Self-reported antisocial behaviour of 10-year-old boys in Zhuhai (China) versus Pittsburgh (USA)

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Abstract

Purpose – *The purpose of this study is to compare self-reported antisocial (SRA) behaviour of 10-year-old boys in China (in Zhuhai) and the USA (in Pittsburgh).*

Design/methodology/approach – *In Pittsburgh, 868 boys were given a SRA behaviour questionnaire in 1987–1988. In Zhuhai, 1,154 boys were given the same questionnaire in 2017.*

Findings – *The prevalence of 23 acts in the two countries was significantly correlated (r = 0.69), showing that the acts that were admitted by most boys in one country also tended to be admitted by most boys in the other country. Also, the mean prevalence in the two countries was very similar, at about 13%. However, several acts (e.g. stealing) were more prevalent in Zhuhai, while violent acts were more prevalent in Pittsburgh. The frequencies of the acts in the two countries were also significantly correlated (r = 0.51), although frequency was usually greater in Pittsburgh.*

Research limitations/implications – *While most theories and research in criminology and psychology are based on Western industrialised countries, it is important to carry out more cross-cultural comparisons of antisocial behaviour in other countries. These results show encouraging generalizability and replicability, despite differences in time and place.*

Originality/value – *To the best of the authors' knowledge, this study presents the first comparison of age-matched Chinese and American children on the prevalence and frequency of specific antisocial acts.*

Keywords *United States, China, Antisocial behaviour, Prevalence, Frequency, Cross-national*

Paper type *Research paper*

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1. Introduction

The main aim of this research is to compare self-reported antisocial (SRA) behaviour of 10-year-old boys in China (Zhuhai) and the USA (Pittsburgh). The key question is:

Q1. Are Chinese boys less antisocial than American boys of the same age?

In Pittsburgh, 868 boys were given a SRA behaviour questionnaire in 1987–1988, as part of the screening phase of the Pittsburgh Youth Study (PYS). In 2017, 1,154 boys in Zhuhai were given the same questionnaire (along with 966 girls, but – for comparability – the present research focusses only on the boys). The main aim of this article is to identify similarities and differences between these samples in the prevalence and frequency of antisocial behaviour. It is important to study antisocial behaviour at young ages, because early onset offenders tend to have long criminal careers and tend to commit many crimes; most studies of age–crime relationships begin at age 10 years (Farrington, 2020a). To the extent that there are similarities between these two different but age-matched samples, this will increase confidence in the generality of findings (and theories) in criminology. It is important to establish the replicability of findings and theories over time and place. To the

extent that there are differences, it is important to explain them, but the main aim of our article is to compare age-matched samples of children. We hope that future studies will attempt to explain any cross-cultural differences in findings.

1.1 Cross-national comparisons

There have been many cross-national comparative studies in criminology, but few include Chinese samples. Heinrich *et al.* (2010) argued that most publications in North American journals were "WEIRD": based on Western, Educated, Industrialised, Rich, Democratic countries. As an example, Farrington *et al.* (2004) compared crimes, convictions and sentences in eight countries: Australia, Canada, England/Wales, The Netherlands, Scotland, Sweden, Switzerland and the USA (Farrington, 2020b). Similarly, most of the cross-national comparative studies, on criminal careers, risk factors, crime and punishment, that were reviewed by Farrington (2015), were conducted in these Western industrialised types of countries.

The major cross-national comparative study of offending is the International Self-Report Delinquency Study. The first version of this was based on 13 countries (Junger-Tas *et al.*, 2003), while the second version was based on 31 countries (Junger-Tas *et al.*, 2012) and the third version was based on 35 countries up to 2019, including China (Marshall and Steketee, 2019). However, existing publications based on the third version (Binik *et al.*, 2019; Manzoni and Schwarzenegger, 2019) do not seem to present any data on China. Another major cross-national study is based on the Communities That Care Youth Survey (Farrington *et al.*, 2021; Rowland *et al.*, 2021), but this does not include China. None of these cross-national studies focussed on antisocial behaviour by children.

