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## Love and Dating Patterns for Same- and Both-Gender Attracted Adolescents Across Europe

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Sexual orientation is a multidimensional phenomenon, which includes identity, behavior, and attraction. The attraction component, however, is less studied than the other two. In this article, we present the development of a two-item measure to identify adolescents who prefer same- and both-gender partners for love and dating. The questions were administered to nationally representative samples of 15-year-old adolescents in eight European countries and regions participating in the Health Behaviour in School-aged Children (HBSC) cross-national study. The distribution of attraction, as operationalized by preference for the gender of love and dating partners, was similar across countries. These questions offer an alternative or supplementary approach to identify same- and both-gender attracted youth, without administering questions related to sexual identity.

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Sexual orientation is comprised of attraction, behavior, and identity. These dimensions show divergence (Diamond, 2003; Geary et al., 2018; Kann et al., 2016). Therefore, assessing sexual orientation along only one dimension may not identify sexual minority youth in an inclusive and comprehensive manner. The attraction component is less researched than the other two dimensions (Saewyc, 2011; Savin-Williams, 2006).

Assessing adolescent sexual orientation by identity or sexual behavior poses challenges. There are various trajectories of coming out as lesbian, gay, or bisexual (Floyd & Stein, 2002), and throughout adolescence mobility has been observed in sexual orientation (Ott, Corliss, Wypij, Rosario, & Austin, 2011). On average, just 17% of boys and 24% of girls aged 15 reported having ever had sexual intercourse across Europe and Canada (Költő & Magnusson, 2016). Asking young people about the gender(s) they are attracted to may be an alternative or supplement to the sexual orientation term they identify with, or to the gender of their sexual partner(s). Categorizing adolescents based on attraction may contribute to a better understanding of how sexual orientation is developed and formed throughout adolescence.

Previous measures of attraction, for example in the U.S.-based National Longitudinal Study of Adolescent Health, have asked about romantic attraction to a female or male (Russell, Franz, & Driscoll, 2001). Others have enquired about current and future dating preferences (Ioerger, Henry, Chen, Cigularov, & Tomazic, 2015).

The Health Behaviour in School-aged Children (HBSC) study, a World Health Organization collaborative cross-national survey, is a valuable and appropriate platform for investigating patterns in adolescents' attraction based on love and dating preferences. The 2009/10 HBSC questionnaires in Finland, France, Iceland, the Netherlands, and Switzerland included questions on gender of love partners, and findings on Dutch and Icelandic adolescents have been reported (Kuyper, de Roos,

Iedema, & Stevens, 2016; Thorsteinsson, Loi, Sveinbjörnsdóttir, & Arnarsson, 2017). However, differences in question wording did not make cross-national analyses possible.

To study experiences of love and dating as components of attraction in an internationally comparable fashion, two questions were proposed for the 2013/14 HBSC survey. Administered only to the 15-year-olds, the questions asked if the respondents had ever been in love with someone, and if they had ever been going out with someone (dated). Response options were *Yes, with a girl or girls; Yes, with a boy or boys; Yes, with girls and boys; No, never.*

This article presents the prevalence for different attraction patterns in nationally representative samples of 15-year-old boys and girls in participating countries, as assessed by preferences for the gender of love and dating partners. A second aim is to explore country variations in the investigated attraction patterns.

## METHOD

### Procedure

The HBSC is a cross-sectional survey conducted in 4-year cycles. Within each country, nationally representative samples of 11-, 13-, and 15-year-old students were recruited, although in some countries younger or older age groups were also investigated. The 2013/14 HBSC study followed a standardized research protocol (Currie et al., 2014). Ethical approval was sought from national authorities. The students were instructed that they were free to skip questions or withdraw at any time.

### Participants

The 2013/14 international HBSC study contained responses from 15,015 young people from the following eight countries or regions<sup>1</sup> that administered the attraction questions: Belgium (French-speaking) ( $n = 1,932$ ), Bulgaria ( $n = 1,650$ ),

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<sup>1</sup>For reasons of space, in FYR Macedonia and Iceland the item on dating was not administered.

England ( $n = 1,608$ ), France ( $n = 1,740$ ), Hungary ( $n = 1,100$ ), Iceland ( $n = 3,316$ ), the Former Yugoslavian Republic of Macedonia ( $n = 1,457$ ), and Switzerland ( $n = 2,212$ ). The mean age of participants was 15.5 years ( $SD = 0.34$ , range: 14–16). The proportion of girls ranged from 44.8% (Bulgaria) to 53.3% (Belgium, French-speaking). Missing data varied across countries. For the question relating to love, missing data ranged from 0.5% (girls from Switzerland) to 9.1% (boys from Belgium, French-speaking); for dating, from 1.5% (girls from Switzerland) to 10.8% (boys from Hungary).

