



Facebook use and body dissatisfaction moderate the association between discrimination and suicidality among LGBQ individuals

Avi Marciano^{a,*}, Yossi David^a, Nadav Antebi-Gruszka^b

^a Department of Communication Studies, Ben-Gurion University of the Negev, Israel

^b Department of Psychology, Columbia University, USA

ARTICLE INFO

Handling Editor: Catalina L Toma

Keywords:

LGBTQ
LGBQ
Facebook
Social media
Discrimination
Suicidality
Body dissatisfaction
Body image

ABSTRACT

Lesbian, gay, bisexual, and queer (LGBQ) individuals experience increased discrimination and suicidality compared to their heterosexual counterparts. Given this disparity, an increasing number of studies have been exploring the effect of social media use on LGBQ people's well-being and mental health, yet results are largely inconsistent, even contradictory. Using data collected from 1799 Israeli LGBQ individuals, this study examined the association between sexual orientation-based discrimination and suicidality, before testing the moderating effects of LGBTQ Facebook use (defined as engagement with LGBTQ people and content on Facebook) and body dissatisfaction on the discrimination-suicidality association. We established a positive association between discrimination and suicidality and showed that the effect of Facebook engagement with LGBTQ peers and content on this association depends on users' level of dissatisfaction with their bodies. These findings illuminate the role of social media in LGBQ people's well-being and reaffirm the importance of body image within the LGBQ community.

1. Introduction

Social networking sites (SNS), and Facebook in particular, are commonly used to share and exchange ideas with others, form new relationships, and maintain existing connections (Vitak & Ellison, 2013; Wilson et al., 2012). As Facebook use is steadily increasing and reaching a new peak among adults in the US and beyond (Bezeq, 2022; Pew Research Center, 2021), a growing body of knowledge addresses its association with and effect on users' mental health and well-being (Frost & Rickwood, 2017; Kalpidou et al., 2011; Satici & Uysal, 2015; Yoon et al., 2019). Many of these studies focus on sexual minority individuals (i.e., lesbian, gay, bisexual, queer, and other non-heterosexual people), who experience increased discrimination associated with negative mental health outcomes (Bostwick et al., 2014; Burgess et al., 2007) and suicidality (Irwin et al., 2014; Rimes et al., 2019; Sutter & Perrin, 2016).

2. Discrimination, mental health and suicidality among LGBQ individuals

Numerous studies have shown that LGBQ individuals are more likely than heterosexual people to experience discrimination (Katz-Wise &

Hyde, 2012; Lee & Ostergard, 2017). A meta-analysis aimed at determining the prevalence and types of victimization among this population, based on 386 studies with more than 500,000 participants, has shown that over 40% of the LGBQ participants had experienced discrimination, a much greater rate compared to their heterosexual counterparts (Katz-Wise & Hyde, 2012).

Discrimination based on sexual orientation was associated with a myriad of poor mental health outcomes, including mental distress, depression, increased anxiety and anger, posttraumatic stress, psychiatric morbidity, and substance use disorders (Antebi-Gruszka et al., 2019; Bostwick et al., 2014; Burgess et al., 2007; Marciano & Antebi-Gruszka, 2022; Mays & Cochran, 2001; McCabe et al., 2010; Swank et al., 2013). The association between discrimination and negative mental health outcomes – and more generally the well-documented mental health disparities between LGBQ people and heterosexual individuals (Burgess et al., 2007; Cochran et al., 2003; King et al., 2003, 2008) – are commonly explained by the minority stress model. This model posits that discrimination, among other chronic stressors faced by LGBQ people (e.g., internalized homophobia, concealment), lead to stressful and hostile social climate that negatively affects their mental health (Mays & Cochran, 2001; Meyer, 2003, 2007).

* Corresponding author

E-mail address: avimarci@bgu.ac.il (A. Marciano).

<https://doi.org/10.1016/j.chb.2023.107729>

Received 8 March 2022; Received in revised form 17 January 2023; Accepted 28 February 2023

Available online 1 March 2023

0747-5632/© 2023 Published by Elsevier Ltd.

Arguably, the most adverse effect of sexual orientation-based discrimination is on suicidality. Several systematic reviews and meta-analyses have shown that sexual minority individuals are significantly more likely than heterosexual people to report suicidal ideation and attempts (Haas et al., 2010; Hottes et al., 2016; King et al., 2008; Marshal et al., 2011; Plöderl & Tremblay, 2015; Salway et al., 2019). Importantly, research also show that suicide risks remain higher in LGBQ individuals even after controlling for mental disorders – the single strongest risk factor for suicidality in the general population (Haas et al., 2010; Irwin et al., 2014).

Research about the relationship between discrimination and suicidality among LGBQ individuals is limited in two different ways. First, studies addressing this relationship usually focus on specific LGBQ subgroups such as youth (Green et al., 2021; Hatchel et al., 2021; Rimes et al., 2019; Savin-Williams, 1994) and people of color (Sutter & Perrin, 2016). For example, Sutter and Perrin (2016) found that discrimination had a significant indirect effect on suicidal ideation through mental health in LGBQ people of color, and Rimes et al. (2019) established a significant relationship between discriminatory experiences and suicidal ideation and attempts among LGBQ youth. Second, the few studies that examined the discrimination-suicidality association among LGBQ people had focused on either ideation (Salentine et al., 2020) or attempt (Busby et al., 2020; House et al., 2011). Most importantly, Peterson et al. (2021) highlight that beyond simple correlations, the mechanisms by which discrimination and suicidality are related are understudied and therefore still unclear.

3. The contested role of social media in LGBQ users' mental health

The relationship between SNS use and users' mental health has long been contested. While several studies highlighted the potentially negative effect of SNS use on LGBQ users' mental health (Han et al., 2019; McConnell et al., 2017), many other studies demonstrated its contribution, identifying SNS and Facebook in particular as an empowering platform for LGBQ people (Ceglarek & Ward, 2016; Escobar-Viera et al., 2018; Marciano, 2014; Marciano & Antebi-Gruszka, 2022). For example, Lucero (2017) has shown that Facebook functions as an accessible mediated space where LGBQ users feel safe to participate, connect and communicate with like-minded people. Similarly, Ceglarek and Ward (2016) have found that although LGBQ and heterosexual people use Facebook and other SNS at equal rates, the former use them more for social communication and for sexual identity development, resulting in better mental health. More specifically, Facebook use was found to buffer against the deleterious effect of discrimination on LGBQ people's well-being (Marciano & Antebi-Gruszka, 2022).

These positive effects on LGBQ Facebook users' well-being are attributable to the network's affordances, which enable users to promote group identity and in-group ties particularly crucial for minority group members (Fox & Moreland, 2015) and receive online support from like-minded peers (Ceglarek & Ward, 2016; Ybarra et al., 2015). Furthermore, it was found that LGBQ people had benefited from Facebook use even by only surrounding themselves with LGBTQ-related peers and content, as opposed to actively seeking for support (Marciano & Antebi-Gruszka, 2022). However, community-centered Facebook use can also be detrimental under certain circumstances and therefore counteract the potential benefits of online engagement with other LGBTQ users. SNS encourage negative appearance-based comparisons (Frederick & Essayli, 2016) and have thus been identified by LGBQ individuals as a primary source of appearance ideals (Gordon et al., 2019). Importantly, negative appearance-based comparisons were found to mediate the relationship between SNS use and increased body dissatisfaction (de Vries et al., 2016; Fardouly et al., 2015; Fardouly & Vartanian, 2015; Jarman et al., 2021; Kim & Chock, 2015). It is particularly relevant to LGBQ people, who are more likely to experience body dissatisfaction compared to their heterosexual counterparts (He et al.,

2020; Parker & Harriger, 2020). Many studies emphasized the detrimental effects of body dissatisfaction, including eating pathology, unhealthy weight control behaviors, lower levels of physical activity, low self-esteem and depressive mood (Jones et al., 2019; Neumar-Sztainer et al., 2006; Paxton et al., 2006). In this sense, we assume that body dissatisfaction can counteract the potential benefits sexual minority users derive from social media.

Finally, the relationship between SNS use and suicidality has yet to be studied in relation to sexual minorities. Existing research on the topic commonly focus on heterosexual youth, demonstrating the negative effect of SNS use on suicidal ideation and attempt, mostly due to excessive use and cybervictimization (for literature reviews and meta-analyses, see Marchant et al., 2017; Memon et al., 2018; Nesi et al., 2021). However, research on SNS and suicidality usually focus on risk factors rather than protective aspects (Biernesser et al., 2020), which according to scholars deserve close attention and assessment (Escobar-Viera et al., 2018).

4. The Israeli context

LGBQ people in Israel generally enjoy equal rights as heterosexual people, with the notable exception of legal gay marriage (Snellings, 2019). Israel is also considered an LGBQ-friendly country, mostly due to considerable investments aimed at rebranding Tel Aviv as a "global gay destination" (Kama & Ram, 2020; Snellings, 2019). However, despite the progress in LGBQ rights in Israel and the relatively supportive stance toward LGBQ people, mostly by secular populations (Kama, 2011), the continuous militarization and masculinization of Israeli society (Granek & Nakash, 2017) legitimize heterosexism and homophobia (Antebi-Gruszka et al., 2019; Good et al., 1994). These are further perpetuated by the centrality of the orthodox Jewish religion in Israel.

