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Criminal attitudes and psychopathic personality attributes of youth gang offenders in Singapore

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Gang-affiliated youth are responsible for a disproportionate amount of serious and violent offenses. However, there is scant focus on the psychological variables that could be important for treatment planning and program development. Awareness of these variables is important for treatment planning and program development and also, potentially, for understanding which youth may be attracted to gangs. This study compared the criminal attitudes and psychopathic personality attributes of gang- and nongang-affiliated youth offenders ($N = 168$) residing in youth correctional institutions in Singapore. Multivariate analyses indicated that favorable attitudes toward gangs (ATG), violence, and criminal associates remained significantly associated with gang membership after accounting for favorable attitudes toward violence and criminal associates, as well as increased attitudes of entitlement and impulsive/irresponsible traits. These attitudes were likely to perpetuate gang affiliation and criminal behavior, and thus should be a focus for intervention and rehabilitation efforts.

Keywords: criminal attitudes; delinquency; gangs; psychopathy; youth offenders

Introduction

Youth gangs are an important focus of contemporary research into youth crime and delinquency, due to the fact that gang-affiliated youth are responsible for a disproportionate amount of serious and violent criminal offenses (Thornberry, 1998) with their concomitant social, legal, and criminal justice costs (Covey, 2003). To date, much of the research into gang affiliation and activity has been criminological and sociological in nature (Bennett & Holloway, 2004; Wood & Alleyne, 2010), but there has been some recent focus on the psychological and personality variables that are associated with gang affiliation (Alleyne & Wood, 2010; Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003). An examination of individual differences and psychological processes is important for treatment planning and program development and also, potentially, to understand which youth may be more likely to be attracted to joining and remaining in gangs in order to help develop preventive measures.

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Understanding why youth join gangs and engage in gang activities

Integrating the Control and Social Learning Theories (e.g., Akers, 1997; Hirschi, 1969), Thornberry and Krohn's (2001) Interactional Theory posits that gang membership is a consequence of a reciprocal relationship between the individual and peer groups, social structures, as well as a learning environment that fosters and reinforces delinquency. It is also widely documented that gang membership can occur as a result of selection, facilitation, and enhancement processes (e.g., Gatti, Tremblay, Vitaro, & McDuff, 2005; Gordon et al., 2004; Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993). Nevertheless, the Interactional Theory acknowledges that not all members are similar within gangs. Therefore, understanding the individual differences and psychological processes (e.g., examining the differences in psychological and personality attributes between the gang- and nongang-affiliated youth) is of conceptual importance in the development of a comprehensive gang theory (Wood & Alleyne, 2010).

Youth gangs and delinquency

There is no universally accepted definition of 'youth gang,' but some scholars have defined a youth gang as 'any durable, street-oriented youth group whose own identity includes involvement in illegal activity' (Klein, Weerman, & Thornberry, 2006, p. 418), and may present as a self-formed group that is united by mutual interests, controls particular territories or enterprises, and employs symbols in communications (see Howell, 1998 for a review). Studies in western contexts have shown that youth gang members were significantly more likely than nongang-affiliated youth to engage in a variety of offenses that include, but are not limited to, violent and drug offenses as well as using weapons (Curry, 2000; Curry, Decker, & Egley, 2002; Esbensen & Huizaga, 1993; Huff, 1998; Klein et al., 2006; Thornberry et al., 1993; White & Mason, 2006). Youth gang membership was also associated with a higher rate of offending even after accounting for the effect of having delinquent friends (Alleyne & Wood, 2010; Battin, Hill, Abbott, Catalano, & Hawkins, 1998; Klein et al., 2006). Furthermore, the strength of association the youth has with a gang is associated with their rates of delinquency. Although full-fledged gang members report the highest levels of delinquency, those who are just associated with a gang still report engaging in more delinquent behaviors than those not affiliated in any way (Alleyne & Wood, 2010; Curry et al., 2002).

Recent work by Melde and Esbensen (in press) suggested that youth gang affiliation is associated with involvement in violent crime and delinquency above and beyond the effect of general offending; moreover, the youth continue to offend at a higher level than nongang youth even after leaving gangs. Another study by Matsuda and colleagues (in press) found that one of the reasons why youth gang members commit more violent offenses than their nongang counterparts is the amplification of youth's proviolence tendency (which they believe is a means to maintain and obtain respect) as they join gangs. Importantly, it appears that youth gang membership fosters attitudinal shifts that facilitate the perpetuation of violence (Matsuda et al., in press). Furthermore, Esbensen and colleagues (2009) showed that although serious violent offending is present in youth with relatively few risk factors, youth gang members have higher risk of serious violent offending than their nongang counter-

parts when the number of risk factors is significant (e.g., more than 10). Overall, it appears that any form of association with a gang increases the chances that the youth will engage in antisocial or otherwise delinquent behavior, but there seems to be other factors in play too.