### Measures

We used two standardized questions to measure attraction: "Have you ever been in love with someone?" and "Have you ever been going out with someone?" Participants could mark one response option for each question: *Yes, with a girl or girls*; *Yes, with a boy or boys*; *Yes, with girls and boys*; *No, never*. This provided two nominal variables reflecting the gender patterns in attraction. The Love variable produced four categories: boys exclusively in love with girls and girls exclusively in love with boys (opposite-gender love, OGL); boys exclusively in love with boys and girls exclusively in love with girls (same-gender love, SGL); boys and girls in love with both boys and girls (both-gender love, BGL); and those who have never felt love (never in love, NL). Using the same categorization, the Dating variable differentiated between respondents exclusively dating opposite-gender partners (opposite-gender dating, OGD); same-gender partners (same-gender dating, SGD); both opposite- and same-gender partners (both-gender dating, BGD); or those never having dated (ND).

A pilot study was conducted in 2012/13, to test the understandability, answerability, and acceptability of these questions. The method, sample, and findings of the pilot study are described elsewhere (Young et al., 2016).

### Statistical Analysis

Contingency tables were constructed for both love and dating to explore patterns of prevalence across countries. Chi-squared tests were calculated for gender-aggregated data and then separately for boys and girls.

Data from research on gender-related behaviors often fail to meet criteria for parametric statistical testing (Weinhardt, Forsyth, Carey, Jaworski, &

Durant, 1998). To overcome small prevalence rates within subgroups, bootstrapping was applied. Resamples were set at 1,000 for each test and 95% bias-corrected and accelerated (BCa) confidence intervals (Efron, 1987) were calculated for effect sizes. Some cells had a zero or very low value. In those cases, bootstrapped percentile ("simple") 95% confidence interval (CI) values are reported.

Using the same approach, the correspondence between Love and Dating was calculated. Bootstrapped chi-squared tests were employed for the full sample and by gender. All analyses were carried out with SPSS 22.0 for Windows. Significance was set to .05, two-tailed.

## RESULTS

### Love

The difference in patterns of self-reported experience of love across countries was statistically significant ( $\chi^2(21) = 1,489.60$ ,  $p < .001$ ) with a medium effect size ( $V = .185$ , 95% BCa CI [.171, .202]). The proportions of OGL, SGL, BGL, and NL respondents are presented separately by country and gender in Table 1.

Patterns of love among boys were similar across countries. There was a variation in the number of SGL boys (from 0.4% in Hungary to 3.9% in Bulgaria) and in BGL boys (from 0.7% in Switzerland and Hungary to 2.5% in England). These still remained within the same magnitude because pairwise comparisons showed that their proportions did not differ significantly. However, in England there were significantly fewer OGL boys (57.5%), and significantly more NL boys (38.6%) than in the other countries. A significant difference was found across countries ( $\chi^2(21) = 701.00$ ,  $p < .001$ ) with a medium effect size ( $V = .180$ , 95% BCa CI [.159, .205]).

Among girls, a similar pattern was observed. The number of SGL girls varied between 0.4% in Hungary and 4.3% in Bulgaria, while the proportion of BGL girls ranged from 1.7% in Switzerland to 3.8% in England. Similar to the pattern observed in boys, significantly fewer girls from England reported being OGL (48.9%), and significantly more belonged to NL (45.3%). Girls from Iceland were the least likely to report being NL (4.0%) and were the most likely to be OGL (91.1%). There was a significant difference ( $\chi^2(21) = 860.26$ ,  $p < .001$ ) with a medium effect size ( $V = .199$ , 95% BCa CI [.182, .222]). The patterns in attraction were similar across



