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Intergroup Contact as the Missing Link Between LGB Rights and Sexual Prejudice

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Abstract: Although research has revealed that more progressive LGB (lesbian, gay, and bisexual) rights are positively associated with more favorable attitudes toward sexual minorities, little is known about why LGB rights co-occur with positive attitudes. The present contribution fills this gap by testing whether the prevalence of intergroup contact with LGB individuals explains the relationship between more progressive LGB rights and sexual prejudice. Utilizing representative Eurobarometer data from 28 European Union Member States, we find that progressive institutional arrangements positively predict favorable attitudes toward sexual minorities by rendering intergroup contact with LGB individuals more commonplace. Importantly, this pattern of findings replicates for different measures of prejudice and LGB-related legislation. The theoretical and practical implications of the current findings are discussed.

Keywords: institutional stigma, intergroup contact, sexual prejudice, sexual stigma, LGB rights

The recent decade witnessed a substantial change in the way many countries legally treat their lesbian, gay, and bisexual (LGB) citizens. The number of countries that penalize homosexual conduct, for example, dropped from 92 in 2006 to 73 in 2016 (Carroll, 2016). In the same period, 17 states introduced same-sex marriages and another 12 implemented same-sex civil partnerships. Never before in modern history have homosexuals enjoyed such a rapid improvement in their civil rights (Kollman, 2013). The legal shift toward equality surfaced most strongly in Europe.

Of course, this trend does not imply that institutional sexual stigma¹ – defined as the devaluation of homosexuality embedded in social institutions (Herek, 2009) – is something of the past. In many parts of the world, it is clearly visible in regulations such as the death penalty for same-sex intercourse (e.g., Article 308 of the Mauritanian Penal Code; Ghai, 2011), limited freedom of assembly (e.g., “homosexual propaganda law” in Russia; Johnson, 2015), or the constitutional ban on same-sex marriage (e.g., Article 18 of Polish Constitution; Mizielińska, 2001). What connects all these regulations is the sanctioning and reproduction of the stigmatized status of homosexuals.

One intriguing question for social psychologists and sociologists alike is *whether* and *why* the shift toward more

progressive regulations (a macro-level phenomenon) is related to thoughts, feelings, and behaviors of individual people (a micro-level phenomenon). The response seems to be quite obvious when sexual minorities are concerned – due to expanding life opportunities of LGB individuals, reduction in institutional stigma entails better mental and physical health of this group (for a review, see Hatzenbuehler, 2014). Regarding heterosexual majority members, past research revealed a positive association between institutional sexual stigma and antipathy toward LGB people (e.g., Hooghe & Meeusen, 2013; Kuntz, Davidov, Schwartz, & Schmidt, 2015; Slenders, Sieben, & Verbakel, 2014; Takács, Szalma, & Bartus, 2016; van den Akker, van der Ploeg, & Scheepers, 2013). Previous empirical accounts, however, did not show *why* institutional sexual stigma prompts heterosexuals to display greater prejudice toward sexual minorities. In the present contribution we aim to fill this gap.

Specifically, we investigate whether low institutional stigma is associated with the reduced level of sexual prejudice because it affords and thus increases the prevalence of *intergroup contact* between heterosexuals and LGB individuals. Drawing on the sexual stigma conceptual framework (Herek, 2009) and the intergroup

¹ When we speak of institutional sexual stigma we also mean heterosexism (Herek, 2009), structural stigma (Hatzenbuehler, 2014), and state-sponsored homophobia (Carroll, 2016).

contact literature (e.g., Christ et al., 2014; Pettigrew & Tropp, 2006), we propose that high institutional stigma enhances prejudice by foreclosing extensive intergroup contact. Vice versa, this means that progressive changes in legal regulations make intergroup contact with LGB individuals more commonplace and, assuming such contact is frequent and positive, reduce prejudice. Below, we outline our reasoning and then verify this multilevel mediation hypothesis by using Standard Eurobarometer data from 28 countries, which enables a broad and robust test of our proposition.

From (Macro-Level) Institutional Stigma to (Micro-Level) Prejudice Toward Homosexuals

Institutional sexual stigma includes a set of organizing principles that either do not recognize the interests of LGB individuals or overtly subject this group to discrimination. Its legal manifestations may be divided (Herek, Chopp, & Stroh, 2007; see also Carroll, 2016) into three broad categories:

- (a) criminalizing sexual acts between two adults of the same sex (i.e., sodomy law),
- (b) denying basic civil liberties to members of sexual minorities (e.g., “homosexual propaganda” law), and
- (c) reinforcing power differences between heterosexual majority and sexual minorities (e.g., restrictions in adoption opportunities for same-sex couples).

Discriminatory legal regulations serve to sanction and reproduce the stigmatized status of homosexuals in society. This is why state-sponsored homophobia can be interpreted as the societal-level expression of sexual stigma: “society’s shared belief system through which homosexuality is denigrated, discredited, and constructed as invalid relative to heterosexuality” (Herek, 2009, p. 171). In the sexual stigma conceptual framework, Herek (2009) proposed that discriminatory legal arrangements emerge from negative (usually religion-rooted) convictions on homosexuality and serve two basic functions. First, they deny sexual minorities’ members access to certain resources and opportunities. Second, they communicate and legitimize the inferior status of homosexuality. Importantly, by conveying this message

institutional stigma propels individual manifestations of sexual stigma, including prejudice toward homosexuals.

This line of thought is confirmed by research revealing a positive relationship between institutional stigma and prejudice toward sexual minorities. Specifically, state-sponsored homophobia increased disapproval of homosexual lifestyle (Hooghe & Meeusen, 2013; Kuntz et al., 2015; van den Akker et al., 2013), weakened tolerance of homosexuality (Adamczyk & Pitt, 2009; Slenders et al., 2014), and diminished support for same-sex adoption (Takács et al., 2016). Importantly, these effects of institutional stigma were independent from other pertinent factors, such as economic development, gender inequality, or societal level of religiosity.

In sum, the link between (macro-level) stigma and (micro-level) prejudice seems fairly solid. However, the social-psychological explanation of this effect has not been specified yet. We believe that an important mediator is the increased societal occurrence of positive intergroup contact with LGB individuals, as this makes such contact more commonplace.

