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Offline and online discrimination and mental distress among lesbian, gay, and bisexual individuals: the moderating effect of LGBTQ facebook use

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ABSTRACT

Lesbian, gay, and bisexual (LGB) individuals experience multiple forms of discrimination both offline and online. Most studies have thus far focused on the association between a few forms of offline discrimination and mental distress in this population. Using data collected from 1,735 Israeli LGB individuals, this study examined the associations between 18 forms of discrimination and mental distress across three distinct spaces – offline, on Facebook, and on dating platforms. Furthermore, LGBTQ Facebook use (defined as engagement with LGBTQ individuals, groups and content on Facebook) was examined as a moderator of the association between multiple forms of discrimination and mental distress. Hierarchical multiple regressions and slope analyses established positive associations between multiple forms of discrimination and mental distress in all three spaces. The moderating effect of LGBTQ Facebook use on this association was significant only for gay men. Results also indicated significant differences in number of forms of discrimination faced by LGB individuals from different demographic backgrounds. Additionally, the associations between each form of discrimination and mental distress were examined across the three spaces, with somewhat different results in each space. Overall, these findings emphasize social media's potential to buffer against the deleterious effect of discrimination on LGB people's mental health.

Introduction

This study addresses the interplay of social media use, discrimination, and mental health as it applies to lesbian, gay, and bisexual (LGB) individuals. Studies suggest that this population is more active on social media compared to heterosexual people (Escobar-Viera et al., 2018; Seidenberg et al., 2017) and that it uses social media, and Facebook in particular, as safe places for interacting and socializing with likeminded individuals (Lucero, 2017; Naslund, Aschbrenner, Marsch, & Bartels, 2016) as an empowering tool (Mehra, Merkel, & Bishop, 2004). This tendency should be understood in light of an

increasing number of studies that show that LGB individuals are more likely than heterosexual people to experience discrimination (Katz-Wise & Hyde, 2012; Lee & Ostergard, 2017) and mental health challenges (Bond, 2018; King et al., 2008; Shenkman & Shmotkin, 2011), and that the two are associated (Bostwick, Boyd, Hughes, West, & McCabe, 2014).

Previous studies that examined the association between discrimination and mental health focused on a few forms of discrimination experienced *either* offline (Bostwick et al., 2014; Burgess, Lee, Tran, & van Ryn, 2007) *or* online (Fox & Moreland, 2015; Kwan & Skoric, 2013). Moreover, the effect of Facebook use on users' mental health is still unclear, and the inconsistent results may derive, according to scholars, from an indiscriminate focus on general usage patterns such as number of social networking sites (SNS) used or time spent on Facebook (Coyne, Rogers, Zurcher, Stockdale, & Booth, 2020; Macrynikola & Miranda, 2019).

The present study provides a more nuanced examination of Facebook's potential contribution to users' mental health. Drawing on an intersectional approach, it begins by examining the prevalence of 18 forms of discrimination experienced by LGB individuals offline, on Facebook, and on dating platforms, and their associations with mental distress. Among these forms are sexual orientation, age, weight, race or ethnicity, mental or physical disability, HIV status, and more (see the full list on p. 11). It then inquires whether LGBTQ Facebook use – whereby users surround themselves with likeminded peers and engage in LGBTQ-oriented topics – can moderate this association.

Offline and online discrimination and mental health among sexual minorities

Studies suggest that LGB individuals report higher rates of negative mental health outcomes than their heterosexual counterparts, such as mental distress, substance use, and even suicidality (Burgess et al., 2007; Cochran, Sullivan, & Mays, 2003; King et al., 2003). A meta-analysis revealed that the risk of suicide attempts was twice as high in LGB individuals as it was among their heterosexual counterparts, and that the risks of depression, anxiety disorders, and substance dependence were 1.5 times higher (King et al., 2008).

Meyer's (2003) minority stress model is a dominant framework used to explain mental health disparities between sexual minorities and heterosexual individuals, emphasizing the societal climate of marginalization and discrimination LGB people face because of their stigmatized sexual identity. Specifically, this model posits that compared to their heterosexual counterparts, LGB individuals face chronic stressors that lead to the development of deleterious mental health outcomes (Brooks, 1981; Meyer, 1995; Mirowsky & Ross, 1980).

Consistent with this model, numerous studies have shown that LGB people are more likely than heterosexual individuals to experience discrimination

(Katz-Wise & Hyde, 2012; Lee & Ostergard, 2017) and documented the association between discrimination and various negative mental health outcomes, such as anxiety and psychiatric morbidity, in this population (Antebi-Gruszka, Mor, & Shilo, 2019; Antebi-Gruszka & Schrimshaw, 2018; Atawneh, 2009; Lauster & Easterbrook, 2014; Mays & Cochran, 2001; Ragins & Cornwell, 2001; Swank, Fahs, & Frost, 2013). For example, a cross-sectional survey has found that perceived discrimination was associated with mental distress among LGB individuals (Burgess et al., 2007).

The potential effect of discrimination on LGB individuals can be better understood from an intersectional perspective, according to which one's interlocking identities and social positionings accumulate to create a unique experience related to power and privilege, or lack thereof (Parent, DeBlaere, & Moradi, 2013). Numerous studies examined discriminatory experiences stemming from the intersection of sexuality and other identities and positions including those related to religion (Rahman, 2010), race, and ethnicity (Balsam, Molina, Beadnell, Simoni, & Walters, 2011; Parent et al., 2013; Szymanski & Gupta, 2009), disability (Miller, 2018), age (Blando, 2001), among others. Studies applying intersectionality to the minority stress model show that individuals experiencing discrimination because of their intersectional locations are subject to multiple minority stress and therefore especially vulnerable to deleterious mental health outcomes (Balsam et al., 2011; McConnell, Janulis, Phillips Ii, Truong, & Birkett, 2018).

