (6th ed.). Cincinnati, OH: Atomic Dog.
- Sampson, R. J., & Laub, J. H. (2003). Life-course desisters? Trajectories of crime among delinquent boys followed to age 70. *Criminology, 41*, 555-592.
- Schwalbe, C. S., Fraser, M. W., Day, S. H., & Arnold, E. M. (2004). North Carolina Assessment of Risk (NCAR): Reliability and predictive validity with juvenile offenders. *Journal of Offender Rehabilitation, 40*, 1-22.
- Sickmund, M. (2004). *Juveniles in corrections* (Office of Juvenile Justice and Delinquency Prevention Report No. NCJ 202885). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Sickmund, M., Snyder, H. N., & Yamagata, E. P. (1997). *Juvenile offenders and victims: 1997 update on violence* (National Center for Juvenile Justice Report No. NCJ 165703). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Snyder, H. N., & Sickmund, M. (2006). *Juvenile offenders and victims: 2006 national report* (National Center for Juvenile Justice Report No. NCJ 212906). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Sorensen, J. R., & Cunningham, M. D. (2007). Operationalizing risk: The influence of measurement choice on the prevalence and correlates of violence among incarcerated murderers. *Journal of Criminal Justice, 35*, 546-555.

- Sorensen, J. R., & Cunningham, M. D. (in press). Conviction offense and prison violence: A comparative study of murderers and other offenders. *Crime & Delinquency*.
- Sorensen, J. R., & Pilgrim, R. L. (2000). An actuarial risk assessment of violence posed by capital murder defendants. *Journal of Criminal Law and Criminology*, *90*, 1251-1270.
- Sorensen, J., Wrinkle, R., & Gutierrez, A. (1998). Patterns of rule-violating behaviors and adjustment to incarceration among murderers. *The Prison Journal*, *78*, 222-231.
- Texas Department of Criminal Justice. (2007, October). *Emergency Action Center select statistics: September, 2006. Executive Services Department*. Huntsville, TX: Author.
- Tittle, C. R., & Grasmick, H. G. (1997). Criminal behavior and age: A test of three provocative hypotheses. *Journal of Criminal Law and Criminology*, *88*, 309-342.
- Windle, M., & Mason, W. A. (2004). General and specific predictors of behavioral and emotional problems among adolescents. *Journal of Emotional and Behavioral Disorders*, *12*, 49-61.
- Wooldredge, J., Griffin, T., & Pratt, T. (2001). Considering hierarchical model for research on inmate behavior: Predicting misconduct with multilevel data. *Justice Quarterly*, *18*, 203-231.
- Ziedenberg, J., & Schiraldi, V. (1998). Risks juveniles face when incarcerated with adults. *Reclaiming Children and Youth*, *7*, 83-86.
- Zimring, F. E. (2005). *American juvenile justice*. New York: Oxford University Press.

**Attapol Kuanliang**, PhD, is an assistant professor of criminal justice at the University of Louisiana at Monroe. He is an associate editor of *International Journal of Crime, Punishment and the Law*. His areas of interest include institutional misconduct, juvenile justice and delinquency, quantitative research, and program evaluation.

**Jon R. Sorensen**, PhD, is a professor of justice studies at Prairie View A&M University. His areas of research interest include prison violence, risk assessment, capital punishment, and criminal justice education.

**Mark D. Cunningham**, PhD, maintains a forensic psychology practice in greater Dallas, Texas. He was recognized with the 2006 American Psychological Association Award for Distinguished Contributions to Research in Public Policy.