Crucially, a recent report measuring social acceptance of LGBT people and issues in 174 countries has shown that Israel was among the few countries that experienced a decline from the 8th place between 2000 and 2003 to the 45th place between 2014 and 2017 (Flores, 2019). This context is particularly important for understanding the lived experiences of LGBQ individuals in Israel, as abundant evidence suggests that anti-LGBQ social climate and policies are related to poorer mental health (Hatzenbuehler et al., 2010; Woodford et al., 2015) and higher rates of suicidality (Raifman et al., 2017). While the well-being and mental health of LGBQ people in Israel are understudied, the few studies on this topic show that Israeli sexual minority people experience higher interpersonal vulnerability and more depressive symptoms compared to their heterosexual counterparts (Shenkman et al., 2019; Shenkman & Shmotkin, 2010). In this sense, Israel is similar to the US and other Western countries.

This study focuses on Facebook because it still dominates the social media landscape among Israeli adults and is particularly oriented toward groups and communities, compared to other social media. A recent survey among a nationally representative sample in Israel has shown that Facebook is the most popular social network site (81%) among adults, followed by Instagram (53%), Telegram (26%), LinkedIn (17%), TikTok (18%), Twitter (13%), and Snapchat (7%) (Bezeq, 2022). A previous survey has concluded that Facebook usage by Israeli people is becoming less personal and more community-oriented, as Israeli Facebook users are now members in more groups than ever before, and 70% of them "feel part of a community" (Bezeq, 2020). These findings support previous studies that concluded that Facebook remains an important source of social capital and social support (Kahai & Lei, 2019; McConnell et al., 2017), primarily because it promotes relationships (Nabi et al., 2013) while leveraging the benefits of groups and communities (Fox & Warber, 2014).

4.1. The present study

The literature reviewed so far suggests that (1) LGBQ people

experience increased levels of discrimination, mental health challenges, and suicidality; (2) the limited evidence regarding the relationship between discrimination and suicidality focuses on specific marginalized subgroups such as LGBTQ people of color or youth, and usually to *either* suicide ideation *or* attempt; (3) SNS use can have both negative and positive effects on LGBTQ people, which warrants nuanced examination in the context of suicidality; (4) body dissatisfaction, which is more prevalent among sexual minority individuals, can counteract the benefits derived from community-centered Facebook use. Accordingly, the present study has two principal objectives: first, to examine the association between sexual orientation-based discrimination and suicidality (ideation and attempts) among lesbian, gay, bisexual, queer, and other non-heterosexual individuals; and second, to test the moderating roles of LGBTQ Facebook use (defined as engagement with LGBTQ people and content on Facebook) and body dissatisfaction on the association between discrimination and suicidality.

We pose three hypotheses: (H1) discrimination will be positively associated with suicidality in LGBTQ people; (H2) LGBTQ Facebook use will moderate the above association between discrimination and suicidality, such that for participants reporting higher LGBTQ Facebook use, the discrimination-suicidality association will be weaker; (H3) Body dissatisfaction will moderate the moderation effect of LGBTQ Facebook use on the association between discrimination and suicidality (see Fig. 1). More specifically, LGBTQ Facebook use will have a stronger moderation effect on the association between discrimination and suicidality among participants with higher levels of body dissatisfaction compared to participants with lower levels of body dissatisfaction.

5. Method

5.1. Survey design and participants

Using an anonymous online survey, data were collected from a total of 2318 participants who met the following criteria (1) Self-identify as either a sexual minority (e.g., gay, lesbian, bisexual) and/or a gender minority (e.g., transgender, non-binary); (2) be fluent in Hebrew; (3) have access to the internet; and (4) have lived in Israel over the past year. The analyses in the present study included cisgender participants who identified as a sexual minority (i.e., lesbian, gay, bisexual, and other non-heterosexual individuals) and completed the measures relevant to this study, resulting in a total of 1799 (77.6%) participants who met these inclusion criteria. Transgender individuals were not included in this study because our independent variable (sexual orientation-based discrimination) does not necessarily apply to transgender people, some of whom are heterosexual. Studies commonly differentiate between sexual orientation-based discrimination and gender identity-based discrimination (Badgett et al., 2009; Baumle et al., 2020; Sugarman

et al., 2018). The latter applies to transgender people specifically (Ruggs et al., 2015).

To develop an inclusive and culturally-sensitive survey representing the unique needs and experiences of the broader Israeli LGBTQ community, a draft of the questionnaire was shared with leaders of 14 Israeli LGBTQ organizations, whose feedback and comments were assimilated in the questionnaire before distribution. Participants were recruited through three complementary methods. First, each of the 14 local organizations distributed the survey through its mailing list and social media pages. Second, a link to the survey was advertised and promoted by Israel’s leading LGBTQ news site (wdg.co.il), with an article emphasizing the significance of the study. Third, several key figures in the local community, such as well-known drag queens and activists, agreed to promote the study through their social media profiles.

All participants were requested to sign an informed consent form emphasizing that participation in the study is anonymous and voluntary. Those who completed the survey (15–25 min) were invited to participate in a raffle of twenty 100 NIS (approximately 30 USD) gift cards. Given 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. This study was approved by the institutional review board at Ben-Gurion University for compliance with standards for the ethical treatment of human participants.

Table 1
Sample characteristics (N = 1799).

Characteristic	n (%)
Gender	
Man	1083 (60.2%)
Woman	716 (39.8%)
Sexual orientation	
Gay	967 (53.8%)
Lesbian	404 (22.5%)
Bisexual	263 (14.6%)
Queer and other non-heterosexual identity	165 (9.2%)
Relationship status	
Single	885 (49.2%)
Closed/monogamous	735 (40.9%)
Open/polyamorous	178 (9.9%)
Education level	
Elementary school	10 (0.6%)
High school	469 (26.1%)
Technical school/certificate	239 (13.3%)
Undergraduate student	246 (13.7%)
Bachelor’s degree	423 (23.6%)
Master’s degree/doctorate	408 (22.7%)
Mean (SD)	
Age (in years)	30.96 (15.3)

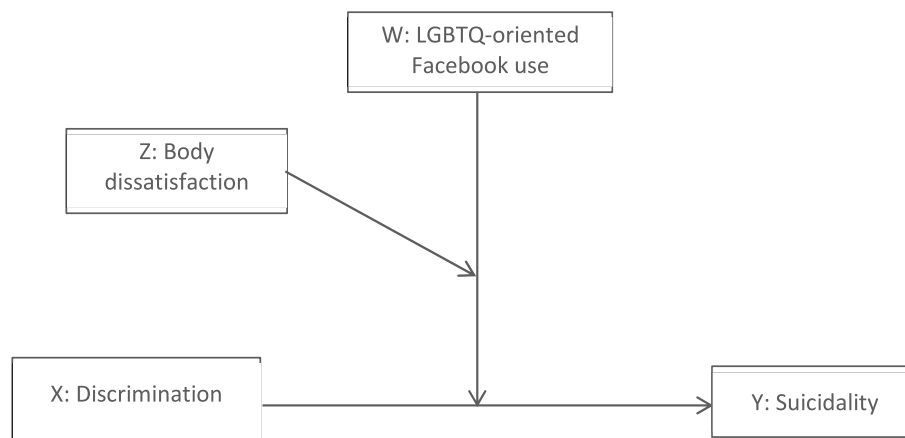


Fig. 1. Theoretical model of the three-way interaction.

Table 1 details the sample characteristics. Most participants (60.2%) were men, and the ages ranged from 14 to 80, with a mean of 30.96 (SD = 10.64). More than half of the sample identified as gay men (53.8%), 22.5% as lesbian women, 14.6% as bisexual (of whom 68.1% were women and 31.9% were men), and almost 10% as other non-heterosexual individuals, including pansexual, asexual, questioning and “other” (of whom 80.6% were women and 19.4% were men). In terms of relationship status, 49.2% were single, 40.9% were in a monogamous relationship, and 9.9% were in an open relationship. Most participants (60%) had at least some college education.

5.2. Measures

A brief description of the measures used in the analyses is provided below (see Table 2 for means and standard deviations of the study variables and the intercorrelations between them).

5.2.1. Dependent variable

Suicidality. Suicidality was assessed based on four items, each rated on a binary scale (0 = no, 1 = yes). Participants were asked to indicate whether they had: (1) ever experienced suicidal ideation; (2) experienced suicidal ideation in the past year; (3) ever attempted suicide; (4) attempted suicide in the past year. Drawing on the ideation-to-action framework, which views the shift from suicidal ideation to attempt as a progression (Klonsky et al., 2016), level of suicidality was calculated as an aggregate score reflecting both severity (ideation vs. attempt) and recency (lifetime vs. past year), generating five ascending mutually-exclusive categories: 0 – never considered nor attempted suicide (44.2%, n = 645); 1 – ever considered suicide, but not in the past year, and never attempted suicide (27.7%, n = 404); 2 – considered suicide in the past year, but never attempted suicide (7.9%, n = 115); 3 – ever attempted suicide, but not in the past year (17.7%, n = 258); and 4 – attempted suicide in the past year (2.5%, n = 36).

