The social determinants of lesbian, gay, bisexual and transgender youth suicidality in England: a mixed methods study

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ABSTRACT

Background Lesbian, gay, bisexual and transgender (LGBT) youth have a higher risk of suicidality and self-harm than heterosexual youth populations but little is known about the underlying mechanisms. We aimed to investigate the social determinants of this mental health inequality.

Methods A two-stage sequential mixed method study was conducted. Firstly, 29 semi-structured interviews with LGBT youth (aged 13–25 years old) were completed. Data was analysed thematically. Stage 2 involved a self-completed questionnaire employing an online community-based sampling strategy (n = 789). Logistic regression analysis was performed to predict suicidality.

Results Five social determinants explained suicidal risk: (i) homophobia, biphobia or transphobia; (ii) sexual and gender norms; (iii) managing sexual and gender identities across multiple life domains; (iv) being unable to talk; (v) other life crises. Youth who were transgender (OR = 1.50, $P < 0.022$), disabled (OR = 2.23, $P < 0.000$), had self-harmed (OR = 7.45, $P < 0.000$), were affected by abuse (OR = 2.14, $P < 0.000$), and affected by not talking about their emotions (OR = 2.43, $P < 0.044$) were most likely to have planned or attempted suicide.

Conclusions Public health universal interventions that tackle bullying and discrimination in schools, and selected interventions that provide specific LGBT youth mental health support could reduce LGBT mental health inequalities in youth suicidality.

Keywords mental health, social determinants, young people, sexual orientation, gender identity

Introduction

The World Health Organization[1] estimates that globally, suicide is the second leading cause of death among 10–24 years old, and lesbian, gay, bisexual and transgender (LGBT) youth are a high-risk group.[2,3] The problem in the UK is there is a paucity of evidence about LGBT young people's vulnerability to suicidality, and there are no studies specifically investigating the social determinants of this mental health inequality.[4] The evidence base is limited, making it difficult to develop public mental health policies and interventions to prevent LGBT youth suicide.[5]

There are significant mental health inequalities between non-heterosexual people and heterosexual people. In a systematic review, King *et al.*[6] found a 2-fold increase in suicide attempts in LGB people compared to heterosexual populations. Analysis of the UK Adult Psychiatric Morbidity Survey 2007 (a nationally representative sample) found non-heterosexuality was associated with increased prevalence of suicidal thoughts, acts and self-harm.[7] The prevalence for young people is further elevated. In a pooled analysis of 12 population surveys in the UK, Semlyen *et al.*[8] found adults who identified as LGB and 'other' were twice as likely to report symptoms of poor mental health, and younger LGB people were more at risk of suicidality and self-harm than those over 25 years old. In a large UK convenience sample (n = 5799) of gay and bisexual

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(GB) men, Hickson *et al.*[9] found that those under 26 were seven times more likely to attempt suicide and self-harm than GB men aged 45 and over. International research consistently demonstrates that young people who identify as LGBT are at a higher risk of suicide and self-harm compared to heterosexual peers.[6,7,10–13] A recent meta-analysis comparing suicidality in young people found that 28% of non-heterosexual youth reported a history of suicidality compared to 12% of heterosexual youth, and this disparity increased as the 'severity' of suicidality increased.[14] While transgender youth have been studied less, research shows high rates of self-harm and suicide attempts.[11,13,15]

Despite this manifest mental health inequality, there is insufficient understanding of the social determinants of LGBT youth self-harm and suicidality.[4–8] International evidence suggests that the impact of social hostility, stigma and discrimination towards LGBT people might account for this mental health inequality. Factors associated with elevated rates of LGBT youth suicidality risk include homophobic and transphobic abuse, social isolation, early identification of sexual or gender diversity, conflict with family or peers about sexual or gender identity, inability to disclose sexual or gender identity, in addition to common mental health problems.[12,16–20] School has proved to be a particularly high-risk environment with studies repeatedly showing that homophobic, biphobic and transphobic bullying can increase the likelihood of suicidal feelings and self-harm in LGBT youth.[5,10,21–25] Inability to disclose sexual or gender identity,[26] and the stress related to decisions about disclosure (or coming out) have been strongly associated with suicidality and depression in LGBT youth.[27,28] There is also robust evidence of a link between negative family experiences and suicidal distress in LGBT youth.[29–31]

