



Female-Oriented Male-Male Erotica: Comparison of the Engaged Anglophone Demographic and That of the Greater China Area

Anna Madill¹ · Yao Zhao¹

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Abstract

Our aim is to compare comprehensive data on the engaged demographics of female-oriented male-male erotica in Anglophone regions and that of the greater China area. Our study constitutes the largest such data set in each region (Anglophone $N = 1707$; Chinese $N = 1498$). Data were analysed from our online *Boys' Love* (BL) fandom survey: one version in English and an almost identical version in Chinese. We confirm that the engaged Anglophone demographic includes more men, people with a wider range of sexual orientations, lower proportion of heterosexual identification, and a wider and older age range. We provide greater detail than ever before and demonstrate engagement with BL by young straight men and questioning of sexual identity by female fans, at least in the Anglophone West. Finally, we provide novel evidence that a broad demographic of young people in the greater China area is familiar with BL as a casual interest in contrast to Anglophone regions where it is more of an intense and niche pass-time. We offer important insights into a global erotic entertainment by-and-for women which is influencing the mainstream but under increasing legislative scrutiny.

Keywords *Boys' Love* · *Yaoi* · *Danmei* · Pornography · Homosexuality · Female-oriented erotica

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✉ Anna Madill
a.l.madill@leeds.ac.uk

¹ School of Psychology, University of Leeds, LS2 9JT Leeds, UK

Introduction

Female-oriented male-male erotica is one of the largest by-and-for women sexual subcultures and a truly global phenomenon (Levi et al. 2014). While the content focuses always on men in romantic and/or sexual relationships, the form varies and includes artwork, manga, novels, online instalments, live action serials, and film. Material is created by both amateurs and professionals, and is provided free and as a commercial enterprise. Female-oriented male-male erotica offers online and offline space (e.g., forums and conventions) in which fans can participate and co-create. Designations are many and include *shonen-ai* and *yaoi* (Japanese), *slash* (Anglophone), and *danmei* (Chinese). Here we use the umbrella term *Boys' Love* (BL).

BL is important to study. First, as a largely by-and-for women erotic subculture it is of social significance given that women's engagement with pornography is often problematized yet increasingly normative (Attwood et al. 2019). Moreover, as a global phenomenon, BL provides a window into the development of a grassroots sexualised entertainment for women and how this is shaped within different cultural contexts. Here we compare the engaged demographics in the Anglophone West with that of the greater China area (i.e., Mainland China, Taiwan, Hong Kong, and Macau). These are both regions of world significance with contrasting political and social environments (Zhao and Madill 2018).

Second, the popularity of BL is impacting mainstream entertainment. For example, sexually-inflected male relationships are played-up in popular Anglophone TV series such as *Sherlock* and capitalised on in their marketing (Porter 2012). Moreover, in China, where there is a blanket ban on sexually-explicit material and strong disincentive to acknowledge same-sex relationships in public media (Zhao 2016), eroticism between men is flourishing in mainstream entertainment. For example, in 2018–2019 the online live action series *Guardian*, adapted from a popular *danmei* novel, reached 25 billion plays.

Third, BL focused on 'youths' may contravene the law in some jurisdictions. Providing an evidence-based profile of the engaged demographics will facilitate realistic assessment of the risks posed, particularly given increasing regulation of such material. For example, some regulations arguably conflate the production and consumption of non-realistic, sexually-explicit, fictional materials with that of real child pornography (Madill 2015). Currently this is done so without evidence of its harm or interest in its possible positive function for relatively sexually-benign demographics, such as educated young women.

Table 1 presents a summary of the existing research on BL to May 2019 that provides information on the engaged demographics in our regions of interest. Studies on the greater China area BL fandom were searched for on the main Chinese academic databases CQVIP (Chongqing VIP Information), Wanfang, and CNKI (China National Knowledge Infrastructure). Studies on the Western BL fandom were searched for on GOOGLE SCHOLAR because articles cross many academic disciplines. The literature search involved also checking the reference section of relevant articles for further papers.