The Mediational Role of Intergroup Contact

There is a lot of evidence for the prejudice-reducing effects of intergroup contact. After six decades since the formulation of Allport’s famous hypothesis (1954; see also Williams, 1947), a meta-analysis synthesizing hundreds of studies on intergroup contact and prejudice concluded that intergroup contact reduces prejudice (Pettigrew & Tropp, 2006), which means that knowing an out-group representative typically improves attitudes toward the out-group as a whole. Thus, if people can and do engage in intergroup contact, we can expect a decrease in prejudice toward the relevant out-group. Importantly, this effect was also found for prejudice toward homosexuals (e.g., Herek & Capitanio, 1996; Reimer et al., 2017; Smith, Axelton, & Saucier, 2009). For present purposes, it is particularly interesting to note that Pettigrew and Tropp (2006) found that the mean effect size between contact and prejudice was significantly stronger for gay men and lesbians (mean $r = -.27$) than for other target groups combined (mean $r = -.21$).²

² Perhaps, this result may be explained with the concealable character of sexual stigma (see Pettigrew & Tropp, 2011). In comparison to other devalued groups, homosexuals have greater possibility of managing information on their stigma (Goffman, 1963). Unlike people of color or the disabled, LGB individuals may decide to whom and at which point of the relationship they disclose their identity. To minimize stigma cost, nonnormative sexual orientation is first revealed in committed relationships, that is, those with family members or friends (Herek, 2003). Even if initially prejudiced, this audience is strongly motivated to improve its attitudes toward sexual minorities as a group in order to maintain the relationship with the particular LGB person. On the other hand, LGB individuals may come out to those whom they perceive as already non-prejudiced. Thus, the strong association between intergroup contact and sexual prejudice may reflect not only the effect that intergroup contact exerts on attitudes, but also the effect of prejudice on intergroup contact (for evidence on the bidirectional relationship between intergroup contact and sexual prejudice, see Herek & Capitanio, 1996).

However, the intergroup contact literature focuses predominantly on the micro-level of analysis, as if the extent of intergroup contact, as well as its sources and consequences, could characterize individuals only. Nevertheless, intergroup contact may be also considered as a structural property of larger social units (e.g., countries or organizations) and was shown to operate on a macro-level of analysis. In fact, variability in the opportunities and the actual experiences of intergroup contact explains why certain regions differ in the strength of ethnic prejudice (Wagner, van Dick, Pettigrew, & Christ, 2003). As shown recently (Christ et al., 2014), the societal-level effect of intergroup contact can be even stronger than its individual-level counterpart. This means that living in an area where intergroup contact is more (rather than less) prevalent, is more predictive of favorable outgroup-directed attitudes than having direct contact experiences. The mechanism responsible for this effect is the diffusion of positive in-group norms (Christ et al., 2014), which means that the positive course of cross-group encounters becomes a standard that affects all in-group members, including those who have not experienced intergroup contact directly. Facing commonplace positive intergroup contact, members of a given group start to believe that interactions with out-group representatives are safe, appropriate, and valued by their in-group. Since perceived in-group norms are an important antecedent of prejudice (Crandall, Eshleman, & O'Brien, 2002), by changing these norms in a more tolerant direction prevalent intergroup contact enhances more positive attitudes toward the out-group.

We propose that in the case of LGB individuals (as the target of prejudice), the societal prevalence of intergroup contact may depend on the amount of sexual stigma engrained in legal regulations. Specifically, we reason that *stronger* institutional stigma *forecloses* opportunities for ubiquitous intergroup contact and thus increases prejudice. Vice versa, we reason that through legislative changes toward decreased sexual stigma, intergroup contact *becomes more possible and appropriate*, and the societal extent that people engage in it *decreases* prejudice then. As such we are assuming, in line with Herek's approach, that (macro-level) legal regulations have important downstream effects on (micro-level) prejudice, yet specify this by adding the prevalence of intergroup contact as a mediating mechanism.

One reason for why institutional stigma would make intergroup contact with LGB individuals especially rare is that it prevents the coming out of social minorities' members. Sodomy law or the prohibition of "homosexual propaganda"

may force LGB individuals to actively conceal their identity in fear for penal responsibility. Weaker instances of institutional stigma, however, may also thwart LGB individuals' openness. For example, by conveying negative norms on homosexuality (Herek, 2009) lack of hate crime protection may intensify rejection expectation (or stigma awareness) among sexual minorities' members and discourage them from revealing their identity to wider audiences (Dyar, Feinstein, Eaton, & London, 2016). Indeed, past research demonstrated the positive relationship between structural stigma and sexual orientation concealment in MSM (men having sex with men) population (Pachankis et al., 2015). On the other hand, low outness of sexual minorities' representatives should be mirrored by the low prevalence of meaningful intergroup contact among heterosexual majority members. Thus, by promoting stigma awareness and diminishing openness among LGB individuals, discriminatory legal regulations may lessen the *opportunity* for intergroup contact among heterosexual majority members. At the same time, the low prevalence of intergroup contact with sexual minorities may prevent the diffusion of positive in-group norms and thus inspire stronger prejudice.

On the other hand, more egalitarian legislation should increase the prevalence of intergroup contact not only by encouraging greater outness of LGB individuals (i.e., creating the opportunity for meaningful cross-group encounters). As noted by Pettigrew (1998), normative support provided by institutions shapes both quantity and quality of intergroup contact. By leveling the status of homosexuality and heterosexuality, progressive legal regulations such as marriage equality establish a norm of acceptance for homosexuality. This, in turn, may prompt heterosexuals to get involved in intergroup contact with LGB individuals. Furthermore, since supportive institutional environment translates into the equal status of interactants, the two of Allport's (1954) key intergroup contact conditions seem to be met. Thus, low institutional stigma may render the *experience* of intergroup contact with LGB individuals not only more prevalent, but also more optimal in terms of reducing prejudice.