TABLE 1  
Patterns of Love Across Countries in 15-Year-Old Adolescents, %

	Belgium (French)	Bulgaria	England	France	FYR Macedonia	Hungary	Iceland	Switzerland	Total
Boys	(n = 840)	(n = 893)	(n = 760)	(n = 855)	(n = 685)	(n = 478)	(n = 1,642)	(n = 1,088)	(N = 7,241)
In love with opposite-gender partners (OGL)	88.6 <sub>a,b</sub>	85.9 <sub>b</sub>	57.5 <sub>c</sub>	87.8 <sub>a,b</sub>	87.9 <sub>a,b</sub>	88.3 <sub>a,b</sub>	90.6 <sub>a</sub>	90.9 <sub>a</sub>	85.6
In love with same-gender partners (SGL)	1.5 <sub>a,b,c</sub>	3.9 <sub>c</sub>	1.4 <sub>a,b,c</sub>	1.1 <sub>a,b</sub>	0.6 <sub>a,b</sub>	0.4 <sub>a,b</sub>	2.2 <sub>a,c</sub>	0.5 <sub>b</sub>	1.6
In love with both-gender partners (BGL)	0.8 <sub>a,b</sub>	2.0 <sub>a,b</sub>	2.5 <sub>b</sub>	1.4 <sub>a,b</sub>	0.9 <sub>a,b</sub>	1.3 <sub>a,b</sub>	0.7 <sub>a</sub>	0.7 <sub>a,b</sub>	1.2
Never been in love (NL)	9.0 <sub>a,b</sub>	8.2 <sub>a,b</sub>	38.6 <sub>c</sub>	9.7 <sub>a,b</sub>	10.7 <sub>a</sub>	10.0 <sub>a,b</sub>	6.5 <sub>b</sub>	7.9 <sub>a,b</sub>	11.6
Girls	(n = 962)	(n = 724)	(n = 746)	(n = 861)	(n = 672)	(n = 532)	(n = 1,643)	(n = 1,106)	(N = 7,246)
In love with opposite-gender partners (OGL)	80.4 <sub>a,b</sub>	84.9 <sub>b,c</sub>	48.9 <sub>e</sub>	78.2 <sub>a</sub>	75.6 <sub>a</sub>	82.1 <sub>a,b</sub>	91.1 <sub>d</sub>	88.6 <sub>c,d</sub>	80.7
In love with same-gender partners (SGL)	1.9 <sub>a,b,c,d</sub>	4.3 <sub>d</sub>	2.0 <sub>a,b,c,d</sub>	3.0 <sub>b,d</sub>	1.2 <sub>a,b,c</sub>	0.4 <sub>a,c</sub>	1.6 <sub>a,b,c</sub>	0.6 <sub>c</sub>	1.8
In love with both-gender partners (BGL)	2.2 <sub>a</sub>	3.5 <sub>a</sub>	3.8 <sub>a</sub>	2.8 <sub>a</sub>	2.4 <sub>a</sub>	1.9 <sub>a</sub>	3.3 <sub>a</sub>	1.7 <sub>a</sub>	2.7
Never been in love (NL)	15.6 <sub>a</sub>	7.3 <sub>b</sub>	45.3 <sub>c</sub>	16.0 <sub>a</sub>	20.8 <sub>a</sub>	15.6 <sub>a</sub>	4.0 <sub>d</sub>	9.0 <sub>b</sub>	14.7

Note. Subscript letters denote that the given column proportion does not differ significantly from other proportions within the given row marked with the same letter at the .05 level.

TABLE 2  
Patterns of Dating Across Countries in 15-Year-Old Adolescents, %

	Belgium (French)	Bulgaria	England	France	Hungary	Switzerland	Total
Boys	(n = 839)	(n = 886)	(n = 764)	(n = 854)	(n = 477)	(n = 1,084)	(N = 4,904)
Dating opposite-gender partners (OGD)	79.3 <sub>a,b</sub>	66.5 <sub>c,d,e</sub>	61.5 <sub>d</sub>	79.6 <sub>b</sub>	72.5 <sub>a,c,e</sub>	68.2 <sub>e</sub>	71.1
Dating same-gender partners (SGD)	1.2 <sub>a</sub>	5.2 <sub>b</sub>	0.9 <sub>a</sub>	0.4 <sub>a</sub>	0.4 <sub>a</sub>	0.2 <sub>a</sub>	1.4
Dating both-gender partners (BGD)	0.6 <sub>a,b,c,d</sub>	2.6 <sub>e</sub>	2.0 <sub>c,e</sub>	0.4 <sub>b,d</sub>	2.3 <sub>a,c,e</sub>	0.2 <sub>d</sub>	1.2
Never dated (ND)	19.0 <sub>a</sub>	25.7 <sub>b</sub>	35.6 <sub>c</sub>	19.7 <sub>a</sub>	24.7 <sub>a,b</sub>	31.5 <sub>b,c</sub>	26.2
Girls	(n = 962)	(n = 721)	(n = 757)	(n = 866)	(n = 532)	(n = 1,100)	(N = 4,938)
Dating opposite-gender partners (OGD)	70.8 <sub>a</sub>	66.7 <sub>a,b,c,d</sub>	62.4 <sub>b,d</sub>	73.3 <sub>a</sub>	69.4 <sub>a,b,c,d</sub>	64.5 <sub>c,d</sub>	67.8
Dating same-gender partners (SGD)	1.8 <sub>a,b,c</sub>	3.9 <sub>c</sub>	1.3 <sub>a,b</sub>	2.1 <sub>a,c</sub>	0.6 <sub>a,b</sub>	0.5 <sub>b</sub>	1.7
Dating both-gender partners (BGD)	2.3 <sub>a,b,c</sub>	1.4 <sub>c,d</sub>	4.2 <sub>b</sub>	1.7 <sub>a,c,d</sub>	1.1 <sub>a,c,d</sub>	0.5 <sub>d</sub>	1.8
Never dated (ND)	25.2 <sub>a</sub>	28.0 <sub>a,b,c,d</sub>	32.1 <sub>b,d</sub>	22.9 <sub>a</sub>	28.9 <sub>a,b,c,d</sub>	34.5 <sub>c,d</sub>	28.7