This article presents the results from a national mixed method study conducted in England that examined, for the first time, the social determinants of LGBT youth suicidality and self-harm (behaviours that are intentionally self-injurious, regardless of suicidal intent). Mixed methods are appropriate because of the complex interaction of mental health determinants.[3] The aim was to improve the evidence base for developing public mental health approaches to reducing LGBT youth mental health inequalities. This paper addresses the research question, 'In what ways are sexual orientation and gender identity related to the experience of suicidal feelings and self-harm in LGBT youth'?

Methods

The study used a mixed method sequential exploratory design.[32] It was conducted in two stages over 23 months between 2014 and 2016. Stage 1 utilized semi-structured (online and face-to-face) qualitative interviews. Stage 2 employed a cross-sectional, self-completed community-based online questionnaire. Eligibility criteria for both the interviews and questionnaire were: (i) identifying as LGBT; (ii) aged 13–25 years old; (iii) living in England; and (iv) experience of suicidal feelings and/or self-harm. The study was authorized by the North West NHS Research Ethics Committee.

Recruitment

Stage 1 (semi-structured interviews) used a purposeful sampling strategy[33] with a specific emphasis on ethnicity, socio-economic status and transgender recruitment. Participants were recruited via: (i) LGBT youth groups in the North East, South East and North West of England; (ii) online and social media advertising; and (iii) two NHS mental health services. Stage 2 (questionnaire) employed an online community-sampling strategy via LGBT organizations and social media (e.g. twitter, Facebook, Tumblr).

Data collection

Stage 1 qualitative interviews were semi-structured and the interview schedule contained seven section headings: gender identity and sexual orientation; sources of emotional distress; self-harm and suicidal feelings; coping with emotional distress; help-seeking behaviour; experiences of mental health services and demographic questions. The interviews were conducted by two members of the research team. Face-to-face interviews were held in private rooms on LGBT youth group premises and online interviews were conducted via a university computer in a private office. Stage 2 online questionnaire (using Qualtrics™) was designed to be completed within 15 minutes, contained 17 questions and was compatible with smartphones/tablets. Questionnaire items considered here include demographic characteristics (disability was measured using the ONS question, (White, 2009)), suicidality (Suicide Behaviors Questionnaire-Revised (SBQ-R)[34]), self-harm (yes/no), sexual orientation (adapted ONS (2010) sexual identity question with eight closed response options: 'lesbian', 'gay', 'bisexual', 'heterosexual', 'queer', 'pansexual', 'questioning', 'unsure' and 'other'), gender identity (adapted EHRC, 2011) and 'experience of abuse related to sexual orientation/gender', 'effect of abuse on suicidal feelings/self-harm', 'keeping sexual orientation/gender secret', 'being unable to talk', 'hiding sexual orientation/gender'.

Data analysis

Stage 1 interview data were anonymised and inputted into the analysis software Atlas.ti/6. Data were coded descriptively and conceptually.[35] Two members of the research team designed

the coding frame and conducted the coding to ensure intercode validity and reliability. The subsequent cross-sectional analysis, clustered coded data relevant to the research question into potential themes through the constant comparison technique.[36–38] These themes formed five potential explanatory social determinants of LGBT youth suicidality. The resulting five social determinants were then used to design the stage 2 questionnaire. Stage 2 questionnaire data was analysed for frequencies in SPSS. χ^2 tests were then conducted to determine associations between the suicidality variable, self-harm variable and demographic variables (sexual orientation, gender identity, disability, ethnicity, age), and variables related to the five social determinants (homophobia, biphobia or transphobia, sexual and gender norms; managing sexual and gender identities across multiple life domains; being unable to talk; other life crises). Probability criteria were set to $P < 0.05$ and odds ratios (OR) at 95% confidence intervals. We report here only the significant outcomes of these tests. Forward step-wise logistic regression was performed to determine specific predictors for suicidality.