Table 1 Summary of participant demographics in BL research on the greater China area and Western populations

Author ^a	Date	Region	Recruitment	Method	Sample size	Gender	Sexual orientation	Age (yrs)
Greater China area populations								
Yan	2018	Mainland China	Snowball	Online survey	439 BL fans	14% male 86% female	80% hetero 18% bisexual 2% homosex	Range 15–30
<i>S. Y. Li</i>	2017	China	Snowball	Interview & focus group	15	10 female 5 male	/	Range 20–28
<i>Wang</i>	2017	Mainland China	Snowball	Focus group & interview	16	Female (possibly)	/	/
<i>Tang</i>	2016	Mainland China	/	Online interview	15 (one Japanese)	Female	/	Range 23–32
<i>C. Zhang</i>	2016	Mainland China	Snowball	Online interview	15	Female	Hetero	/
<i>K. Zhao</i>	2016	Mainland China	Random	Survey	980 (including general public)	75% male 25% female	/	/
<i>Chang</i>	2015	Taiwan	Snowball	/	22	Female	/	Range 21–31 Mean 25.5 Mode 25
<i>Huang</i>	2015	Taiwan	Snowball	Interview	12 creator 9 customer 2 organizer	/	/	Creator: Range 25–30 Mean 27.5 Mode 27 Customer: Range 20–27 Mean 24.7 Mode 24
<i>Y. Zhang</i>	2015	Taiwan	Snowball	Interview	14	Female	93% hetero 7% not sure	Range 18–29 Mean 23.18 Mode 25
<i>Cui</i>	2014	Mainland China	Random	Survey	434	Female	/	Born in 1980s & 90s
<i>Dai</i>	2014	Mainland China	Random	Survey	236	Female	/	University students

Table 1 (continued)

Author ^a	Date	Region	Recruitment	Method	Sample size	Gender	Sexual orientation	Age (yrs)
Zhu & Cui	2014	Mainland China	/	Interview	50	Female	/	Range 18–32
Liu	2013	Mainland China	Snowball	Interview	6	Female	/	Range 14–17
Hou & Xiao	2013	Mainland China	/	Survey	278 BL fans 284 non-BL fans	Female	/	University students
Wu & Sun	2013	Mainland China	/	Case study	1	Female	Possibly homosexual	/
Yao & Guo	2013	Mainland China	Random	Survey	530 29.2% BL fans	20.6% male 79.4% female	79.4% hetero	University students
Chen & Yang	2012	Mainland China	/	Online survey	/	/	/	Range 14–30 (81% 14–20)
Fran	2012	Taiwan	/	Interview	30	Female	/	/
Zhu & Wang	2012	Mainland China	/	Interview	10	Female	/	Range 20–29 Mean 24.5 Mode 24
Chou	2010	Taiwan	Internet com- ics & BL discussion forums	Interview	17	Female	/	Range 18–28 Mean 20
P. Li	2010	Taiwan	Snowball	Interview	14	Female	/	Range 21–31 Mean 25.9 Mode 25
Y. Li	2009	China	Snowball	Survey	31	Female	78% hetero 13% bisexual 9% not sure	Mean 21.9
Zheng & Wu	2009	Mainland China	Snowball	Interview	7	Female	/	Range 18–23
Y. Zhao	2008	Mainland China	Snowball	Interview	/	/	/	University & high school students

Table 1 (continued)

Author ^a	Date	Region	Recruitment	Method	Sample size	Gender	Sexual orientation	Age (yrs)
Chang	2007	Taiwan	/	Interview	21	14% male 86% female	Total: 66.6% hetero 28.6% bisexual 4.8% bisexual Male: 67% bisexual 33% homosexual Female: 78% hetero 22% bisexual	Male: Range 16–22 Female: Range 20–26
Western populations^b								
Neville	2018	USA & UK	Snowball	Focus group, interview & online survey	429	Female	43% hetero 31% bisexual 6% asexual 5% lesbian 5% pansexual 3% not sure 3% queer 2% demisex. 2% unknown	Range 18–65+
Zsila et al.	2018	Hungary	/	Online survey	724	58% male ^c	43.23% hetero 20.3% mainly hetero 14.09% homosexual 4.01% mainly homosexual 13.54% bisexual 2.76% not sure 1.8% other 0.28% asexual	Range 18–73 Mean 30.1 SD 10.4
Lilja & Wasshede	2016	Sweden	Snowball	Interview	8	Female	Mostly hetero	Range 21–34 (one 15)

Table 1 (continued)

Author ^a	Date	Region	Recruitment	Method	Sample size	Gender	Sexual orientation	Age (yrs)
Turner ^c	2016	North America, EU ^e	Snowball	Interview & survey	25 interviews 179 survey responses	Interviewees: 36% male 64% female Survey: 18% male 1% trans male 81% female	Interviewees: Complex fluid Survey total: 60% hetero 20.6% homosex Survey male: 20% bisexual 76% homosex 21% bisexual 3% hetero Survey female: 74% hetero 19% bisexual 7% homosex	Survey: range 17–46+ Mean 19.8 Mode 16
Levi	2009	North America	/	Survey	431	9.8% male 86.1% female 4.1% other	51% hetero 31% bisexual 8% other 6% homosex	Range 14+
O'Brien	2008	USA	/	Interview & survey	8 interviews 16 survey responses	Interviewees: Female Survey: mostly female	/	Interviewees: Range 20–26 Survey: Range 18–40 (mostly 20s)