The Current Study

The current study moves beyond previous work in at least two ways. First, we seek to test the societal prevalence of intergroup contact as the social-psychological explanation of the positive relationship between institutional stigma and sexual prejudice.³ Specifically, we believe that the

³ The relationship between institutional stigma, intergroup contact, and sexual prejudice may be captured also in terms of cross-level moderation. In this conceptualization the effect of intergroup contact on sexual prejudice depends on the strength of institutional stigma. As claimed by Allport (1954), one of conditions necessary for the positive effects of intergroup contact to occur is authorities' support. If discriminatory legal regulations are interpreted as the lack of such support, intergroup contact effects should be weaker in countries characterized by the high degree of institutional stigma. Although theoretically compelling, the cross-level moderation hypothesis is not consistently supported by the current data.

consideration and integration of *both* the macro- and micro-level is an important step forward for both the intergroup contact and sexual stigma literature. Second, we hope to overcome a limitation of previous work on the relationships between institutional stigma and sexual prejudice, which is that large cross-national studies such as the World Values Survey do not assess respondents' own sexual orientation – a circumstance that possibly stems from challenges associated with the accurate measurement of this trait (Gates, 2011). As such, the conclusions from previous studies about institutional stigma and sexual prejudice pertain to a population that includes both heterosexual and LGB individuals. The current study, based on data from the Standard Eurobarometer, does include this information.

We will test our multilevel mediation hypothesis in the context of 28 European Union (EU) Member States. Although Europe is considered to be the most progressive part of the world regarding the rights of LGB people (Kollman, 2013), there is a great extent of variability even within the EU (International Lesbian, Gay, Bisexual, Trans and Intersex Association Europe [ILGA], 2016). Whereas some member countries (e.g., the Netherlands) allow same-sex marriages and joint adoption, others (e.g., Latvia) do not provide even hate crime protection. Importantly, differences in the strength of institutional stigma do not coincide perfectly with other potentially relevant factors such as economic affluence or the societal level of religiosity (e.g., Slenders et al., 2014). For example, the high proportion of Catholics in a given society may go hand in hand both with marriage equality (Portugal) and the constitutional ban on same-sex marriage (Poland). This kind of diversity allows separating the impact of institutional stigma from the effects of other macro-level antecedents of sexual prejudice.

Method

Data Source

To test our hypotheses we utilized Standard Eurobarometer data (European Commission, 2016). The Standard Eurobarometer is a regular survey carried out each autumn and spring in all EU Member States (for a complete list, see Table 1). In addition to the constant core, the study questionnaire is usually supplemented by the sections related to special topics (e.g., gender equality, discrimination, or climate change) that differ between the waves. In the spring of 2015, respondents were asked about their contact with LGB individuals as well as their attitudes toward this group. It should be noted that although many cross-national surveys measure attitudes toward homosexuality, the assessment of contact with sexual minorities' members is a rather rare

circumstance. Another unique property of the Eurobarometer survey is the assessment of respondents' minority status – study participants could declare whether they considered themselves an LGBT (lesbian, gay, bisexual, transgender, or transsexual) person.

Participants and Measures

The original dataset contained responses from 27,718 individuals from 28 European Union Member Countries. After excluding records of participants who identified themselves as LGBT individuals ($n = 309$), the sample was limited to 27,409 respondents. Participants' age ranged from 15 to 96 years ($M = 50.06$, $SD = 18.23$). Women constituted 56.1% of the sample.

Individual-Level Measures: Prejudice

To avoid mono-measure bias, our analyses utilized multiple indices of sexual prejudice. By employing the measures of *discomfort with public displays of affection*, *social distance*, and *disapproval of LGB rights*, we aimed to tap on affective, behavioral, and policy-oriented aspect of attitudes toward LGB people. Prior to analyses participants' responses were recoded so that higher scores reflected less favorable attitudes toward the target group.

Discomfort with public displays of affection was assessed with two items, $r = .93$, $p < .001$. Participants were asked how comfortable they would feel with gay (two men)/lesbian (two women) couples showing affection (e.g., kissing or holding hands) in public (1 = *not at all comfortable*, 10 = *totally comfortable*).

Social distance was measured with three items, $\alpha = .84$. Respondents were asked to report whether they would feel comfortable if a gay, lesbian, or bisexual person held the highest elected political position in their country/was one of their colleagues at work/was in a love relationship with one of their children (1 = *not at all comfortable*, 10 = *totally comfortable*).

Disapproval of LGB rights was measured with two questions, $r_s = .76$, $p < .001$. Respondents were asked to report to what extent they agreed with the following statements: "Gay, lesbian and bisexual people should have the same rights as heterosexual people" and "Same-sex marriages should be allowed throughout Europe" (1 = *totally agree*, 2 = *tend to agree*, 3 = *tend to disagree*, 4 = *totally disagree*).

Individual-Level Measures: Intergroup Contact

Intergroup contact was measured with a single question "Do you have friends or acquaintances who are gay, lesbian or bisexual?" (1 = *yes*, 2 = *no*). This indicator gauges the degree of *direct* and relatively *positive* intergroup interaction – the latter being the crucial element of successful intergroup contact (Pettigrew & Tropp, 2011). Before analyses,

Table 1. Values of societal-level variables for all analyzed countries

Country	Rainbow Europe Index 2015	Years since the introduction of civil unions	Secularization (proportion)	GDP per capita
Austria	52	5	0.14	1.27
Belgium	83	15	0.29	1.17
Bulgaria	27	0	0.04	0.46
Croatia	71	1	0.05	0.58
Cyprus	18	0	0.01	0.81
Czech Republic	35	9	0.76	0.85
Denmark	68	26	0.12	1.24
Estonia	34	0	0.60	0.74
Finland	62	13	0.19	1.08
France	65	16	0.28	1.06
Germany	56	14	0.25	1.25
Greece	39	0	0.06	0.71
Hungary	50	6	0.19	0.68
Ireland	40	4	0.06	1.45
Italy	22	0	0.12	0.95
Latvia	18	0	0.44	0.64
Lithuania	19	0	0.10	0.74
Luxembourg	43	11	0.27	2.71
Malta	77	1	0.03	0.89
The Netherlands	69	17	0.42	1.29
Poland	26	0	0.06	0.69
Portugal	67	14	0.08	0.77
Romania	28	0	0.10	0.57
Slovakia	29	0	0.14	0.77
Slovenia	32	9	0.18	0.83
Spain	69	17 ^a	0.19	0.92
Sweden	72	20	0.27	1.23
United Kingdom	86	10	0.28	1.10

Note. ^aValue for Catalonia that was the first autonomous community to implement civil unions.

participants' scores were recoded so that 0 denoted the lack of intergroup contact and 1 reflected knowing an LGB person.