5.2.2. Independent variable

Everyday discrimination based on sexual identity. Discrimination was assessed using the Everyday Discrimination Scale (EDS) (Williams et al., 1997), which measures the frequency of chronic, routine, and relatively minor experiences of unfair treatment across a variety of contexts. The EDS consists of nine items (e.g., being threatened or harassed; being called names or insulted; being treated with less respect than others etc.), each measured with a four-point scale (1 – never, 2 – rarely, 3 – sometimes, 4 – often). Participants were asked to indicate the frequency they had experienced each of the nine types of discriminatory treatment based on their sexual identity. Scores were summed and averaged, resulting in a possible overall score of 1–4 ($\alpha = 0.90$), such that higher scores represent greater discrimination. This scale was translated to Hebrew by Sagis (2015), using back translation, and validated with $\alpha = 0.81$. The scale was previously used to address discrimination against sexual minority individuals (Gordon & Meyer, 2007).

5.2.2.1. Moderators. LGBTQ Facebook use. This four-item scale

Table 2

Means, standard deviations, and bivariate correlations for all study variables.

Variable	M	SD	Correlations			
			Suicidality	Discrimination	LGBTQ-oriented Facebook use	Body dissatisfaction
Suicidality	1.07	1.20	–			
Discrimination	1.48	0.52	.23***	–		
LGBTQ-oriented Facebook use	4.31	1.99	.04	.15***	–	
Body dissatisfaction	1.49	1.13	.13***	.10***	–.02	–

NOTE: N = 1779. Suicidality was based on a 0 (never considered nor attempted suicide) to 5 (attempted suicide in the past year) scale; discrimination on a 1 (never) to 4 (often) scale; LGBTQ-oriented Facebook use on a 1 (0%) to 11 (100%) scale; body dissatisfaction scores ranged between 0 (no discrepancy) to 8 (maximum discrepancy).

***p < .001.

measures the extent to which participants’ Facebook use is oriented toward LGBTQ people, groups, and contents (Marciano & Antebi-Gruszka, 2022). Participants were asked to evaluate the following proportions to the best of their ability, using an 11-point scale (ranging from 1 – 0% to 11–100%): (1) Facebook friends consisting of LGBTQ individuals; (2) Facebook groups dedicated primarily to LGBTQ issues (3) Facebook content (e.g., posts); viewed concerning LGBTQ issues and (4) active Facebook participation (e.g., posting, liking) concerning LGBTQ issues. Scores were calculated as the mean of the items: The higher the score, the more LGBTQ-oriented the participant’s Facebook use is. The Cronbach’s alpha $\alpha = .86$ for these four items was found in the present study for this scale.

Body dissatisfaction. Body dissatisfaction was measured using the Figure Rating Scales (FRS; Stunkard et al., 1983). This scale provides participants with a set of nine silhouette drawings on a continuum ranging from very thin (1) to very fat (9), from which they are requested to select the figures that best match their perceived current and ideal sizes. The discrepancy between their two selections represents their level of dissatisfaction with their bodies. Discrepancy scores were converted to their absolute value to represent body dissatisfaction regardless of direction (whether the respondent wishes to be thinner or heavier), such that higher scores indicate greater levels of dissatisfaction (see also Siever, 1994). Schematic silhouettes drawings are among the most widely used methods for the measurement of body dissatisfaction (Grabe & Hyde, 2006).

5.3. Control variables

Participants’ gender, sexual orientation, age, relationship status, and level of education were entered as control variables to the regression models as they were significantly associated with suicidality in the current study and in previous studies (Haas et al., 2010; Irwin et al., 2014; Kittiteerasack et al., 2021).

5.4. Data analyses

Our analyses included three steps: First, using Pearson coefficient, we conducted bivariate correlations between the study variables and relevant demographic factors to examine potential covariates for inclusion in the regression. Second, we conducted Ordinary Least Squares (OLS) regressions to explore the association between discrimination and suicidality while controlling for gender, sexual orientation, age, relationship status, and level of education. Lastly, we examined the moderating role of LGBTQ Facebook use and body dissatisfaction in the above association, using PROCESS (Hayes, 2018), an SPSS macro that utilizes OLS regression to test individual paths and the significance of the moderation effect. More specifically, we used Hayes’ model 1 for probing a two-way interaction (simple moderation) and model 3 for a three-way interaction, also known as a moderated moderation analysis, to differentiate between high (+1 SD) and low (–1 SD) levels of the moderators LGBTQ Facebook use and body dissatisfaction. This allowed us to examine whether and how the moderating effect of LGBTQ Facebook use on the association between discrimination and suicidality

differs according to levels of body dissatisfaction. In addition, in order to strengthen the reliability of the findings, PROCESS generated 5000 random samples to produce bootstrap confidence intervals for the direct and indirect effects in this model. All analyses were performed while controlling for gender, sexual orientation, age, relationship status, and level of education.

6. Results

6.1. Descriptive analyses

More than half of the participants (55.8%) have considered or attempted suicide at some point in their lives and one in five (20.2%) has attempted suicide. The data also indicate that two thirds of the sample (68.7%) reported being discriminated against based on their sexual orientation at least once in their lifetime ($M = 1.48, SD = 0.52$). Four in five participants (81.4%) have expressed some discrepancy between their current and ideal body size while only 18.6% expressed the highest level of body satisfaction, with no discrepancy at all.

Table 2 presents Pearson correlation coefficients between the study variables, showing that suicidality is positively correlated with discrimination ($r = 0.23; p < .001$) and body dissatisfaction ($r = 0.13 p < .001$), and discrimination based on sexual orientation is positively correlated with LGBTQ Facebook use ($r = 0.15; p < .001$) and body dissatisfaction ($r = 0.10 p < .001$).

6.2. Hypotheses testing using regression models

6.2.1. The association between discrimination and suicidality among LGBQ individuals

Table 3 presents the ordinary least squares (OLS) regression models used to test the association between discrimination and suicidality. The regression model produced a statistically significant (adjusted) result: $R^2 = 0.05 [F(1,1431) = 80.040, p < .001]$ (see Table 3, Model 1). As hypothesized, participants with higher discrimination scores ($b = 0.53, SE = 0.06, p < .001$) reported increased levels of suicidality.

To assess the robustness of our findings, we added gender, sexual orientation, relationship status, level of education, and age as covariates to the prediction model. This additional regression analysis aimed at examining whether discrimination remains a significant predictor of

Table 3
OLS regression model for the association between discrimination and suicidality (unstandardized coefficient values).

	Model 1	Model 2
	b	b
Discrimination	.53 (.06)***	.41 (.06)***
Gender (1 = women)	-	.16 (.14)
Sexual orientation (reference category is gay)		
Lesbian	-	.04 (.16)
Bisexual	-	.28 (.13)*
Queer and other non-heterosexual people	-	.54 (.16)***
Relationship status (reference category is single)		
Closed/monogamous	-	-.27 (.07)***
Open/polyamorous	-	-.09 (.11)
Education	-	-.07 (.02)***
Age (years)	-	-.01 (.00)
Constant	.28 (.09)**	.89 (.15)***
Adj. R^2	0.05	0.12
F	(1,1431) = 80.040***	(9,1402) = 22.151***
N	1433	1412

* $p < .05$.

** $p < .01$.

*** $p < .001$.

suicidality after controlling for the above five variables. The resulting regression coefficients indicated (see Table 3, Model 2) that discrimination ($b = 0.41, SE = 0.06, p < .001$) was positively associated with suicidality after controlling for gender, sexual orientation, relationship status, level of education, and age. We found no significant differences between men and women ($b = 0.16, n. s.$) in suicidal tendencies. Bisexual ($b = 0.27, p < .05$) and other non-heterosexual individuals ($b = 0.58, p < .001$) were more likely to report on suicidal tendencies than gay men, but no significant differences were found between gay men and lesbian women ($b = 0.04, n. s.$). Participants in a closed/monogamous relationship ($b = -0.27, p < .001$) were less likely to report on suicidal tendencies compared to single participants, while non-significant differences were found between single participants and those in open/polyamorous relationship ($b = -0.09, n. s.$). Finally, higher levels of education were associated with lower likelihood of having suicidal tendencies while age was found to be non-significant in this regard ($b = -0.01, n. s.$).

The moderating effect of LGBTQ Facebook use on the association between discrimination and suicidality among LGBQ individuals.

Hayes' (2018) Model 1 was used to test the second hypothesis (H2) regarding the moderation effect of LGBTQ Facebook use (W) on the association between (X) discrimination and (Y) suicidality (see Fig. 2), while controlling for gender, sexual orientation, relationship status, education, and age. The results did not support this hypothesis, demonstrating a non-significant moderation effect of LGBTQ Facebook use on the association between discrimination and suicidality ($b = 0.00, F = 0.45, n. s.$).

The moderated-moderation effect of LGBTQ Facebook use and body dissatisfaction on the association between discrimination and suicidality among LGBQ individuals.

Hayes' (2018) Model 3 was used to test our moderated-moderation analysis regarding the roles of LGBTQ Facebook use (W) as the first moderator and body dissatisfaction (Z) as the second moderator on the association between (X) level of discrimination and (Y) level of suicidality, while controlling for gender, sexual orientation, relationship status, education, and age (see Fig. 3).