Criminal attitudes, psychopathic personality traits, and gang membership

Criminal attitudes are considered one of the 'Big Four' risk/needs factors that are central to predicting and managing the risk of criminal recidivism (Andrews, Bonta, & Wormith, 2006), so it is important that criminal thinking patterns and attitudes are fully identified and addressed as part of intervention programs. Moreover, consistent with contemporary models of aggressive behavior, which suggest habitually violent individuals hold more attitudes supportive of violence (Anderson & Huesmann, 2007), Vasquez and colleagues (2012) found that the manner in which youth gang members thought about aversive and provoking events was associated with their aggressive behaviors toward others. In addition, gang-affiliated youth are likely to perceive aggression as a normal response to aversive events (Decker & van Winkle, 1996; Klein, 1995), and they are likely to retaliate when their gangs' honor is threatened or attacked (Vasquez, Lickel, & Hennigan, 2010).

On a related note, Thornberry, Lizotte, Krohn, & Jang (1994) also revealed that association with delinquent peers might contribute to the development and maintenance of delinquent beliefs, which highlights the importance of socialization processes. In addition, pertaining to weapon use, studies have suggested that youth carried and used weapons because they had (a) involved in gangs and fights, (b) had previously been victimized, (c) felt unsafe, as well as (d) felt the need for protection (e.g., Cao, Zhang, & He, 2008; DuRant, Getts, Camdenhead, & Woods, 1995; Erickson et al., 2006; Forrest, Zychowski, Stuhldreher, & Ryan, 2000; Wilcox & Clayton, 2001). Although the literature has consistently documented an association between criminal attitudes and criminal offending behavior (e.g., Andrews et al., 2006; Mills, Kroner, & Hemmati, 2004), there have been few studies that have directly examined the criminal attitudes within youth gang members. Specifically, there is a need to examine the differences between those criminal attitudes endorsed by the youth gang offender and those endorsed by their nongang counterparts. Such investigations will help to elucidate the antisocial psychological processes that underpin the gang-affiliated youth offenders' criminal and violent offending behaviors.

With regard to psychopathic personality traits, recent research has demonstrated that youth psychopathy is an important risk factor for future antisocial and violent offending behaviors (Gretton, Hare, & Catchpole, 2004; Lynam, Miller, Vachon, Loeber, & Stouthamer-Loeber, 2009; Salekin, 2008). Other researchers have found that callous and unemotional traits predicted aggression and conduct problems in adolescents (Frick, Cornell, Berry, Bodin, & Dane, 2003). Pertaining to gang-affiliated youth, studies have shown that certain psychopathic personality traits (e.g., low empathy and poor impulse control) may be important in determining who will join a gang (e.g., Dupéré, Lacourse, Willms, Vitaro, & Tremblay, 2007; Valdez, Kaplan, & Codina, 2000). Identification of these traits may help with the management of the youth (e.g., responsivity issues), as well as provide opportunities for youth to address their empathy and impulsivity issues.

Taken together, criminal attitudes and psychopathic personality traits appear to be major predictors of future criminal behavior in youth offenders, and examining the differences between the gang- and nongang-affiliated youth offender (in these aspects) may provide insights to the rehabilitation of youth gang offenders. For example, if gang-affiliated youth offenders have different or more entrenched criminal attitudes from their nongang counterparts, then attitudinal change would necessarily become a core component of youth gang intervention program.

Youth gangs in Singapore

Secret societies have been active in Singapore since the early nineteenth century, and they played a significant role in the protection and livelihoods of the Chinese immigrants (Lim, 1999). In recent years, secret societies in Singapore have been greatly suppressed through tough laws (e.g., the Criminal Law [Temporary Provisions] Act, 2004) and rigorous law enforcement. Nevertheless, street gangs, predominantly consisting of youth, remain operational and continue to pursue criminal activities and engage in violence (Ministry of Home Affairs, 2006). Loosely modeling themselves after triads and secret societies, youth gangs in Singapore tend to adopt the names of secret societies but they are different in some aspects (Covey, 2003). For example, triads and secret societies are considered highly organized crime groups, but youth gangs have typically abandoned the traditional secret society practices (e.g., initiation and rituals), and tend to be loosely organized in terms of structure and hierarchy.

Within the Singaporean context, rioting¹ was one of the three most common youth crimes, and almost 13% of all youth offenders were arrested for rioting offenses in 2010 (Singapore Police Force, 2008). Findings from a local study have shown that 87.6% of youth rioters were reportedly involved with gangs (Subordinate Courts of Singapore, 1998). Although Ang and Huan (2008) found that gang membership did not significantly predict general recidivism among a cohort of 772 youth offenders in Singapore, further examination of an older subsample ($n = 390$) within this cohort revealed that the gang-affiliated offenders were more likely than the nongang-affiliated to recidivate violently (Ang, Huan, Chua, & Lim, 2012). In addition, those who were not gang members but associated with gang-affiliated peers were also more likely to recidivate violently than those without gang affiliation, but less likely than full-fledged gang members.