Table 1 (continued)

Author ^a	Date	Region	Recruitment	Method	Sample size	Gender	Sexual orientation	Age (yrs)
Paghiassotti ^f	2008	English-speaking EU	/	Online survey	478	11% male 89% female	(N = 390: 41M, 349F) Total: 47% hetero 25% bisexual 10% don't know 7% gay/lesbian 7% not interested in sex 2% other 2% prefer not to say Male: 44% bisexual 37% gay 7% hetero 7% prefer not to say 2% don't know 2% other Female: 52% hetero 23% bisexual 11% don't know 8% not interested in sex 4% gay/lesbian 2% other 1% prefer not to say	Range (18–24)–(45–54) Mode 18–24 Majority 18–34
		Italian language	/	Online survey	315	13% male 82% female 5% unknown	(N = 297) 62% hetero 18% bisexual 8% don't know 6% gay 3% not interested in sex 2% lesbian 2% prefer not to say 0.3% queer	Range (< 18) – (35 – 44) Mode 18 – 24 Majority 18 – 34

Table 1 (continued)

Note: *e* European Union

^aUnpublished thesis author name in italics

^bWe omit our former article which involves a sub-set of the data reported here (Zhao and Madill 2018)

^cProbably atypical because a sub-sample of participants responding to a more general survey on sexual behaviour and pornography consumption

^dDetails of interview sample provided in personal communication from the author May 1 2018

^fMost questions were not mandatory so number of responses for individual questions vary

The research on BL which offers information on participant demographics first appeared in 2007–2008. We found 25 articles on the greater China area (of which 9 are unpublished student theses) and eight on the Anglophone West (of which one is an unpublished thesis). Chinese region research focuses on the audience in Mainland China ($k=18$, including two conducted in ‘China’ which the authors at overseas’ universities did not specify in more detail) and Taiwan ($k=7$). Western population research includes countries in North America (USA, Canada) and Europe (UK, Hungary, Sweden, and Italy). However, it can be difficult to know who completes an online survey and the reporting of participant demographics is patchy. Sampling, when it is described, tends to be random or snowball, and data is collected via interviews and surveys.

Where interviews have been conducted with Chinese or Taiwanese participants, and their gender reported, all but one study interviewed only women (i.e., Chang 2007). Eight survey studies were identified in the greater China area articles (all in Mainland China) with sample size varying between 31 and 980. The larger surveys in the greater China area often target the general and student population, meaning that findings do not focus on BL fans. Where BL fans specifically have been surveyed, one included only women ($N=278$: Hou and Xiao 2013) while the most recent is reasonably large and reveals a proportion (14%) of male fans ($N=439$: Yan 2018). Information on sexual orientation is not collected routinely and, when reported, heterosexual identification is high. The age range of participants is usually late teens through to late twenties.

As to Western population BL research providing demographic information, one is an interview study of women (Lilja and Wasshede 2016), four are surveys, and three are combined interview and survey studies. Pagliassotti (2008) reports two relatively large sample sizes for online surveys (English $N=478$; Italian $N=313$) which provide detailed demographic information. In contrast to the greater China area research, that on Western BL reports greater male engagement, wider range of sexual orientations, lower proportion of heterosexual identification, and a wider and older age range.

The general foci of these articles also provides an interesting context in which to consider difference in the engaged demographics. Mainland Chinese researchers sometimes demonstrate concern about the influence of BL on readers’ sexual orientation. In particular, they have attempted to show that BL fans are at risk of rejecting heterosexuality through engaging with material that beautifies homosexuality (e.g., Liu and Tang 2012; Zhao 2016). In fact, one publication documents the process of ‘rectifying’ a female fan’s sexual orientation through psychological counselling (Wu and Sun 2013). In contrast, the Taiwanese research, which has emphasized small group interview analysis, focuses much more on the positive aspects of BL culture such as its potential to help some women explore their sexual anxieties (Chang 2015). Similarly, the Western region research has tended to take a positive stance. For example, Turner (2016) outlines the potential for BL to promote a queer-friendly perspective in readers.

The relevant existing research on BL demonstrates that demographic data is sparse and often poorly reported. Hence, the aim of our research is to collect and compare comprehensive data with regard to the demographics engaged with male-male erotica in Anglophone regions and that of the greater China area.