6.2.2. Low body dissatisfaction

6.2.3. High body dissatisfaction

The results supported our hypothesis, demonstrating a significant moderated-moderation effect of LGBTQ Facebook use and body dissatisfaction on the association between discrimination and suicidality ($b = 0.01, F = 4.31, p < .05$). The moderating effect of LGBTQ Facebook use on the above association was positive and significant ($b = 0.08, F = 3.96, p < .05$) for individuals with high levels of body dissatisfaction but non-significant ($b = -0.04, F = 0.89, n. s.$) among individuals with low levels of body dissatisfaction.

Additionally, Table 4 shows that for individuals with high levels of LGBTQ Facebook use, the association between discrimination and suicidality was weaker and positive among those with low levels of body dissatisfaction (indirect $b = 0.26, SE = 0.12, p < .05; LLCI = 0.0295, ULCI = 0.4948$) but stronger and positive among those with high levels of body dissatisfaction (indirect $b = 0.58, SE = 0.11, p < .05; LLCI = 0.3628, ULCI = 0.8030$). However, for individuals who reported low levels of LGBTQ Facebook use, the association between discrimination and suicidality was stronger and positive among those with low levels of body dissatisfaction (indirect $b = 0.44, SE = 0.14, p < .05; LLCI = 0.1662, ULCI = 0.7202$), and weaker and positive for those with high levels of body dissatisfaction (indirect $b = 0.28, SE = 0.12, p < .05; LLCI = 0.0338, ULCI = 0.5213$). See Fig. 3 for a visualization of the three-way interaction.

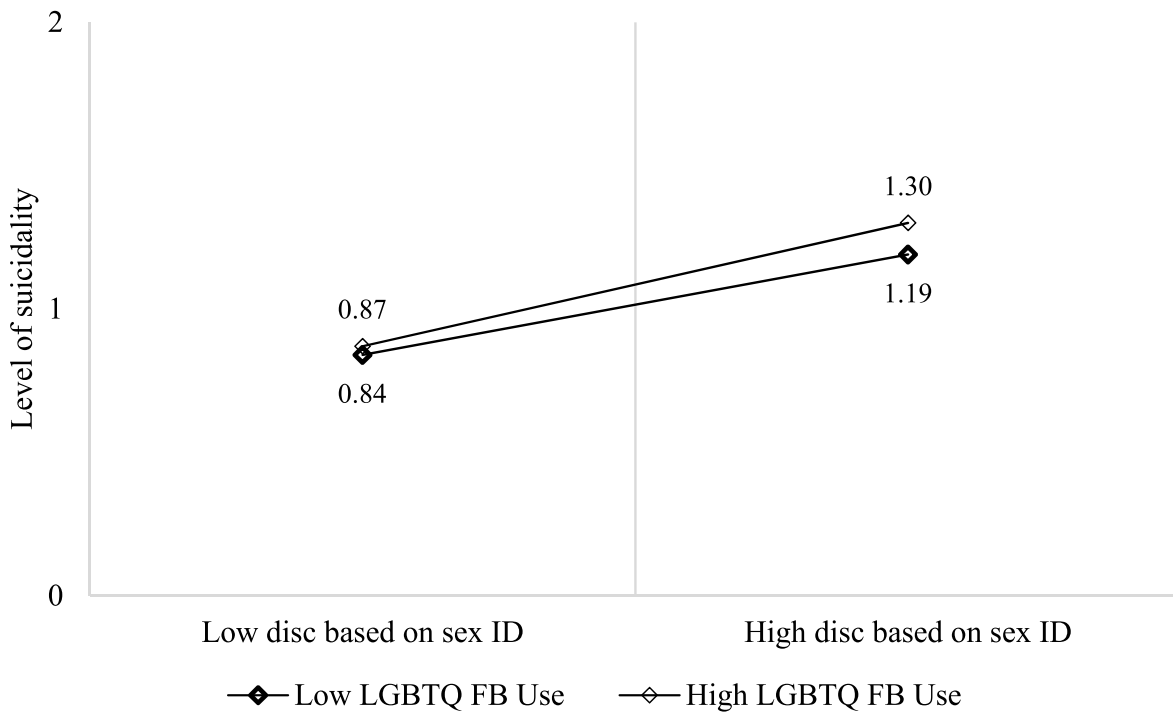


Fig. 2. The moderation effect of LGBTQ Facebook use on the association between discrimination and suicidality (n = 1368).

7. Discussion

This study had two objectives: to examine the relationship between sexual orientation-based discrimination and suicidality among lesbian, gay, bisexual, queer, and other non-heterosexual individuals, and to test the moderating effects of LGBTQ Facebook use and body dissatisfaction on the above relationship. The first hypothesis was supported, as we established a positive relationship between discrimination and suicidality in this population. It should be noted that this study did not focus on specific groups similar to previous studies (e.g., youth or people of color) and therefore can only conclude about lesbian, gay, bisexual and other non-heterosexual individuals more generally. The second hypothesis was not supported as LGBTQ Facebook use alone did not moderate the above relationship. A three-way interaction confirmed the third hypothesis, showing that body dissatisfaction moderates the moderating effect of LGBTQ Facebook use on the association between discrimination and suicidality. More specifically, we have shown that among LGBQ users with high levels of body dissatisfaction, higher rates of LGBTQ Facebook use strengthened the association between discrimination and suicidality.

We would like to offer a possible explanation as to why LGBTQ Facebook use alone did not moderate the relationship between discrimination and suicidality. More than decade-long research regarding the effect of SNS on users' well-being has provided inconsistent, even contradicting results. While several studies have found negative outcomes on users' well-being (Chen & Lee, 2013; Fox & Moreland, 2015; Frison et al., 2019; Kross et al., 2013; Shakya & Christakis, 2017), others have pointed out the benefits of using SNS (Burke et al., 2011; Ellison et al., 2007; Vitak & Ellison, 2013). Recent longitudinal studies have concluded that SNS use *per se* is not substantially related to well-being (Coyne et al., 2020; Schemer et al., 2020), reaffirming calls for more nuanced examinations, beyond general use patterns such as time spent on SNS or number of friends, to produce context-specific findings (Macrynikola & Miranda, 2019).

The rejection of the second hypothesis proves that Facebook use alone is neither beneficial nor detrimental even for a specific group such as sexual minority people, suggesting that more specific characteristics

should be taken into account to produce meaningful results. Correspondingly, the confirmation of the third hypothesis shows that a more nuanced model succeeds in pinpointing (some of) the specific conditions (e.g., for whom, with what characteristics) in which SNS use would be detrimental. This conclusion, combined with previous results, imply that the desire to provide a generalized judgmental assessment of any specific technology or platform is doomed to fail.

The main finding of the study has shown that the effect of Facebook engagement with LGBTQ people and content on the association between discrimination and suicidality depends on the level of users' dissatisfaction with their bodies. LGBQ individuals who are less satisfied with their bodies (i.e., experience greater discrepancy between current and ideal body sizes) will be adversely affected by surrounding themselves with LGBTQ peers and content on Facebook because this type of online engagement increases the likelihood that discrimination will result in suicidality in this population. While we are unable to conclude about Facebook's contribution to participants who are highly satisfied with their bodies, our findings showed that for participants with high rates of LGBTQ Facebook use, the association between discrimination and suicidality was twice stronger among those with high levels of body dissatisfaction compared to those with low levels of body dissatisfaction. This implies that LGBTQ Facebook use may be beneficial for those who are more satisfied with their bodies.

This finding generally corresponds with the role of SNS as a space for negative appearance-based comparisons (Frederick & Essayli, 2016), which are particularly central among sexual minority people (Gordon et al., 2019; He et al., 2020; Parker & Harriger, 2020) and were previously found to explain increased levels of body dissatisfaction (Fardouly & Vartanian, 2015; Jarman et al., 2021). More generally, the results of the moderated moderation draw attention to the importance of the *type* of LGBTQ-oriented Facebook use, suggesting, for example, that exposure to images of sexually attractive people can affect users differently than engagement with LGBTQ support groups.