More recently, in their retrospective study of 165 youth offenders, Chu and colleagues (2012) found that gang-affiliated youth offenders were more likely to engage in general and violent recidivism when compared with their nongang-affiliated counterparts, even after accounting for potentially confounding effects of age at first charged offense, substance use, and time at risk. Moreover, the gang-affiliated youth offenders were more likely to have a history of violent offending behaviors, substance use, and weapons use when compared with nongang-affiliated youth offenders. Furthermore, gang-affiliated youth offenders scored higher than their nongang counterparts with regard to negative peer association on two risk assessment measures, which suggests that they have higher criminogenic needs in this respect (Chu, Daffern, Thomas, & Lim, 2011).

Present study

Although some studies have examined the psychological and personality attributes of youth gang offenders, there is a dearth of such studies in the non-Western contexts and few of these studies have made comparisons of gang- and nongang-affiliated youth offenders. Considering that such attitudes and personality traits likely serve to perpetuate gang affiliation and criminal behavior, comparisons between gang- and nongang-affiliated youth offenders would elucidate the pertinent differences and provide information for culturally sensitive psychological interventions. Therefore, the primary aim of this study was to describe the differences in criminal attitudes and gang-related attitudes between groups, as well as to examine the psychopathic personality traits in gang- and nongang-affiliated youth offenders within a non-Western context. The following hypotheses were tested:

Hypothesis 1: The gang-affiliated youth offenders would have significantly more procriminal attitudes toward offending and gangs than the nongang-affiliated youth offenders.

Hypothesis 2: The gang-affiliated youth offenders would have significantly more psychopathic personality traits than the nongang-affiliated youth offenders.

Method

Source sample

The sample comprised 168 male youth aged between 13 and 18 years that were recruited from a source sample of 175 male youth (168/175; 96%) who were admitted to Singaporean youth correctional institutions between 22 April 2010 and 30 November 2011 as a result of criminal offending; seven (4%) youth from the source sample declined to participate in the study. Of these 168 youth, 90 (53.6%) and 78 (46.4%) were recruited from the Singapore Boys' Home (SBH) and the Singapore Boys' Hostel (SBHL), respectively. These institutions provide rehabilitation services to male youth offenders. With regard to index offenses, 52 (31%) of the youth had violent offenses, 10 (6%) had sexual offenses, and 129 (76.8%) had nonviolent nonsexual offenses². The differences in the mean age of the subsamples were nonsignificant.

Ethics

Ethical approval for the research was obtained through Monash University and the Clinical and Forensic Psychology Branch (CFPB) of the Ministry of Social and Family Development (previously known as the Ministry of Community Development, Youth and Sports).

Procedure

This study examined consecutive admissions to the SBH and SBHL. Information was collected from multiple data sources, which included (a) psychological reports, (b) charge sheets, (c) presentence reports prepared by probation officers, (d) a battery of psychometric questionnaires, and (e) a semistructured interview that was administered by a trained research assistant (e.g., questions were asked about the

identity of their gang, where they operated, the sort of activities that they engaged in, as well as the duration of their membership). The research assistant administered the questionnaires and a semistructured interview within 8 weeks of the youth admission to the institutions. The research assistant also assisted with translation of the questionnaires when the participants had difficulties with English; however, it should be noted that the questionnaires were modified to ensure that the items were culturally sensitive. In addition, the research assistant was aided by detailed coding guidelines when coding the variables from file information.

Classification of the gang-affiliated youth offender

Klein et al.'s (2006) definition of a youth gang was adopted in the present study. Specifically, youth offenders were classified as 'gang affiliated' if they had (a) stated their membership of specific youth gangs (i.e., those that met Klein et al.'s criteria) during the assessment/interview, and/or (b) had official records (including gang intelligence reports from the institutions) that indicated affiliation to specific youth gangs. Having gang members as peers or criminal associates did not automatically qualify the youth as 'gang affiliated.' The research assistant also checked with the gang-affiliated youth offenders about the duration of their gang affiliation during the interviews. Information revealed by the participants pertaining to gang affiliation and activities were corroborated with the staff members who were in-charge of gathering intelligence within the institutions. Any discrepancies were resolved through further clarifications with the staff members and the participants.

Measures

Attitudes toward gangs (ATG; Nadal, Spellmann, Alvarez-Canino, Lausell-Bryant, & Landsberg, 1996). The ATG is a nine-item questionnaire that measures the youth's attitude toward gangs. This measure is purportedly useful for screening the youth's potential for gang involvement. Two of these nine items (i.e., 'I will probably join a gang,' and 'I belong to a gang') were taken out of the analyses as some of the participants have already indicated that they were affiliated to the gangs. The inclusion of these two items might confound the examination of ATG between the gang-affiliated and nongang-affiliated youth offenders. Some examples of the remaining items included 'I think you are safer, and have protection if you join a gang,' 'Some of my friends at school belong to gangs,' 'I think it is cool to be in a gang,' and 'I believe it is dangerous to join a gang; you will probably end up getting hurt or killed if you belong to a gang.' In addition to the questions about ATG, two items in this questionnaire asked about whether the youth's family and peers had been involved in gangs. Each of the remaining seven items was rated *True* or *False*, and the total score was derived by adding the item scores.