Method

The Survey

A 43-question online BL fandom survey was created from the existing literature and the authors' familiarity with the material: one version in English (<https://leeds.onlinesurveys.ac.uk/blfandomsurvey>) and an almost identical version in Simplified Chinese (<https://www.wjx.cn/m/3989081.aspx>). The Anglophone survey includes the question *Is English your first language?*, and provides option 'Polysexual/Pansexual' in the question *What is your sexual orientation?*, while the Chinese survey includes the questions *Are you a Chinese national?*, *In which Chinese province do you live?* and *If you do not live in Mainland China, in which country do you live?* The survey consists of likert-scale and free-form response questions in five sections: demographics, BL materials, feelings about BL, social relationships, and other erotic materials. The survey in English is available for inspection as electronic supplementary material.

The Anglophone survey opened in November 2014 and was promoted via relevant internet forums, social network websites, and by e-mailing anime and manga clubs. The Chinese survey opened in March 2015 and was promoted via universities in Mainland China, leaflets distributed with products from an online Chinese BL shop, and at manga events in Mainland China at which a paper version of the survey was provided for immediate completion and transferred to the online version ($N=200$). Data were collected until the end of January 2018. We also include data collected in one additional Chinese recruitment period during March 2018 and one additional Anglophone recruitment period during February and March 2019 to test an ensuing hypothesis with regard to potential recruitment bias.

The Chinese survey total $N=1498$ and the Anglophone survey total $N=1707$ (including only participants who noted their first language as English). Country of residence reported in the Chinese survey is: Mainland China 85.1%; Hong Kong 13.2%; UK 0.9%. Nationality reported is: Chinese 97.7%; Hong Kongese 2.2%; Taiwanese 0.1%. Hence, our sample has less Taiwanese as expected by regional population and none from Macau: Mainland China 1439 million, Taiwan, 23.8 million, Hong Kong 7.5 million, and Macau 0.6. This might have been influenced by the fact that our survey was in Simplified Chinese while Traditional Chinese is standard in Taiwan. Country of residence reported in the Anglophone survey is: USA 64.0%; UK 19.5%; Australia 5.6%; Canada 4.9%. Nationality reported is: American 44.4%; British 19.5%; Australian 4.2%; Canadian 3.9%. Hence, our sample is reasonably representative in terms of number of native English speakers in the more populated Anglophone countries: USA 231 million, UK 67 million, Australia 17.5 million, and Canada 5.7 million (Lyons 2017).

Creation of Two New Variables

First, responses to *What is your sexual orientation?* were recoded to two categories ‘*Heterosexual*’ and ‘*Nonheterosexual*,’ the latter including responses *Bisexual*, *Homosexual/lesbian/gay*, *Not sure*, and *Other* (Chinese survey) and *Bisexual*, *Homosexual/lesbian/gay*, *Polysexual/Pansexual*, *Not sure*, and *Other* (Anglophone survey). This manages the fact that option ‘*Polysexual/Pansexual*’ was omitted from the Chinese survey given that it has little meaningful cultural relevance. Second, each participant response to *At what age did you start to engage with BL?* was subtracted from their response to *What is your age in years?* to create new variable *Duration of Engagement*.

Survey Analysis

The survey was designed in sections with a view to exploring several different research questions. In this article, twelve questions plus one created variable (*Duration of Engagement*) were analysed to explore possible difference in the engaged Anglophone and greater China area demographics. Hence, we selected for analysis all the questions in the demographics section of the survey, excluding two which we considered more relevant to a social values/ideology research question: i.e., items *How acceptable are male-male sexual relationships to you in real life?* and *How acceptable are female-female sexual relationships to you in real life?* We also selected for analysis two further items. The first, *What percentage of your spare time do you spend on BL?*, was selected as similar to the demographic section questions on BL-related activities (e.g., *Do you create any BL works yourself?*). The second, *I discuss my interest in BL with friends I know in person (Never, Sometimes, Often, Very Often, Extensively)* was selected because we were interested to compare the importance of anonymous engagement with BL between the two regions. The Chi Square test of independence was used to determine if two categorical variables are associated with one another for each observational unit. Because the likert scale response data are not normally distributed, the non-parametric test, the Mann-Whitney U, is used to test for differences in median between and within groups. A demanding significance level of $p < .001$ was set and all analyses undertaken are reported regardless of significance level (see Tables 2 & 3). When significant, the size of the contrasts tested are reported, Cramer’s V (Chi square) and Pearson’s r (Mann-Whitney), where a small size $d = .1$, a medium size $d = .3$, and a large size $d = .5$ (Cohen 1988).