The cumulative disadvantage theory further emphasizes the adverse effect of additive experiences of discrimination, suggesting that inequalities originated in various sources accumulate and influence peoples' quality of life (see DiPrete & Eirich, 2006 for review). To examine multiple minority stress and provide a comprehensive look at the ways "disadvantages cumulate [. . .] across categories of experience" (Gandy, 2009, p. 12), we measured 18 forms of discrimination across three spaces (see the full list on p. 11).

With the growing use of new information and communication technologies (ICT), an increasing number of studies point to the prevalence and ramifications of online discrimination (Görzig, 2011; Kwan & Skoric, 2013). Scholars contend that social media, including SNS and dating platforms, have particular affordances that render them fertile ground for discrimination (Fox & Moreland, 2015; Kwan & Skoric, 2013; Runions & Bak, 2015; Runions, Shapka, Dooley, & Modecki, 2013). Specifically, studies show that relative to heterosexual users, sexual minorities face higher levels of discrimination on SNS such as Facebook (McConnell, Clifford, Korpak, Phillips, & Birkett, 2017).

Along with SNS, online dating platforms for LGB users have become spaces of bias and discrimination (Callander, Holt, & Newman, 2016; Conner, 2019; Hutson, Taft, Barocas, & Levy, 2018; Miller, 2015; Miller & Behm-Morawitz, 2016; Shield, 2018). It is argued that the dating application (apps) Grindr

reinforces body typing, ageism, racism, and HIV stigma (Conner, 2019) while embracing anti-effeminate language fueled by traditional masculinity that dominates the app (Miller & Behm-Morawitz, 2016). Acknowledging the magnitude of this relatively recent development, scholars have called on the social computing community "to engage more deeply with issues of bias, discrimination, and exclusion in the study and design of intimate platforms" (Hutson et al., 2018, p. 1). Like with offline interactions, discrimination on SNS and dating platforms has been associated with greater mental distress and lower psychological well-being (McConnell et al., 2017; Zervoulis, Smith, Reed, & Dinos, 2020).

The empowering potential of social media for sexual minorities

Studies examining the effect of social media use on users' mental health provide inconsistent results: Some point to negative outcomes (Chen & Lee, 2013; Fox & Moreland, 2015; Frison, Bastin, Bijttebier, & Eggermont, 2019; Kross et al., 2013; Shakya & Christakis, 2017) while others highlight benefits such as greater social capital – a term referring to the total resources available in one's social network (Burke, Kraut, & Marlow, 2011; Ellison, Steinfield, & Lampe, 2007; Vitak & Ellison, 2013). The latter group of studies suggests that the potential contribution of social media stems from the *sociability* enabled by the platform (Ku, Chu, & Tseng, 2013). Indeed, the most common motivation to use social media is to keep in touch with friends and maintain relationships (Wilson, Gosling, & Graham, 2012). For example, Davila et al. (2012) have shown that the nature of interactions on Facebook (i.e., positive or negative) predicted the number of depressive symptoms and Deters and Mehl (2013) have demonstrated that active participation increased participants' feeling of connection to their friends, and in turn, decreased their sense of loneliness. Similarly, Nabi, Prestin, and So (2013) have found that number of Facebook friends was associated with stronger perceptions of social support, and consequently, also with less stress, less physical illness and greater wellbeing. These studies and others suggest that social media might contribute to users' well-being when used to meet social goals as opposed to serving as a technical means of communication.

For marginalized and stigmatized groups who face discrimination, online environments are particularly appealing because they provide a mediated experience that is easier to control and maneuver (Marciano, 2014). Studies suggest that when online, sexual minority users find it safer and more convenient to negotiate and develop their identities (Ceglarek & Ward, 2016; Fox & Warber, 2014), come out to others (Duguay, 2016; Marciano, 2011), find romantic and sexual partners (Gudelunas, 2012; Miller, 2015; Rosenfeld & Thomas, 2012) and seek empathy (Green, Bobrowicz, & Ang, 2015). Facebook in particular is experienced by LGB users as an accessible and safe place to

participate, explore, connect, and communicate with other users (Lucero, 2017).

In the context of the present study, the potential contribution of social media is attributable to two distinct but interrelated factors. First, social media are group-oriented platforms. As Fox and Moreland (2015) explain, the social function of SNS derives from a specific set of affordances, primarily visibility, and connectivity, that stress group rather than personal identity, particularly for minority populations such as LGB users (see also Fox & Warber, 2014). Second, spontaneous interactions on social media between peers are an important means of support for those experiencing mental distress as they reduce isolation (Taylor, Hutson, & Alicea, 2017), offer strategies for coping, and ultimately facilitate greater well-being (Gibson & Trnka, 2020; Naslund et al., 2016).

Studies demonstrating the positive effect of social media use on sexual minorities' mental health commonly focus on online social support (Ceglarek & Ward, 2016; McConnell et al., 2017), a construct consisting of offering and seeking support, with particular attention to users' active efforts (Carpenter, 2012). Online social support differs from LGBTQ Facebook use, which aims to evaluate the contribution of merely surrounding oneself with LGBTQ peers and engaging with LGBTQ content. In other words, social media use may contribute to LGB users' mental health even if they do not actively seek for support online.

The Israeli context

Legislation and social norms are associated with sexual minorities' mental health. Studies suggest that living in states with homophobic social climate and discriminatory policies such as bans on same-sex marriage is related to more psychiatric morbidity (Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010), stress (Woodford, Paceley, Kulick, & Hong, 2015), and suicide attempts (Raifman, Moscoe, Austin, & McConnell, 2017).