Measure of criminal attitudes and associates (MCAA; Mills et al., 2004). The MCAA is a two-part self-report measure assessing antisocial attitudes, criminal attitudes, and criminal associations. Part A of the MCAA assesses the criminal involvement of associates whom they spend the most time with, whereas part B of the MCAA consists of 46 items (scored either as *present* or *absent*) that assess criminal attitudes along four subscales – *violence* (e.g., 'It is understandable to hit someone who insults you'), *entitlement*³ (e.g., 'Taking what is owed to you is not really

stealing'), *antisocial intent* (e.g., 'I would be open to cheating certain people'), and *associates* (e.g., 'I have a lot of common with people who break the law'). The items in part B were scored and added to derive the total score, as well as the subscale scores.

Youth psychopathic trait inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002). The YPI is a 50-item self-report measure that assesses psychopathic traits in adolescents aged 12 years and above, where youth indicate the degree to which each statement reflects how they most often think and feel, using a four-point Likert scale indicating that the item either *does not apply at all*, *does not apply well*, *applies fairly well*, or *applies very well*. It is divided into 10 subscales: *dishonest charm*; *grandiosity*; *lying*; *manipulation*; *remorselessness*; *unemotionality*; *callousness*; *thrill-seeking*; *impulsiveness*; and *responsibility*, which maps onto three core dimensions of *grandiose-manipulative*, *callous-unemotional*, and *impulsive-irresponsible*. Examples of the items included 'It was easy for me to manipulate others,' 'To feel guilty or remorseful about the things that you have done that have hurt other people is a sign of weakness,' and 'I like to do things just for the thrill of it.' Numerical values (i.e., 1 to 4) were assigned to the anchors on the Likert scale (i.e., does not apply at all to applies very well), respectively, and the scores for the items were added to derive the total and subscale scores.

Statistical analyses

The sample was characterized using descriptive statistics, with categorical data reported as numbers and percentages, and continuous data presented in relation to the mean and standard deviation. Histograms of the continuous data were plotted to check for skewed distributions. Univariate analyses sought to compare the characteristics of offenders with and without gang affiliation. Chi-square tests of association were computed for categorical data, while two-tailed independent *t*-tests were utilized for continuous data. Benjamini and Hochberg false discovery rate (FDR) corrections were also conducted to control for type I error that may arise from computing multiple comparisons; specifically, it is a less conservative but more powerful statistical approach than Bonferroni-type adjustments (Benjamini & Hochberg, 1995). A logistic regression model was also conducted in order to develop a classification model (to identify gang-affiliated offenders from those who were not) by including those variables that were univariately significant with gang affiliation, automatically controlling for potential confounding. Effect sizes are also computed to demonstrate the strength of the associations between variables. Analyses were conducted using SPSS version 19.

Results

Sample characteristics

Sociodemographics. The average age of the sample at admission to the Singaporean youth correctional institutions was 15.00 (SD = 0.90) years. The ethnic composition of the youth offenders in this sample was 53.0% (89/168) Chinese, 34.5% (58/168) Malay, and 8.9% (15/168) Indian. A minority 3.6% (6/168) were of other ethnicity.

Gang affiliation. One hundred and seven boys (63.7%) were classified as being gang affiliated. Thirty-five youth offenders (20.8%) reported that they were still gang affiliated at the point of interview. Most youth offenders (78.5%, 84/107) were affiliated to only one gang, 17 (15.9%) reported affiliation with two gangs, and 6 (5.6%) reported affiliation with three or more gangs. Their mean age of entry into gangs was 13.35 years (SD = 1.07, range = 10–16), and the average duration of their gang affiliation was 19.16 months (SD = 13.98, mdn = 16.00, range = 1–60 months).

Characteristics of gang- versus nongang-affiliated offenders. Table 1 shows the offense and substance use histories of the youth offenders in the sample. Youth offenders who were gang affiliated were more likely than those who were not gang affiliated to have committed a violent index offense ($\chi^2 [1, N = 168] = 5.70, p = .017, \phi = .18$); over a third (37.4%, 40/107) of the youth who were gang affiliated had a violent index offense. Although half of the youth offenders (86/168; 51.2%) have a prior offense, the gang-affiliated youth offenders were not more likely than their nongang-affiliated offender to have a past history of violent offenses (55.1% vs. 44.3%; $\chi^2 [1, N = 168] = 1.22, ns$). A history of sexual offending was rare (10/168; 6%); with nonsignificant

Table 1. Offense and substance use histories of youth offenders who were gang affiliated versus those without gang affiliation.