Individual-Level Measures: Control Variables

Since the primary aim of the present study was to extract the unique effects of institutional stigma and intergroup contact on prejudice, in our analyses we controlled for an array of individual properties, that is, gender ($-0.5 = \text{male}$, $0.5 = \text{female}$), age, age of stopping full-time education, perceived social class ($1 = \text{the working class of society}$, $5 = \text{the higher class of society}$), political conservatism ($1 = \text{left}$, $10 = \text{right}$), religious denomination ($1 = \text{Nonbeliever/agnostic/atheist}$, $2 = \text{Catholic}$, $3 = \text{Orthodox Christian}$, $4 = \text{Protestant}$, $5 = \text{Other Christian}$, $6 = \text{Jewish}$, $7 = \text{Muslim}$, $8 = \text{Other religion}$), and settlement size ($1 = \text{rural area or village}$, $3 = \text{large town}$). As demonstrated consistently in the past research, female, young, well-educated, financially affluent, politically liberal, and nonreligious individuals display lower

sexual prejudice in comparison to their counterparts (Herek, 2009).

Societal-Level Measures: LGB-Related Legislation

We used two indicators of LGB-related legislation. Whereas one of the indicators assessed present legal arrangements (e.g., family rights and hate crime protection), the other was based on the time since same-sex couples received legal recognition – the milestone event in the process of sexual minorities' emancipation (Carroll, 2016). Since this temporal measure of LGB rights reflects the time that elapsed since the specific event in the past, it fits conceptually with the notion that legal changes precede present-day attitudes.

Rainbow Europe Index published by ILGA Europe (2015) served as the measure of present LGB-related legislation. The index combines various areas of LGBTQI (Lesbian, Gay, Bisexual, Transgender, Queer or Questioning, and Intersex) individuals' legal recognition (i.e., protection from

discrimination or relational rights), and has been used in the past social research (e.g., Górka, Bilewicz, & Winiewski, 2017; Kuntz et al., 2015). In the current sample the values of the index range from 18 (= *least progressive law*) to 86 (= *most progressive law*). Time in years since same-sex couples legal recognition – either in the form of marriage or civil union – was assessed on the basis of data available in the ILGA state-sponsored homophobia report (Carroll, 2016) and other sources.⁴

Societal-Level Measures: Control Variables

To check LGB-related legislation against other societal-level explanations of sexual prejudice, we controlled for countries' economic development and degree of secularization. Modernization theory (Inglehart & Welzel, 2005) postulates that unfavorable attitudes toward homosexuality are stronger in more religious and less affluent societies, where traditional and survival values prevail over secular-rational and self-expression values, respectively. Numerous studies support this premise – countries' secularization and economic development predict individuals' sexual prejudice negatively (e.g., Slenders et al., 2014) and, therefore, should be controlled in the analyses of institutional stigma effects.

Country secularization was operationalized as the 2010 proportion of individuals unaffiliated with any religious denomination in the given society (Pew Research Center, 2015). Furthermore, as the measure of country economic affluence we used gross domestic product per capita converted into purchasing power standard (EU 28 = 1; Eurostat, 2016a). Table 1 displays the values of societal-level variables for all analyzed countries.

Analytical Strategy

Due to the two-level structure of the data (individuals nested within countries)⁵ we embedded our analyses in a multilevel modeling framework. To test our main hypothesis, we employed a multilevel mediation analysis with multiple DVs (Figure 1). Whereas LGB-related legislation was the independent variable, intergroup contact served as the mediator and the three measures of prejudice – discomfort with public displays of affection, social distance, and disapproval of LGB rights – constituted DVs. The analyses controlled for countries' secularization and economic

development as well as respondents' gender, age, education, religiosity, and political conservatism.⁶

To test this multilevel mediation pattern, we applied a multilevel structural equation modeling (MSEM) paradigm (Preacher, Zyphur, & Zhang, 2010), which allows partitioning within- and between-level latent components of observed level-1 variables.⁷ In the current analyses (Figure 1), LGB-related legislation, which served as the country-level predictor, had only a between component of variance (i.e., it did not vary within the clusters). By contrast, the variance of intergroup contact (mediator) and different measures of prejudice (DV) – all individual-level variables – was partitioned into within- and between-level latent components. The indirect effects involved the between-level effect of legislation on intergroup contact (path *a* in Figure 1) and the between-level effects of intergroup contact on prejudice (paths *bb*, *cb*, and *db* in Figure 1). Additionally, we controlled for the within-level effects of intergroup contact on prejudice (paths *bw*, *cw*, and *dw* in Figure 1) – a necessary step to obtain the contextual effects of intergroup contact (see Raudenbush & Bryk, 2002).

In order to check whether the current results were independent from the specific operationalization of LGB-related legal regulations, we tested two models – with present LGB-related legislation, and time since same-sex couples legal recognition as the societal-level independent variable, respectively. Prior to analyses, both individual- and societal-level continuous variables were centered to their grand means.

Because of the relatively small number of societal-level units⁸ (i.e., countries, $N = 28$) our analyses employed Bayesian estimation (see van de Schoot et al., 2014 for a gentle introduction). In the context of multilevel SEM, the key feature of this method relies on its good performance when level-2 sample size is small. As shown by Hox, van de Schoot, and Matthijsse (2012), unlike maximum likelihood (ML), Bayesian approach allows obtaining accurate estimates with as many as 20 countries in comparative survey research. Furthermore, because Bayesian estimation does not assume the normal distribution of models' parameters (Kruschke, 2011), it provides more accurate standard error estimates of indirect effects.

⁴ The full list of references is available from the first author.

⁵ Current data could be also considered to have a three-level structure (individuals nested within regions and regions nested within countries). However, as shown by the supplementary analyses, the regional level (NUTS 1 units; Eurostat, 2016b) did not account for the substantial amount of variance in any of the DVs.

⁶ Skipping control variables from the analyses did not change the final conclusions.

⁷ MSEM is not the only option to test our mediation hypothesis. Instead of partitioning intergroup contact into its within- and between-level latent components, one could also use raw participants' scores and the societal proportion of heterosexuals knowing an LGB individual as the within- and between-level indices of intergroup contact, respectively. As shown by supplementary analyses, employing this method did not change the final conclusions.

⁸ Simulation studies (e.g., Meuleman & Billiet, 2009) hinted 50 countries as the minimum sample size in comparative surveys employing multilevel SEM and ML estimator.

Figure 1. The MSEM analysis of the proposed multilevel mediation hypothesis. Adapted from Preacher, Zyphur, and Zhang (2010).