Results

Sample demographics

In total, 29 interviews (15 online, 14 face-to-face) with LGBT youth were completed and the questionnaire final sample size was 789 participants. Participants were aged from 13 to 25 years old with a mean age of 18.59. The demographics are shown in Table 1. Males were the gender identity grouping least likely to report having a disability ($\chi^2 = 40.736$, df = 4, $P < 0.001$). Participants who were transgender were 2.23 times more likely to indicate that they had a disability compared to male/female participants (OR = 2.23, 95% CI:1.61–3.09, $P < 0.001$).

Stage 1 interview findings

Data analysis suggested five interconnected social determinants of LGBT youth suicidality (see Box 1): (1) homophobia, biphobia or transphobia where participants' described, for example, school bullying or family rejection as contributing to their suicidal distress; (2) sexual and gender norms that caused participants to feel that something was wrong with them without being abused directly; (3) managing sexual and gender identities across multiple life domains (e.g. school, home, Internet) where the stress of deciding whether to hide their LGBT identity contributed to suicidal distress; (4) being unable to talk about their emotions, self-harming, suicidal feelings and LGBT identity; and (5) other life crises unrelated to the sexual orientation or gender identity such as family breakdown. These five social determinants were used to design new questions for the stage 2 online questionnaire.

Stage 2 questionnaire results

Examining the descriptive results of the stage 2 data, the five social determinants identified from the stage 1 interview data analysis were significant factors in explaining the elevated suicide risk. Homophobia, biphobia or transphobia (social determinant 1) were experienced by 70.8% ($n = 527$) of questionnaire participants. Those who experienced abuse or negative interactions related to their sexual orientation/gender identity were 1.55 times more likely to plan or attempt suicide than those who had not ($P < 0.01$). Participants who had planned or attempted suicide were more likely to feel negative about their sexual orientation/gender identity (social determinant 2) than those who had not ($\chi^2 = 8.272$, df = 2, $P < 0.05$). Those who were distressed by hiding their sexual orientation/gender identity (social determinant 3) were 1.72 times more likely to self-harm than those that were not ($\chi^2 = 3.87$, $P < 0.05$). Participants who reported that keeping their sexual orientation/gender identity a secret 'strongly' affected their self-harm and suicidal feelings were significantly more likely to attempt or plan suicide than those who were unaffected ($\chi^2 = 10.92$, df = 3 × 2, $P < 0.01$). Those participants that felt affected by not being able to talk about their emotions (social determinant 4) had significantly higher rates of self-harm ($\chi^2 = 20.047$, df = 2, $P < 0.001$) and suicidal plans or attempts ($\chi^2 = 12.798$, df = 2, $P < 0.01$) than those who were less affected. The majority of respondents (89%, $n = 702$) indicated that there were other life crises (social determinant 5) that caused them distress when they were self-harming or feeling suicidal. The most frequently chosen options were academic pressure (70.6%, $n = 514$), problems with friends (47.4%, $n = 345$), bullying (38.3%, $n = 279$), family breakdown (35.4%, $n = 258$), participant illness (29.8%, $n = 217$), financial problems (29%, $n = 211$) and romantic relationships ending (25.3%, $n = 184$).

Table 2 shows significant self-harm ORs for transgender identity (OR = 1.75), disability (OR = 2.88) and significant suicide plan/attempt ORs for transgender identity (OR = 1.63), disability (OR = 2.38) and self-harm (OR = 10.03).

