The social integration of lesbians, gay men and bisexuals: Exploring the role of the municipal context

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A B S T R A C T

This paper examines possible differences between lesbians, gay men and bisexuals (LGBs) compared to heterosexuals with respect to their integration into the residential neighbourhood. By means of a multi-level analysis, we examine if there is a gap in social integration between LGBs compared to heterosexuals, and if so, to what extent municipality characteristics can account for variations in this gap. Specifically, we test a cultural hypothesis (i.e., how liberal or conservative the cultural climate is) and a social hypothesis (i.e., how large the share of LGBs is). In total, we analyse 7,320 LGBs and 114,298 heterosexual respondents from four pooled waves of the Dutch Safety Monitor (2012–2015). We link these individual level data to an external survey, which allows the measurement of the cultural climate in each municipality. Overall, we found little evidence that there is an integration gap between LGBs and heterosexuals in the Netherlands as a whole. We find some support for the social hypothesis and no support for the cultural hypothesis. The analyses highlight the particular role of Amsterdam. While both heterosexuals and LGBs are less integrated in Amsterdam compared to less urbanized areas, this is more so the case for heterosexuals. The social integration among LGBs does not drop as sharply as it does among heterosexuals, suggesting that LGBs also benefit socially from living in Amsterdam.

1. Introduction

In this paper we compare the social integration into the residential neighbourhood of lesbians, gay men and bisexuals (LGBs)[1] to that of heterosexuals in the Netherlands. We study social integration in the sense of Keyes (1998), whereby "social integration is the evaluation of the quality of one's relationship to society and community" (p. 122), and vice versa. Specifically, we compare LGBs and heterosexuals in terms of their score on a neighbourhood integration scale, which combines items about feelings of belonging, contact with neighbours and cognitive appraisal of the neighbourhood cohesion. From an individual perspective, the totality of those aspects relating to social integration is an integral part of well-being. From an aggregate sociological perspective, the organization of people's social lives reflects their societal position and is tied to distribution of power, access to resources and to legitimacy within societies. The comparative set-up of studying LGBs and heterosexuals jointly in this study allows us to examine whether there are structural

differences in social integration into the neighbourhood along sexual orientation lines in the Netherlands. In other words, this study contributes to the growing quantitative literature that treats sexual orientation as axis of social inequality as is common for socio-economic status, race, and gender.

Building on established insights from the sexual minority literature, we examine the conditions under which social integration of LGBs into their neighbourhood is facilitated across different municipalities. Thereby, we examine the role that acceptance of homosexuality plays within the municipalities. A large body of sociological studies has emphasized the importance of the cultural climate (often at the country level) for individual well-being when studying behaviour which either aligns or is at odds with dominant norms in society. Getting divorced in countries where divorce is relatively common versus countries where this is less common (Kalmijn, 2009) or being childless in countries that vary in terms of their pervasiveness of pro-natalist norms (Huijts et al., 2013) are such examples; the negative effects on well-being are smaller in contexts that are more accepting of divorce and childlessness, respectively. In this study we examine to what extent this principle can be translated to potential differences in social integration between LGBs in the Netherlands. Prior research showed that acceptance of homosexuality on the country-level has consequences for social dimensions of well-being for persons who are in same-sex relationships (Fischer et al., 2016). In this study we zoom in on smaller contextual units, namely municipalities. The advantage of testing this principle on a more disaggregate level is that we can do justice to the variation within countries, which could arguably be more relevant to individuals' daily experiences. The leading research questions read: *Is there a gap in social integration between LGBs compared to heterosexuals in Dutch municipalities? If so, to what extent can characteristics of the municipalities account for variations in this social integration gap?*

The Netherlands is an interesting case to examine such differences as the country is highly diverse despite its small geographic scale. Religiosity and church attendance vary considerably across municipalities. In 2006, the proportion of non-religious persons ranged from 3% to 80% across municipalities (Schmeets, 2009, p. 129). Accordingly, attitudes towards social and political issues, social cohesion and life styles vary as well (Schmeets, 2009). While the people in the Netherlands are relatively accepting of homosexuality in international comparison the society is internally polarized. There is a clear geographical component to this divide: the Protestant north is traditionally more conservative on issues such as same-sex marriage than the predominantly Catholic south; people in the highly urbanized centres are more accepting of homosexuality than individuals in the rural areas. Moreover, the municipality of Amsterdam has a longstanding LGBT[2] history (Aldrich, 2004) and is often perceived a particularly liberal place within the Netherlands and Europe.

To our knowledge, there are no studies to date that have systematically compared social integration between LGBs and heterosexuals on a large scale. This can partially be explained by the scarcity of suitable data to make such comparisons. Another reason is that sexual orientation is still not widely recognized as a factor that stratifies individuals' lives in quantitative sociological studies, despite evidence from studies of (mental) health related issues (Felson and Adamczyk, 2017; Meyer, 2003; Reczek et al., 2016) and economic (Blandford, 2003; Mize, 2016) and social inequalities (Fischer et al., 2016; Kertzner et al., 2009). In this paper, we examine the social realm by studying individuals' social integration into the neighbourhood using four waves of the Dutch Safety Monitor (2012–2015). These data are especially suited to study a numerically small group such as LGBs due to its large sample size. The relationship between sexual orientation and social integration is explored using a multi-level framework which allows studying these individual-level outcomes in relation to the municipal context.

2. Theory and hypotheses

We study social integration into the neighbourhood as one component of overall individual well-being (Gallagher et al., 2009). The central notion of social well-being is that people rely on relationships with others to realize well-being goals (Volker et al., 2006). This includes having positive relationships, feeling accepted by others and receiving confirmation for one's behaviours. In this study we focus on social integration into one domain, namely the neighbourhood. The neighbourhood is a geographically proximate site of potential social contact and, as a social focus in the sense of Feld (1981), it provides structure to people's daily experiences and interactions. Differences across municipalities in attitudes surrounding homosexuality, gender roles and family values provide the cultural framework within which we theorize the expected differences in social integration between LGBs and heterosexuals. The premise that a conflict with dominant social norms surrounding homosexuality can have negative outcomes for LGBs has been coined the minority stress model in the field of public health studies (Meyer, 2003). We build on this model in our current study. Where Meyer (2003) emphasizes the specificity of stress factors to LGBs, we take a broader sociological perspective by including a range of aspects relevant to the lives of LGBs. Discrimination can be direct and overt on the basis of homophobic attitudes, but we argue that it often also takes on subtler forms rooted in traditional beliefs about gender roles and family values. Therefore, we consider not only societal attitudes towards homosexuality but also the prevalence of traditional gender roles and family values, gender equality and the degree of religiosity of people in a municipality.