Meta-analyses based on reviews of research from many different countries often include China but do not present results separately for China (Pinquart, 2021; Ribera *et al.*, 2019). The same is true of a major longitudinal study of externalising (aggressive and delinquent) behaviour in nine countries, including Shanghai in China (Lansford *et al.*, 2018, 2020; Rothenberg *et al.*, 2020; Skinner *et al.*, 2022). These studies provide valuable information about the replicability of predictors and correlates of externalising behaviour, but they do not provide specific information about delinquency in China.

The most relevant cross-national comparative study is by Espejo-Siles *et al.* (2023b). They administered the SRA in 2017 to children in eight schools in Southern Spain (in Seville and Cordoba) and compared Spanish 10-year-old boys with Pittsburgh 10-year-old boys assessed in 1987–1988. The SRA was then readministered in Southern Spain one year later (Espejo-Siles *et al.*, 2023a; Nasaescu *et al.*, 2023). The comparative study showed that the mean prevalence of antisocial acts in the previous six months was slightly higher in Southern Spain (14% vs 11% in Pittsburgh), but the two sets of prevalence correlated $r = 0.76$. Violence (against teachers, students and siblings) was more prevalent in Pittsburgh, but theft, status offences (e.g. cheating on school tests) and substance use (beer, wine and liquor) were more prevalent in Southern Spain.

1.2 Chinese–American comparisons

It is important to compare the USA and China, because they have the highest gross domestic products in the world (suggesting that they are the wealthiest countries in the world), despite having very different political and economic systems. In 1990, Marvin Wolfgang initiated an ambitious effort to replicate his famous Philadelphia birth cohort study (Wolfgang *et al.*, 1972) in Wuhan, China. He aimed to study the delinquency up to age 18 years of Chinese children born in 1973. Sadly, he died in 1998 before the project was completed. However, it was resuscitated by Friday *et al.* (2003).

Surprisingly (to Western eyes), the prevalence of recorded delinquency in China was very low. In Wolfgang's original cohort of 5,341 Chinese children, only 81 were found in police

records (1.5%, including 2.8% of males and 0.2% of females). Of these 81, only 34 were criminal offenders (committing burglary, theft, violence or hooliganism), while the other 47 were public safety offenders. Friday *et al.* (2003, 2005) could not locate Wolfgang's original Wuhan cohort data, but they created a comparable cohort of 5,338 children born in 1973 and found a very similar recorded prevalence of 1.4%. These Chinese prevalence rates are much less than Wolfgang's original rate of 35% of Philadelphia males who were arrested (Wolfgang *et al.*, 1972) and much less than prevalence rates in other (Western) longitudinal studies (Farrington, 1979). More recent Chinese data (Zhang, 2008) also show low rates of offending by juveniles, especially compared with the USA (Wang and Zhao, 2016).

This low prevalence of official delinquency in China suggests that antisocial behaviour in China should be studied using self-reports. These could be used to address the important question:

Q2. Are Chinese children really much less delinquent than American children?

Interestingly, self-report studies often suggest that this is true. For example, Jessor *et al.* (2003) compared large school samples aged 13–16 years in Beijing and in Colorado on the Adolescent Health and Development Questionnaire and found that average delinquent behaviour scores by boys were higher in the USA. Greenberger *et al.* (2000) compared school samples of 16–17-year-olds in Tianjin and in Los Angeles on a self-report questionnaire and found that American youths scored higher on physical aggression and school misconduct items. Unusually, they reported prevalence for a specific act: 52% of Americans (boys and girls) admitted "Hit or threatened to hit someone", compared with only 11% of Chinese youths. It would be desirable to investigate differences between Chinese and American youths at different ages, preferably in a longitudinal study.

However, not all studies have found higher rates of antisocial behaviour in the USA. For example, Chen *et al.* (1998) compared small school samples (e.g. only 47 Chinese boys) aged 13–14 years in Beijing and Southern California and concluded in their abstract (p. 770) that the adolescents "showed strikingly similar levels and patterns of self-reported misconduct". Weine *et al.* (1995) compared parent reports on the Child Behaviour Checklist (CBCL) and teacher reports on the Teacher Report Form (TRF) for matched samples aged 6–13 years in the USA and in Fujian province. For urban children, they found that, on the CBCL, American boys scored higher on aggressive and externalising behaviours, but Chinese boys were higher on delinquent behaviour. On the TRF, Chinese boys scored higher on aggressive, externalising and delinquent behaviours. Also, in a rare study of behaviour problems in Chinese primary school children, Hesketh *et al.* (2011) concluded that there was a relatively high prevalence of behaviour problems (16% of boys and 9% of girls aged 7–13 years).