We tested all models in Mplus 7.1. Bayesian estimation was performed with the default specifications available in this software (e.g., uninformative priors; Muthén & Asparouhov, 2012). To assess the quality of subsequent models, we used posterior predictive *p*-values (*ppp*-values). The *ppp*-value may be defined as the proportion of chi-square values obtained in the simulated data that exceed that of the actual data. The *ppp*-values close to .50 indicate a good fit of the given model (van de Schoot et al., 2014).

Results

Preliminary Analyses

We first examined whether the established relationships between sexual prejudice and demographic variables such as gender, religious denomination, or age were replicated in the current dataset. The aim of this was to check the reliability of the present dataset before testing our hypotheses. Gender differentiated social distance, $t(26,145) = 5.72$, $p < .001$, $d = 0.07$ [0.05, 0.10], and disapproval of LGB rights, $t(26,433) = 5.03$, $p < .001$, $d = 0.06$ [0.04, 0.09], but not discomfort with public displays of affection, $t(23,600.29) = -0.80$, $p < .001$, $d = 0.01$ [-0.02, 0.04]. In comparison to men, women displayed lower social distance ($M_{\text{men}} = 4.95$, $SD_{\text{men}} = 3.20$, $M_{\text{women}} = 4.73$,

$SD_{\text{women}} = 3.20$) and lower disapproval of LGB rights ($M_{\text{men}} = 2.26$, $SD_{\text{men}} = 1.08$, $M_{\text{women}} = 2.19$, $SD_{\text{women}} = 1.08$). Furthermore, participants' gender was related to intergroup contact, $\chi^2(1) = 12.35$, $V = .02$, $p < .001$. Whereas 41.2% of female respondents declared to know a homosexual person, 39.0% of male participants reported to do so.

As far as religious denomination was concerned, it differentiated discomfort with public displays of affection, $F(7, 23,378) = 359.58$, $p < .001$, $\eta_p^2 = .10$, social distance, $F(7, 24,756) = 405.72$, $p < .001$, $\eta_p^2 = .10$, and disapproval of LGB rights, $F(7, 25,011) = 404.33$, $p < .001$, $\eta_p^2 = .10$. Across all these measures, Christian Orthodox respondents consistently declared the highest level of negative attitudes toward gay men and lesbians. The intercorrelations for the remaining variables are presented in Table 2. In principle, the relationships between respondents' demographic properties and sexual prejudice replicated those registered in past research (Herek, 2009), and therefore we proceeded with hypothesis testing.

Hypothesis Testing

Differences between the countries explained 13% of variance in intergroup contact ($ICC = .13$, $SE = 0.04$, 95% CI [0.09, 0.22], $p < .001$),⁹ 27% of variance in the discomfort with public displays of affection ($ICC = .27$, $SE = 0.06$, 95% CI [0.18, 0.40], $p < .001$), 34% of variance in social

⁹ Due to the use of Bayesian estimation, in this section *p*-values denote one-tailed *p*-values based on the posterior distribution, and 95% CIs refer to credibility intervals.

Table 2. Descriptive statistics and correlations for individual- and societal-level continuous variables

	N	M	SD	1	2	3	4	5	6	7	8	9
Individual-level variables												
1. Discomfort with public displays of affection	24,658	6.18	3.54		.69***	.64***	-.49***	.21***	-.21***	-.08***	-.16***	.13***
2. Social distance	26,147	4.83	3.20			.68***	-.51***	.12***	-.19***	-.06***	-.15***	.13***
3. Disapproval of LG rights	26,435	2.22	1.08				-.49***	.15***	-.19***	-.08***	-.15***	.16***
4. Intergroup contact	26,207	0.40	0.49					-.19***	.23***	.08***	.18***	-.10***
5. Age	27,392	50.06	18.23						-.13***	.01	-.09***	.01
6. Education	24,765	19.47	5.09							.04***	.34***	-.02**
7. Settlement size	27,409	2.28	1.07								.10***	-.03***
8. Subjective social class	26,346	2.31	1.00									.07***
9. Political conservatism	21,768	5.27	2.31									
Societal-level variables												
10. LGB-related legislation: Rainbow Europe Index	28	51.54	21.62		.69***	.05	.27					
11. LGB-related legislation: Time since the legal recognition of same-sex relationships	28	7.43	7.73			.25	.46*					
12. Secularization	28	0.20	0.18				.15					
13. GDP per capita	28	0.98	0.43									

Note. *** $p < .001$. ** $p < .01$. * $p < .05$.

distance ($ICC = .34$, $SE = 0.07$, 95% CI [0.24, 0.49], $p < .001$), and 29% of variance in disapproval of LGB rights ($ICC = .29$, $SE = 0.06$, 95% CI [0.20, 0.43], $p < .001$). The considerable size of ICCs corroborates previous findings that suggest that attitudes toward gay men and lesbians are strongly affected by the societal context (see Adamczyk & Pitt, 2009), defined in this case by between-country differences.

Present LGB-Related Legislation as the Societal-Level Predictor

As shown by the results for Model 1 (Table 3), the present LGB-related legislation predicted societal-level intergroup contact positively ($B = 0.01$, $SE = 0.001$, 95% CI [0.004, 0.01], $p < .001$), and intergroup contact was associated negatively with exerted negative effects on discomfort with public displays of affection ($B = -5.20$, $SE = 1.73$, 95% CI [-8.67, -1.80], $p = .002$), social distance ($B = -6.19$, $SE = 1.65$, 95% CI [-9.41, -2.95], $p = .001$), and disapproval of LGB rights, $B = -2.26$, $SE = 0.56$, 95% CI [-3.36, -1.16], $p = .001$. As hypothesized, societal-level intergroup contact mediated the negative effects of progressive LGB-related legislation on discomfort with public displays of affection ($IE = -0.03$, $SE = 0.01$, 95% CI [-0.06, -0.01], $p = .002$), social distance ($IE = -0.04$, $SE = 0.01$, 95% CI [-0.06, -0.01], $p = .001$), and disapproval of LGB rights, $IE = -0.01$, $SE = 0.004$, 95% CI [-0.02, -0.01], $p = .001$.