In order to better understand the aspects of the social environment which facilitate LGBs in relating positively to the presumably heterosexual majority in their neighbourhoods, we examine two possible hypotheses: a cultural and a social hypothesis. Beginning with the cultural hypothesis, we identify three underlying explanations how the liberal or conservative cultural climate surrounding homosexuality can influence social integration of LGBs. First, in conservative municipalities same-sex attracted individuals may retreat from social interaction, consciously or unconsciously, in order to avoid negative reactions by others. This does not have to

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[2] Lesbian, Gay, Bisexual and Trans (LGBT). Note throughout the remainder of the text we refer to LGBs (without the T) because trans respondents cannot be identified and are therefore not included in this study.

involve negative interpersonal encounters, such as discriminatory comments or behaviours. Rather members of a devalued social group might expect rejection simply by being aware of a generally negative climate towards them (Katz et al., 2002; Meyer, 2003; Oswald et al., 2010) and alter their actions accordingly. The second explanation operates indirectly via a psychological pathway. Individuals can internalize stigma about their same-sex orientation and begin to experience their identity as tainted. This will negatively impact psychological well-being (Meyer, 2003). Low psychological well-being, in turn, is closely intertwined with all other aspects of well-being (Gallagher et al., 2009) and can result in less contact with others (e.g., Gracia and Herrero, 2004). The third explanation focuses on the behaviour of other residents in the neighbourhood rather than that of the LGB individual. Social integration is a two-way street, which can be hampered through exclusion by others. Attempts to foster contact with other residents in the neighbourhood should be met with reciprocity if we are to consider it social integration. This is not a given in a context which is conservative, where heterosexual residents may not want to be associated with LGBs. Residents may fear stigma by association (Kulik et al., 2008; Pryor et al., 2012) and accompanying social sanctions such as exclusion or ridicule. As a consequence, they might prefer to avoid contact with those individuals who are (suspected to be) lesbian, gay or bisexual. In light of these possible explanations, we expect that when the cultural climate in a municipality is more conservative, LGBs will be less integrated into the neighbourhood compared to heterosexuals (cultural hypothesis).

Since we are dealing with relatively small geographical units in this study (i.e., Dutch municipalities), the social environment may be relevant to studying social integration among LGBs, as well. Examining the social environment in addition to the cultural context may be particularly relevant when dealing with geographical units, which are located within larger relatively accepting contexts (like the Netherlands internationally). We therefore examine a social explanation alongside the cultural explanation guided by three possible theoretical explanations. First, there might be a direct behavioural pathway. A larger population of LGBs in a municipality can have an effect on social integration through increased in-group contact opportunities. This can be relevant on an interpersonal level in establishing in-group friendships and for finding romantic partners in the area (Blau and Schwartz, 1984). Second, there might be an indirect effect via a psychological pathway. In municipalities where relatively few LGBs live the visibility of LGB persons, same-sex couples and same-sex headed families is arguably lower than in municipalities where many LGBs live. Theoretically, if higher numbers and visibility of LGBs increase the opportunity for individual LGBs to identify with a group of LGBs, then social identification theory suggests increased self-regarding attitudes and higher mental health for these individual (see e.g., Hughes et al., 2015). In organizational settings, Kanter (1977) theory of tokenism similarly suggests that positive psychological outcomes among members of a numerical (and stigmatized) minority are to be gained through increased in-group size. A higher share of other LGBs within municipalities may therefore allow individual LGBs to relate to others like oneself and feeling less isolated or different from the heterosexual majority. Increased psychological wellbeing then in turn benefits the social dimension of well-being. Third, the size of the LGB population can also be relevant on a more structural level since a larger population is more likely to be catered by LGB-oriented facilities (bars, sports clubs, etc.), which can make LGBs feel less excluded overall. In addition, the visibility of a larger LGB population might operate in opposing ways according to contact and conflict theory (Pettigrew et al., 2011). On the one hand, visibility can create familiarity and contribute to the overall acceptance of homosexuality; on the other hand, visibility can also spark backlash and make LGBs more vulnerable to negative attitudes and public harassment. Yet overall, the theoretical evidence regarding psychological, behavioural and structural mechanisms largely points into the direction of a positive relationship between the size of the LGB population and social integration. Against this background, we expect that LGBs will be less integrated into the neighbourhood compared to heterosexuals when the share of LGBs in a municipality is smaller (social hypothesis).

When examining social integration into the neighbourhood in relation to the municipality level, we are dealing with a higher risk of selectivity since individuals can move around and select themselves into liberal municipalities. Regardless of the motives for moving, however, we expect an effect of the cultural and social climate in municipalities on social integration into the neighbourhood of same-sex attracted individuals once they take up residence there. The relevance of the social and cultural context of the *current* residence is supported by a recent study showing that LGBs living in New York, who have migrated from areas of low social acceptance within the United States and across the world, do not display any lingering mental health disadvantages compared to the non-migrant LGB population (Felson and Adamczyk, 2017). In assessing the joint effect of sexual orientation and the cultural and social context on social integration, other variables have to be taken into account, notably sex, age, migration background, education, employment status, having children and marital status. Age, gender and education are thought be related both to a willingness to report same-sex attraction (Janssens et al., 2003) and influence social integration into the neighbourhood (Campbell and Lee, 1990). Having a migration background becomes relevant when membership of multiple minority groups overlaps and result in unique challenges to social integration. Having children and being married are both important factors when it comes to neighbourhood integration and LGBs have (had) unequal access to both family and union formation.