Variables	Overall (N = 168)	Gang (n = 107)	Nongang (n = 61)	p	ϕ
<i>Prior & index offense history</i>	N (%)	n (%)	n (%)		
Prior offense history	86/168 (51.2)	59/107 (55.1)	27/61 (44.3)	ns	
Prior violent offenses ^a	10/168 (6)	8/107 (7.5)	2/61 (3.3)	ns	
Prior sexual offenses ^b	5/168 (3)	2/107 (1.9)	3/61 (4.9)	ns	
Prior nonviolent nonsexual offenses	75/168 (44.6)	51/107 (47.7)	24/61 (39.3)	ns	
Index violent offenses	52/168 (31)	40/107 (37.4)	12/61 (19.7)	0.017	0.18
Index sexual offenses	10/168 (6)	3/107 (2.8)	7/61 (11.5)	0.037	0.17
Index nonviolent nonsexual offenses	129/168 (76.8)	83/107 (77.6)	46/61 (75.4)	ns	
<i>Substance use</i>					
History of any substance use	163/168 (97)	107/107 (100)	56/61 (91.8)	0.006*	0.23
History of tobacco use	159/168 (94.6)	106/107 (99.1)	53/61 (86.9)	0.001*	0.25
History of alcohol use	150/168 (89.3)	100/107 (93.5)	50/61 (82)	0.021*	0.18
History of cannabis use	16/168 (9.5)	15/107 (14)	1/61 (1.6)	0.011*	0.20
History of cocaine use	1/168 (0.6)	1/107 (0.9)	0/61 (0)	ns	
History of amphetamine use	27/168 (16.1)	22/107 (20.6)	5/61 (8.2)	0.036	0.16
History of inhalant use	66/168 (39.3)	46/107 (43)	20/61 (32.8)	ns	
History of sedative use	37/168 (22)	31/107 (29)	6/61 (9.8)	0.004*	0.22
History of hallucinogen use	23/168 (13.7)	20/107 (18.7)	3/61 (4.9)	0.018*	0.19
History of opioid use	31/168 (13.5)	23/107 (21.5)	8/61 (13.1)	ns	

^a*Violent offenses* refer to armed robbery, (physical) assault, attempted murder, causing bodily harm, making threats to harm or kill, murder, rioting, robbery, and unlawful use of weapon.

^b*Sexual offenses* refer attempted rape, indecent exposure, molestation, peeping, rape, and sodomy.

*Differences between gang- and nongang-affiliated offenders remained significant after making FDR adjustments.

differences in the prevalence of previous sexual offending between the gang- and nongang-affiliated groups ($\chi^2 [1, N = 168] = 1.25, ns$). It was actually more common for nongang-affiliated youth offender than the gang-affiliated youth offender to be charged and convicted with a sexual offense as index offense (11.5% vs. 2.8%; $\chi^2 [1, N = 168] = 5.22, p = .037, \phi = .17$). In general, there was a high rate of substance use in this sample of youth offenders. Substance use was more commonly found in the gang-affiliated group (100% vs. 91.8%; $\chi^2 [1, N = 168] = 9.04, p = .006, \phi = .23$) than the nongang-affiliated group, and there were also significant differences between the groups (gang- vs. nongang-affiliated) in terms of tobacco (99.1% vs. 86.9%), alcohol (93.5% vs. 82.0%), cannabis (14.0% vs. 1.6%), sedative (29.0% vs. 9.8%), and hallucinogen use (18.7% vs. 4.9%) following FDR adjustments (see Table 1).

Criminal attitudes and psychopathic personality attributes

Univariate analyses indicated that MCAA total score ($t[166] = 4.15, p < .001, d = 0.67$), MCAA violence subscale score ($t[166] = 4.14, p < .001, d = 0.66$), MCAA entitlement subscale score ($t[166] = 2.15, p < .033, d = 0.35$), and MCAA associates subscale score ($t[166] = 4.68, p < .001, d = 0.73$) were significantly associated with gang affiliation (see Table 2). Apropos of the youth's ATG, there were significant differences between the gang-affiliated youth offenders scores on the ATG when compared with those of their nongang-affiliated counterparts ($t[166] = 4.02, p < .001, d = 0.65$). Gang-affiliated youth offenders were more likely than their nongang counterparts to (a) believe that gang affiliation offered protection to them (27.1% vs. 6.6%; $\chi^2 [1, N = 168] = 10.39, p < .001, \phi = .24$); (b) have friends in school who were affiliated to gangs (90.7% vs. 70.5%; $\chi^2 [1, N = 168] = 11.37, p < .001, \phi = .25$); and (c) have family members who were (at that point) or used to be in gangs (44.9% vs. 11.5%; $\chi^2 [1, N = 168] = 19.66, p < .001, \phi = .34$). Notably, few gang-affiliated youth offenders had the impression that gangs were 'cool' (15%), and the majority of the gang-affiliated youth offenders were cognizant that being

Table 2. Comparison of criminal attitudes, attitudes toward gangs, and personality attributes for youth offenders who were gang affiliated versus those without.