Results

The strongest differences (see Table 2) between the responses on the Chinese survey and the Anglophone survey are that those completing the Chinese survey were more likely: to be students; to be heterosexual; to have been ‘*Introduced to BL by others*’ as opposed to having ‘*Found BL by myself*’; not to create BL works; and to

Table 2 Are there differences between Chinese and Anglophone survey participants? *Summary statistical results*

Survey question	Chinese	Anglophone	Significance level	Size ^a
<i>What is your main occupation?</i>	89.7% of sample 'student'	57.1% of sample 'student'	$\chi^2 (4, N = 3205) = 445.68,$ $p < .001$	Cramer's $V = .373$ medium
<i>What is your sexual orientation?</i>	66.5% of sample 'heterosexual' 64.1% of males 'heterosexual' 67.3% of females 'heterosexual' 25.0% of other-gendered 'heterosexual'	31.1% of sample 'heterosexual' 9.9% of males 'heterosexual' 39.2% of females 'heterosexual' 2.6% of other-gendered 'heterosexual'	$\chi^2 (1, N = 3205) = 400.40,$ $p < .001$	Cramer's $V = .353$ medium
<i>How did you first discover BL?</i>	46.9% of sample 'introduced to BL by others' 43.9% of sample 'found BL by myself'	25.2% of sample 'introduced to BL by others' 74.3% of sample 'found BL by myself'	$\chi^2 (1, N = 3205) = 362.84,$ $p < .001$	Cramer's $V = .336$ medium
<i>Do you create any BL works yourself?</i>	82.0% of sample 'no'	53.1% of sample 'no'	$\chi^2 (1, N = 3205) = 301.02,$ $p < .001$	Cramer's $V = .306$ medium
<i>Duration of Engagement</i>	Mean 4.58 years Range 0–20 SD 3.12	Mean 7.19 years Range 1–46 SD 4.76	$U = 740,664$ $p < .001$	Pearson's $r = .303$ medium
<i>What is your highest educational level?</i>	74.3% of sample 'bachelor'	50.8% of sample 'bachelor'	$\chi^2 (4, N = 3205) = 281.70,$ $p < .001$	Cramer's $V = .296$ small
<i>What is your age in years?^b</i>	Mean 19.75 years Range 12–37 SD 3.05	Mean 22.92 years Range 11–70 SD 7.09	$U = 916,873$ $p < .001$	Pearson's $r = .239$ small
<i>What is your gender?</i>	11.1% of sample 'male' 1.1% of sample 'other-gendered'	16.6% of sample 'male' 8.8% of sample 'other-gendered'	$\chi^2 (2, N = 3205) = 125.70,$ $p < .001$	Cramer's $V = .199$ small
<i>What percentage of your spare time do you spend on BL?</i>	Mode '1–20% of spare time' 52.2% of sample	Mode '1–20% of spare time' 31.7% of sample	$U = 1,017,990$ $p < .001$	Pearson's $r = .184$ small
<i>How intensely are you a BL fan?</i>	Bimodal distribution 'a bit' 23% of sample 'extremely' 31.4% of sample	Linear increase to mode 'extremely' 34.0% of sample	$U = 1,042,691$ $p < .001$	Pearson's $r = .165$ small
<i>Do you BL cosplay?</i>	7.9% of sample 'yes'	16.7% of sample 'yes'	$\chi^2 (1, N = 3205) = 55.48,$ $p < .001$	Cramer's $V = .132$ small

Table 2 (continued)

Survey question	Chinese	Anglophone	Significance level	Size ^a
<i>I discuss my interest in BL with friends I know in person.</i>	Mode 'never' 30.2% of sample	Mode 'sometimes' 40.1% of sample	$U = 1,224,393.5$ $p = .033$	/
<i>At what age did you start to engage with BL?</i>	Mean 15.07 years Range 1–32 SD 3.15	Mean 15.67 years Range 5–57 SD 5.36	$U = 1,109,732.5$ $p = .056$	/

^aRelevant only when $p < .001$

^bCalculation of age by the Gregorian calendar is standard across the regions studied (Zhang 2006)

Table 3 Do students constitute a distinct sub-group? - Summary statistical results

Survey question	Difference	Significance level	Size ^a
Chinese student vs Chinese non-student			
<i>Do you create any BL works yourself?</i>	'Yes' 16.9% of students 27.0% of non-students	$\chi^2 (1, N=1498) = 9.802, p = .002$	/
<i>How intensely are you a BL fan?</i>	Students mean rank = 721.53 Non-students mean rank = 991.86	$U = 77,772.500$ $p < .001$	Pearson's $r = .196$ small
<i>What percentage of your spare time do you spend on BL?</i>	Students mean rank = 729.91 Non-students mean rank = 919.24	$U = 66,517.000$ $p < .001$	Pearson's $r = .145$ small
<i>Do you BL cosplay?</i>	'Yes' 7.3% of students 13.5% of non-students	$\chi^2 (1, N=1498) = 7.426, p = .006$	/
Anglophone student vs Anglophone non-student			
<i>Do you create any BL works yourself?</i>	'Yes' 44.3% of students 50.4% of non-students	$\chi^2 (1, N=1707) = 6.251$ $p = .012$	/
<i>How intensely are you a BL fan?</i>	Students mean rank = 826.63 Non-students mean rank = 890.45	$U = 330,168.500$ $p = .006$	/
<i>What percentage of your spare time do you spend on BL?</i>	Students mean rank = 858.31 Non-students mean rank = 848.27	$U = 3,552,652.500$ $p = .667$	/
<i>Do you BL cosplay?</i>	'Yes' 16.6% of students 16.8% of non-students	$\chi^2 (1, N=1707) = 7.426$ $p = .918$	/
Chinese student vs Anglophone student			
<i>Do you create any BL works yourself?</i>	'Yes' 16.9% of Chinese 44.3% of Anglophone	$\chi^2 (1, N=2318) = 208.511$ $p < .001$	Cramer's $V = .300$ medium
<i>How intensely are you a BL fan?</i>	Chinese mean rank = 1060.68 Anglophone mean rank = 1295.62	$U = 521,992.000$ $p < .001$	Pearson's $r = .208$ small