3. Data and measures

The individual-level data stem from four waves of the Dutch Safety Monitor (2012–15, pooled), an annual large-scale survey among individuals aged 15 years and older. The topics in the survey focus on safety issues, experiences of violence and crime but also neighbourhood integration relevant to this study. For this study we limited the pool of respondents to respondents who are 21 years and older to ensure we are dealing with independently living adults. The questionnaires of the Safety Monitor are completed either online or with paper and pencil. Testing our hypotheses requires the combination of the individual-level survey data with an external data source that measures the municipal context. We have identified a suitable data source from which we can aggregate individual-level attitudinal data to the municipal level, namely the first wave of the Netherlands Kinship Panel Study (NKPS; Dykstra et al., 2005). As the municipalities in the NKPS were sampled randomly, this allows to generalize the measured attitudes to all 380

municipalities in the Netherlands. We selected those 74 municipalities in the Safety Monitor, which are also covered in the NKPS and linked the aggregated individual-level data to the Safety Monitor. Note that the data from the NKPS are collected in 2004, whereas the data in the Safety Monitor stem from the years 2012, 2013, 2014 and 2015. This gap between the data collections is not ideal. The NKPS is however the only available data source, which allows for this unique combination of randomly sampled individual level data on LGBs and heterosexual and attitudinal measures of the residents in each municipality.

3.1. Dependent variable

We work with a scale of social integration into the neighbourhood which is made up of five items. Respondents indicated the degree to which they agree with the statements 'I feel at home with the people who live in the neighbourhood', 'I have a lot of contact with other residents in the neighbourhood', 'People in the neighbourhood barely know each other', 'The people in the neighbourhood get along well' and 'I live in a nice neighbourhood where people help each other and do things together' (agree strongly, agree, neither agree nor disagree, disagree, disagree strongly). The items correlate highly with each other ($\alpha = .855$), which lends support to our decision of treating them as one scale of social integration into the neighbourhood. The answer categories were recoded into one direction where a higher score indicates higher levels of integration. The items were added up and then the scale was standardized so that regression coefficients of predictors can be interpreted as effect sizes.

3.2. Individual-level variables

The main independent variable on the individual level is sexual orientation measured by the question "To which sex do you feel attracted to?". The three answer possibilities were: Would you say 1) 'that you feel mostly/exclusively attracted to men', 2) 'that you feel attracted to both men and women', or 3) 'that you feel mostly/exclusively attracted to women'. We combined this variable with the sex of the respondent. Individuals who report being mostly or exclusively attracted to the different sex are classified as heterosexuals. Individuals who report being attracted to both sexes (bisexuals) and those mostly or exclusively attracted to the same sex (lesbians, gays) fall into one category (0 heterosexual, 1 LGBs). We made the decision to pool LGs and Bs in order to maximize statistical power of the relatively small group. We control for age (mean-centered in analyses), the level of education (0 up to upper-secondary (ISCED 1–3), 1 post-secondary non-tertiary (ISCED 4–5), 2 tertiary (ISCED 6–8)) and whether someone is unemployed (0 no, 1 yes). Activity statuses such as student, homemaker, pensioner and being unable to work fall into the zero category. We also take the family situation into account by controlling for being in a legal union such as marriage or registered partnership (0 no, 1 yes) and whether a child under the age of 15 years is living in the household (0 no, 1 yes). Finally, we control for second-generation migration background of the respondent based on whether (one or both parents of) the respondent was born abroad (0 no, 1 Western countries, 2 non-Western coutnries).

3.3. Municipality-level variables

The cultural climate on the municipal level is made up of five components, which all stem from aggregated individual-level data from the NKPS. All individual items making up the components were recoded so that a high score indicates liberal attitudes and progressive behaviour. The first component is the average attitude towards homosexuality and the second component the average level of religiosity within a municipality. Third, we use a scale measuring traditional family values by means of attitudinal items about unmarried cohabitation. The fourth component measures how traditional attitudes about gender roles are. The fifth component is a behavioural measure about division of household labour constructed to capture gender equality. These five components are each standardized within the analytical sample and then added up to a cumulative index with great internal consistency ($\alpha = .926$). See Table 4 in the appendix for a full list of all measures included in this index. The final index is standardized across the analytical sample: a negative score stands for a conservative climate, a positive score for a liberal climate and the value zero represents the average score. The size of the LGB population per municipality is a variable that is aggregated from the individual-level answers to the sexual attraction item and the sex of the respondent in the Dutch Safety Monitor (pooled across the four waves). In the regression analyses we use a standardized version of this measure. We decided against controlling for urbanization on the municipal level as the measure highly correlates with both the cultural climate measure and the share of LGBs. Moreover, the direction of causality between the three measures is ambiguous. The appendix contains a list of all municipalities we study and their respective score on urbanization, the cultural context and the LGB population size (see Table 5).

3.4. Sample characteristics

Pooled across four survey waves and nested in 74 municipalities, we arrive at an analytical sample of 121,618 individuals. The original sample was reduced by 80,347 cases (10,419 cases because of the age selection and 69,928 because of listwise deletion. The deleted cases show small differences from the analytical sample on some of the control variables.[3] It is reassuring that there are no

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[3] The people who are excluded are on average 4 years older than the people in the analytical sample. There are other differences on control variables, such as more women, LGBs, people with low education, people with children and people with a Western migration background in the omitted sample and fewer people with no migration background. We provide descriptive statistics of the omitted cases in the appendix in Table 7.

Table 1

Descriptive statistics on the individual-level, weighted, separately for heterosexuals and LGBs.