The most relevant recent research is by Tuvblad *et al.* (2016), who studied self-reported aggression in four countries, including by 16-year-olds in the PYS and by 11-year-olds in Jintan, China. They found that self-reported aggression was much greater in Pittsburgh than in Jintan. Of course, this could be a function of the age differences of the samples. Like previous studies, Tuvblad *et al.* (2016) only reported total aggression scores, not responses to specific aggression items. The current article presents the first comparison of age-matched Chinese and American children on the prevalence and frequency of specific types of antisocial acts. As the focus is on 10-year-old boys, self-reports of antisocial behaviour are studied, rather than self-reports of delinquency. The key question is:

Q3. Are Chinese boys less antisocial than American boys of the same age?

Based on the above reviews, the current evidence is not consistent.

2. Method

The PYS began in 1987–1988 with a screening phase. A total of 2,573 first-, fourth- and seventh-grade boys, who were enrolled in public schools in the City of Pittsburgh, were assessed (Loeber *et al.*, 1989, 1998). A representative sample of about 1,000 students in

each grade were chosen for assessment, and about 850 were assessed in each grade. Information was obtained from the boys, their parents and their teachers. The assessments received ethical approval from the University of Pittsburgh, and informed consent was obtained from parents and children. Of the 850 or so who were assessed in each grade, about 500 were chosen for follow-up: basically the most antisocial 250 (according to boy, parent and teacher information) and a random sample of 250 from the remaining 600. These samples were then followed up into their 20s and 30s (Ahonen *et al.*, 2021; Loeber *et al.*, 2017). This article focusses only on the results obtained from the fourth-grade students (with an average age of 10.2) who were given the SRA in the screening phase. The SRA was developed for primary school children because it was considered that existing self-reported delinquency questionnaires were not appropriate for this age group; the tables show the SRA items.

Pittsburgh is an industrial city in Western Pennsylvania. In 1987–1988, the population of the Pittsburgh metropolitan area was just over 1.7 million. However, the PYS was based in the central City of Pittsburgh, which had a smaller population (of 370,000 according to the 1990 Census). In the interests of obtaining a representative sample, the PYS aimed to assess children in all 47 public primary schools in the city, and 43 of them agreed to cooperate. The total population of fourth-grade boys was 1,432; 1,146 names were released to interviewers, 1,005 boys were deemed eligible (e.g. because they were found in the school catchment area) and 868 fourth-grade boys with an average age of 10.2 were interviewed in their homes in the Spring of 1987 and 1988 (86.4% of the target sample; Loeber *et al.*, 1998). Of these 868 boys, 54% were African American (the same as the district-wide percentage of 54% in public schools), 92% were living with their natural mother, but only 46% were living with their natural father, and 40% had no acting father. As these were inner-city boys, it was expected that they would, on average, be more antisocial than the total population of boys in Pittsburgh (Harden *et al.*, 2009).

Zhuhai is a modern city on the South Coast of China, adjacent to Macau. According to a report released in 2014 by the Chinese Academy of Social Sciences, Zhuhai is the "most liveable city" in China. The population of Zhuhai City in 2017 was 1.765 million (similar to the Pittsburgh metropolitan area). Zhuhai City had 138 primary schools, and 64 of them were in the Xiangzhou district (which had a population of 672,000). These 64 schools included 40 public schools (containing 49,799 students) and 24 private schools (containing 41,096 students). To increase the number of high-risk students, four private schools and one public school were chosen at random for the Zhuhai Youth Study. The private schools were oversampled because they are mainly for rural migrant children and tend to have poor quality teaching and high delinquency and bullying rates (Chen, 2021).

Of the five schools, 48 classes of fourth- and fifth-grade students were selected at random. All students in the selected classes were invited to complete the questionnaire, and every class was assigned two trained interviewers to conduct the survey and provide necessary instructions and assistance (in the absence of teachers). The questionnaire and procedure were approved by the Research Ethics Committee of the Linnan Institute of Social Policy, and students and parents gave informed consent. Principals and teachers in every school provided necessary permission and assistance. Of the population of 2,198 students, 2,130 valid questionnaires were collected. As mentioned, 1,154 boys (average age 10.1 years) completed the questionnaire, which included the SRA, in the first two weeks of November 2017. Zhuhai students have subsequently been followed up in 2018 and 2019, to make this a longitudinal study.