Table 3 (continued)

Survey question	Difference	Significance level	Size ^a
<i>What percentage of your spare time do you spend on BL?</i>	Chinese mean rank = 1047.41 Anglophone mean rank = 1313.89	$U = 504,181.500$ $p < .001$	Pearson's $r = .178$ small
<i>Do you BL cosplay?</i>	'Yes' 7.3% of Chinese 16.6% of Anglophone	$\chi^2 (1, N = 2318) = 49.255$ $p < .001$	Cramer's $V = .146$ small

^aRelevant only when $p < .001$

have a shorter duration of engagement. Other, less strong, differences are that those completing the Chinese survey were more likely: to report highest educational level, including current programme, as a bachelor degree; to be younger; to not be male or 'Other' gendered; to spend less of their spare time on BL; to be a less intense fan; and not to cosplay (i.e., 'costume play' whereby people dress-up as fictional characters). There were no differences between the responses on the Chinese survey and the Anglophone survey in the extent to which participants discuss their interest in BL with friends known in person and the age at which they started to engage with BL.

Of the Chinese survey participants who endorsed 'Other' gender, the free-form responses are: Hideyoshi (i.e., neither male nor female, and originates from the Japanese animation *Baka and Test* crossing-dressing male character; $N=4$), neutral ($N=3$), hermaphrodite ($N=1$), Futanair (i.e., both male and female; $N=1$), no explanation ($N=7$). Of the Anglophone participants who endorsed 'Other' gender, the free-form responses are: gender fluid ($N=28$), gender queer ($N=27$), agender ($N=26$), trans ($N=24$; trans-male = 17, trans-female = 5, unknown = 2), non-binary ($N=18$), bigender ($N=10$), other one-off descriptions ($N=18$).

The two participants in the Chinese survey who endorsed both 'Other' gender and 'Other' sexual orientation, indicated that they were 'asexual'. In total, of those who endorsed 'Other' sexual orientation in the Chinese survey, the free-form responses are: asexual ($N=6$), pansexual ($N=5$), "Single dog" ($N=1$), no explanation ($N=6$). Of the Anglophone participants who endorsed 'Other' sexual orientation, the free-form responses are: asexual ($N=128$), demisexual ($N=26$), grey ($N=7$), queer ($N=4$), other one-off descriptions ($N=21$).

Possible Bias in Chinese Survey Sample

A possible bias in the Chinese sample is suggested by the comparatively large number of students compared to the Anglophone sample. Moreover, a possible impact of, and further evidence for a bias in the greater China area sample is the comparatively lower engagement in terms of creating BL works, BL cosplay, spare time spent on BL, and self-rated fan intensity. Hence, we posited the following three hypotheses: (a) greater Chinese area students constitute a distinct sub-group in terms of engagement in BL; (b) Anglophone students constitute a distinct sub-group in terms of engagement in BL; and (c) greater Chinese area students are less engaged in BL than are Anglophone students.

To test the first two hypotheses we conducted within sample comparisons of students versus non-students for both the greater China area and Anglophone survey data on the relevant four questions. To test the third hypothesis we conducted a between sample comparison of students in the greater China area and Anglophone survey data on the relevant four questions (see Table 3). The first hypothesis is partly upheld: that is, on two of the four questions Chinese survey student participants are less engaged in BL than are non-students: *How intensely*

are you a BL fan? and *What percentage of your spare time do you spend on BL?* However, the trend on the other two questions is supportive of the hypothesis. The second hypothesis is not upheld: that is, on all four questions, there is no difference between Anglophone student and non-student participants. Finally, the third hypothesis is upheld: that is, on all four questions, greater Chinese area students are less engaged in BL than are Anglophone students. An important implication is that our Chinese survey student sample is distinctive in relation to the Anglophone student sample and may constitute a bias towards low engagement.