		Heterosexuals		LGBs	
		(N = 114,298)		(N = 7,320)	
	Range	Mean/%	SE	Mean/%	SE
Outcome variable					
Social integration [a]	1/5	3.294	.003	3.223	.013
Individual-level predictors					
Woman = 1	0/1	47.2%	.002	43.7%	.008
Child/ren at home = 1	0/1	30.5%	.002	14.5%	.006
Age [b]	21/101	44.262	.061	46.882	.275
Education category					
Low	0/1	10.7%	.001	9.6%	.005
Average	0/1	40.6%	.002	37.8%	.008
High	0/1	48.7%	.002	52.6%	.008
Unemployed = 1	0/1	3.6%	.001	4.2%	.004
Legal union = 1	0/1	50.1%	.002	36.8%	.008
Migration background					
No	0/1	76.8%	.002	72.7%	.008
Western	0/1	11.9%	.002	13.6%	.007
Non-Western	0/1	11.4%	.001	13.7%	.006
	Range	Mean	SD		
Municipality-level predictors					
Cultural climate	−3.61/1.99	.000	1.000		
Share of LGBs	.03/.11	.055	.013		
Share of LGBs std. [a]	−1.67/4.52	.000	1.000		

Source: Dutch Safety Monitor 2012–15; NKPS wave 1. Notes: Means and percentages are weighted, SE = linearized standard errors.
[a] In the analyses we used the standardized, unweighted version of this variable with M = .005, SD = .100 for heterosexuals and M = −.078, SD = 1.014 for LGBs. [b] In the regression analyses age is mean centered.

meaningful differences regarding the outcome variable. Moreover, the deleted cases showed no nested patterns with any of the other variables in the analyses. There was also non-response to the sexual orientation variable. Respondents who did not answer the sexual attraction question were more often women and more often 65 + years old.

In our analytical sample, the percentage of lesbian, gay or bisexual respondents lies at 5.7% (weighted percentage). The weighted descriptive statistics of the analytical sample are presented in Table 1 separately for heterosexuals and LGBs. We see that the group of LGBs is somewhat older on average than the heterosexuals (about 2.5 years on average), which may be connected to coming out later in life. LGBs are also more often highly educated, less often in officially registered legal unions. Heterosexuals are twice as often parents as are LGBs. Unemployment rates barely differ across the two groups.

There is considerable variation across the different municipalities in size of the LGB population and in how liberal or conservative the cultural climate is (see Fig. 1). The two measures are related on the contextual level, which suggests that the level of acceptance of homosexuality, gender role, traditional family values, gender equality and religiosity partially coincide with the amount of LGBs living in a municipality. The correlation of the two measures is r (74) = .379 (p = .001). It is noteworthy that Amsterdam is an outlier on both variables as the municipality has a particularly liberal cultural climate and is home to a large share of LGBs. This is not surprising given the status of the city as gay capital of the Netherlands and Europe. As there is both historic and empirical evidence suggesting that Amsterdam has a special status for LGBs in the Netherlands, we examine this aspect further in the regression analyses.

4. Method

The relationship between sexual orientation, social integration and the municipal context is explored using linear multi-level regression models. Individuals are nested in 74 municipalities. The multi-level models account for the nested structure of the data, where individuals within one municipality may share unobserved characteristics. We use models with random intercepts and a random slope for sexual orientation. That means that the level of social integration in each municipality is allowed to vary and that we allow the effect size and direction of sexual orientation to vary between municipalities. According to the null-model without predictors, 2.6% (with 95% CI [1.8; 3.6]) of the variance in social integration is situated on the municipality level. This is a relatively small share, yet it suffices for a differential effect of the cultural climate and the share of LGBs on social integration of LGBs and heterosexuals to unfold. First, we examine whether there is a main effect of sexual orientation on social integration, i.e., whether there is a social integration gap (M1a). All models include control variables on the individual level and a survey year variable to
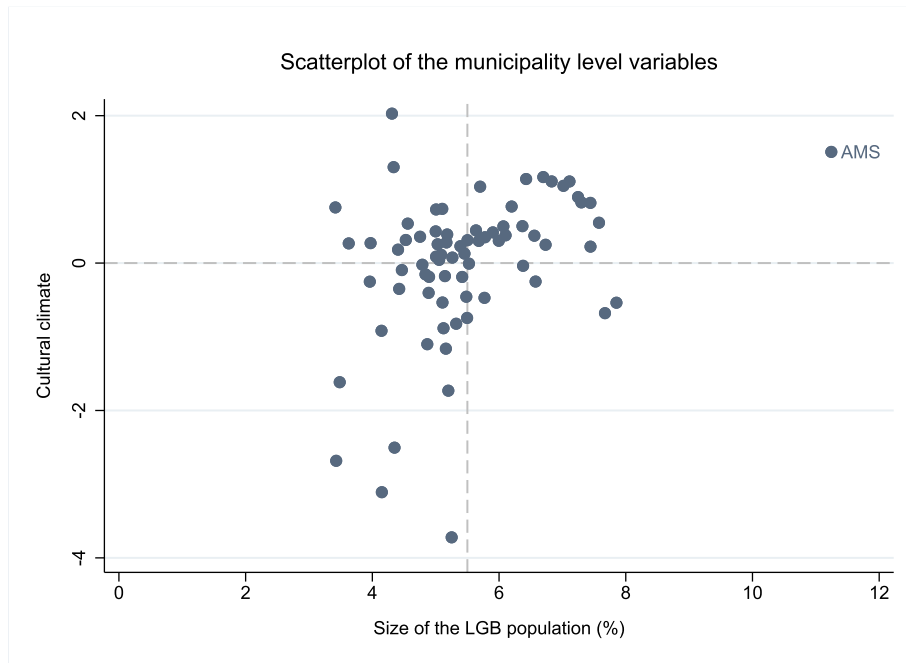
Fig. 1. Scatterplot of the municipality level variables.

account for the pooled survey waves. Next, we introduce the interaction effect between sexual orientation and the cultural climate (M2a) and between sexual orientation and the share of LGBs in a municipality (M3a). Those models examine whether a possible social integration gap can be accounted for by the cultural and social composition of the municipalities. After testing the cross-level interactions separately, we include them both in the same model to examine whether a liberal climate mediates the size of the LGB population in a municipality (M4a). Next, we examine the sensitivity of the findings by excluding the municipality of Amsterdam. To this end, all analyses are repeated under exclusion of the municipality Amsterdam (M1b-4b).