Time Since Civil Unions Introduction as the Societal-Level Predictor

Next, we tested Model 2 (Table 4) in which LGB-related legislation was operationalized as the time since same-sex couples legal recognition. The latter variable exerted a positive effect on societal-level intergroup contact ($B = 0.01$, $SE = 0.004$, 95% CI [0.01, 0.02], $p = .002$), which, in turn, was a negative predictor of discomfort with public displays of affection ($B = -4.78$, $SE = 1.10$, 95% CI [-6.94, -2.61], $p < .001$), social distance ($B = -6.22$, $SE = 1.19$, 95% CI [-8.55, -3.86], $p < .001$), and disapproval of LGB rights, $B = -1.86$, $SE = 0.33$, 95% CI [-2.51, -1.22], $p < .001$. In line with our expectations, societal-level intergroup contact mediated the negative effect of time since civil unions introduction on public displays of affection ($IE = -0.06$, $SE = 0.03$, 95% CI [-0.12, -0.02], $p = .002$), social distance ($IE = -0.08$, $SE = 0.03$, 95% CI [-0.15, -0.03], $p = .002$), and disapproval of LGB rights, $IE = -0.03$, $SE = 0.01$, 95% CI [-0.05, -0.01], $p = .002$.

Contextual Effects of Intergroup Contact

Results for Models 1 and 2 also provide information on the contextual effects of intergroup contact. As presented in Tables 3 and 4, the negative effect of intergroup contact

Table 3. The effects of present LGB-related legislation on sexual prejudice via intergroup contact (Model 1)

Endogenous variable				
Predictors	Intergroup contact	Discomfort with public displays of affection	Social distance	LGB rights disapproval
<i>Individual level (IL) effects</i>				
Intercept	0.52 [0.47, 0.57]	5.40 [5.00, 5.80]	4.18 [3.77, 4.59]	1.97 [1.83, 2.12]
<i>Societal level (SL) effects</i>				
Intergroup contact				
Gender				
Age	0.06 [0.05, 0.07]	-1.88 [-1.98, -1.77]	-1.75 [-1.84, -1.67]	-0.54 [-0.57, -0.51]
Age of finishing full-time education	-0.06 [-0.06, -0.05]	-0.18 [-0.26, -0.10]	-0.41 [-0.48, -0.34]	-0.13 [-0.15, -0.11]
Social class	0.11 [0.09, 0.12]	0.33 [0.31, 0.36]	0.14 [0.12, 0.16]	0.07 [0.06, 0.07]
Political conservatism	0.04 [0.03, 0.05]	-0.34 [-0.44, -0.25]	-0.37 [-0.45, -0.30]	-0.09 [-0.12, -0.07]
Settlement size	-0.01 [-0.01, -0.01]	-0.12 [-0.17, -0.07]	-0.13 [-0.17, -0.09]	-0.05 [-0.06, -0.03]
Catholic	0.01 [0.001, 0.01]	0.12 [0.10, 0.13]	0.09 [0.08, 0.11]	0.04 [0.03, 0.04]
Orthodox	-0.14 [-0.16, -0.12]	0.002 [-0.04, 0.05]	0.02 [-0.02, 0.05]	0.00 [-0.01, 0.01]
Protestant	-0.16 [-0.19, -0.12]	0.55 [0.42, 0.68]	0.48 [0.37, 0.59]	0.20 [0.17, 0.24]
Other Christian	-0.10 [-0.12, -0.08]	1.02 [0.78, 1.25]	0.93 [0.73, 1.14]	0.41 [0.34, 0.48]
Jewish	-0.06 [-0.09, -0.03]	0.47 [0.31, 0.63]	0.37 [0.23, 0.50]	0.21 [0.16, 0.26]
Muslim	0.05 [-0.08, 0.17]	0.47 [0.27, 0.68]	0.55 [0.37, 0.71]	0.22 [0.16, 0.28]
Other religion	-0.32 [-0.38, -0.26]	0.26 [-0.58, 1.09]	-0.17 [-0.85, 0.52]	-0.14 [-0.38, 0.11]
	-0.07 [-0.16, 0.02]	1.95 [1.55, 2.37]	1.63 [1.29, 1.99]	0.69 [0.57, 0.81]
		0.05 [-0.57, 0.66]	0.68 [0.17, 1.18]	0.17 [-0.002, 0.35]
<i>Societal level (SL) effects</i>				
Intergroup contact				
LGB-related legislation (Rainbow Europe Index)	0.01 [0.004, 0.01]	-5.20 [-8.67, -1.80]	-6.19 [-9.41, -2.95]	-2.26 [-3.36, -1.16]
Secularization	-0.06 [-0.31, 0.21]	-0.01 [-0.04, 0.01]	-0.01 [-0.04, 0.01]	-0.002 [-0.01, 0.01]
GDP per capita	0.27 [0.16, 0.38]	0.64 [-1.16, 2.44]	1.02 [-0.74, 2.78]	0.18 [-0.40, 0.77]
Variance		-0.61 [-1.84, 0.60]	-0.22 [-1.42, 0.97]	0.09 [-0.29, 0.48]
IL variation	0.17 [0.16, 0.17]	7.64 [7.48, 7.81]	5.46 [5.35, 5.57]	0.68 [0.67, 0.70]
SL variation	0.01 [0.01, 0.03]	0.58 [0.29, 1.32]	0.53 [0.26, 1.22]	0.06 [0.03, 0.13]
ppp-value				.392

Notes. ppp-value = posteriori predictive p-value. Gender coded -.50 for men and .50 for women. Age and age of finishing full-time education divided by 10. Atheists and agnostics/nonbelievers served as a reference category for religious denomination. Gender coded -.50 for men and .50 for women. Continuous individual- and societal-level predictors were grand-mean centered prior to the analyses. DVs residuals were allowed to correlate. Unstandardized coefficients reported. 95% credibility intervals reported in the brackets.