Note. Subscript letters denote that the given column proportion does not differ significantly from other proportions within the given row marked with the same letter at the .05 level.

genders, although in some countries more girls reported never being in love.

### Dating

The prevalence of OGD, SGD, BGD, and ND adolescents across countries and genders are presented in Table 2. In the gender-aggregated sample, differences in dating patterns across countries were significant ( $\chi^2(15) = 302.49$ ,  $p < .001$ ), but the effect size was small ( $V = .101$ , 95% BCa CI [.087, .123]).

The number of SGD boys showed similar prevalence across countries from 0.2% in Switzerland to 1.2% in Belgium (French-speaking); the only percentage significantly higher than in any other countries was observed in Bulgaria (5.2%). Comparing the countries pairwise, there were similar proportions of BGD boys ranging from 0.2% in Switzerland to 2.6% in Bulgaria. Dating patterns across countries were significantly different ( $\chi^2(15) = 250.46$ ,  $p < .001$ ), although the effect size was small ( $V = .130$ , 95% BCa CI [.111, .157]).

For girls, a similar pattern was observed across countries. The number of SGD girls ranged from 0.5% in Switzerland to 3.9% in Bulgaria; the prevalence of BGD girls varied between 0.5% in Switzerland and 4.2% in England. The difference in dating preferences across the countries was significant ( $\chi^2(15) = 112.78$ ,  $p < .001$ ) but the effect was small ( $V = .087$ , 95% BCa CI [.067, .121]). Similar patterns were identified for Dating as for Love. Patterns in dating preferences were parallel across boys and girls.

### Love and Dating

We examined the correspondence between the gender of the participants and the gender of the individuals that participants reported loving and dating. These results are displayed in Table 3.

Within OGL students, the large majority (78.4%) reported dating experience exclusively with

opposite-gender partners, while 20.7% had never dated. Less than 1% reported dating exclusively or partially same-gender partners. Half of SGL adolescents reported dating same-gender partners, 17.8% opposite-gender partners, 10.7% both boys and girls, and 19.5% had never dated. Of BGL adolescents, 39.7% had already dated boys and girls, 5.7% reported dating same-gender and 37.1% dating opposite-gender partners. Most NL adolescents reported they had never dated (64.9%). Very few reported dating either same- (0.7%) or both-gender partners (1.7%), while one-third reported dating opposite-gender partners (32.8). Correspondence between Love and Dating was significant ( $\chi^2(9) = 6,289.55$ ,  $p < .001$ ) with a large effect size ( $V = .463$ , 95% BCa CI [.429, .499]). In boys, there was a significant association between love and dating patterns ( $\chi^2(9) = 2,467.48$ ,  $p < .001$ ). The magnitude of the effect was large ( $V = .410$ , 95% BCa CI [.357, .470]). In girls, a similar association was observed ( $\chi^2(9) = 3,763.64$ ,  $p < .001$ ), with a large effect size ( $V = .506$ , simple 95% CI [.460, .547]).