5. Regression results

We begin by discussing the results of the analyses where Amsterdam is included (see Table 2). In the first model, we find no evidence that heterosexuals and LGBs differ in their social integration into the neighbourhood (M1a). The fact the we do not find a main effect in the first model could mask opposing directions of the sexual orientation effect in liberal and conservative contexts, which cancel each other out. Therefore, we examine whether there is an interaction between sexual orientation and the cultural context. The main effect of the cultural context is negative suggesting lower levels of social integration in liberal contexts (b = −.070, p < .001, M2a). This is to be expected as a liberal climate usually means that it is also a more urban setting and urban dwellers tend to be less integrated into the neighbourhood than those living in non-urban areas. When examining the cross-level interaction between sexual orientation and the cultural context, we also do not find a significant effect (M2a). Therefore, the cultural hypothesis is not supported. Turning to model 3, there is a negative main effect of the social context (b = −.064, p < .05, M3a). This can again be understood in relation to the level of urbanization: more urbanized municipalities tend to have a larger LGB population and higher urbanization is associated with lower levels of neighbourhood integration for both LGBs and heterosexuals. Next, we find a significant interaction effect between the social context and sexual orientation (b = .017, p < .05, M3a). The fact that we find a significant interaction effect between the social context and sexual orientation means that the social context affects LGBs and heterosexuals differently. The positive sign of the interaction effect indicates that for LGBs the negative effect of the social context on neighbourhood integration is weakened by the positive interaction term. In other words, heterosexuals are affected more negatively by the social context in their neighbourhood integration than LGBs. This effect is rather small, yet it provides support for the social hypothesis. The interaction effect remains significant when it is included simultaneously with the interaction between the cultural context and sexual orientation (M4a). The size of the interaction effect is reduced somewhat, which points toward a relationship between the social and the cultural context as demonstrated by the correlation between the two measures in the previous section.

Note that we have also considered analysing a three-category sexual orientation variable, where LGs and Bs are each compared to heterosexuals, instead of our binary measure. We conducted additional analyses to explore whether the separation of LGs and Bs into distinct categories yields different results. To this end, we conducted pooled OLS regression analyses where all municipalities are studied jointly. Yet, neither the effect of being LG not the effect of being B on social integration is significant. Also, when interacting the three-category sexual orientation variable with sex, no differences in neighbourhood integration are found. We therefore study

Table 2

Multilevel regression results for social integration with random slope for sexual orientation for the full sample of municipalities (N = 74) and the sample excluding Amsterdam (N = 73).

	Full sample				Excluding Amsterdam			
	(1a)	(2a)	(3a)	(4a)	(1b)	(2b)	(3b)	(4b)
Constant	-.090***	-.090***	-.089***	-.089***	-.082***	-.083***	-.086***	-.086***
	(.018)	(.016)	(.017)	(.016)	(.019)	(.017)	(.017)	(.016)
Main predictors								
LGB = 1	-.007	-.008	-.023	-.023	-.016	-.014	-.021	-.021
	(.012)	(.013)	(.014)	(.014)	(.013)	(.013)	(.014)	(.014)
Cultural context		-.070***		-.053***		-.068***		-.052***
		(.014)		(.014)		(.014)		(.014)
LGB*cultural context		.006		-.018		-.010		-.017
		(.012)		(.015)		(.014)		(.015)
LGB population			-.064***	-.044**			-.076***	-.056***
			(.015)	(.014)			(.017)	(.017)
LGB*LGB population			.017*	.023*			.011	.018
			(.007)	(.009)			(.014)	(.016)
Control variables								
Woman = 1	.024***	.024***	.024***	.024***	.021***	.021***	.021***	.021***
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)
Age centered	.006***	.006***	.006***	.006***	.006***	.006***	.006***	.006***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Child/ren = 1	.328***	.328***	.328***	.328***	.318***	.318***	.318***	.318***
	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)
Legal union	.155***	.155***	.155***	.155***	.159***	.159***	.159***	.158***
	(.006)	(.006)	(.006)	(.006)	(.007)	(.007)	(.007)	(.007)
Education *(ref. is average)*								
Low	-.049***	-.049***	-.049***	-.049***	-.047***	-.047***	-.047***	-.047***
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
High	.057***	.057***	.057***	.057***	.055***	.055***	.055***	.055***
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)
Unemployed = 1	-.058***	-.058***	-.058***	-.058***	-.071***	-.071***	-.071***	-.071***
	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Migration background *(ref. is no)*								
Non-Western	-.201***	-.200***	-.200***	-.200***	-.210***	-.210***	-.210***	-.210***
	(.011)	(.011)	(.011)	(.011)	(.012)	(.012)	(.012)	(.012)
Western	-.074***	-.074***	-.074***	-.074***	-.081***	-.081***	-.080***	-.081***
	(.009)	(.009)	(.009)	(.009)	(.010)	(.010)	(.010)	(.010)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations								
Individuals	121,618	121,618	121,618	121,618	111,975	111,975	111,975	111,975
Municipalities	74	74	74	74	73	73	73	73

Notes: *p < .050, **p < .010, ***p < .001; unstandardized b-coefficients, standard errors in parentheses. Dependent variable: standardized social integration index.
Source: Dutch Safety Monitor 2012–15 & NKPS wave 1.

LGBs as one group in the main analyses in order to maximize group size and avoid empty cells in the multi-level set-up. These additional analyses are presented in Table 6 in the appendix.

In the following set of models, we exclude Amsterdam from the sample and analyse the remaining 73 municipalities. This is intended to explore whether the above results apply to all of the Netherlands when we neglect the potentially influential case of Amsterdam. This is a relevant issue to explore as the municipality of Amsterdam holds a status of the most liberal location in the Netherlands and is home to a large share of LGBs (10.2%, weighted percentage). In addition, Amsterdam is the municipality with the largest absolute number of LGBs in the sample (N = 1,107); hence, Amsterdam-based LGBs constitute 15% of the all LGB respondents in the analytical sample. This leads us to examine the previously discussed relations under exclusion of Amsterdam. Beginning with the main effect of sexual orientation on social integration in M1b, we do not find a significant effect. When turning to the cross-level interactions for possible explanations of a gap, we do not find that the size of this gap varies across liberal and conservative contexts (M2b). These results remain unchanged from the previous analyses of the full sample. Next, we test the interaction effect between the social context and sexual orientation. In the current analyses under exclusion of Amsterdam, the interaction effect between the social context and sexual orientation is no longer significant (M3b). It is possible that the diminished group size is responsible for the high p-value due to low power, leaving us with a false negative finding. Yet, the coefficient also has a somewhat smaller effect size (.11 versus .17). The previous interaction effect appears to be mainly driven by LGBs and heterosexuals in Amsterdam, but we are left with