Table 4. The effects of time since the legal recognition of same-sex relationships on sexual prejudice via intergroup contact (Model 2)

Endogenous variable				
Predictors	Intergroup contact	Discomfort with public displays of affection	Social distance	LGB rights disapproval
Intercept	0.52 [0.47, 0.57]	5.40 [5.01, 5.79]	4.18 [3.73, 4.64]	1.98 [1.84, 2.11]
Individual level (IL) effects				
Intergroup contact				
Gender	0.06 [0.05, 0.07]	−1.88 [−1.98, −1.77]	−1.75 [−1.84, −1.67]	−0.54 [−0.57, −0.51]
Age	−0.06 [−0.06, −0.05]	−0.18 [−0.26, −0.10]	−0.41 [−0.48, −0.34]	−0.13 [−0.15, −0.11]
Age of finishing full – time education	0.11 [0.09, 0.12]	0.33 [0.31, 0.36]	0.14 [0.12, 0.16]	0.07 [0.06, 0.07]
Social class	0.04 [0.03, 0.05]	−0.34 [−0.43, −0.24]	−0.37 [−0.45, −0.30]	−0.09 [−0.12, −0.07]
Political conservatism	−0.01 [−0.01, −0.01]	−0.12 [−0.17, −0.07]	−0.13 [−0.17, −0.09]	−0.05 [−0.06, −0.03]
Settlement size	0.01 [0.001, 0.01]	0.11 [0.10, 0.13]	0.09 [0.08, 0.11]	0.04 [0.03, 0.04]
Catholic	−0.14 [−0.16, −0.12]	0.002 [−0.04, 0.05]	0.02 [−0.02, 0.05]	0.00 [−0.01, 0.01]
Orthodox	−0.16 [−0.19, −0.12]	0.54 [0.42, 0.68]	0.48 [0.37, 0.59]	0.20 [0.17, 0.24]
Protestant	−0.10 [−0.12, −0.08]	1.01 [0.77, 1.24]	0.92 [0.73, 1.13]	0.40 [0.33, 0.47]
Other Christian	−0.06 [−0.09, −0.03]	0.48 [0.31, 0.64]	0.37 [0.23, 0.50]	0.21 [0.17, 0.28]
Jewish	0.05 [−0.08, 0.17]	0.47 [0.27, 0.68]	0.55 [0.37, 0.71]	0.22 [0.16, 0.28]
Muslim	−0.32 [−0.38, −0.26]	0.26 [−0.59, 1.09]	−0.17 [−0.85, 0.52]	−0.14 [−0.38, 0.11]
Other religion	−0.07 [−0.16, 0.02]	1.95 [1.55, 2.36]	1.63 [1.28, 1.99]	0.69 [0.56, 0.81]
Societal level (SL) effects				
Intergroup contact		0.05 [−0.57, 0.65]	0.68 [0.17, 1.18]	0.17 [−0.002, 0.35]
LGB-related legislation (Time since the legal recognition of same-sex relationships)	0.01 [0.01, 0.02]	−4.78 [−6.94, −2.61]	−6.22 [−8.55, −3.86]	−1.86 [−2.51, −1.22]
Secularization	−0.16 [−0.49, 0.18]	−0.07 [−0.12, −0.02]	−0.05 [−0.10, 0.01]	−0.02 [−0.04, −0.01]
GDP per capita	0.24 [0.09, 0.39]	1.19 [−0.38, 2.72]	1.37 [−0.34, 3.10]	0.37 [−0.08, 0.84]
Variance				
IL variation	0.17 [0.16, 0.17]	−0.39 [−1.27, 0.49]	−0.003 [−0.99, 0.98]	0.11 [−0.14, 0.37]
SL variation	0.02 [0.01, 0.04]	7.64 [7.48, 7.81]	5.46 [5.35, 5.57]	0.68 [0.67, 0.70]
ppp-value		0.39 [0.19, 0.88]	0.47 [0.22, 1.09]	0.03 [0.02, 0.08]
.392				

.392

Notes. ppp-value = posteriori predictive p-value. Gender coded −.50 for men and .50 for women. Age and age of finishing full-time education divided by 10. Atheists and agnostics/nonbelievers served as a reference category for religious denomination. Gender coded −.50 for men and .50 for women. Continuous individual- and societal-level predictors were grand-mean centered prior to the analyses. DVs residuals were allowed to correlate. Unstandardized coefficients reported. 95% credibility intervals reported in the brackets.

on sexual prejudice was stronger at the societal than individual level. Thus, the contextual effect of intergroup contact (Christ et al., 2014) was replicated with the current data.

Discussion

In this article, we empirically examined whether more equal LGB-related legislation within countries entails more positive attitudes toward sexual minorities by affecting the prevalence of intergroup contact with LGB individuals. Using data collected in 28 EU Member Countries we found that progressive legal arrangements translate into greater intergroup contact with sexual minorities members' at the societal level, which in turn leads to lower sexual prejudice among individuals. Importantly, this pattern of results emerged for different measures of LGB-related legislation. Sexual prejudice and the prevalence of intergroup contact were predicted not only by present legal regulations but also by time that elapsed since the legal recognition of same-sex couples. The significant effects for the latter, temporal indicator are in line with a top-down interpretation of the relationship between LGB rights and attitudes toward sexual minorities. Furthermore, the results were consistent across different measures of sexual prejudice, and held up even after controlling for population composition and pertinent country-level characteristics. Thus, present findings firmly suggest that the well-established association between egalitarian legal regulations and positive attitudes toward sexual minorities (e.g., Kuntz et al., 2015) can be explained by the prevalence of intergroup contact in particular societies. Put differently, the current data provide important and new insights into why legislation affects the hearts and minds of people by making intergroup contact more commonplace.

Implications

The present results add to the knowledge in at least four ways. First, we extend the catalog of phenomena shaped by LGB-related legislation. In line with the sexual stigma framework (Herek, 2009), past research demonstrated that in addition to forming beliefs, behaviors, and health of sexual minorities' members (Hatzenbuehler, 2014) legal recognition of LGB individuals affects also the attitudes of whole (predominantly heterosexual) societies (e.g., Slenders et al., 2014). Our current findings show that heterosexism embedded in the state legislation translates also into prevalence of heterosexuals' intergroup contact with LGB individuals, the latter being more commonplace in less homophobic legal environments.

Second, our findings clarify why progressive legislation may diminish (or institutional stigma may promote) sexual

prejudice. Although past studies consistently showed the negative association between state-level LGB rights and hostility toward sexual minorities, none of them has provided evidence explaining this relationship. By showing that the negative effect of progressive legislation on sexual prejudice is mediated by the societal prevalence of intergroup contact, we fill this important gap.