Direct logistic regression was performed to assess the impact of a number of factors on the likelihood that respondents would report that they had planned or attempted suicide. Variables for the logistic regression on participant suicidality were chosen through reviewing findings on the demographics of the sample as well as research questions. There were significant relationships between suicidality and

Table 1 Sample characteristics of interviews and questionnaire

	Interviews (n = 29)		*Questionnaire (n = 789)*	
	n	%	n	%
Age groups				
13–16 years	2	6.9	247	31.3
17–19 years	12	41.4	259	32.8
20–25 years	15	51.7	283	35.9
Sexual orientation				
Lesbian	6	20.7	103	13.1
Gay	9	31	128	16.2
Bisexual	4	13.8	195	24.7
Pansexual and queer	6	20.7	213	27.0
Other	4	13.8	149	18.9
Gender identity				
Female	11	37.9	262	33.2
Male	6	20.7	167	21.2
Trans female	2	6.9	74	9.4
Trans male	5	17.2	104	13.2
Other	5	17.2	182	23.1
Ethnicity				
White British	26	89.7	655	83.0
Minority ethnic	3	10.3	71	9.0
White (other)	–	–	63	8.0
Disability				
Yes	6	20.7	199	25.2
No	23	79.3	590	74.8
Free school meals[a]				
Yes	–	–	188	23.8
No	–	–	556	70.5
Unsure	–	–	45	5.7
Parent/carer university[a] degree				
Yes	–	–	370	46.9
No	–	–	356	45.1
Unsure	–	–	63	8.0

[a]Proxy measures for socioeconomic status.

disability, gender identity and self-harm. There were also significant differences in suicidality between those who experienced abuse related to their sexual orientation/gender identity and those who did not. The final model contained eight independent (predictor) variables- gender identity (0 = cisgender, 1 = trans/unsure), self-harm (0 = no, 1 = yes), disability (0 = no, 1 = yes), experience of abuse related to sexual orientation/gender identity (0 = no, 1 = yes), effect on self-harm and suicidal feelings of keeping sexual orientation/gender identity a secret (0 = no, 1 = yes), effect on self-harm and suicidal feelings of hiding sexual orientation/gender identity (0 = no, 1 = yes), effect on self-harm and suicidal feelings of abuse related to sexual orientation and gender identity (0 = no, 1 = yes), and effect on self-harm and suicidal feelings of not talking about feelings or emotions (0 = no, 1 = yes).

As shown in Table 3, five of the eight independent variables made a unique statistically significant contribution to the model (self-harm, disability, gender identity, effect of abuse and effect of not talking). There were significant ORs for self-harm (OR = 7.45), unable to talk about emotions (OR = 2.43), affected by homophobic, biphobic or transphobic abuse (OR = 2.14), disability (OR = 2.23) and transgender identity (OR = 1.5). The strongest predictor of a suicide plan or attempt was self-harm, recording an OR of 7.45. This indicated that respondents that had self-harmed were over seven times more likely to report that they had planned or attempted suicide than those who had not self-harmed.

The full model containing all predictors was statistically significant ($\chi^2 = 111.007$, df = 8, $P < 0.001$), indicating that the model was able to distinguish between respondents who reported a suicide plan/attempt and those who did not. The Hosmer and Lemeshow test showed a 'goodness of fit' ($\chi^2 = 4.803$, df = 8, $P = 0.778$).

Discussion

Main findings of this study

This is the first national study in England to report on the social determinants of suicidality and self-harm in LGBT youth populations. We found those affected by homophobia, biphobia or transphobia, and those unable to talk about their emotions had greater odds of planning and/or attempting suicide. In addition, feeling negative about their LGBT identity, and distress about keeping a LGBT identity hidden, were significantly associated with planning/attempting suicide and self-harm but were not however significant in the logistic regression model.

Those who had self-harmed and/or had a disability had an increased likelihood of planned or attempted suicide. Those who identified as transgender were nearly twice as likely to have self-harmed, and one and a half times more likely to have planned or attempted suicide, than male/female participants.

What is already known on this topic

There are significant mental health inequalities between non-heterosexual people and heterosexual people in England.[7,8] Substantial international evidence has established LGBT youth have elevated rates of suicidality and self-harm compared to heterosexual peers.[12] However, much less understood are the social determinants of this mental health

Box 1 Five social determinants of LGBT youth suicide

1. Homophobia, biphobia and transphobia

   I was so, so sick of them hurting me. I didn't want to feel like this anymore, and as I was constantly feeling like this, the majority of the time, I remember thinking that the only way to make it all stop was to die.