Table 3
Multi-level regression results exploring specialty status of Amsterdam.

	b (se)
Main predictors	
LGB = 1	-.017 (.013)
Amsterdam = 1	-.153 (.137)
Amsterdam * LGB	.074* (.033)
Control variables	Yes
Observations	
Individuals	121,618
Municipalities	74

Notes: *p < .050. Dependent variable: social integration index, standardized across municipalities. Control variables: woman, age (mean centered), child/ren, marital status, education, unemployed, migration background, survey year dummies. Source: Dutch Safety Monitor 2012-15 and NKPS wave 1.

inconclusive evidence regarding the rest of the Netherlands (false negative or true negative finding). Including both interaction terms simultaneously does not change this result (M4b). Overall, there is clearly no support for the cultural hypothesis, regardless of whether Amsterdam is included or not. Regarding the social hypothesis, we find modest support, with Amsterdam as possible influential case. The initial interaction term that was found was driven by Amsterdam, while it does not seem to apply to all of the Netherlands.

Following these results, we have further explored and confirmed the specialty status of Amsterdam in additional analyses by adding a dummy variable for living in Amsterdam versus the rest of the Netherlands to our regression model. In Table 3, we interacted the Amsterdam dummy with sexual orientation and find a significant positive interaction effect between living in Amsterdam and being LGB (b = .074, p < .05). The main effect of Amsterdam is negative but not significant. The negative direction of
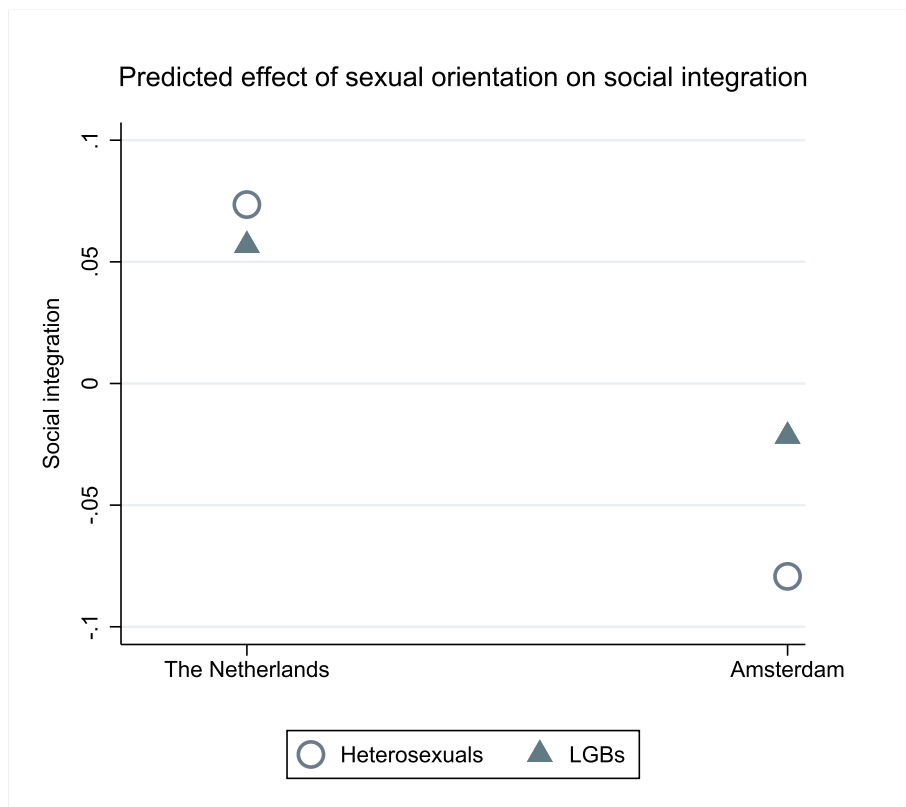

Fig. 2. Predicted effect of sexual orientation on social integration.

the effect suggests that heterosexual people living in Amsterdam are less integrated into their neighbourhoods than people living elsewhere are. In relative terms, however, LGBs in Amsterdam are better integrated than heterosexuals. Fig. 2 illustrates this by showing the predicted level of social integration for LGBs and heterosexuals in Amsterdam (Amsterdam = 1) and in the rest of the Netherlands (Amsterdam = 0). In other words, these analyses confirm that there appears to be a stark contrast between Amsterdam and the rest of the country when it comes to social integration into the neighbourhood of heterosexuals and LGBs.

6. Discussion and conclusions

In this study we set out to examine (a) whether there is a gap in social integration into the neighbourhood between LGBs and heterosexuals and (b) whether the variation this gap can be accounted for by the cultural climate (cultural hypothesis) and the size of the LGB population (social hypothesis). We test this on high-quality data from the Dutch Safety Monitor (2012–15). These data are enriched with contextual data from the first wave of the Netherlands Kinship Panel Study (NKPS; 2004). Overall, we find little evidence that there is an integration gap between LGBs and heterosexuals in the Netherlands. As this finding could have been a result of opposing effects in different contexts cancelling each other, we proceed to examine whether a potential gap in social integration depends on the cultural climate (the cultural hypothesis). The conclusion from our analyses is that there is no evidence that attitudes towards homosexuality, gender, and family on the municipal level influence the social integration of LGBs and heterosexuals differently. The cultural hypothesis finds no support.

One possible explanation for this finding is that the link between social norms and individual-level outcomes cannot simply be transferred from the country-level – where the hypothesis has been supported – to a more disaggregate level. Individuals may be perceptive of prevailing norms on the national level through following public discourse on the topic via electronic and printed national media. Variations in norms of the municipal-level may be more difficult to perceive. Alternatively, the municipal-level might not be the most relevant one to determine social integration into the neighbourhood. Note that the cultural climate is on the municipal level whereas the outcome variable refers to the individual level (social integration into the neighbourhood). This choice to focus on the municipal level was partially a practical consideration. Yet, it was also motivated by the fact that boundaries between municipalities are more tangible to individuals than the notoriously fuzzy boundaries between neighbourhoods. The lack of contextual effects is in line with a recent study in the United States that suggests that this leap from one level of aggregation to a more disaggregate one is more complicated than a "dose-response relationship" (Felson and Adamczyk, 2017, p. 1).