Third, we add to the intergroup contact literature. As noted by Pettigrew and Tropp (2011), multilevel studies linking intergroup contact to a macro-level of analysis are rather scarce (for a notable exception, see Christ et al., 2014), which is a serious deficiency, given that, "multi-level perspectives are arguably closer to the real-life circumstances" (Pettigrew & Tropp, 2011, p. 212) than the more commonly taken micro-level approach to intergroup contact. In the present contribution we address this shortcoming by demonstrating legal arrangements as the macro-level source of intergroup contact with LGB individuals. In addition to past research (Wagner et al., 2003), proving that regional differences in prejudice could be explained with the variability in the quantity and quality of intergroup contact, we identify a variable that accounts for cross-country differences in intergroup contact. Besides, we replicate the contextual effect of intergroup contact (Christ et al., 2014) by showing that this is the societal-rather than individual-level amount of intergroup contact with LGB individuals that better predicts sexual prejudice. This is important because societal-level intergroup contact – the powerful predictor of individual attitudes – is associated with LGB-related legislation independently from other macro-level factors such as economic affluence or secularization. Thus, modifications in legal arrangements seem almost necessary to stimulate social change in the attitudes toward LGB individuals.

Fourth and finally, unlike previous studies that tended to focus on contemporary legal regulations (for the exception, see Slenders et al., 2014), we utilize a historical measure of LGB-related legislation. The use of the temporal indicator partially solves the problem of causality flow, which is a common issue in the LGB rights – sexual prejudice research. Early location of same-sex couples legal recognition in the temporal sequence enhances the top-down interpretation of the relationship between structural heterosexism and sexual prejudice.

Limitations and Directions for Future Research

As with any single study, the current one has its deficiencies. We discuss five limitations that are relevant to the interpretation of our findings. First, the cross-sectional character of the Eurobarometer data prevents us from

formulating firm causal conclusions. While significant effects for the temporal measure of legal regulations bolster the top-down account of how LGB rights affect sexual prejudice, longitudinal data would be needed to test this accounts vis-à-vis the alternative bottom-up causal sequence (i.e., from sexual prejudice to legal arrangements). In a similar vein, although our model places intergroup contact before sexual prejudice in the causal chain, the contact-prejudice relationship is likely to be bidirectional (e.g., Binder et al., 2009; Herek, & Capitanio, 1996; Levin, van Laar, & Sidanius, 2003). Thus, it seems possible that besides limiting prejudice by the enhancement of intergroup contact, progressive legal arrangements facilitate intergroup contact with LGB individuals by decreasing antigay attitudes. Future research can flesh out these two possibilities more systematically.

Second, we focused on intergroup contact and thus did not test other mechanisms that could potentially explain the relationship between LGB-related legislation and sexual prejudice. This was because of two reasons. The first is that this was not the aim of our study, whereas the second is that the Eurobarometer survey does not include relevant measures of, for example, the normative climate regarding sexual minorities. Future research may seek to identify additional mediating mechanisms of the relationship between LGB legislation and sexual prejudice. Besides heterosexuals' in-group norms, one of such mechanisms could be the presence and activity of the LGB movement. As shown recently (Górská et al., 2017), progressive legal arrangements facilitate collective action of LGB individuals, presumably because they mitigate internalized homophobia and promote the development of in-group identification. On the other hand, the campaigns run by LGB organizations may raise the awareness of discrimination among majority members and improve their attitudes toward sexual minorities. Thus, it seems reasonable to test the activity of LGB social movement as the explanation of the institutional stigma-sexual prejudice relationship.

Third, the contextual effect of intergroup contact merits closer attention. As demonstrated by the present results, even individuals with no direct relationships with LGB people display lower level of sexual prejudice if they live in countries where intergroup contact with sexual minorities is prevalent. What remains unclear, however, are the mechanisms through which societal-level intergroup contact improves attitudes toward sexual minorities. We find it plausible that the processes behind the contextual effect of intergroup contact at least partially overlap with those involved in extended and vicarious contact. A large body of evidence (e.g., Mazziotta, Mummendey, & Wright, 2011; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997) suggests that knowing that in-group members have out-group friends (extended contact) or observing positive cross-group

interactions (vicarious contact) reduces prejudice independently from direct intergroup contact. Importantly, out of the long list of mechanisms explaining these effects (see Vezzali, Hewstone, Capozza, Giovannini, & Wölfer, 2014) only in-group norms have been examined as the mediator of intergroup contact contextual effect. Future studies could consider other intervening mechanisms such as out-group knowledge or out-group trust.

Fourth, although unique in the cross-cultural surveys on sexual prejudice, the single-item measure of intergroup contact included in the Standard Eurobarometer questionnaire is rather crude. It assesses whether a respondent has an LGB friend or acquaintance, without gauging the number of known out-group members or differentiating between various types of cross-group relationships (acquaintance vs. cross-group friendship). This unrefined measurement of intergroup contact precludes answering a range of theoretical questions – for example, it is impossible to determine whether progressive legal regulations increase both quantity and quality (see Islam & Hewstone, 1993) of intergroup contact. Nevertheless, even this relatively crude measure taps into direct and positive contact and meets the inclusion criteria of Pettigrew and Tropp's (2006) meta-analysis. As such, the necessary use of this item provided us with a fairly conservative test of our hypotheses. In fact, we even think it is likely that with a better measure, the indirect effect of institutional stigma on prejudice via intergroup contact would have been stronger.

Finally, although we had access to a very large sample of participants from 28 countries, it should be noted that these countries were all European Union Members. As a whole, LGB-related policy of the EU Member States is considered to be the most progressive in the world (Kollman, 2013). As such, the present findings may not necessarily generalize to countries outside of the European Union where homosexuality is penalized and gay marriage is simply unthinkable (e.g., countries in Sub-Saharan Africa; see Carroll, 2016). To test the universality of LGB rights – intergroup contact – sexual prejudice sequence, one would need an even larger database that includes a more diversified sample of countries.

Nevertheless, we do not believe that these limitations invalidate the core of our findings – that intergroup contact explains, at least in part, why legislative changes in LGB rights are related to lower sexual prejudice. Indeed, we consider the current research an important first step to understanding *why* sexual prejudice – an individual, micro-level property – is shaped by LGB rights – a societal, macro-level phenomenon. Our findings suggest that institutional stigma may be interpreted not only as the violation of equality principle, but also as an obstacle to more friendly relationships between individuals. We believe that progressive legal arrangements effectively break the institutional stigma cycle

and thus open up opportunities for intergroup contact and thus prejudice reduction. Given these important psychological consequences of legislative regulations within a country, we hope that future research will further explore the interaction between the micro- and macro-level of analysis.

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