Despite significant progress in LGBTQ rights in Israel (Kama, 2011), the continuous militarization and masculinization of Israeli society entails a patriarchal culture (Granek & Nakash, 2017) that leads to heterosexism and homophobia (Antebi-Gruszka et al., 2019; Good, Borst, & Wallace, 1994). A recent report measuring social acceptance of LGBT people and issues in 174 countries between 2000 and 2017 has shown that Israel was among the 16 countries that experienced a steady decline, from the 8th place between 2000 and 2003 to the 45th place between 2014 and 2017 (Flores, 2019). Recently, discriminatory legislation in Israel against the LGBTQ community, such as bans on surrogacy and same-sex marriage, sparked nationwide protests in which LGBTQ people went on strike for the day and rallied against these discriminatory laws (Amichai, 2018; Holmes, 2019). Discriminatory

legislation and possible internalization of the homophobic social climate in Israel are part of the context that may impact LGB people's experiences and well-being (see Shenkman, Ifrah, & Shmotkin, 2019).

The focus on Facebook in this study is motivated by its predominance in Israel, relative to other social media, and by the fact that the network is oriented toward groups and communities. A recent survey examining online usage patterns among a nationally representative sample in Israel has shown that Facebook is the most popular SNS (85%), followed by Instagram (52%), Telegram (23%), LinkedIn (17%), Twitter (15%), Snapchat (12%), and TikTok (6%). The authors of the report note that Israeli Facebook users are now members in more groups than ever before, and that 70% of participants "feel part of a community," concluding that Facebook usage by Israeli people is becoming less personal and more community-oriented (Bezeq, 2020). These results coincide with previous studies showing that Facebook is a valuable source of social capital (Ellison et al., 2007; Kahai & Lei, 2019) and social support (McConnell et al., 2017), mainly because the network promotes relationships (Nabi et al., 2013) while stressing the benefits of groups and communities (Fox & Warber, 2014).

The present study

The present study had two principal objectives. The first was to examine the potential association between multiple forms of discrimination experienced by LGB individuals offline and online, and mental distress. Previous studies that examined similar associations between discrimination and mental health among LGB people were limited in two distinct ways. First, they commonly focused on discrimination experienced *either* offline (Bostwick et al., 2014; Burgess et al., 2007) *or* online (Fox & Moreland, 2015; Kwan & Skoric, 2013), and second, each study addressed a few forms of discrimination, including those related to one's sexual orientation (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009), gender, and race/ethnicity (Chae et al., 2010), and weight and physical appearance (Wrench & Knapp, 2008). The present study examined 18 forms of discrimination experienced offline, on Facebook, and on dating platforms to address the cumulative effect of multiple discriminatory experiences on mental distress in LGB individuals. The second objective was to explore the moderating role of LGBTQ Facebook use in the association between multiple forms of discrimination and mental distress. Therefore, we pose two hypotheses and three research questions:

(H1) Multiple forms of offline and online discrimination will be associated with increased mental distress.

(H2) LGBTQ Facebook use – whereby users surround themselves with like-minded people and engage in LGBTQ-related topics – will moderate the above association between discrimination and mental distress, such that this

association will be weaker among LGB individuals reporting higher LGTBQ Facebook use compared to those with lower LGTBQ Facebook use.

(RQ1) Do LGB individuals of different demographic backgrounds (e.g., gender identity, income, religion) differ in the number of forms of offline and online discrimination they face?

(RQ2) What forms of discrimination are most commonly reported across the three spaces (offline, on Facebook, and on dating platforms), jointly and separately, in this population?

(RQ3) What forms of discrimination are most strongly associated with mental distress across the three spaces among LGB individuals?

Method

Participants and procedure

Data were collected from a total of 2,318 participants using an anonymous online survey. Eligible participants had to: (1) Self-identify as either a sexual minority (i.e., gay, lesbian, pansexual) and/or a gender minority (transgender, non-binary); (2) be fluent in Hebrew; (3) have access to the internet and (4) have lived in Israel over the past year. For purposes of the present study, only participants who identified as lesbian, gay, or bisexual and completed all the measures relevant to this study were included in the analyses, resulting in a total of 1,735 (74.8%) participants who met these inclusion criteria. In an effort to develop an inclusive and culturally-competent survey that accurately represents the unique needs and experiences of sexual and gender minority individuals in Israel, a draft of the questionnaire was shared with leaders of 14 local community-based organizations that cater to the broader Israeli LGBTQ community, such as the Association for LGBTQ Equality in Israel, Students' Gay Association, Ma'avarim – Israeli Trans Community, etc. Based on their feedback, revisions were introduced before survey circulation.

Given the challenges of sampling a diverse group of sexual and gender minority individuals, three complementary recruitment methods were employed. First, each of the 14 local LGBTQ organizations distributed the survey through its electronic mailing list, Facebook page, and other channels. Second, the study was promoted by WDG, Israel's online LGBTQ news site, with an article highlighting the significance of the current study and a link to the online survey. Last, we asked several key figures in the local community, such as well-known drag queens and activists, to promote the study through their social media profiles.

Participants who clicked on the link to the online survey were first pre-sented with an informed consent form, emphasizing that participation in the study is anonymous and voluntary. All participants provided consent to participate in the study, and those who completed the survey (duration:

15–25 minutes) were invited to participate in a raffle of twenty NIS100 (equivalent to approximately 25 US Dollars) electronic gift cards. Because of the survey's sensitive nature, a list of relevant resources (e.g., LGBTQ counseling centers and other community organizations) was provided to ensure participants' access to support if needed. Data were collected from March 2018 and until the end of June 2018 (Pride Month in Israel) to allow for optimal survey advertising, distribution, and participation. Prior to data collection, the study was reviewed and approved by the institutional review board at Ben-Gurion University for compliance with standards for the ethical treatment of human participants.