Another possible explanation is that the neighbourhood is not the domain where the effects of the cultural context are felt most vividly. Perhaps social integration into work places, schools and universities or (extended) families are affected. The absence of an integration gap may also be explained by the fact that negative effects of the conservative climate are largely psychological instead of behavioural. This could be particularly relevant since the Netherlands is already relatively accepting of homosexuality in international perspective. A certain 'baseline' acceptance may shift the effects into the psychological realm where people do not withdraw anymore but still do not feel fully accepted. Such an explanation connects well with research documenting mental health disparities between heterosexual and gay men in the Netherlands (Aggarwal and Gerrets, 2014; Sandfort et al., 2006).

In addition to these theoretical explanations, it is possible that measurement issues play a role in conflating group differences in social integration. For one, the data measuring the cultural context in our analyses were collected about a decade earlier than the individual level data. It is possible that the cultural context has become more liberal since then which is why we barely find any differences between LGBs and heterosexuals. Future research with more recent attitudinal data needs to illuminate this issue. Another reason why differences between heterosexuals and LGBs may be conflated could be related to our measure of social integration. Three of the five items refer to an individual's evaluation of the neighbourhood rather than their personal experiences in the neighbourhood. The cognitive appraisal of social cohesion will still be influenced by an individual's personal experience of the neighbourhood. Yet, it is possible that a different formulation emphasizing the personal experience more explicitly could be more successful in capturing potential differences between LGBs and heterosexuals. And finally, the definition of sexual orientation maybe too imprecise. Prior research suggests that individuals identifying as 'mostly heterosexual' show similar mental and physical health disparities compared to heterosexuals as do LGBs (Vrangalova and Savin-Williams, 2014). Unfortunately, these two options constitute one answer category in the Dutch Safety Monitor. If mostly heterosexuals have experiences that resemble LGBs, their categorization as heterosexual may conflate the difference between the two groups. Consequently, the effect of the cultural context is underestimated. Future research with more refined sexual orientation measures needs to explore these possible explanations.

Due to the inherently social nature of our outcome variable, we also test whether size of the LGB population in a municipality influences the social integration of LGBs and heterosexuals differently (social hypothesis). We find modest evidence that this is indeed the case. Upon closer examination, this finding appears to be largely driven by the city of Amsterdam. Our analyses clearly confirm the exceptional status of the municipality of Amsterdam for social integration differences between heterosexuals and LGBs. This is initially surprising as we expected the relationship between the municipal context and social integration to be gradual (as expressed by the linear interaction effects). Instead, we observe a dichotomy between Amsterdam and the rest of the country. Amsterdam stands out as it is home to many well-integrated LGBs. We show that the general mechanism of lower social integration in urban contexts (such as Amsterdam) compared to the rest of the Netherlands applies for both LGBs and heterosexuals. The main difference is that it applies more strongly to heterosexuals. LGBs in Amsterdam are less integrated than their peers living elsewhere in the Netherlands, yet the 'urban penalty' on social integration is much smaller among LGBs than among heterosexuals. In fact, this results in LGBs having higher levels of neighbourhood integration than heterosexuals in Amsterdam. Higher levels of social integration among LGBs in Amsterdam can be plausible if LGBs in Amsterdam experience a general boost in the way they relate to their social environment by the visibility and presence of other LGBs. Ideally, the analyses would also be controlled for length of residence but this variable was

not available. If LGBs are more likely than heterosexuals to select themselves into living in Amsterdam, they move more often, which is associated with shorter length of residence and lower neighbourhood integration. Yet, the direction of the bias is such, that shorter residence duration suppresses the already positive and significant interaction effect. In other words, the found difference in Amsterdam is likely stronger than we detect here.

In sum, what have we learned about the social integration of LGBs into Dutch neighbourhoods vis-a-vis heterosexuals? In Amsterdam, LGBs experience the 'urban penalty' to social integration to a lesser extent than heterosexuals do. There is some evidence that the presence of other LGBs have a positive effect on the social integration of LGBs but no such evidence is found for the cultural context. We do not take this to mean that the explanations, which have received a wide range of support on more aggregate levels, do not apply on a more disaggregate level. Instead, the explanations should be used as departure point to explore the more complex mechanisms at play when it comes to the social integration of LGBs. The fact that the theories developed for the country-level cannot be translated one to one onto more disaggregate levels is an important realization in the advancement of the quantitative study of LGBs as new ways of understanding those mechanisms need to be explored.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssresearch.2019.06.011.

Appendix

Table 4
Five components of the cultural context.

Concept	Netherlands Kinship Panel Study (NKPS, 2004)
Attitude towards homo-sexuality	Two men or two women are allowed to cohabitate *(1 agree completely – 5 disagree completely)*
Religiosity	How often do you attend religious services? *(1 almost never – one or more times a week)*
Gender roles	(a) A woman must quit her job when she becomes a mother.
	(b) It's unnatural if men in a business are supervised or managed by women.
	(c) Working mothers put themselves first rather than their families.
	(d) It's best to divide tasks and responsibilities in a relationship according to the customs, traditions and rules that have always been there. *(1 strongly agree– 5 strongly disagree), α = .738*
Family values	Men and women are allowed to live together outside of marriage *(1 strongly agree– 5 strongly disagree)*
Gender equality	*Task is done always or more often by woman = traditional; task is shared equally or done more often by man = progressive (0 traditional – 1 progressive)*
	(a) preparing meals
	(b) fetching groceries
	(c) tidying up and cleaning

Table 5
Descriptive statistics on the level of the municipalities.