The above moderated moderation emphasizes two important points. First, it attests to the central role that social media plays in people's well-being, emphasizing the nuances that differentiate between beneficial and deleterious use. Second, the moderating role of body dissatisfaction

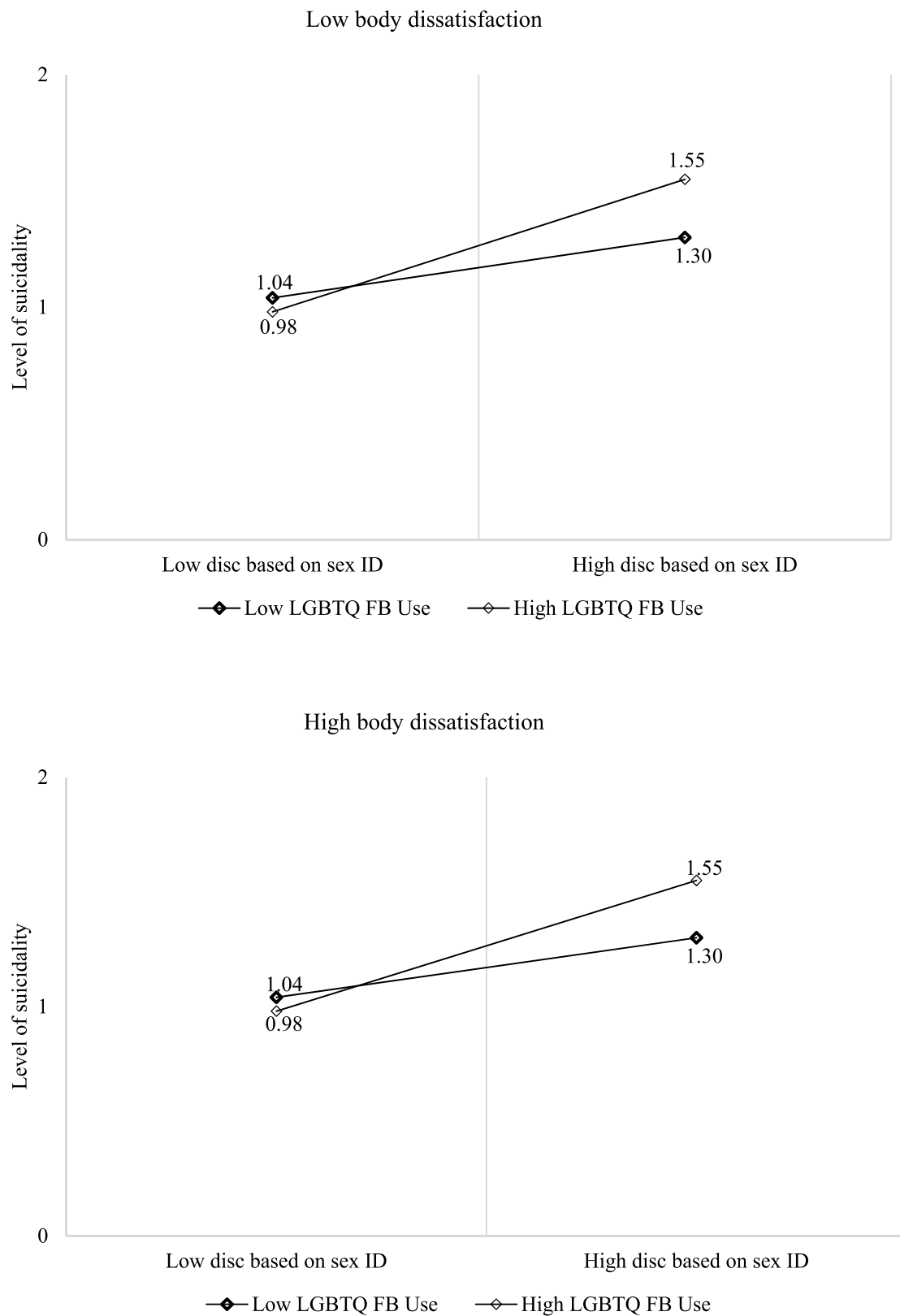


Fig. 3. The moderated-moderation effect of LGBTQ Facebook use and body dissatisfaction on the association between discrimination and suicidality (n = 1153).

reaffirms the importance of physical appearance within the LGBQ coculture (Atkins, 1998; Carper et al., 2010; Feldman & Meyer, 2007). More specifically, it shows that body-related concerns within this community are detrimental to the extent that they can counteract the

advantages of engagement with the community and render it harmful rather than healthful.

Our findings bear practical implications for mental health practitioners working with sexual minority individuals. Previous studies have

Table 4

Conditional effects of discrimination, LGBTQ Facebook use and body dissatisfaction on the level of suicidality (unstandardized coefficient values).

	Level of suicidality			
	B	SE	LLCI	ULCI
Low body dissatisfaction and low Facebook use	.44	.14	.1662	.7202
Low body dissatisfaction and high Facebook use	.26	.12	.0295	.4948
High body dissatisfaction and low Facebook use	.28	.12	.0338	.5213
High body dissatisfaction and high Facebook use	.58	.11	.3628	.8030

Note. $n = 1153$. Unstandardized beta coefficients reported for the effects in Fig. 3; all paths have a significant effect, $p < .05$. LLCI = Lower Level Confidence Interval; ULCI = Upper Level Confidence Interval.

shown that LGBTQ people facing discrimination are more likely to seek help from likeminded peers, friends, and family than from official healthcare providers (Burgess et al., 2007; Carter & Forsyth, 2010), rendering online environments a potential space for support and empowerment. Mental health professionals catering to this population should be familiar with the benefits and risks associated with social media use so they can incorporate it in their practice to buffer rather than enhance the effects of discrimination. For example, considering the documented benefits LGBTQ people can derive from surrounding themselves with LGBTQ content and peers in social media (Ceglarek & Ward, 2016; Escobar-Viera et al., 2018; Lucero, 2017; Marciano & Antebi-Gruszka, 2022), practitioners should not encourage LGBTQ people who are dissatisfied with their bodies to avoid this kind of online engagement, but rather, to be particularly mindful of the LGBTQ-specific content they consume on Facebook.

8. Limitations and directions for future research

This study has several limitations. First, the sample only included cisgender sexual minority individuals, and thus, its findings cannot be generalized to transgender and gender diverse sexual minority individuals. Future studies would benefit from including transgender and gender diverse individuals, which would require measuring discrimination based on both sexual orientation and gender identity (i.e., intersectionality and multiple minority stress) (Balsam et al., 2011; McConnell et al., 2018). Second, body dissatisfaction was measured using Stunkard et al.s (1983) Figure Rating Scales. While schematic silhouettes drawings are among the most widely used methods for the measurement of body dissatisfaction (Grabe & Hyde, 2006), including in LGBTQ samples (Dahlenburg et al., 2020; Tiggemann et al., 2007), they do not capture muscularity concerns and desires, which are important to many gay, bisexual, and queer men (Ralph-Nearman & Filik, 2018; Talbot et al., 2020; Thompson & Gray, 1995). Third, suicidality was calculated as an aggregate score reflecting both severity (ideation vs. attempt) and recency (lifetime vs. past year). Future studies would benefit from a more nuanced examination that differentiates between ideation and attempt and measures different aspects of suicidality such as frequency of ideation, intent, plan, etc. Fourth, in line with the results of the moderated moderation, we suggest to differentiate between various types of LGBTQ Facebook use (e.g., the type of content consumed). Finally, as newer social media (e.g., Instagram, TikTok, and Snapchat) are becoming more popular among younger users (Auxier & Anderson, 2021), future studies should broaden their focus to these platforms to better understand online experiences of younger LGBTQ people.

9. Conclusions

This study examined the moderating effects of LGBTQ Facebook use and body dissatisfaction on the association between sexual orientation-based discrimination and suicidality among lesbian, gay, bisexual, and queer individuals. We established a positive association between

discrimination and suicidality and found that the effect of Facebook engagement with LGBTQ peers and content on this association depends on users' level of dissatisfaction with their bodies. Specifically, LGBTQ individuals who are less satisfied with their bodies will be adversely affected by surrounding themselves with LGBTQ peers and content on Facebook. Future studies should further examine the importance of online engagement with LGBTQ peers and content for people's mental health, in particular in relation to newer social media platforms. Such studies can provide a nuanced look into the role of social media as a potential resource of support and empowerment for LGBTQ people.

Credit author statement

Avi Marciano: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, **Yossi David:** Conceptualization, Methodology, Formal analysis, Writing – review & editing, **Nadav Antebi-Gruszka:** Conceptualization, Methodology, Writing – review & editing, Facebook use and body dissatisfaction moderate the association between discrimination and suicidality among LGBTQ individuals.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