Measures

Sociodemographic questionnaire. Participants were asked to indicate their sexual orientation identity, gender identity, age, level of education, monthly income, relationship status, and religion.

Multiple forms of offline and online discrimination. Experiences of discrimination across three different spaces – offline, on Facebook, and on dating websites and applications (apps) – were assessed using three separate questions. For each question about a specific space, participants were asked to select all forms of discrimination they experienced in the past year from an 18-item list. Each form of discrimination was calculated as the sum of reported discrimination in each of the three spaces, resulting in a score ranging between 0 (no discrimination) to 3 (discrimination across all three spaces). The 18 forms of discrimination were: sexual orientation, gender expression (including gender nonconformity), sex/gender, age, height, weight or body shape, skin tone, race or ethnicity, first or last name, mental or physical disability, socio-economic status (education and/or income), religion or religiosity, general appearance, marital status, sexual preferences (sexual practices, sexual position, "slut shaming," etc.), HIV status, and political ideology, along with "other," where respondents were asked to further specify.

An exploratory factor analysis for the 54 items (principal components extraction with Varimax rotation) indicated 18 factors of eigenvalue higher than one. By checking the Scree Test, as well as by examining compositions of items of which highest factor loadings exceeded 0.50 and having a difference of at least 0.15 from the lower loadings on competing factors, the number of factors was restricted to one. This solution provided the most general and coherent thematic structure of the items indicating a single inclusive measure of multiple forms of offline and online discrimination. This scale demonstrated good internal consistency reliability using the Kuder-Richardson Formula 20 (K-R 20 =.88). Final scores ranged between 0 and 54, such that higher scores indicate a greater number of forms of discrimination experienced offline and online.

Mental distress. Mental distress was assessed using the Mental Health Inventory (MHI; Veit & Ware, 1983), that consists of two subscales: Mental distress and psychological wellbeing. The Hebrew version of the MHI, translated by Florian and Drori (1990), was validated using data from a representative sample of the Israeli population, with α = 0.95 and 0.93 for the mental distress and wellbeing scales, respectively. The Hebrew version of the mental distress subscale was employed previously in LGBTQ samples in Israel (Shilo, Antebi, & Mor, 2015). For this study, we used the brief 15-item version of the MHI adapted by Izack (2002), with a total of eight items in the mental distress subscale. Items were rated on a six-point scale ranging from 1 (*never*) to 6 (*always*). Mental distress scores were calculated as the sum of the items, wherein higher scores represent greater distress (α = .91).

LGBTQ Facebook use. Four items were developed to reflect the extent to which participants' Facebook use is oriented toward LGBTQ people and contents. Participants were asked to evaluate the following proportions to the best of their ability: (1) Facebook friends consisting of LGBTQ individuals; (2) Facebook groups dedicated primarily to LGBTQ issues; (3) Facebook content viewed (e.g., posts) concerning LGBTQ issues and (4) active Facebook participation (e.g., posting or liking) concerning LGBTQ issues. Participants were provided with an 11-point scale ranging from 0% to 100% in increments of 10. Scores were calculated as the mean of the items: The higher the score, the more LGBTQ-oriented the participant's Facebook use. An exploratory factor analysis of the four items (principal components extraction with Varimax rotation) was conducted, demonstrating that the items represented a unidimensional factor (eigenvalue = 2.81, 70.24% of the variance accounted for; factor loadings = .89, .87, .82, and .77). An internal consistency reliability of α = .86 was found in the present study for this scale.

Data analysis

The analytic plan for this study included six steps and analyses were conducted using SPSS 25 (IBM) software. First, an exploratory factor analysis for the multiple forms of offline and online discrimination measure was conducted using principal components extraction with Varimax rotation. Second, the median number of forms of discrimination experienced by LGB participants was compared across demographic characteristics (sexual orientation identity, gender identity, education, monthly income, relationship status, and religion) using a median test. The correlation between age and number of forms of discrimination utilized a Kendall's tau. Third, the prevalence of each of the 18 forms of discrimination experienced on all three spaces and on each of the spaces separately was reported. The association of each form of discrimination with mental distress was found using hierarchical regression after controlling for sexual orientation, gender identity, age, monthly income, and relationship

status. Fourth, Pearson and point bi-serial correlations were calculated for the study variables. Fifth, a three-step hierarchical multiple regression was conducted to examine our hypotheses regarding an association between multiple forms of discrimination and mental distress, and the moderating effect of LGBTQ Facebook use on this association. Five covariates (sexual orientation, gender identity, age, monthly income, and relationship status) were entered in the first step, as they were significantly associated with mental distress in the current study and in previous studies (Shenkman et al., 2019). Multiple forms of discrimination and LGBTQ Facebook use were entered in the second step, and the interaction between them in the third step. All continuous variables were standardized before the analysis. Simple slope analysis (Aiken & West, 1991) was performed using the PROCESS macro for SPSS (Hayes, 2013) to examine the interaction more closely. Lastly, in order to examine whether the main effect of discrimination and its interaction with LGBTQ Facebook use on mental distress remain significant across the lesbian, gay, and bisexual subsamples, three separate hierarchical regression models were run for each subsample. Each model adjusted for four covariates (gender identity, age, monthly income, and relationship status). A power analysis was conducted using G*power 3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009) for multiple regressions with 8 predictors, a medium-strong effect size of 0.20, and alpha probability error of 0.001. The analysis yielded a required sample size of 118. Accordingly, the current sample size was sufficient for the study model.