Measure/subscale	Overall (<i>N</i> = 168)	Gang (<i>n</i> = 107)	Nongang (<i>n</i> = 61)	<i>p</i>	<i>d</i>
	Mean (SD)	Mean (SD)	Mean (SD)		
MCAA total score	22.61 (8.23)	24.50 (7.95)	19.28 (7.67)	<0.001*	0.67
Violence	6.51 (3.95)	7.42 (3.66)	4.92 (3.95)	<0.001*	0.66
Entitlement	5.60 (2.16)	5.87 (2.17)	5.13 (2.08)	0.033*	0.35
Antisocial intent	3.93 (2.48)	4.08 (2.55)	3.66 (2.40)	ns	
Associates	6.57 (2.20)	7.13 (1.93)	5.57 (2.31)	<0.001*	0.73
ATG total score	2.41 (1.25)	2.69 (1.23)	1.92 (1.14)	<0.001*	0.65
YPI total score	106.04 (19.62)	107.71 (18.21)	103.11 (21.71)	ns	
Callous-unemotional	32.37 (5.53)	32.46 (5.29)	32.21 (5.98)	ns	
Grandiose-manipulative	37.05 (10.01)	37.40 (9.16)	36.44 (11.40)	ns	
Impulsive-irresponsible	36.62 (7.90)	37.85 (7.64)	34.46 (7.93)	0.007*	0.44

*Differences between gang- and nongang-affiliated offenders remained significant after making FDR adjustments.

Table 3. Breakdown of responses for ATG items.

Attitudes toward gangs items	Overall (N = 168)	Gang (n = 107)	Nongang (n = 61)	p	φ
	N (%)	n (%)	n (%)		
I think you are safer, and have protection if you join a gang	33/168 (19.6)	29/107 (27.1)	4/61 (6.6)	0.001*	0.24
Some of my friends at school belong to gangs	140/168 (83.3)	97/107 (90.7)	43/61 (70.5)	0.001*	0.25
I think it is cool to be in a gang	20/168 (11.9)	16/107 (15)	4/61 (6.6)	ns	
My friends would think less of me if I joined a gang	62/168 (36.9)	38/107 (35.5)	24/61 (39.3)	ns	
I believe it is dangerous to join a gang; you will probably end up getting hurt or killed if you belong to a gang	139/168 (82.7)	91/107 (85)	48/61 (78.7)	ns	
I think being in a gang makes it more likely that you will get into trouble	146/168 (86.9)	94/107 (87.9)	52/61 (85.2)	ns	
Some people in my family belong to a gang, or used to belong to a gang	55/168 (32.7)	48/107 (44.9)	7/61 (11.5)	<0.001*	0.32

*Differences between gang- and nongang-affiliated offenders remained significant after making FDR adjustments.

affiliated to gangs was likely to bring them trouble (87.9%) or even get them hurt or killed (85%) (see Table 3).

Although the differences in the YPI total score were nonsignificant between the gang- and nongang-affiliated youth offenders ($t[166] = 1.47, ns$), the former scored significantly higher scores on only one of the three YPI subscales – impulsive–irresponsible ($t[166] = 2.73, p = .007, d = 0.44$); the rest of the differences were nonsignificant.

Multivariate model

Table 4 shows the multivariate model that included those variables that were univariately significant with gang affiliation. Results suggested that gang-affiliated

Table 4. Multivariate model that included those variables that were univariately significant with gang affiliation.

Measure	Odds ratio (Gang vs. nongang)	95% Confidence interval	p
MCAA violence	1.06	0.95 – 1.19	ns
MCAA entitlement	1.08	0.90 – 1.29	ns
MCAA associates	1.28	1.06 – 1.55	0.011
ATG total score	1.50	1.08 – 2.09	0.016
YPI impulsive–irresponsible	0.99	0.94 – 1.05	ns

MCAA: measure of criminal attitudes and associates; ATG: attitudes toward gangs; YPI: youth psychopathic trait inventory.

offenders were more likely than nongang-affiliated offenders to have pro-gang attitudes (odds ratio [OR] = 1.50, 95% CI = 1.08–2.09, $p = .016$), and favorable attitudes toward criminal associates (OR = 1.28, 95% CI = 1.06 – 1.55, $p = .011$). The Hosmer–Lemeshow test suggested no evidence of a lack of fit with this model, $\chi^2(8, N = 168) = 4.82, ns$. This multivariate model correctly classified 69.6% of the sample. Notably, the model was better at correctly classifying gang-affiliated offenders (84.1% correct) as opposed to nongang-affiliated offenders (44.3% correct).

Discussion

The aim of this study was to compare the criminal attitudes, ATG, and psychopathic personality variables between the gang- and nongang-affiliated youth offenders in Singapore.

Gang membership and characteristics

As with Chu et al.'s (2012) study, there was a relatively higher percentage of gang-affiliated youth (63.7%) in the sample when compared to youth gang studies in America and Europe (see Klein & Maxson, 2006 for a review). The differences are to be expected considering that the current study focused on institutionalized youth offenders instead of a general community-based youth population. In fact, the proportion of gang-affiliated youth offenders' attitudes and traits are exaggerated by the youths' location within a secure institution. Nevertheless, the high prevalence of gang affiliation among youth offenders in this population reveals the importance of understanding and intervening with gang-affiliated youth.