Testing Potential Recruitment Bias

The preponderance of students in our Chinese sample may reflect the way in which most Chinese survey recruitment was via university classes whereas almost all Anglophone survey recruitment was via the internet. This may have unduly affected findings because Chinese student participants are less engaged in BL than are Anglophone student participants and, in some ways, less engaged than are Chinese non-student participants. Hence, we tested for a potential recruitment bias through positing the following hypothesis: many more participants will be recruited via a Chinese university route than via an Anglophone university route.

To test this hypothesis, the Anglophone survey was promoted explicitly through Anglophone universities over about a 6 week period from the beginning of February 2019. Using our academic contacts we requested via e-mail that the Anglophone survey be distributed to students. One department at each of several different universities participated: UK ($N=6$), Australia ($N=5$), New Zealand ($N=1$), and USA ($N=1$). No other recruitment activities were undertaken immediately before, during, or after this period. The ensuing Anglophone university participation pattern was contrasted with two example university recruitment periods in China, one during October 2017 and another during March 2018. In the first example period we had asked lecturers in one department to provide leaflets to students with a QR (quick response) code to the Chinese survey. In the second, an academic at a different university gave the link to his study group and asked them to distribute to other students. No other recruitment activities were undertaken immediately before, during, or after these two periods.

The recruitment period via Anglophone universities produced only a slight rise in survey completions. In contrast, the two example university recruitment periods in China produced a huge response with few participants in the prior months and the month following (see Table 4). Hence, the hypothesis is upheld: that is, many more participants were recruited via a Chinese university route than via an Anglophone university route. This provides evidence that our differential recruitment strategies were culturally appropriate and is unlikely to have biased the data.

Table 4 Number of participants before, during, and after university recruitment periods in China (two example periods) and Anglophone countries (one period only)

Recruitment month	Before		During		After
	1	2	3	4	5
Chinese: university 1	0	0	603	34	1
Chinese: university 2	2	1	553	4	0
Anglophone: 13 universities	5	1	5	8	1

Discussion

The aim of our research is to collect and compare comprehensive data with regard to the demographics engaged with male-male erotica in Anglophone regions and that of the greater China area. Our study constitutes the largest such data set in each region and we have gathered wide-ranging information of interest. We confirm existing research which suggests that, in contrast to the greater China area, the engaged Anglophone demographic includes more men, people with a wider range of sexual orientations, lower proportion of heterosexual identification, and a wider and older age range, alongside additional new information and detail.

In particular, we provide novel evidence that a broad demographic of young people in the greater China area is familiar with BL as a casual interest in contrast to Anglophone regions where it is more of an intense and niche pass-time. Specifically, while Anglophone participants do not differ in their engagement in BL according to student status, there is a preponderance of students in our Chinese sample who are also less engaged in BL than are Anglophone students and, in some ways, less engaged than are the Chinese non-students. Importantly, we provide evidence these findings are unlikely to be an artefact of recruitment bias and that we have revealed a, possibly surprising, real difference in the way in which BL culture operates in the greater China area and the Anglophone West.

Chinese culture emphasizes cohesiveness and prioritization of group over self (Oyserman 1993). In contrast, Anglophone culture tends to encourage individualism (Veenhoven 1999). This might help explain the comparatively wider, but lower-level, engagement with BL in the greater China area and is supported by our finding that, whilst both populations were reticent to discuss BL with friends they know in person, those who completed the Chinese survey were more likely to have been introduced to BL by others. That is, BL may be diffused more widely in the greater China area because young people feel safer and more accepted if their interest in BL is shared with others and can promote it online with relative anonymity. Casual engagement in BL may also be influenced by the fact that middle/high school and university students in the greater China area have limited free time compared to those in many Anglophone countries (Hays 2012), including free time to read and watch BL, create original work, or undertake preparations for cosplay. In relation to the latter, many high schools in the greater China area do not allow students to use make-up and most universities do not encourage it (Hays 2012). Hence, since cosplay can require skill with make-up, many young people in the greater China area may feel disinclined to take part.