References

- Antebi-Gruszka, N., Mor, Z., & Shilo, G. (2019). Mental distress, well-being, and stress-related growth following an anti-LGBTQ hate crime among LGBTQ young adults in Israel: The effect of familiarity with the victims and the mediating role of emotional support. *Journal of Homosexuality*, 1–19. <https://doi.org/10.1080/00918369.2019.1607682>
- Atkins, D. (1998). *Looking queer: Body image and identity in lesbian, bisexual, gay, and transgender communities*. New York, NY: Haworth Press.
- Auxier, B., & Anderson, M. (2021). *Social media use in 2021*. Pew Research Center <http://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/>.
- Badgett, M., Sears, B., Lau, H., & Ho, D. (2009). Bias in the workplace: Consistent evidence of sexual orientation and gender identity discrimination 1998–2008. *Chicago Kent Law Review*, 84(2), 559.
- Balsam, K. F., Molina, Y., Beadnell, B., Simoni, J., & Walters, K. (2011). Measuring multiple minority stress: The LGBT people of color microaggressions scale. *Cultural Diversity and Ethnic Minority Psychology*, 17(2), 163–174. <https://doi.org/10.1037/a0023244>
- Baumle, A. K., Badgett, M. V. L., & Boutcher, S. (2020). New research on sexual orientation and gender identity discrimination: Effect of state policy on charges filed at the EEOC. *Journal of Homosexuality*, 67(8), 1135–1144. <https://doi.org/10.1080/00918369.2019.1603494>
- Bezeq. (2020). *The digital lives: Bezeq's internet report, 2019–2020*. https://media.bezeq.co.il/pdf/internetreport_2019.pdf.
- Bezeq. (2022). *Designing our digital life: Bezeq's internet report, 2021*. https://media.bezeq.co.il/pdf/internetreport_2021.pdf.
- Biernesser, C., Sewall, C. J. R., Brent, D., Bear, T., Mair, C., & Trauth, J. (2020). Social media use and deliberate self-harm among youth: A systematized narrative review. *Children and Youth Services Review*, 116, Article 105054. <https://doi.org/10.1016/j.childyouth.2020.105054>
- Bostwick, W. B., Boyd, C. J., Hughes, T. L., West, B. T., & McCabe, S. E. (2014). Discrimination and mental health among lesbian, gay, and bisexual adults in the United States. *American Journal of Orthopsychiatry*, 84(1), 35–45. <https://doi.org/10.1037/h0098851>
- Burgess, D., Lee, R., Tran, A., & van Ryn, M. (2007). Effects of perceived discrimination on mental health and mental health services utilization among gay, lesbian, bisexual and transgender persons. *Journal of LGBT Health Research*, 3(4), 1–14. <https://doi.org/10.1080/15574090802226626>
- Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on facebook: Differentiating uses and users. In *Paper presented at the proceedings of the SIGCHI conference on human factors in computing systems*. Vancouver, BC: Canada.
- Busby, D. R., Horwitz, A. G., Zheng, K., Eisenberg, D., Harper, G. W., Albuher, R. C., ... King, C. A. (2020). Suicide risk among gender and sexual minority college students: The roles of victimization, discrimination, connectedness, and identity affirmation. *Journal of Psychiatric Research*, 121, 182–188. <https://doi.org/10.1016/j.jpsyres.2019.11.013>

- Carper, T. L. M., Negy, C., & Tantleff-Dunn, S. (2010). Relations among media influence, body image, eating concerns, and sexual orientation in men: A preliminary investigation. *Body Image*, 7(4), 301–309. <https://doi.org/10.1016/j.bodyim.2010.07.002>
- Carter, R. T., & Forsyth, J. (2010). Reactions to racial discrimination: Emotional stress and help-seeking behaviors. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2(3), 183–191. <https://doi.org/10.1037/a0020102>
- Ceglarek, P. J. D., & Ward, L. M. (2016). A tool for help or harm? How associations between social networking use, social support, and mental health differ for sexual minority and heterosexual youth. *Computers in Human Behavior*, 65, 201–209. <https://doi.org/10.1016/j.chb.2016.07.051>
- Chen, W., & Lee, K.-H. (2013). Sharing, liking, commenting, and distressed? The pathway between facebook interaction and psychological distress. *Cyberpsychology, Behavior, and Social Networking*, 16(10), 728–734. <https://doi.org/10.1089/cyber.2012.0272>
- Cochran, S. D., Sullivan, J. G., & Mays, V. M. (2003). Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *Journal of Consulting and Clinical Psychology*, 71(1), 53–61. <https://doi.org/10.1037/0022-006X.71.1.53>
- Coyne, S. M., Rogers, A. A., Zurcher, J. D., Stockdale, L., & Booth, M. (2020). Does time spent using social media impact mental health?: An eight year longitudinal study. *Computers in Human Behavior*, 104, Article 106160. <https://doi.org/10.1016/j.chb.2019.106160>
- Dahlenburg, S. C., Gleave, D. H., Hutchinson, A. D., & Coro, D. G. (2020). Body image disturbance and sexual orientation: An updated systematic review and meta-analysis. *Body Image*, 35, 126–141. <https://doi.org/10.1016/j.bodyim.2020.08.009>
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends”: Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143–1168. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- Escobar-Viera, C. G., Whitfield, D. L., Wessel, C. B., Shensa, A., Sidani, J. E., Brown, A. L., ... Primack, B. A. (2018). For better or for worse? A systematic review of the evidence on social media use and depression among lesbian, gay, and bisexual minorities. *JMIR Ment Health*, 5(3), Article e10496. <https://doi.org/10.2196/10496>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). The mediating role of appearance comparisons in the relationship between media usage and self-objectification in young women. *Psychology of Women Quarterly*, 39(4), 447–457. <https://doi.org/10.1177/0361684315581841>
- Fardouly, J., & Vartanian, L. R. (2015). Negative comparisons about one’s appearance mediate the relationship between Facebook usage and body image concerns. *Body Image*, 12, 82–88. <https://doi.org/10.1016/j.bodyim.2014.10.004>
- Feldman, M. B., & Meyer, I. H. (2007). Eating disorders in diverse lesbian, gay, and bisexual populations. *International Journal of Eating Disorders*, 40(3), 218–226. <https://doi.org/10.1002/eat.20360>
- Flores, A. R. (2019). *Social acceptance of LGBT people in 174 countries: 1981-2017*. Williams Institute, UCLA School of Law.
- Fox, J., & Moreland, J. J. (2015). The dark side of social networking sites: An exploration of the relational and psychological stressors associated with Facebook use and affordances. *Computers in Human Behavior*, 45, 168–176. <https://doi.org/10.1016/j.chb.2014.11.083>
- Fox, J., & Warber, K. M. (2014). Queer identity management and political self-expression on social networking sites: A co-cultural approach to the spiral of silence. *Journal of Communication*, 65(1), 79–100. <https://doi.org/10.1111/jcom.12137>
- Frederick, D. A., & Essayli, J. H. (2016). Male body image: The roles of sexual orientation and body mass index across five national U.S. Studies. *Psychology of Men and Masculinity*, 17(4), 336–351. <https://doi.org/10.1037/men0000031>
- Frison, E., Bastin, M., Bijttebier, P., & Eggermont, S. (2019). Helpful or harmful? The different relationships between private facebook interactions and adolescents’ depressive symptoms. *Media Psychology*, 22(2), 244–272. <https://doi.org/10.1080/15213269.2018.1429933>
- Frost, R. L., & Rickwood, D. J. (2017). A systematic review of the mental health outcomes associated with Facebook use. *Computers in Human Behavior*, 76, 576–600. <https://doi.org/10.1016/j.chb.2017.08.001>
- Good, G. E., Borst, T. S., & Wallace, D. L. (1994). Masculinity research: A review and critique. *Applied and Preventive Psychology*, 3(1), 3–14. [https://doi.org/10.1016/S0962-1849\(05\)80104-0](https://doi.org/10.1016/S0962-1849(05)80104-0)