   (19, pansexual, female, White British)

2. Sexual and gender norms

   When I was at school…I had difficulty accepting my sexuality…I was seen as different…I felt very lonely, isolated, and I would lock myself inside the room, go home and start self-harming when I was young because I used to feel that…what I am is wrong and what am I doing in life. All of these feelings I have are putting guilt and pressure on top of me because my community and all my friends at the time because they were mainly Asians as well and they thought…choosing to be gay is completely wrong

   (24, gay, male, British Asian)

3. Managing sexual and gender identity across multiple life domains

   I'd taken up a bit of a sort of challenge of trying to act normal all the time and obviously no-one can sort of, erm, choose to act completely different and act that way 100% of the time, […] and that was quite distressing that I had to put so much effort in to fit in, I suppose.

   (19, pansexual, male, White British)

4. Being unable to talk about emotions

   …no one knew about it and I didn't want anybody to find out, I was cutting on my thighs so no one could find out. I felt completely isolated from everyone during this time in my life, I thought that if they found out how I was feeling, and how I was coping they would start to treat me differently and not want to be involved at all.

   (17, pansexual, trans male, White British)

5. Other life crises

   … there's money problems at home where, when my mam died, all the money went. When I left school, we lost the child benefit and the tax credit, so it's just my dad's pension we live off, and by the time he does the rent, the gas, the light, the essentials, that's £200 a fortnight, £400 a month, there's hardly enough money to even get food. […]

   (17, straight, trans female, White British)

inequality. The dominant model to explain increased suicide risk in sexual minority populations, and increasingly transgender populations, is Meyer's minority stress model.[39,40] Meyer suggests that discrimination, victimization and stigma related to sexual orientation (and gender identity) have an adverse impact on individual mental health and wellbeing.

What this study adds

In this study an association was found between the reporting of homophobia, biphobia and transphobia and reporting suicidal and self-harming behaviours. School-based bullying has been shown to be associated with suicide attempts[22] but our findings also demonstrate that abuse could be experienced across a range of settings and platforms. The most frequent places respondents encountered this abuse was at school, in public settings, on the internet and at home; and they often reported experiencing this abuse in multiple settings.

The results highlight that it is not only the experience of abuse that can have adverse consequences. We found that young people who felt negatively about their LGBT identity, regardless of whether they had experienced of abuse, had a greater likelihood of suicidal behaviour. Despite legislative changes that promote LGBT equality and protect against discrimination, young people who participated in this study still encountered heteronormative attitudes and therefore felt stigmatized by their sexual and gender identity. We also found that, given this stigma, difficulties surrounding disclosing a LGBT identity were a contributing factor to mental distress. Participants were distressed by hiding their identity, but were often terrified by the prospect of hostility they might encounter by disclosing their LGBT status in school, at home, on the internet and in public.

The results from the study fit with Meyer's[40,41] model that stigma towards LGBT people can have an adverse influence on mental health but our data suggest other social determinants such as life crises unrelated to being LGBT can also add to suicidal distress. Previous experience of abuse, academic pressure, family breakdown and financial problems, for example, were highlighted as important contributing factors. Suicidality is a complex human behaviour and usually the result of multiple factors and circumstances.[1] This study found five social determinants that were

Table 2 Chi-square and odds (95% CI) ratio associations between suicidality (plan or attempt) and self-harm, age group, disability, gender identity and sexual orientation