Results showed that youth offenders were initiated into youth gangs in their early teens but their affiliation was relatively transient (i.e., on average, they were gang related for less than 2 years in the present study). The proportion of sample that is gang affiliated is higher than the figure cited in Chu et al.'s (2012) (63.7% vs. 35.2%). This is likely due to Chu et al.'s (2012) inclusion of *both* community-based and institutionalized youth offenders, whereas the current sample included only institutionalized youth offenders within the juvenile justice system in Singapore. This figure is also higher than that in most Western studies on youth or street gangs, but the discrepancy could be an artifact of the comparison group (i.e., this sample comprised entirely youth offenders whereas many other studies included non-offenders). Future research might determine whether the attitudes and personality traits common to gang-affiliated youth relate to the severity of criminogenic needs (i.e., common to higher risk offenders) or if these also relate to other non-offending youth. Consistent with Chu et al.'s (2012) findings, the present study found that gang-affiliated youth offenders were more likely to have committed a violent index offense(s) and have a history of substance use. In particular, it appears that gang-affiliated youth offenders tended to use tobacco, alcohol, cannabis, sedative, and hallucinogens. The characteristics of gang-affiliated youth offenders (e.g., age at joining gangs, past substance use, and violent behavior) in this study were, broadly speaking, similar to those reported in studies from western contexts (Battin et al., 1998; Curry, 2000; Curry et al., 2002; Esbensen & Huizaga, 1993; Huff, 1998; Klein et al., 2006; Thornberry et al., 1993; White & Mason, 2006).

Criminal attitudes and ATG

It is evident that the gang-affiliated youth offenders possessed more criminal attitudes than the nongang-affiliated youth offenders. Specifically, the former appear to be more entitled, have more pro-violence attitudes, and were more partial toward antisocial associates than the nongang affiliated youth offenders. In addition, the findings indicated that gang-affiliated youth offenders tended to possess more favorable ATG than their nongang counterparts (which was not surprising given that they were gang affiliated!). It was also noted that gang-affiliated youth offenders endorsed more favorable attitudes toward weapon use as compared with the nongang-affiliated youth offenders. Notably, only attitudes toward criminal associates and gangs significantly differentiated gang-affiliated youth offenders from the nongang-affiliated youth when considered more broadly in a multivariate model.

In view of the extant literature that has consistently documented that youth gang members tend to engage in violent behaviors and violent recidivism (e.g., Ang et al., 2012; Chu et al., 2012; Curry et al., 2002; Klein et al., 2006; Melde & Esbensen, in press), it is unsurprising that the gang-affiliated youth offenders exhibited more pro-violence attitudes (e.g., Matsuda et al., in press), which may, in part, account for the higher violence risk profile for the gang-affiliated youth offenders, as shown in studies of Singaporean youth gangs (Ang et al., 2012; Chu et al., 2012). At the univariate level, the present study showed that youth gang members tended to have more attitudes of entitlement (i.e., a criminal-thinking pattern that relates to the thoughts and perceptions that an individual has the right to engage in criminal offending behavior) than their nongang counterparts; it is possible that the youth gang offenders have been socialized into developing attitudes that may perpetuate their offending behavior.

Further examination of the participants' responses to the ATG questionnaire revealed that gang-affiliated youth tended to think that gangs could provide them protection. In addition, they were more likely than their nongang counterparts to have friends and family members who were in a gang. Slightly more than a quarter of the gang-affiliated youth offenders indicated that obtaining protection motivated them to join a gang. Only 15% of gang-affiliated youth offenders stated that it was 'cool' to be in a youth gang but the majority of youth offenders did not think that their peers would have a low opinion of them if they were affiliated to a youth gang. These findings are important for intervention programs; accordingly, such programs should identify the need for protection and ascertain the veracity of this need in order to develop alternate methods for satisfying the young person's need for safety. Similarly, undermining the young person's views of gangs as acceptable would also be important. Since their peers may not believe gangs are unacceptable, it may be necessary to incorporate the views of family and others (e.g., former gang members who have credibility with the young people but had already renounced their gang) who may not have a high regard for gangs. Social learning and positive role modeling have been utilized in addiction treatment as well as offender rehabilitation (see Day & Doyle, 2010 for a review), and these processes may play an important role in helping the youth to resist and break away from gangs.

Akin to their nongang counterparts, the gang-affiliated youth offenders were mostly cognizant of the increased risk of victimization and trouble that were associated with youth gangs. According to Alleyne and Wood (2010), some youth

may modify or discard their existing social controls in favor of perceived attractive attributes of gang membership even though they are aware that they are more likely than nongang-affiliated youth to be victimized or suffer serious injuries. It is likely that only when the youth mature and find alternate methods of satisfying their social and psychological needs that gang affiliation becomes redundant. Nevertheless, it would be important to emphasize the negative consequences and undermine the advantages of gang affiliation in intervention programs.

Concomitantly, item analyses suggest that peer and family influence may have a more important role in terms of influencing the youth's ATG. A possible explanation could be that the continued association with antisocial peers and family members means that the youth may have opportunities to learn criminal behaviors and foster criminal attitudes through various social learning and conditioning processes, as well as shared activities (Wood & Alleyne, 2010). Consequently, the development and reinforcement of antisocial and pro-violence attitudes and beliefs may foster the development of information processing biases and deficits that are stored as cognitive schemas that encourage future violent and antisocial behaviors within the context of their gang (see Gilbert & Daffern, 2010 for a review).