Some of the 33 SRA items (listed by Loeber *et al.*,1989) were not asked or were not comparable in Zhuhai. For example, one Pittsburgh item said "Secretly taken a sip from a glass or bottle of beer", whereas the most comparable Zhuhai item said "Have you drunk any beer?". However, 23 items were exactly comparable, and these are shown in Tables 1 and 2.

Table 1 Prevalence of self-reported antisocial behaviour in Pittsburgh and Zhuhai

Item	*% P*	*% Z*	*OR*	*CI*
Damage				
Broken or damaged or destroyed something belonging to your parents or other people in your family on purpose?	15.3	28.7	2.23	1.78–2.80
Broken or damaged or destroyed something belonging to a school on purpose?	6.9	15.8	2.51	1.84–3.42
Broken or damaged or destroyed other things that did not belong to you, not counting things that belong to your family or school?	15.5	20.0	1.36	1.07–1.72
Written things or sprayed paint on walls or sidewalks or cars, where you were not supposed to?	6.3	10.7	1.78	1.28–2.48
Purposely set fire to a building, a car or other property or tried to do so?	1.5	9.9	7.23	4.04–12.9
Theft				
Stolen or tried to steal a bicycle or skateboard?	0.6	12.7	24.75	10.1–60.7
Taken something from a store without paying for it?	6.7	9.5	1.46	1.04–2.03
Taken some money at home that did not belong to you, like from your mother's purse or from your parents' dresser?	11.5	22.3	2.21	1.72–2.84
Taken anything else at home that did not belong to you?	10.7	11.3	1.06	0.80–1.41
Taken anything at school from the teacher or other students that did not belong to you?	7.8	8.5	1.10	0.79–1.52
Taken something out of somebody's house or yard or garage that did not belong to you?	4.3	8.0	1.94	1.31–2.87
Taken something that did not belong to you from a car?	1.2	5.8	5.31	2.72–10.4
Avoided paying for things such as movies, bus or subway rides or food?	6.3	4.5	0.71	0.47–1.05
Snatched someone's purse or wallet or picked someone's pocket?	1.7	4.0	2.35	1.30–4.25
Violence				
Hit other students or got into a physical fight with them?	55.2	26.0	0.29	0.24–0.34
Hit your brother or sister or got into a physical fight with him or her?	60.6	32.5	0.31	0.26–0.38
Been loud, rowdy, or unruly in a public place so people complained about it or you got into trouble?	12.7	12.5	0.98	0.75–1.28
Thrown rocks or bottles at people?	14.8	13.8	0.93	0.72–1.19
Status				
Cheated on school tests?	8.1	25.0	3.79	2.87–5.01
Gone into somebody's garden, backyard, house or garage when you were not supposed to be there?	14.2	9.3	0.62	0.47–0.82
Run away from home?	2.3	11.3	5.38	3.33–8.70
Skipped school without an excuse?	4.0	8.6	2.23	1.50–3.34
Been sent home from school for bad behaviour?	17.5	5.7	0.28	0.21–0.39

Notes: P = Pittsburgh; Z = Zhuhai; OR = Odds Ratio comparing P and Z; CI = 95% confidence interval
Source: Created by authors

3. Results

Table 1 shows the prevalence of each act in the previous six months (i.e. the percentage who said that they had done the act), while Table 2 shows the frequency (i.e. the percentage of boys who said that they had committed the act "more often" as opposed to "once or twice"). It is important to study both prevalence and frequency because they might show different results. For example, the adolescent peak in the famous age–crime curve is driven by a peak in prevalence, not by a peak in frequency (Farrington, 1986).