Results

As presented in Table 1, participants' age ranged from 13 to 80, with a mean of 31.2 (SD = 10.4). More than half of the sample identified as gay (57.7%), 24.9% as lesbian, and 17.4% as bisexual. The vast majority of the participants (87.8%) were cisgender. Most participants had at least some college education (60.5%) and 70.2% reported a monthly income of NIS10,000 or less. Furthermore, 48.7% reported being single and 90.2% identified as Jewish.

Addressing our first research question, several significant differences were found between LGB individuals from different demographic backgrounds in the number of forms of discrimination they faced (see Table 1). Specifically, bisexual-identified and transgender/gender-diverse individuals experienced more forms of discrimination compared to their lesbian/gay and cisgender counterparts, respectively. Furthermore, LGB who reported earning NIS10,000 or less faced more forms of discrimination compared to those earning NIS10,001 or more. Moreover, LGB individuals in a monogamous (closed) relationship faced a lower number of forms of discrimination than LGB individuals who are single or in an open/polyamorous relationship. Also, Jewish and Atheist LGB individuals reported less forms of discrimination than those with another (e.g., Muslim, Christian) religion identity. Lastly, age was

Table 1. Sample characteristics and percentage of lesbian, gay, and bisexual individuals above the grand median of the number of forms of discrimination (N = 1,735).

Variable	n (%)	Above the median	Interquartile range	Median test χ^2
		Comparison of Number of Forms of Discrimination		
Sexual orientation identity				
Gay	1,001 (57.7)	48.6[a]	0–5	23.24***
Lesbian	432 (24.9)	41.9[a]	0–5	
Bisexual	302 (17.4)	59.9[b]	1–7	
Gender identity				
Cisgender	1,523 (87.8)	40.0[a]	0–5	16.72***
Transgender and gender diverse	212 (12.2)	62.3[b]	1–8	
Education				
High school or less	432 (24.9)	50.7	1–6	5.42
Technical school/certificate	254 (14.6)	51.2	0–6	
Undergraduate student	236 (13.6)	53.0	0–6	
Bachelor's degree	412 (23.8)	45.4	0–5	
Master's degree/doctorate	400 (23.1)	46.8	0–5	
Monthly income (in NIS)				
5,000 or less	623 (35.9)	55.2[a]	1–6	22.22***
5,001–10,000	595 (34.3)	48.9[a]	0–5.5	
10,001 or more	517 (29.8)	41.2[b]	0–4	
Relationship status				
Single	845 (48.7)	54.7[a]	1–6	32.33***
Open/polyamorous	186 (10.7)	53.8[a]	1–6	
Closed/monogamous	704 (40.6)	40.6[b]	0–4	
Religion (n = 4 missing)				
Jewish	1,561 (90.2)	48.3[a]	0–5	6.20*
Atheist	132 (7.6)	50.7[a]	0–5	
Other	38 (2.2)	68.4[b]	2–7	
	M (SD)			
Age (range 13–80)	31.2 (10.4)			

Note. NIS = New Israeli Shekels; Grand median = 2. Groups with different superscripts differ at *p*<.05.
* *p* <.05, ** *p* <.01, *** *p* <.001.

significantly correlated with the number of forms of discrimination ($r= -.09$, $p < .001$), such that younger LGB participants reported facing a greater number of forms of discrimination than their older counterparts.

Table 2 presents the prevalence of each of the 18 forms of discrimination examined across all three spaces (jointly and separately). Top three forms of discrimination experienced in each space are marked by a, b, and c, in a descending order. On Facebook, discrimination based on political ideology (29.0%), sexual orientation (25.0%), and sex/gender (13.1%) were most commonly reported. On dating websites/apps, discrimination based on one's weight/body shape (36.5%) was most prevalent, followed by general appearance (28.0%) and age (26.7%). Furthermore, the top three forms of offline discrimination reported were sexual orientation (27.4%), political ideology (24.2%), and weight/body shape (19.5%). When all three spaces were examined together, discrimination based on one's weight/body shape (3.3%), political ideology (1.9%), and general appearance (1.6%) were most commonly reported. These analyses address our second research question.

Table 2 also presents the associations between each form of discrimination and mental distress across all three spaces. On Facebook, offline, and across the three spaces together, discrimination based on one's mental/physical

Table 2. Prevalence of multiple forms of discrimination experienced on facebook, dating apps/websites, and offline, and their association with mental distress among Lesbian, Gay, and bisexual individuals.