Psychopathic personality attributes

Pertaining to psychopathic personality attributes, there was limited support for the second hypothesis. The gang-affiliated youth offenders appeared to have higher scores on the impulsive–irresponsible subscale of the YPI (i.e., the behavioral factor) as compared with nongang-affiliated youth offenders, but differences did not remain significant when other pertinent factors were taken into account. Nevertheless, this finding was somewhat consistent with the extant literature, which suggested that some psychopathic personality traits (e.g., low empathy and poor impulse control) are important in determining who will join a gang (Dupéré et al., 2007; Valdez et al., 2000). It was proposed that psychopathic traits, like criminal attitudes, may predispose a youth to become more susceptible to joining a gang, and in doing so, these psychopathic traits are reinforced and maintained when the youth chooses peers who encourage and support these traits (Caspi, Roberts, & Shiner, 2005; Lynam & Gudonis, 2005). Nevertheless, considering that these youth were likely to have mutual interests and also to seek camaraderie while belonging to the youth gangs, it would be hard to contemplate having grandiose individuals who could work together to achieve those common interests (which include criminal activities).

Implications

Notwithstanding that our present study did not examine (a) whether these attitudes and personality characteristics were present prior to the youth joining gang, and (b) how gang affiliation affected these attitudes, and how criminal attitudes and psychopathic personality traits are likely to perpetuate gang affiliation and criminal behavior, and should be a focus of psychological intervention for gang-affiliated youth offenders. The present findings suggest that it may be necessary to provide intensive treatment to address the youth gang offenders' pro-violence attitudes, favorable attitudes toward criminal associates, attitudes of entitlement, and favorable attitudes toward weapon use, beyond the dosage needed by nongang-affiliated youth

offenders, as part of any criminogenic intervention to reduce their risk of general and violent recidivism. Moreover, addressing the extensive substance use issues will be relevant for these gang-affiliated youth offenders given the contribution of drug and alcohol use to offending behavior. Furthermore, it may be beneficial for intervention programs to include activities to assist gang-affiliated youth offenders enhance behavioral control, ameliorating problems with impulsivity and irresponsibility. Although personality traits are enduring, the young age of these offenders, and the potential malleability of their personality, may offer more promise as compared to adults with psychopathic personality traits.

Since the average age for joining gangs was around 13 years, and some had joined gangs as early as the age of 10 years, prevention efforts (e.g., psychoeducation about negative peer influence, as well as relevant peer-selection and refusal skills training) should be targeted not only at high-school students but also at elementary students, aged 10 to 12 years. It is also important to provide these young persons with readily available support in case of victimization experiences in their schools or neighborhoods. The present findings showed that gang-affiliated youth offenders were more likely to have a family member who was involved with a gang as compared to their nongang counterparts; this represents a significant factor that might have socialized the youth in terms of their ATG. Hence, awareness programs for family members will be useful as providing family members with the relevant knowledge and skills can help the children and youth to resist or break free from youth gangs. Further, it may be advantageous to educate family members with past gang affiliation about the dangers of promoting criminal attitudes to young people in their social circles.

Limitations and future directions

This study was cross-sectional and used a relatively small sample of youth offenders. It was not an exhaustive sample of youth who were convicted of criminal offenses; as such, causal relationships cannot be deduced. Moreover, these findings might be biased by common method variance due to our extensive use of self-reports during data collection. However, using self-reports is often considered to be a useful method for assessing individuals' perceptual and experiential constructs (Chan, 2009). Nevertheless, this study has provided a novel comparison of the criminal attitudes, ATG, and psychopathic personality attributes between gang- and nongang-affiliated youth offenders.

Future research might examine the long-term trajectories, in terms of offending behaviors and criminogenic needs, of 'general' gang-affiliated youth offenders as compared to those in leadership positions; and the transmission of criminal attitudes by parents or family members who are gang affiliated. It will also be important to determine whether interventions directed at changing problematic attitudes and psychopathic traits are efficacious and whether changes in attitudes and traits translate to desistance from gangs and reduced criminal behavior. In addition, it is useful to determine whether antisocial attitudes and personality characteristics were present prior to gang entry, and how gang affiliation affected these attitudes. Finally, attitudes and personality may be related to gang affiliation and criminal behavior, but any psychosocial intervention program for youth gang offenders will require collaborative efforts with relevant educational and law enforcement agencies in order to achieve better outcomes.

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Notes

1. *Rioting* is defined as a violent public disturbance whereby physical force or violence is used by an unlawful assembly (of five or more people), or any of its members, on another person or group (Singapore Penal Code, 1985).
2. The percentages add up to more than 100% because some youth had committed more than one type of index offense.
3. *Entitlement* refers to a criminal-thinking pattern that relates to the thoughts and perceptions that an individual has the right to engage in criminal offending behavior.

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