- Gordon, A. R., Austin, S. B., Pantalone, D. W., Baker, A. M., Eiduson, R., & Rodgers, R. (2019). Appearance ideals and eating disorders risk among LGBTQ college students: The being ourselves living in diverse bodies (BOLD) study. *Journal of Adolescent Health*, 64(2), S43–S44. <https://doi.org/10.1016/j.jadohealth.2018.10.096>
- Gordon, A. R., & Meyer, I. H. (2007). Gender nonconformity as a target of prejudice, discrimination, and violence against LGB individuals. *Journal of LGBT Health Research*, 3(3), 55–71. <https://doi.org/10.1080/15574090802093562>
- Grabe, S., & Hyde, J. S. (2006). Ethnicity and body dissatisfaction among women in the United States: A meta-analysis. *Psychological Bulletin*, 132(4), 622–640. <https://doi.org/10.1037/0033-2909.132.4.622>
- Granek, L., & Nakash, O. (2017). The impact of militarism, patriarchy, and culture on Israeli women’s reproductive health and well-being. *International Journal of Behavioral Medicine*, 24(6), 893–900. <https://doi.org/10.1007/s12529-017-9650-7>
- Green, A. E., Price, M. N., & Dorison, S. H. (2021). Cumulative minority stress and suicide risk among LGBTQ youth. *American Journal of Community Psychology*. <https://doi.org/10.1002/ajcp.12553>. n/a.
- Haas, A. P., Eliason, M., Mays, V. M., Mathy, R. M., Cochran, S. D., D’Augelli, A. R., ... Clayton, P. J. (2010). Suicide and suicide risk in lesbian, gay, bisexual, and transgender populations: Review and recommendations. *Journal of Homosexuality*, 58(1), 10–51. <https://doi.org/10.1080/00918369.2011.534038>
- Han, X., Han, W., Qu, J., Li, B., & Zhu, Q. (2019). What happens online stays online? — Social media dependency, online support behavior and offline effects for LGBT. *Computers in Human Behavior*, 93, 91–98. <https://doi.org/10.1016/j.chb.2018.12.011>
- Hatchel, T., Polanin, J. R., & Espelage, D. L. (2021). Suicidal thoughts and behaviors among LGBTQ youth: Meta-analyses and a systematic review. *Archives of Suicide Research*, 25(1), 1–37. <https://doi.org/10.1080/13811118.2019.1663329>
- Hatzenbuehler, M. L., McLaughlin, K. A., Keyes, K. M., & Hasin, D. S. (2010). The impact of institutional discrimination on psychiatric disorders in lesbian, gay, and bisexual populations: A prospective study. *American Journal of Public Health*, 100(3), 452–459. <https://doi.org/10.2105/AJPH.2009.168815>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York: Guilford Press.
- He, J., Sun, S., Lin, Z., & Fan, X. (2020). Body dissatisfaction and sexual orientations: A quantitative synthesis of 30 years research findings. *Clinical Psychology Review*, 81doi. <https://doi.org/10.1016/j.cpr.2020.101896>
- Hottes, T. S., Bogaert, L., Rhodes, A. E., Brennan, D. J., & Gesink, D. (2016). Lifetime prevalence of suicide attempts among sexual minority adults by study sampling strategies: A systematic review and meta-analysis. *American Journal of Public Health*, 106(5), e1–e12. <https://doi.org/10.2105/ajph.2016.303088>
- House, A. S., Van Horn, E., Coppeans, C., & Stepleman, L. M. (2011). Interpersonal trauma and discriminatory events as predictors of suicidal and nonsuicidal self-injury in Gay, Lesbian, Bisexual, and Transgender persons. *Traumatology*, 17(2), 75–85. <https://doi.org/10.1177/1534765610395621>
- Irwin, J. A., Coleman, J. D., Fisher, C. M., & Marasco, V. M. (2014). Correlates of suicide ideation among LGBT Nebraskans. *Journal of Homosexuality*, 61(8), 1172–1191. <https://doi.org/10.1080/00918369.2014.872521>
- Jarman, H. K., McLean, S. A., Slater, A., Marques, M. D., & Paxton, S. J. (2021). *Direct and indirect relationships between social media use and body satisfaction: A prospective study among adolescent boys and girls*. *New Media & Society*. <https://doi.org/10.1177/1461448211058468>
- Jones, C. L., Fowle, J. L., Ilyumzhinova, R., Berona, J., Mbayiwa, K., Goldschmidt, A. B., ... Keenan, K. E. (2019). The relationship between body mass index, body dissatisfaction, and eating pathology in sexual minority women. *International Journal of Eating Disorders*, 52(6), 730–734. <https://doi.org/10.1002/eat.23072>
- Kahai, S. S., & Lei, Y. (2019). Building social capital with Facebook: Type of network, availability of other media, and social self-efficacy matter. *International Journal of Human-Computer Studies*, 130, 113–129. <https://doi.org/10.1016/j.ijhcs.2019.05.013>
- Kalpidou, M., Costin, D., & Morris, J. (2011). The relationship between Facebook and the well-being of undergraduate college students. *Cyberpsychology, Behavior, and Social Networking*, 14(4), 183–189. <https://doi.org/10.1089/cyber.2010.0061>
- Kama, A. (2011). Parading pridefully into the mainstream: Gay and lesbian immersion in the civil core. In G. Ben-Porat, & B. S. Turner (Eds.), *The contradictions of Israeli citizenship: Land, religion and state* (pp. 180–202). Abingdon, Oxon: Routledge.
- Kama, A., & Ram, Y. (2020). Hot guys* in Tel Aviv: Pride tourism in Israel. *Israel Studies Review*, 35(1), 79–99. <https://doi.org/10.3167/isr.2020.350106>
- Katz-Rive, S. L., & Hyde, J. S. (2012). Victimization experiences of lesbian, gay, and bisexual individuals: A meta-analysis. *The Journal of Sex Research*, 49(2–3), 142–167. <https://doi.org/10.1080/00224499.2011.637247>
- Kim, J. W., & Chock, T. M. (2015). Body image 2.0: Associations between social grooming on Facebook and body image concerns. *Computers in Human Behavior*, 48, 331–339. <https://doi.org/10.1016/j.chb.2015.01.009>
- King, M., McKeown, E., Warner, J., Ramsay, A., Johnson, K., Cort, C., ... Davidson, O. (2003). Mental health and quality of life of gay men and lesbians in England and Wales: Controlled, cross-sectional study. *British Journal of Psychiatry*, 183(6), 552–558. <https://doi.org/10.1192/03.2007>
- King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry*, 8(1), 70. <https://doi.org/10.1186/1471-244X-8-70>
- Kittiteerasack, P., Matthews, A. K., Steffen, A., Corte, C., McCreary, L. L., Bostwick, W., ... Johnson, T. P. (2021). The influence of minority stress on indicators of suicidality among lesbian, gay, bisexual and transgender adults in Thailand. *Journal of Psychiatric and Mental Health Nursing*, 28(4), 656–669. <https://doi.org/10.1111/jpm.12713>
- Klonsky, E. D., May, A. M., & Saffer, B. Y. (2016). Suicide, suicide attempts, and suicidal ideation. *Annual Review of Clinical Psychology*, 12(1), 307–330. <https://doi.org/10.1146/annurev-clinpsy-021815-093204>
- Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., ... Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLoS One*, 8(8), Article e69841. <https://doi.org/10.1371/journal.pone.0069841>
- Lee, C., & Ostergard, R. L., Jr. (2017). Measuring discrimination against LGBTQ people: A cross-national analysis. *Human Rights Quarterly*, 39(1), 37–72. <https://doi.org/10.1353/hrq.2017.0001>
- Lucero, L. (2017). Safe spaces in online places: Social media and LGBTQ youth. *Multicultural Education Review*, 9(2), 117–128. <https://doi.org/10.1080/2005615X.2017.1313482>
- Macrynikola, N., & Miranda, R. (2019). Active Facebook use and mood: When digital interaction turns maladaptive. *Computers in Human Behavior*, 97, 271–279. <https://doi.org/10.1016/j.chb.2019.02.012>
- Marchant, A., Hawton, K., Stewart, A., Montgomery, P., Singaravelu, V., Lloyd, K., ... John, A. (2017). A systematic review of the relationship between internet use, self-harm and suicidal behaviour in young people: The good, the bad and the unknown. *PLoS One*, 12(8), Article e0181722. <https://doi.org/10.1371/journal.pone.0181722>