The shorter history of BL in the greater China area could help account for the younger mean age of those completing the Chinese survey and their shorter duration of engagement compared to the Anglophone. BL culture took-off in the Anglophone West during the 1980s (Madill 2018), but did not gain traction in the greater China area until the late 1990s (Wei 2014). Interestingly, our results reveal no difference in the age of first engagement with BL (15 years old in both regions), which is in line with the available existing research (Pagliassotti 2008). Chinese fans and researchers sometimes express concern that people are engaging with BL at an increasingly young age (e.g., Zhang 2015). Our Chinese survey data, which was collected between 2015 and 2018, may, indeed, indicate a slightly lower mean age than earlier reports. This may be linked to improved internet access and it is likely that interest in erotica is influenced by psychosexual development in which culture plays only a small part when materials are readily available. Erikson suggests that development from infancy to adulthood occurs in eight stages (Stevens 1983). Between 13 and 19 years is the stage called 'Identity Confusion' in which teenagers attempt to establish a stable sense of self, including a sexual identity (Kail and Cavanaugh 2004). Hence, some teenagers may start to engage with BL as a way of exploring different kinds of romantic and sexual relationships and identities. Although our Anglophone sample was older than that of the greater China area, the mean was influenced by a long 'tail' of older participants and Turner's (2016) survey of North American and European Union BL fans reports a very similar mean age to that of our Chinese survey sample. Again suggesting a possible life-stage phenomenon, mean age is within the peak age range for engagement with pornography (i.e., 18–25 years), particularly by women, reported by Attwood et al. (2019).

Our greater China area sample is more heterosexual, less male, and less likely to identify as 'Other' gendered than the Anglophone. Even so, our study reports a lower proportion of heterosexuality in the greater China area BL fandom (i.e., 65.5%) compared to recent research such as Yan (2018) who reports 80% heterosexuality. A possible explanation is that our option 'Not sure' provided our participants an easy, alternative default to identifying as heterosexual. Substantiating this, 80% of our Chinese sample endorsed 'Not sure' or 'Heterosexual'. Our survey, therefore, usefully disentangles participants who are positively heterosexual from those who are still questioning. This may be particularly important for a largely youth demographic, and one actively engaged in queer material.

Mainstream culture in the greater China area highlights traditional family values, filial piety, and patriotism, and authorities and official media emphasize and promote the family as the essential unit of social stability (Mu 2012). Hence, young people are expected to conform to normative gender roles and the heterosexuality implied. Leta et al. (2015) document how single Chinese women in their middle to late 20 s experience social and familial pressure to marry and risk being denigrated as 'leftover women.' Hence, Chinese women involved in BL culture might be overly inclined to identify as heterosexual given public concern that BL could alienate them from taking-up the role of wife and mother (e.g., Liu and Tang 2012; Zhao 2016).

Men in the greater China area may be unwilling to engage with BL material because it is perceived as a female interest and might imply that they are not

heterosexual. Indeed, in our sample, only 11.1% of participants who completed the Chinese survey were male compared to 16.6% who completed the Anglophone. There is little or no research providing good comparative data for the sexual identity of male BL fans in the greater China area. However, 64.1% of male participants who completed our Chinese survey endorsed '*Heterosexual*', compared to only 9.9% of our male Anglophone participants, the latter which is even a little higher than previous surveys of Western BL fans: 3% (Turner 2016) and 7% (Pagliassotti 2008). The comparative figures suggest that male nonheterosexuality may be under-reported in our Chinese survey. However, heterosexual male BL fans are an interesting demographic and our study confirms that a proportion of young straight-identifying men in both the Anglophone West and greater China area are engaging actively in male-male erotica.

Only 39.2% of our female Anglophone participants identified as heterosexual. This is relatively low compared to existing research on the Western BL fandom. Our study might suggest that young Anglophone women, particularly those interested in an erotic subculture like BL, are increasingly questioning of heteronormativity. Morgan and Thompson (2011) evidence a similar conclusion in relation to American college students. There is a similar picture with regard to gender, with more Anglophone than greater China area participants identifying as '*Other*' gendered, and with a wide range of specific descriptions. Interestingly, although translation is a complicating factor and Chinese participants were, in general, less likely to provide free-form responses, they sometimes drew creatively on popular culture terms and characters to describe alternative gender and sexual identities. Hence, queer popular culture may be offering young people a means for extending their identity lexicon for otherwise ineffable experiences.

In conclusion, our study provides the most extensive and comprehensive data with regard to the demographics engaged with male-male erotica in Anglophone regions and that of the greater China area. We confirm that the engaged Anglophone demographic includes more men, people with a wider range of sexual orientations, lower proportion of heterosexual identification, and a wider and older age range. We provide additional detail and information on engagement with BL by young straight men and questioning of sexual identity by female fans, at least in the Anglophone West. We also provide novel evidence that a broad demographic of young people in the greater China area is familiar with BL as a casual interest in contrast to Anglophone regions where it is more of an intense and niche pass-time.

Compliance with Ethical standards

Conflict of interest No potential conflict of interest was reported by the authors.

Availability of Data and Material The survey in English is available as electronic supplementary material. We are still publishing from our data so wish to keep it private.

Ethics Approval Approval was obtained from the Ethics Committee of the School of Psychology University of Leeds, UK. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

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