Form of Discrimination/ Space	All 3 Spaces		Facebook (n = 1727)		Dating Apps/ Websites (n = 846)		Offline (n = 1489)	
	n (%)	β	n (%)	β	n (%)	β	n (%)	β
Sexual orientation	23 (1.3)	−.01	432 (25.0)[b]	−.02	51 (6.0)	.02	408 (27.4)[a]	.00
Gender expression (including gender nonconformity)	15 (0.9)	−.01	126 (7.3)	−.05	68 (8.0)	.09*	148 (9.9)	.01
Sex/gender	8 (0.5)	.11***	226 (13.1)[c]	.09***	27 (3.2)	.04	247 (16.6)	.08**
Age	20 (1.2)	.01	123 (7.1)	.06*	226 (26.7)[c]	−.03	191 (12.8)	.02
Height	3 (0.2)	−.00	21 (1.2)	.03	59 (7.0)	−.04	62 (4.2)	.00
Weight/body shape	57 (3.3)[a]	.06*	206 (11.9)	.04	309 (36.5)[a]	.10**	290 (19.5)[c]	.06*
Skin tone	9 (0.5)	.02	44 (2.5)	.03	73 (8.6)	.03	62 (4.2)	.02
Race or ethnicity	21 (1.2)	.05	163 (9.4)	.04	65 (7.7)	.13***	153 (10.3)	−.01
First or last name	18 (1.0)	.06**	51 (3.0)	.02	12 (1.4)	.10**	50 (3.4)	.02
Mental/physical disability	3 (0.2)	.12***	44 (2.5)	.10***	10 (1.2)	.01	59 (4.0)	.12***
Socioeconomic status (education/income)	1 (0.1)	.02	41 (2.4)	.01	12 (1.4)	−.02	63 (4.2)	.04
Religion/religiosity	11 (0.6)	−.03	180 (10.4)	−.03	31 (3.7)	−.06	129 (8.7)	.02
General appearance	28 (1.6)[c]	.06*	134 (7.8)	.03	237 (28.0)[b]	.06	200 (13.4)	.07*
Marital status	4 (0.2)	−.01	43 (2.5)	−.03	31 (3.7)	−.01	77 (5.2)	.02
Sexual preferences (e.g., practice, position)	21 (1.2)	−.02	153 (8.9)	.00	138 (16.3)	−.01	80 (5.4)	.02
HIV status	3 (0.2)	.01	12 (0.7)	−.02	14 (1.7)	.06	11 (0.7)	.00
Political ideology	33 (1.9)[b]	.02	501 (29.0)[a]	.04	61 (7.2)	.01	360 (24.2)[b]	.01
Other (e.g., veganism, feminist ideology)	1 (0.1)	.03	25 (1.4)	.03	15 (1.8)	.03	21 (1.4)	.02
R^2	.15***		.13***		.18***		.14***	

Note. The presented betas represent the association between each form of discrimination and mental distress after controlling for sexual orientation, gender identity, age, monthly income, and relationship status.

a-c^Top three forms of discrimination experienced in each space in a descending order.

*p<.05. **p<.01. ***p<.001.

disability (β = .10; .12; .12, p < .001, respectively) and sex/gender (β = .09; .08; .11, p < .01, respectively) were most strongly associated with mental distress. On dating websites/apps, discrimination based on race/ethnicity (β = .13, p < .001) and both weight/body shape and first/last name (β = .10, p < .01) were most strongly associated with mental distress. These analyses address our third research question.

As shown in Table 3, correlations between the study variables revealed that mental distress correlated with being single, being transgender/gender diverse, and identifying as bisexual. Mental distress was also positively associated with multiple forms of discrimination and younger age, but negatively with income. Discrimination was correlated with being transgender, being bisexual, and being single. It was also correlated with younger age, lower-income, and with LGBTQ Facebook use. Greater LGBTQ Facebook use correlated with older age. Older age correlated with higher income and being in a relationship, while higher-income correlated with a greater likelihood of being in a relationship.

Table 3. Correlations between Study Variables (N = 1,735).

No.	Variable	M	SD	1	2	3	4	5	6	7	8
1	Mental distress	23.5	6.5	__	.26***	−.11***	.10***	.07**	−.22***	−.24***	−.17***
2	Discrimination	3.8	4.5		__	−.11***	.09***	.17***	−.14***	−.15***	−.14***
3	Gender identity[a]	0.9	0.3			__	25.19***	−.13***	.13***	.16***	7.60**
4	Sexual orientation[b]	0.2	0.4				__	−.05*	−.19***	−.19***	.18
5	LGBTQ Facebook use	4.5	2.1					__	.09***	−.02	−.02
6	Age	31.2	10.6						__	.59***	.19***
7	Monthly income	2.0	0.9							__	.26***
8	Relationship status[c]	1.5	0.5								__

Note. Pearson correlations are presented between continuous variables, and point bi-serial correlation coefficients are reported between dichotomous and continuous variables. Pearson Chi-square is reported between two dichotomous variables.
[a]Transgender and gender diverse = 1 and cisgender = 2
[b]Lesbian and gay = 1 and bisexual = 2
[c]Single = 1 and partnered = 2
*$p<.05$. **$p<.01$. ***$p<.001$.

Hierarchical regression model tested our hypotheses regarding the association between multiple forms of offline and online discrimination and mental distress, and the moderating role of LGBTQ Facebook use in this association. Five covariates (sexual orientation, gender identity, age, monthly income, and relationship status) were entered into the first step of the regression model. Multiple forms of discrimination and LGBTQ Facebook use were added in the second step, and the interaction term in the third step. As shown in Table 4 and in line with our first hypothesis, discrimination was moderately and significantly associated with greater mental distress after adjusting for the five covariates.

Furthermore, the interaction between multiple forms of discrimination and LGBTQ Facebook use was significant. As shown in Figure 1, the simple slope analyses indicated that LGB individuals reporting high LGBTQ Facebook use (+1SD) had lower mental distress scores ($b = 0.15$, $p < .001$) than those with average or low (−1SD) levels of LGBTQ Facebook use ($b = 0.22$, $p < .001$ and $b = 0.29$, $p < .001$, respectively). This finding supports our second hypothesis, demonstrating the moderating role of LGBTQ Facebook use in the association between multiple forms of discrimination and mental distress among LGB people.

In order to examine potential differences between the lesbian, gay, and bisexual subsamples in multiple forms of discrimination, mental distress, and LGBTQ Facebook use, we additionally examined the hierarchical regression model presented above in each of the three subsamples. Results revealed that the main effect of multiple forms of discrimination on mental distress remained similarly moderate and significant in all subsamples; lesbian ($\beta = 0.21$, $p < .001$), gay ($\beta = 0.21$, $p < .001$), and bisexual ($\beta = 0.22$, $p < .001$). The interaction between multiple forms of discrimination and LGBTQ Facebook use when predicting mental distress remained significant for the gay sample

Table 4. Hierarchal regression analysis summary predicting mental distress by multiple forms of discrimination, LGBTQ facebook use and their interaction among Lesbian, Gay, and bisexual individuals (N = 1,735).