- Marciano, A. (2014). Living the VirtuReal: Negotiating transgender identity in cyberspace. *Journal of Computer-Mediated Communication*, 19(4), 824–838. <https://doi.org/10.1111/jcc4.12081>
- Marciano, A., & Antebi-Gruszka, N. (2022). Offline and online discrimination and mental distress among lesbian, gay, and bisexual individuals: The moderating effect of LGBTQ facebook use. *Media Psychology*, 25(1), 27–50. <https://doi.org/10.1080/15213269.2020.1850295>
- Marshall, M. P., Dietz, L. J., Friedman, M. S., Stall, R., Smith, H. A., McGinley, J., ... Brent, D. A. (2011). Suicidality and depression disparities between sexual minority and heterosexual youth: A meta-analytic review. *Journal of Adolescent Health*, 49(2), 115–123. <https://doi.org/10.1016/j.jadohealth.2011.02.005>
- Mays, V. M., & Cochran, S. D. (2001). Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health*, 91(11), 1869–1876. <https://doi.org/10.2105/ajph.91.11.1869>
- McCabe, S. E., Bostwick, W. B., Hughes, T. L., West, B. T., & Boyd, C. J. (2010). The relationship between discrimination and substance use disorders among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health*, 100(10), 1946–1952. <https://doi.org/10.2105/AJPH.2009.163147>
- McConnell, E. A., Clifford, A., Korpak, A. K., Phillips, G., & Birkett, M. (2017). Identity, victimization, and support: Facebook experiences and mental health among LGBTQ youth. *Computers in Human Behavior*, 76, 237–244. <https://doi.org/10.1016/j.chb.2017.07.026>
- McConnell, E. A., Janulis, P., Phillips, G., Truong, R., & Birkett, M. (2018). Multiple minority stress and LGBT community resilience among sexual minority men. *Psychology of Sexual Orientation and Gender Diversity*, 5(1), 1–12. <https://doi.org/10.1037/sgd0000265>
- Memon, A. M., Sharma, S. G., Mohite, S. S., & Jain, S. (2018). The role of online social networking on deliberate self-harm and suicidality in adolescents: A systematized review of literature. *Indian Journal of Psychiatry*, 60(4), 384–392. <https://doi.org/10.4103/psychiatry.indianjpsychiatry.414.17>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674–697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Meyer, I. H. (2007). Prejudice and discrimination as social stressors. In I. H. Meyer, & M. E. Northridge (Eds.), *The health of sexual minorities: Public health perspectives on lesbian, gay, bisexual and transgender populations* (pp. 242–267). Boston, MA: Springer.
- Nabi, R. L., Prestin, A., & So, J. (2013). Facebook friends with (health) benefits? Exploring social network site use and perceptions of social support, stress, and well-being. *Cyberpsychology, Behavior, and Social Networking*, 16(10), 721–727. <https://doi.org/10.1089/cyber.2012.0521>
- Nesi, J., Burke, T. A., Bettis, A. H., Kudinova, A. Y., Thompson, E. C., MacPherson, H. A., ... Liu, R. T. (2021). Social media use and self-injurious thoughts and behaviors: A systematic review and meta-analysis. *Clinical Psychology Review*, 87, Article 102038. <https://doi.org/10.1016/j.cpr.2021.102038>
- Neumark-Sztainer, D., Paxton, S. J., Hannan, P. J., Haines, J., & Story, M. (2006). Does body satisfaction matter? Five-Year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *Journal of Adolescent Health*, 39(2), 244–251. <https://doi.org/10.1016/j.jadohealth.2005.12.001>
- Parker, L. L., & Harriger, J. A. (2020). Eating disorders and disordered eating behaviors in the LGBT population: A review of the literature. *Journal of Eating Disorders*, 8(1), 51. <https://doi.org/10.1186/s40337-020-00327-y>
- Paxton, S. J., Neumark-Sztainer, D., Hannan, P. J., & Eisenberg, M. E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child and Adolescent Psychology*, 35(4), 539–549. https://doi.org/10.1207/s15374424jccp3504_5
- Peterson, A. L., Bender, A. M., Sullivan, B., & Karver, M. S. (2021). Ambient discrimination, victimization, and suicidality in a non-probability U.S. sample of LGBTQ adults. *Archives of Sexual Behavior*, 50(3), 1003–1014. <https://doi.org/10.1007/s10508-020-01888-4>
- Pew Research Center. (2021). April 7). Social media fact sheet. from <https://www.pewresearch.org/internet/fact-sheet/social-media/>.
- Plöderl, M., & Tremblay, P. (2015). Mental health of sexual minorities. A systematic review. *International Review of Psychiatry*, 27(5), 367–385. <https://doi.org/10.3109/09540261.2015.1083949>
- Raifman, J., Moscoe, E., Austin, S. B., & McConnell, M. (2017). Difference-in-differences analysis of the association between state same-sex marriage policies and adolescent suicide attempts. *JAMA Pediatrics*, 171(4), 350–356. <https://doi.org/10.1001/jamapediatrics.2016.4529>
- Ralph-Nearman, C., & Filik, R. (2018). New body scales reveal body dissatisfaction, thin-ideal, and muscularity-ideal in males. *American Journal of Men's Health*, 12(4), 740–750. <https://doi.org/10.1177/1557988318763516>
- Rimes, K. A., Shivakumar, S., Ussher, G., Baker, D., Rahman, Q., & West, E. (2019). Psychosocial factors associated with suicide attempts, ideation, and future risk in lesbian, gay, and bisexual youth. *Crisis*, 40(2), 83–92. <https://doi.org/10.1027/0227-5910/a000527>
- Ruggs, E. N., Martinez, L. R., Hebl, M. R., & Law, C. L. (2015). Workplace “trans”-actions: How organizations, coworkers, and individual openness influence perceived gender identity discrimination. *Psychology of Sexual Orientation and Gender Diversity*, 2(4), 404–412. <https://doi.org/10.1037/sgd0000112>
- Sagis, M. (2015). *Psychological alienation as a predictor of delinquency, drug, and alcohol use*. Ramat Gan, Israel: Bar-Ilan University. Unpublished Master's thesis.
- Salentine, C. M., Hilt, L. M., Muehlenkamp, J. J., & Ehlinger, P. P. (2020). The link between discrimination and worst point suicidal ideation among sexual and gender minority adults. *Suicide and Life-Threatening Behavior*, 50(1), 19–28. <https://doi.org/10.1111/sltb.12571>
- Salway, T., Ross, L. E., Fehr, C. P., Burley, J., Asadi, S., Hawkins, B., & Tarasoff, L. A. (2019). A systematic review and meta-analysis of disparities in the prevalence of suicide ideation and attempt among bisexual populations. *Archives of Sexual Behavior*, 48(1), 89–111. <https://doi.org/10.1007/s10508-018-1150-6>
- Satici, S. A., & Uysal, R. (2015). Well-being and problematic Facebook use. *Computers in Human Behavior*, 49, 185–190. <https://doi.org/10.1016/j.chb.2015.03.005>
- Savin-Williams, R. C. (1994). Verbal and physical abuse as stressors in the lives of lesbian, gay male, and bisexual youths: Associations with school problems, running away, substance abuse, prostitution, and suicide. *Journal of Consulting and Clinical Psychology*, 62(2), 261.
- Schemer, C., Masur, P. K., Geiß, S., Müller, P., & Schäfer, S. (2020). The impact of internet and social media use on well-being: A longitudinal analysis of adolescents across nine years. *Journal of Computer-Mediated Communication*, 26(1), 1–21. <https://doi.org/10.1093/jcmc/zmaa014>
- Shakya, H. B., & Christakis, N. A. (2017). Association of facebook use with compromised well-being: A longitudinal study. *American Journal of Epidemiology*, 185(3), 203–211. <https://doi.org/10.1093/aje/kww189>
- Shenkman, G., Ifrah, K., & Shmotkin, D. (2019). Interpersonal vulnerability and its association with depressive symptoms among gay and heterosexual men. *Sexuality Research and Social Policy*. <https://doi.org/10.1007/s13178-019-00383-3>
- Shenkman, G., & Shmotkin, D. (2010). Mental health among Israeli homosexual adolescents and young adults. *Journal of Homosexuality*, 58(1), 97–116. <https://doi.org/10.1080/00918369.2011.533630>
- Siever, M. D. (1994). Sexual orientation and gender as factors in socioculturally acquired vulnerability to body dissatisfaction and eating disorders. *Journal of Consulting and Clinical Psychology*, 62(2), 252–260. <https://doi.org/10.1037/0022-006X.62.2.252>
- Snellings, S. (2019). The “gayfication” of Tel Aviv: Investigating Israel's pro-gay brand. *Queer Cats Journal of LGBTQ Studies*, 3(1), 27–55. <https://doi.org/10.5070/Q531045991>
- Stunkard, A. J., Sorenson, T., & Schlusinger, F. (1983). Use of the Danish Adoption Register for the study of obesity and thinness. In S. Kety, L. P. Rowland, R. L. Sidman, & S. W. Matthysse (Eds.), *The genetics of neurological and psychiatric disorders* (pp. 115–120). New York, NY: Raven Press.
- Sugarman, D. B., Nation, M., Yuan, N. P., Kuperminc, G. P., Hassoun Ayoub, L., & Hamby, S. (2018). Hate and violence: Addressing discrimination based on race, ethnicity, religion, sexual orientation, and gender identity. *Psychology of Violence*, 8(6), 649–656. <https://doi.org/10.1037/vio0000222>
- Sutter, M., & Perrin, P. B. (2016). Discrimination, mental health, and suicidal ideation among LGBTQ people of color. *Journal of Counseling Psychology*, 63(1), 98–105. <https://doi.org/10.1037/cou0000126>
- Swank, E., Fahs, B., & Frost, D. M. (2013). Region, social identities, and disclosure practices as predictors of heterosexual discrimination against sexual minorities in the United States. *Sociological Inquiry*, 83(2), 238–258. <https://doi.org/10.1111/soin.12004>
- Talbot, D., Cass, J., & Smith, E. (2020). Male figural rating scales: A critical review of the literature. *Behaviour Change*, 37(2), 59–73. <https://doi.org/10.1017/bec.2020.5>
- Thompson, M. A., & Gray, J. J. (1995). Development and validation of a new body-image assessment scale. *Journal of Personality Assessment*, 64(2), 258–269. https://doi.org/10.1207/s15327752jpa6402_6
- Tiggemann, M., Martins, Y., & Kirkbride, A. (2007). Oh to be lean and muscular: Body image ideals in gay and heterosexual men. *Psychology of Men and Masculinity*, 8(1), 15–24. <https://doi.org/10.1037/1524-9220.8.1.15>
- Vitak, J., & Ellison, N. B. (2013). ‘There’s a network out there you might as well tap’: Exploring the benefits of and barriers to exchanging informational and support-based resources on Facebook. *New Media & Society*, 15(2), 243–259. <https://doi.org/10.1177/1461444812451566>
- de Vries, D. A., Peter, J., de Graaf, H., & Nikken, P. (2016). Adolescents’ social network site use, peer appearance-related feedback, and body dissatisfaction: Testing a mediation model. *Journal of Youth and Adolescence*, 45(1), 211–224. <https://doi.org/10.1007/s10964-015-0266-4>
- Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health: Socio-economic status, stress and discrimination. *Journal of Health Psychology*, 2(3), 335–351. <https://doi.org/10.1177/135910539700200305>
- Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of facebook research in the social sciences. *Perspectives on Psychological Science*, 7(3), 203–220. <https://doi.org/10.1177/1745691612442904>
- Woodford, M. R., Pacey, M. S., Kulick, A., & Hong, J. S. (2015). The LGBTQ social climate matters: Policies, protests, and placards and psychological well-being among LGBTQ emerging adults. *Journal of Gay & Lesbian Social Services*, 27(1), 116–141. <https://doi.org/10.1080/10538720.2015.990334>
- Ybarra, M. L., Mitchell, K. J., Palmer, N. A., & Reisner, S. L. (2015). Online social support as a buffer against online and offline peer and sexual victimization among U.S. LGBT and non-LGBT youth. *Child Abuse & Neglect*, 39, 123–136. <https://doi.org/10.1016/j.chiabu.2014.08.006>
- Yoon, S., Kleinman, M., Mertz, J., & Brannick, M. (2019). Is social network site usage related to depression? A meta-analysis of facebook–depression relations. *Journal of Affective Disorders*, 248, 65–72. <https://doi.org/10.1016/j.jad.2019.01.026>