### DISCUSSION

The prevalence of 15-year-old students who reported being in love with same- or both-gender partners were similar across countries. Proportion of youths in love with same-gender partners ranged from 1.4% to 1.8%, and that of young people reporting love for both-gender partners from 1.2% to 2.7%. While same-gender love had a similar prevalence across genders, more than twice as many girls reported love for both-gender partners than boys. This is comparable with observations from other population-based studies of adolescents (e.g., Goodenow, Watson, Adjei, Homma, & Sae-wyc, 2016; Peter et al., 2017) and longitudinal studies which suggest that women's attraction is more "fluid" and maybe more determined by situational factors than that of men (Umberson, Thomeer, Kroeger, Lodge, & Xu, 2015).

TABLE 3  
Correspondence in Patterns of Love and Dating in 15-Year-Old Adolescents, %

	<i>In love with opposite-gender partners (OGL)</i> ( <i>n</i> = 7,911)	<i>In love with same-gender partners (SGL)</i> ( <i>n</i> = 169)	<i>In love with both-gender partners (BGL)</i> ( <i>n</i> = 194)	<i>Never been in love (NL)</i> ( <i>n</i> = 1,514)	<i>Total</i> ( <i>N</i> = 9,788)
Dating opposite-gender partners (OGD)	78.4	17.8	37.1	32.8	69.5
Dating same-gender partners (SGD)	0.5	52.1	5.7	0.7	1.5
Dating both-gender partners (BGD)	0.4	10.7	39.7	1.7	1.5
Never dated (ND)	20.7	19.5	17.5	64.9	27.4

Although we found significant differences in patterns of attraction across countries, these were small in magnitude and may be attributable to the distribution of students loving opposite-gender partners or not being in love. Fewer participants from England reported opposite-gender love, and more reported not being in love than in other countries. This apparent cultural difference warrants further investigation.

The prevalence of same- and both-gender love (1–3%) corresponded with existing research exploring other dimensions of sexual orientation (identity or behavior). For example, in a Canadian study of 12- to 18-year-olds, around 1% of the boys and 3% of the girls identified themselves as bisexual, and less than 1% of them as lesbian or gay (Saewyc, Poon, Wang, Homma, & Smith, 2007). In a U.S. study (Kann et al., 2016), lesbian and gay young people represented 2% and bisexuals 6% within 14- to 18-year-olds. However, a discrepancy was observed between sexual identity and the gender of sexual partners. This highlights the importance of assessing different dimensions of sexual orientation and their overlap.

Although dating preferences differed significantly across countries, the effect size was small. More boys from Bulgaria (5.2%) reported dating same-gender partners than in any other country (ranging from 0.2% in Switzerland to 1.2% in Belgium, French-speaking). In a large-sample U.S. study, 0.83% of youths reported being exclusively in same-gender relationships in the past 18 months (Halpern, Young, Waller, Martin, & Kupper, 2004), which is similar to our findings.

Love and dating preferences were closely associated (with large effect sizes). In other words, adolescents reporting opposite-gender love were more likely to date opposite-gender partners, while youths reporting same-gender love dated same-gender partners. Students in love with both-gender partners reported various dating preferences: around 40% had dated either opposite- or both-gender partners, while just 5% had only dated same-gender partners. Most youths not being in love had not dated anyone, although around 40% had opposite-gender dating experiences. This suggests that dating may not necessarily be related to love. Dating in adolescence serves various purposes, and it shows overlap with friendship (Feiring, 1996).

Findings from the Dutch HBSC study show that asking young people about the general term “attraction” is appropriate (Kuyper et al., 2016). Therefore, it may be worthwhile asking adolescents directly about attraction, and to examine its

overlap with the feeling of love for different gender partners.

### Limitations

The current questions do not tackle patterns of sexual identity and behavior. Therefore, we cannot compare experience of love and dating with sexual identity and preferred gender for sexual partners. Given that the HBSC survey is carried out with adolescent populations, the number of questions that can be administered is limited. Obtaining ethical permission for asking adolescents about sexual identity may be difficult, and under certain circumstances such questions might lead to refusal from study participants or lack of consent from their parents or schools.

Experience of love and dating may also fluctuate over time; therefore, the risk of misclassifying adolescents cannot be excluded. Further studies are needed to understand how different aspects of sexual orientation change and interact over the period of adolescence.

### CONCLUSION

Items on love and dating can be used to measure attraction in adolescents, which is understood to be one aspect of sexual orientation. The HBSC study investigates many health indicators, including bullying, social support from family and friends, substance use, and psychosomatic symptoms. Future research is required to compare adolescents’ health and well-being in relation to their experience of romantic attraction. We encourage researchers conducting population-based health surveys with adolescents to consider investigating patterns in young people’s romantic attraction.

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