	Mental distress	
Predictors	ΔR²	β
Step 1	.08***	
Age		−.12***
Monthly income		−.11***
Relationship status		−.12***
Sexual orientation		.04
Gender identity		−.07**
Step 2	.05***	
Multiple forms of discrimination		.21***
LGBTQ Facebook use		.03
Step 3	.01*	
Multiple forms of discrimination x LGBTQ Facebook use		−.07**
Total *R*²	**.13***	
F* (8, 1734) = 33.16		

Note. All continuous variables are standardized. Entries for the predictor variables are standardized regression (β) coefficients. Entry for the interaction term is unstandardized regression (*B*) coefficient. Only additional variables are presented in Steps 2 and 3. Relationship status was coded as 1 = single, 2 = partnered. Sexual orientation was coded as 1 = gay/lesbian, 2 = bisexual. Gender identity was coded as 1 = transgender and gender diverse, 2 = cisgender.
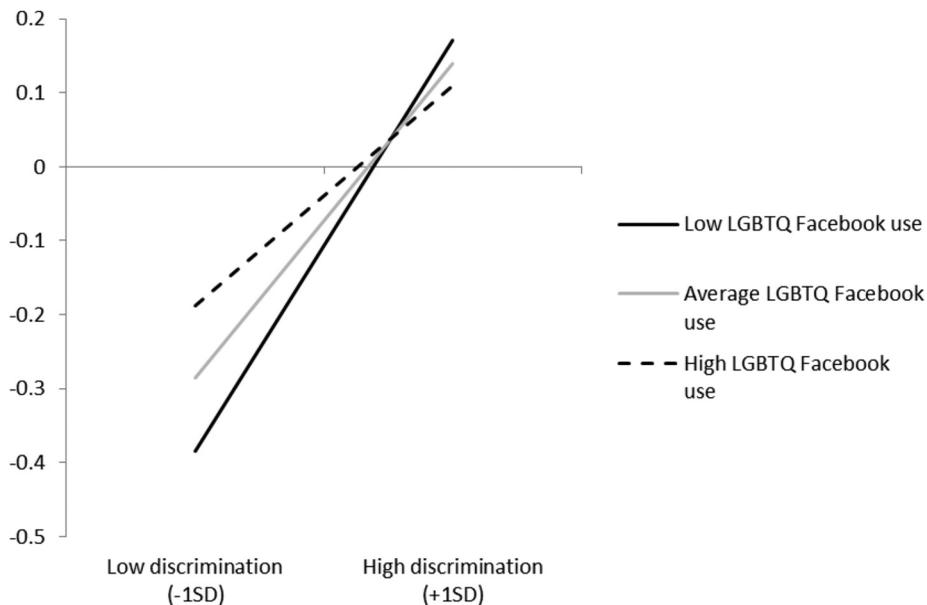*p<.05. **p<.01. ***p<.001.

Figure 1. Interaction effects of discrimination and LGBTQ facebook use (low, average and high) on mental distress among Lesbian, Gay, and bisexual individuals (N = 1,735).

($\beta = -0.09$, $p = .003$), while in the lesbian and bisexual subsamples, the

interactions were not significant ($\beta = -0.02$, $p = .752$; $\beta = -0.08$ $p = .118$, respectively).

Discussion

Our first hypothesis was supported as we found that multiple forms of discrimination (across all three spaces) was associated with greater mental distress. Our second hypothesis was partially supported as LGBTQ Facebook use was found to moderate the association between multiple forms of discrimination and mental distress among gay men only. Moreover, we found that LGB individuals of different demographic backgrounds (e.g., bisexual-identified, transgender/gender diverse, and those of a lower income bracket) faced more forms of discrimination compared to their counterparts. We also found that sexual orientation-based discrimination was not significantly associated with mental distress across all three tested spaces, whereas other forms of discrimination were indeed related to greater mental distress among LGB individuals (e.g., discrimination based on one's weight/body shape, race/ethnicity). Overall, these findings advance our current knowledge about the association between discrimination and mental health in LGB individuals, along with the potential effect of LGBTQ-specific Facebook use in mitigating the negative impact of discrimination on mental health in this population.

Our examination of 18 forms of discrimination and their additive impact on mental distress sheds light on multiple minority stress experienced by LGB people. The findings suggest that to better understand discriminatory experiences among LGB people, a nuanced examination is warranted, as various forms and spaces of discrimination create multiple intersections whose impact varies across different contexts. For example, our result expectedly show that weight/body shape, general appearance, and age were the most prevalent forms of discrimination on dating websites and apps. However, of these forms, only weight/body shape correlated with mental distress (along with race, name, and gender expression).

Our findings about the prevalence of the different forms of discrimination are partly supported by previous studies that examined the prevalence of offline discrimination among LGB people. Similar to our findings, these studies have found that between one to two thirds of their participants reported experiencing at least one type of offline discrimination during the past year (Burgess et al., 2007; Katz-Wise & Hyde, 2012; McCabe, Bostwick, Hughes, West, & Boyd, 2010). These studies also identified sexual orientation as the most prevalent source of offline discrimination (Burgess et al., 2007; Mays & Cochran, 2001; McCabe et al., 2010), along with other sources such as gender, race, age, religion, and disability (Burgess et al., 2007). Prevalence of different forms of online discrimination among LGB people has not been examined thus far.

The moderating effect of LGBTQ Facebook use on the association between multiple forms of discrimination and mental distress found in this study suggests that social media use can mitigate multiple minority stress. This effect is particularly important given that this construct reflects a cumulative disadvantage arising from one's interlocking identities, and related to double (Marciano & Nimrod, 2020; Meyer, 2010) and even triple jeopardy (Bowleg, Huang, Brooks, Black, & Burkholder, 2003).