Municipality	Urbanization	Cultural climate	LGB population	LGB population standardized
	Score	Mean	Mean	Mean
Almelo	3	-.007	.055	-.006
Almere	4	1.036	.057	.134
Alphen aan den Rijn	4	-.457	.055	-.039
Amersfoort	4	.044	.051	-.378
Amstelveen	4	1.107	.071	1.250
Amsterdam	5	1.508	.112	4.522
Apeldoorn	4	.182	.044	-.892
Arnhem	4	.767	.062	.528
Barneveld	2	−3.721	.053	-.222
Bergen op Zoom	4	.267	.036	−1.508
Breda	4	.087	.050	-.417
Capelle aan den IJssel	4	-.823	.053	-.165
Castricum	3	1.302	.043	-.947
Delft	5	.823	.073	1.399
Den Haag	5	.547	.076	1.619
Den Helder	4	-.680	.077	1.694
Doetinchem	3	.443	.056	.082
Dordrecht	4	.301	.057	.117
Ede	3	−3.109	.042	−1.094

Table 5 (*continued*)

Municipality	Urbanization	Cultural climate	LGB population	LGB population standardized
Eindhoven	4	.371	.066	.812
Emmen	2	-.919	.041	−1.098
Enschede	4	.313	.045	-.795
Gouda	4	.229	.054	-.113
Groningen	5	1.048	.070	1.175
Haarlem	5	.817	.074	1.512
Haarlemmermeer	3	.535	.046	-.771
Hardenberg	2	−1.616	.035	−1.621
Harderwijk	3	-.745	.055	-.029
Heemskerk	4	-.251	.066	.827
Heerenveen	3	.357	.048	-.617
Heerhugowaard	4	.727	.050	-.416
Heerlen	4	-.884	.051	-.324
Helmond	4	.112	.051	-.354
Hengelo	4	-.472	.058	.188
Heusden	2	-.095	.045	-.844
Hoogeveen	3	−1.162	.052	-.294
Hoogezand-Sappemeer	3	.498	.061	.424
Hoorn	4	.255	.050	-.397

Municipality	Urbanization	Cultural climate	LGB population	LGB population standardized
	Score	*Mean*	*Mean*	*Mean*
Kampen	3	−2.505	.044	-.936
Katwijk	4	−2.683	.034	−1.665
Kerkrade	4	-.187	.049	-.504
Leeuwarden	4	.501	.064	.662
Leiden	5	1.141	.064	.709
Leidschendam-Voorburg	5	-.037	.064	.671
Lelystad	3	.248	.067	.952
Maastricht	4	.376	.061	.452
Middelburg	4	-.538	.079	1.837
Nieuwegein	4	.416	.059	.293
Nijmegen	4	.895	.072	1.357
Noordoostpolder	2	−1.731	.052	-.264
Oosterhout	3	.279	.052	-.287
Oss	3	-.023	.048	-.588
Overbetuwe	2	-.404	.049	-.510
Roosendaal	3	.755	.034	−1.675
Rotterdam	5	.223	.074	1.513
's-Hertogenbosch	4	1.167	.067	.923
Sittard-Geleen	3	-.535	.051	-.337
Smallingerland	3	−1.101	.049	-.526
Soest	3	-.177	.051	-.306
Spijkenisse[a]	4	2.028	.043	-.968
Tiel	3	-.350	.044	-.878
Tilburg	5	.430	.050	-.421
Utrecht	5	1.108	.068	1.028
Veenendaal	4	-.252	.040	−1.244
Velsen	4	.735	.051	-.340
Venlo	3	-.188	.054	-.090
Vlaardingen	5	.310	.055	-.024
Weert	3	.271	.040	−1.235
Wijchen	3	.128	.055	-.062
Wijk bij Duurstede	3	-.153	.048	-.549
Zaanstad	4	.302	.060	.367
Zeist	3	.075	.053	-.213
Zoetermeer	4	.388	.052	-.278
Zwolle	4	.351	.058	.195

[a] Since 2015 part of municipality Nissewaard. Urbanization scores: 1 = not urban, 2 = marginally urban, 3 = moderately urban, 4 = strongly urban, 5 = very strongly urban.

Table 6
Results of pooled OLS regression of sexual orientation (LG, B and hetero) and gender on social integration.

	(1)	(2)
Constant	-.244***	-.244***
	(.022)	(.022)
Sexual orientation *(ref. is heterosexual)*		
Lesbian/gay	-.019	-.017
	(.017)	(.020)
Bisexual	.006	-.009
	(.016)	(.025)
Woman *(ref. is man)*	.023***	.023***
	(.006)	(.006)
Interaction effects		
Lesbian/gay*woman		-.007
		(.035)
Bisexual*woman		.026
		(.032)
Control variables		
Age centered	.006***	.006***
	(.000)	(.000)
Child/ren = 1	.327***	.327***
	(.007)	(.007)
Legal union	.155***	.155***
	(.006)	(.006)
Education *(ref. is average)*		
Low	-.049***	-.049***
	(.009)	(.009)
High	.057***	.057***
	(.006)	(.006)
Unemployed = 1	-.058***	-.058***
	(.016)	(.016)
Migration background *(ref. is no)*		
Non-Western	-.199***	-.199***
	(.011)	(.011)
Western	-.073***	-.073***
	(.009)	(.009)
Year dummies	Yes	Yes
Municipality dummies	Yes	Yes
Individual observations	121,618	121,618

Standard errors in parentheses. ***$p < .001$.

Table 7
Descriptive statistics of the analytical sample and the deleted cases.

Variable	Analytical sample (N = 121,618)			Deleted cases (N = 80,347)		
	N	Mean/%	Std. Dev.	N	Mean/%	Std. Dev.
Social integration	121,618	3.313	.751	61,917	3.272	.759
LGB = 1	121,618	6.0%		42,626	7.2%	
Woman = 1	121,618	49.0%		77,653	60.1%	
Child/ren = 1	121,618	26.3%		50,317	37.6%	
Age	121,618	48.727	15.643	77,007	53.281	20.811
Education						
Low	121,618	12.3%		66,588	31.0%	
Average	121,618	41.8%		66,588	47.6%	
High	121,618	46.0%		66,588	21.3%	
Unemployed = 1	121,618	3.2%		63,453	3.2%	
Legal union = 1	121,618	56.5%		80,219	45.8%	
Migration background						
No	121,618	81.8%		80,219	72.3%	
Western	121,618	7.8%		80,219	16.1%	
Non-Western	121,618	10.4%		80,219	11.7%	

Source: Dutch Safety Monitor 2012–15.

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