	No plan or attempt		*Plan or attempt*		χ^2	*OR*	*CI (95%)*		*Did not self-harm*		*Did self-harm*		χ^2	*OR*	*CI (95%)*	
	n	%	n	%			*Lower*	*Upper*	n	%	n	%			*Lower*	*Upper*
Age group					**6.312***								0.91			
16 and under	116	14.7	131	16.6					30	3.8	217	27.5				
17–19	112	14.2	147	18.6					25	3.2	234	29.7				
20–25	103	13.1	180	22.8					33	4.2	250	31.7				
Disability, chronic illness or impairment					**23.99*****	2.38	1.67	3.38					**10.09*****	2.88	1.46	5.68
Yes	54	6.8	145	18.4					10	1.3	189	3.38				
No	277	35.1	313	39.7					78	9.9	512	64.9				
Gender identity (2 cat)					**11.1*****								**5.48***	1.75	1.09	2.81
Male/Female	210	26.6	236	29.9		1.63	1.22	2.18	60	7.6	386	48.9				
Transgender	121	15.3	222	28.1					28	3.5	315	39.9				
Sexual orientation					7.82								**19.47*****			
Lesbian	37	4.7	66	8.4					5	0.6	98	12.4				
Gay	65	8.2	63	8					27	3.4	101	12.8				
Bisexual	88	11.2	107	13.6					24	3	171	21.7				
Queer or Pansexual	82	10.4	131	16.6					17	2.2	196	24.9				
Other	59	7.5	90	11.4					15	1.9	134	17				
Self-harm					**76.17*****	10.03	5.46	18.4								
Has not self-harmed	75	9.5	13	1.6												
Has self-harmed	256	32.4	445	56.4												

Bold values indicate statistical significance. *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.

Table 3 Odds ratios for suicidality

	B	*S.E.*	*Wald* χ^2	P	*Odds ratio*	*95% CI for odds ratio*	
						Lower	*Upper*
Self-harm	2.008	0.323	38.553	0.000	7.447	3.951	14.035
Disability	0.800	0.210	14.540	0.000	2.225	1.475	3.355
Gender Identity	0.403	0.176	5.231	0.022	1.497	1.059	2.115
Experience of abuse	−0.222	0.219	1.027	0.311	0.801	0.521	1.230
Effect of keeping sexual orientation/gender identity secret	−0.213	0.261	0.666	0.414	0.808	0.485	1.347
Effect of hiding sexual orientation/gender identity	−0.155	0.275	0.316	0.574	0.857	0.500	1.769
Effect of abuse about sexual orientation/gender identity	0.758	0.208	13.249	0.000	2.135	1.149	3.212
Effect of not talking about feelings and emotions	0.887	0.440	4.062	0.044	2.428	1.025	5.752
Constant	−2.608	0.514	25.743	0.000	0.074		

associated with risk of suicide and self-harm in LGBT youth. Crucially, these social determinants were interconnected and accumulative; young people often experienced multiple disadvantage that led to a suicide attempt. For example, they may have been bullied at school because of their sexual orientation, felt unable to disclose their sexual identity to their family or peers, leading to isolation and feeling unable to talk about their emotions.

Understanding how social inequality translates into poor health is a topic which is greatly contested.[42] These findings provide new evidence about the ways in which the social determinants of health inequality contribute towards suicidality and self-harm in LGBT young people. Public mental health suicide prevention efforts need to address the fundamental determinants of this mental health inequality, especially in relation to transgender people. There is an urgent need for universal interventions that tackle bullying and discrimination in relation to LGBT in schools, as well as selected interventions that provide specific LGBT youth mental health support, both could reduce LGBT inequalities in youth suicidality.

Limitations of this study

Non-probability samples of LGBT populations allow the scientific study of important public health issues, however it is difficult to determine whether findings are characteristic of the population in general or solely the sample recruited. Within this sample there was a bias towards those who were white and educated despite efforts to ensure that the sample was more representative of LGBT young people including transgender, ethnicity and socioeconomic status.

Whilst we found associations between certain social determinants of suicidality and self-harm, this does not necessarily imply causality. There may be other factors mediating these associations that were not captured in the research. Longitudinal prospective studies of cohorts of LGBT and non-LGBT young people, that compare life events and mental health would help understand the relationships between the social determinants identified in this study as well as other (as yet unrecognized) factors.

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