As mentioned above, while the main effect of multiple forms of discrimination on mental distress was significant in all subsamples, the moderating effect of LGBTQ Facebook use on the association between them remained significant only for gay men. We suggest that this might be due to gay men's social media usage patterns. Studies show that gay men are more socially engaged with and emotionally attached to social media compared to lesbian and bisexual users. Gay men were more likely to report on regularly discussing LGBT issues, meeting new LGBT friends, and revealing their sexual identity on SNS relative to lesbian and bisexual individuals (Pew Research Center, 2013). To further explicate this finding, we suggest that Israeli gay men's Facebook feeds are relatively richer and more diverse compared to other sexual minority groups, and thereby, allow for more opportunities for meaningful LGBTQ Facebook use. An inquiry into number and types of Israeli LGB-tailored Facebook groups reveals that multiple niche groups are available to gay men while fewer general groups are dedicated to lesbian and bisexual people. Gay-oriented groups are scattered across various categories, such as hobbies (e.g., "gay men cooking"), politics (e.g., "proud conservative gays"), age (e.g., "older gay relationships"), ideologies (e.g., "Gays against commercial surrogacy"), dating (e.g., "gay dating"), along with more functional groups (e.g., "renting apartments between gays") and others. In other words, Israeli gay men enjoy a rich online environment on Facebook that provides them with diverse people and topics to communicate with and about.

Such richness might also stem from Israeli media's tendency to focus on social justice issues related to gay men (e.g., surrogacy rights) when covering discrimination against the LGBTQ community at the expense of issues related to more marginalized subgroups (e.g., violence against transgender people and underrepresentation of bisexual people) (Amichai, 2018; Holmes, 2019). This relative salience given to gay men's issues in Israeli public sphere may encourage increased engagement with LGBTQ people and topics on Facebook, which was shown to be a platform of online civic engagement on social issues (Warren, Sulaiman, & Jaafar, 2014, 2015). We assume that richer online environment and increased engagement with LGBTQ people and content provide users with more online support, a greater sense of belonging, and reduced isolation. thereby functioning as a potential buffer against mental distress.

Our findings bear practical implications for mental health providers working with LGB individuals and for community-based organizations catering to this population. Evidence suggests that LGB individuals facing discrimination are more likely to seek help from friends and family than from mental health professionals (Burgess et al., 2007; Carter & Forsyth, 2010), rendering online platforms an important support and empowerment resource. Healthcare providers would benefit from identifying the specific ways in which online social environments are beneficial to their LGB clients' mental health, and strategically incorporate social media use as a tool to allow for greater social connection and potential support from fellow LGB individuals. More specifically, healthcare providers are encouraged to inform their LGB clients who report facing multiple forms of discrimination of the potential effect of LGBTQ Facebook use in buffering their mental distress. Similarly, LGBTQ community-based organizations might encourage more LGBTQ-specific Facebook use among their members to buffer the effects of discrimination they experience in different spaces, and thereby provide opportunities for greater connection and support, especially among LGB individuals living in remote and rural areas where outreach and access to LGBTQ resources are limited.

Limitations and recommendations for future studies

The study has several limitations. First, given the cross-sectional study design, causality cannot be inferred. Second, the multiple forms of discrimination questionnaire and LGBTQ Facebook use measures were developed for the purposes of this study. Hence, their construct validity cannot be determined. Future studies would benefit from a further examination of the validity and reliability of both measures across diverse samples and particularly among LGB individuals. Third, LGBTQ Facebook use is an inclusive construct that does not differentiate between subgroups based on sexual or gender identities. Moreover, when measuring LGBTQ Facebook use, we did not differentiate between exclusively online friends and offline connections or test different types of Facebook use separately. Future studies could differentiate between online and offline friends to better evaluate their differential contribution. Fourth, we did not ensure participants' ability to validly report the percentage of their LGBTQ friends, groups and content, and consequently, we recommend future studies to explicitly encourage participants to log in and check their Facebook profiles. Fifth, our (informed yet speculative) explanation for the moderating effect of LGBTQ Facebook use being significant only for gay men can be further probed through a qualitative study addressing the role of LGBTQ Facebook use in the lived experiences of LGB users and gay men in particular. Sixth, the correlation found between LGBTQ Facebook use and older age can be partly explained by the fact that Facebook's users are older compared to other social media users (Pew Research Center, 2019). Future

studies can benefit from studying newer social media (e.g., Instagram and TikTok) to better understand online experiences of younger LGBTQ people, who were found to be at higher risks of discrimination and mental distress. Seventh, future studies measuring LGBTQ Facebook use may benefit from including level of connection to LGBTQ community as a control variable to examine potential protective effects of LGBTQ Facebook use over and above other forms of community connection. Lastly, against recent expressions of racism in the US and beyond, we recommend to focus future studies on discrimination against LGBTQ people of color, who are at increased risk of discrimination and related negative health outcomes (Cyrus, 2017), and to test the potential benefit of social media use in that population.

Conclusions

This study's findings provide nuanced evidence about multiple forms of discrimination faced by LGB individuals across three different spaces – on Facebook, on dating apps/websites, and offline. We found that online engagement with LGBTQ people and content buffers against the negative effect of these discriminatory experiences on LGB people's mental health. Future studies further examining multiple minority stress and its deleterious impact on LGB people's mental health are warranted, in particular across both online and offline spaces. Similarly, healthcare providers would benefit from using social media as a potential resource of support and empowerment among LGB individuals, and by so doing, address mental health disparities faced by this population.

Disclosure statement

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