3.1 Prevalence

The mean percentage who admitted each act was very similar in Pittsburgh (12.4%) and Zhuhai (13.8%). These percentages were not significantly different (Student's $t = 0.56$, 22 df, ns). Furthermore, the percentages in Pittsburgh correlated significantly (Pearson $r = 0.69$ and $p = 0.0003$) with the percentages in Zhuhai. Thus, the acts that were admitted by most boys in Pittsburgh also tended to be admitted by most boys in Zhuhai. For example,

Table 2 Frequency of self-reported antisocial behaviour in Pittsburgh and Zhuhai

Item	*% P*	*% Z*	*OR*	*CI*
Damage				
Broken or damaged or destroyed something belonging to your parents or other people in your family on purpose?	33.8	16.4	0.38	0.24–0.62
Broken or damaged or destroyed something belonging to a school on purpose?	22.0	12.4	0.50	0.22–1.10
Broken or damaged or destroyed other things that did not belong to you, not counting things that belong to your family or school?	28.8	10.9	0.30	0.17–0.54
Written things or sprayed paint on walls or sidewalks or cars, where you were not supposed to?	23.6	14.5	0.55	0.24–1.25
Purposely set fire to a building, a car or other property or tried to do so?	15.4	14.0	0.89	0.18–4.50
Theft				
Stolen or tried to steal a bicycle or skateboard?	20.0	21.6	1.10	0.12–10.3
Taken something from a store without paying for it?	20.7	15.6	0.71	0.31–1.65
Taken some money at home that did not belong to you, like from your mother's purse or from your parents' dresser?	27.0	15.9	0.51	0.29–0.90
Taken anything else at home that did not belong to you?	37.6	15.5	0.30	0.16–0.59
Taken anything at school from the teacher or other students that did not belong to you?	29.4	18.4	0.54	0.25–1.15
Taken something out of somebody's house or yard or garage that did not belong to you?	16.2	17.3	1.08	0.38–3.12
Taken something that did not belong to you from a car?	10.0	23.6	2.79	0.32–24.1
Avoided paying for things such as movies, bus or subway rides or food?	28.8	27.9	0.95	0.39–2.34
Snatched someone's purse or wallet or picked someone's pocket?	26.7	26.8	1.01	0.26–3.84
Violence				
Hit other students or got into a physical fight with them?	46.2	25.2	0.39	0.28–0.55
Hit your brother or sister or got into a physical fight with him or her?	68.1	42.2	0.34	0.26–0.45
Been loud, rowdy or unruly in a public place so people complained about it or you got into trouble?	33.6	15.2	0.35	0.19–0.66
Thrown rocks or bottles at people?	31.3	16.8	0.44	0.25–0.80
Status				
Cheated on school tests?	15.7	19.4	1.29	0.63–2.62
Gone into somebody's garden, backyard, house or garage when you were not supposed to be there?	33.3	20.0	0.50	0.27–0.94
Run away from home?	10.0	23.6	2.79	0.61–12.8
Skipped school without an excuse?	26.5	19.0	0.65	0.26–1.67
Been sent home from school for bad behaviour?	29.6	16.1	0.48	0.21–1.01

Notes: P = Pittsburgh; Z = Zhuhai; OR = Odds Ratio comparing P and Z; CI = 95% confidence interval
Source: Created by authors

among the most commonly admitted acts in both countries were "Hit your brother or sister or got into a physical fight with him or her" (60.6% in Pittsburgh and 32.6% in Zhuhai) and "Hit other students or got into a physical fight with them" (55.2% in Pittsburgh and 26.0% in Zhuhai).

However, there were differences between the two samples, as shown by the above two examples. Based on odds ratios, the prevalence in Pittsburgh was significantly greater than the prevalence in Zhuhai for these two items and for two other items ("Gone into somebody's garden, backyard, house, or garage when you were not supposed to be there" and "Been sent home from school for bad behaviour"). The prevalence in Zhuhai was significantly greater than the prevalence in Pittsburgh for 14 items. The greatest differences (as shown by the odds ratio) were for "Stolen or tried to steal a bicycle or skateboard" (0.6% in Pittsburgh and 12.7% in Zhuhai), "Purposely set fire to a building, a car or other property or tried to do so" (1.5% in Pittsburgh and 9.9% in Zhuhai), "Run away from home" (2.3% in Pittsburgh and 11.3% in Zhuhai) and "Taken something that did not belong to you from a car" (1.2% in Pittsburgh and 5.8% in Zhuhai).

Despite these differences, the prevalence rankings of items in Pittsburgh were significantly correlated with the prevalence rankings of items in Zhuhai (Spearman rho = 0.54 and $p = 0.008$). Of 23 items, the rankings differed by more than six places in only six cases. Two items were relatively more common in Pittsburgh: "Been sent home from school for bad behaviour" (ranked 3 in Pittsburgh and 21 in Zhuhai) and "Gone into somebody's garden, backyard, house or garage when you were not supposed to be there" (ranked 7 in Pittsburgh and 16 in Zhuhai). The other four items were relatively more common in Zhuhai: "Stolen or tried to steal a bicycle or skateboard" (ranked 23 in Pittsburgh and 9 in Zhuhai), "Run away from home" (ranked 19 in Pittsburgh and 11.5 in Zhuhai), "Cheated on school tests" (ranked 11 in Pittsburgh and 4 in Zhuhai) and "Purposely set fire to a building, a car or other property or tried to do so" (ranked 21 in Pittsburgh and 14 in Zhuhai).

3.2 Frequency

The mean frequency of offending (the percentage who said that they had committed the act more often than once or twice) was significantly greater in Pittsburgh (27.6%) than in Zhuhai (19.5%; Student's $t = 3.62$, 22 df, $p = 0.001$). However, the percentages in Pittsburgh correlated significantly (Pearson $r = 0.51$ and $p = 0.012$) with the percentages in Zhuhai. The most frequently committed acts in both countries were similar to the most prevalently committed acts, including: "Hit your brother or sister or got into a physical fight with him or her" (68.1% frequent in Pittsburgh and 42.2% in Zhuhai) and "Hit other students or got into a physical fight with them" (46.2% frequent in Pittsburgh and 25.2% in Zhuhai).

The percentage frequency was greater in Pittsburgh for these two acts and for seven other acts. Based on the odds ratios, the greatest differences were in "Broken or damaged or destroyed other things that did not belong to you, not counting things that belong to your family or school" (28.8% frequent in Pittsburgh and 10.9% in Zhuhai) and "Taken anything else at home that did not belong to you" (37.6% frequent in Pittsburgh and 15.5% in Zhuhai). The percentage frequency was never significantly greater in Zhuhai.

The frequency rankings of items in Pittsburgh and Zhuhai were not significantly correlated (Spearman rho = 0.06, ns). Two items in particular were more frequent in Pittsburgh: "Taken anything else at home that did not belong to you" (ranked 3 in Pittsburgh and 18 in Zhuhai) and "Been loud, rowdy, or unruly in a public place so people complained about it or you got into trouble" (ranked 5 in Pittsburgh and 19 in Zhuhai). Two items in particular were more frequent in Zhuhai: "Taken something that did not belong to you from a car" and "Run away from home" (both ranked 22.5 in Pittsburgh and 5.5 in Zhuhai).

4. Discussion

The results of this research reveal similarities and differences between 10-year-old boys in Pittsburgh in 1987–1988 and Zhuhai in 2017. The most important similarity derives from the significant correlations between percentages. The most prevalent acts in Pittsburgh tended also to be the most prevalent acts in Zhuhai, and the most frequent acts in Pittsburgh tended also to be the most frequent acts in Zhuhai. Nevertheless, there are also differences. In particular, prevalence was often greater in Zhuhai, but frequency was often greater in Pittsburgh. Therefore, based on these results, it cannot be concluded that Chinese boys are less antisocial than American boys. However, the two most violent acts (hitting other students and siblings) were more prevalent and more frequent in Pittsburgh, in concordance with the previous research by Greenberger *et al.* (2000) and Tuvblad *et al.* (2016).

It was interesting that "Been sent home from school for bad behaviour" was much more prevalent in Pittsburgh, whereas "Cheated on school tests" was much more prevalent in Zhuhai. These results suggest possibly that Zhuhai schools may have been less likely to

detect antisocial behaviour, such as cheating, or may have been less likely to send children home after detecting bad behaviour. This shows the value of self-reports in revealing unrecorded antisocial behaviour. Zhuhai boys were much more likely than Pittsburgh boys to have stolen or tried to steal a bicycle or skateboard; possibly, these items were more prevalent in Zhuhai than in Pittsburgh. Zhuhai boys were also higher than Pittsburgh boys on the prevalence of other stealing items such as "Taken some money at home that did not belong to you, like from your mother's purse or from your parents' dresser" and "Taken something that did not belong to you from a car". These results suggest that, while violence was more prevalent in Pittsburgh, stealing may have been more prevalent in Zhuhai.

There are some differences between the samples that might possibly explain the differences in results. There are differences between 1987–1988 and 2017, between American and Chinese culture and between the methods of administration (a personal interview in Pittsburgh vs a self-completed questionnaire in Zhuhai). It is possible that the Pittsburgh boys were more representative of boys in the City of Pittsburgh than the Zhuhai boys were representative of boys in the City of Zhuhai, as the Pittsburgh data were drawn from 43 of the 47 primary schools, whereas the Zhuhai data were drawn from only five of the 64 primary schools. As these were mainly rural migrant schools, the Zhuhai sample would have been more deprived and antisocial, on average, than the comparable Zhuhai population of 10-year-old boys.

It is interesting to compare the results in Zhuhai with the contemporaneous (2017) results in Cordoba, Spain. Table 2 of Espejo-Siles *et al.* (2023b) shows the prevalence of SRA items in the previous six months. Unfortunately, there were only 115 10-year-old boys in the Spanish sample, of the total sample of 1,483 boys and girls aged 10–17 years. Nevertheless, the mean prevalence of the 23 SRA items shown in Table 1 was almost identical in Cordoba (13.9%) and Zhuhai (13.8%). Not surprisingly, these two percentages were not significantly different ($t = 0.06$ and 22 df). Interestingly, the two sets of prevalence were significantly correlated (Pearson $r = 0.70$ and $p = 0.0001$). The main difference between Cordoba and Zhuhai was that two damage items were more prevalent in Zhuhai (damage at home, ranked 2 in Zhuhai and 14 in Cordoba; damage at school, ranked 7 in Zhuhai and 19.5 in Cordoba), as was stealing a bicycle or skateboard (ranked 9 in Zhuhai and 22 in Cordoba). However, avoiding paying for movies, bus or subway rides or food was more common in Cordoba (ranked 12 in Cordoba and 22 in Zhuhai).

As mentioned, the current article presents the first comparison of age-matched Chinese and American children on the prevalence and frequency of specific antisocial acts. It is, of course, desirable that this type of cross-national comparative research should be replicated, preferably with large representative samples and using the same measuring instruments. It is also important to study risk factors for antisocial behaviour (Farrington and Aguilar-Carceles, 2023; Jackson, 2017; Juni, 2014; McGauran *et al.*, 2019), including very early risk factors (Zara *et al.*, 2023) and biological risk factors (Bergstrom and Farrington, 2018; Farrington and Bergstrom, 2021). Information about differences in risk factors might help to explain differences in prevalence and frequency between Chinese and American children. Zych *et al.* (2021) compared risk factors for delinquency in London, Pittsburgh and Zurich. It would be desirable to compare children at several different ages, preferably in a longitudinal study, to investigate stability and change over time and influencing factors at different ages. For example, the samples may differ more at older ages, as cultural and social contextual factors become more important. It would also be desirable to compare self-reports with parent and teacher reports.

It would also be desirable to compare China and the USA on both self-reported and official offending simultaneously. The age of criminal responsibility in China is 16 years, although children who commit very serious offences can be taken to court as young as age 12 years. However, 10-year-olds in China cannot be convicted, unlike 10-year-olds in Pittsburgh.

Self-reported and official offending have been compared in the PYS. For example, Theobald *et al.* (2014) analysed the oldest sample from age 13 years to age 24 years and found that, on average, there were 22 self-reported offences for every conviction. It would be desirable to carry out similar research in China.

To counter the argument that most theories and research in criminology and psychology are based on Western industrialised countries, it is important to carry out more cross-cultural comparisons of antisocial behaviour in other countries. We hope that our research will stimulate more of these kinds of studies. We conclude that, despite the considerable differences in time and place, there is impressive generality and replicability between Zhuhai and Pittsburgh boys in the relative prevalence of different antisocial acts. Also, there is little evidence that Pittsburgh boys are more antisocial than Zhuhai boys, with the possible exception of violence against peers and siblings. These results are generally encouraging for the generalizability of criminological theories and findings beyond the most-studied "WEIRD" countries.

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