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Suicidality among sexual and gender minority youth

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CHAPTER 3

Differences in risk for suicidal ideation and suicide attempts among sexual and gender minority young adults and the moderating role of social support

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Abstract

This study examined whether SGM young adults (cisgender sexual minority, genderqueer and transgender) differed in risk for suicidal ideation and attempts and whether social support (family, heterosexual friends, lesbian, gay, bisexual, and transgender (LGBT) friends, and LGBT community) moderated this association. Participants were recruited online and offline via LGBT organizations and partly via suicide prevention websites. In the current study, 1,408 SGM participants (18 – 29 years) from Flanders and the Netherlands were included. Results of Chi-Square tests demonstrated that transgender and genderqueer participants had higher odds of suicidal ideation and attempts than cisgender, sexual minority participants. Genderqueer and transgender young adults did not differ in risk. Further, logistic regression analyses demonstrated that social support from family and heterosexual friends were associated with lower odds of suicidal ideation and attempts among SGM young adults. Results of the interaction effects between gender identity and social support demonstrated that higher levels of support from the LGBT community exacerbated the association between having a genderqueer identity and past-year suicidal ideation. No other interaction effects were significant. The current study underlines the important role of family social support and the importance of examining gender minority and cisgender, sexual minority young adults as separate groups regarding suicidality. Further research should focus on factors to explain disparities among SGM young adults.

Introduction

Gender minority young adults are at higher risk for suicidal ideation and suicide attempts than cisgender young adults (Eisenberg et al., 2017; Horwitz et al., 2020; Williams et al., 2021). Experiencing gender minority stressors, for example, rejection by family or friends, and non-affirmation of gender identity, could explain mental health disparities between transgender individuals and cisgender individuals (Hendricks & Testa, 2012; Testa et al., 2015). Many studies regarding differences in risk for suicidal ideation compared gender minority youth with cisgender youth, or compared SGM youth with heterosexual, cisgender youth. Up to now, there has been little research among SGM young adults on whether transgender, genderqueer, and cisgender sexual minority young adults differ in risk for suicidal ideation or attempts (that is; suicidality). Moreover, few studies among SGM young adults have examined the potential buffering effect of social support against suicidality. Examining differences between individuals with different gender identities and possible protective factors may aid in the design or improvement of mental health services and interventions targeting gender minority young adults with suicidal ideation. Therefore, this study aims to examine differences in risk for suicidal ideation and suicide attempts between cisgender sexual minority, binary transgender, and genderqueer young adults. In addition, we will examine the role of different types of social support in the association between gender identity and suicidal ideation and attempts.

Differences in suicidality by gender identity

Gender identity refers to how one perceives their gender, for example, man, woman, both, or neither (American Psychological Association, 2021). The terms cisgender and transgender are often used to indicate one's gender identity. Cisgender refers to when one's gender identity matches the sex assigned at birth, and transgender is used as an umbrella term for individuals whose gender identity does not match their sex assigned at birth. Transgender identities can include, for example, transgender men, transgender women, genderqueer, and nonbinary. The gender identity transgender man refers to someone who identifies as a man, and their sex assigned at birth was female, and transgender woman refers to someone who identifies as a woman and their sex assigned at birth was male. Genderqueer or nonbinary is used by individuals who identify as neither men and women, both men and women, or are fluid in their gender identity (American Psychological Association, 2021). This study will use the terms cisgender man and woman, transgender man and woman, and genderqueer young adult to indicate gender identities. We use genderqueer young adults instead of nonbinary young adults in this study because this was the term used in the questionnaire. The term *gender minority* will be used as an umbrella term for transgender identities and *sexual minority* will be used for individuals who do not identify as heterosexual.

Research has demonstrated that gender minority young people are at higher risk

for suicidality compared to cisgender young people (Horwitz et al., 2020; Lefevor, Boyd-Rogers, et al., 2019; Perez-Brumer et al., 2017; Thoma et al., 2019; Toomey, Syvertsen, et al., 2018; Williams et al., 2021). Health disparities between heterosexual, cisgender individuals and sexual and gender minority individuals (SGM) are often explained by minority stress models. These models suggest that SGM individuals may experience stressors related to their gender identity or sexual orientation (Hendricks & Testa, 2012; Meyer, 2003). Previous research among SGM individuals has demonstrated that, for example, victimization, non-affirmation of gender identity, and expected rejection are associated with suicidality (Hatchel, Polanin, et al., 2019; Testa et al., 2017; Williams et al., 2021).

Prior studies that examined differences in risk factors for suicidal ideation and attempts often categorized sexual and gender minority young individuals as one group and compared them to heterosexual, cisgender individuals, or only compared gender minority individuals to cisgender individuals. A study that did examine differences between gender minority and sexual minority young adults, indicated that transgender young adults are even more likely to experience victimization than sexual minority young adults (Lefevor, Boyd-Rogers, et al., 2019), and a study among nonbinary, transgender, and cisgender sexual minority youth who reached out to crisis services found that transgender and nonbinary youth were more likely to report a suicide attempt (Srivastava et al., 2021). In addition, differences in risk for suicidality *among* gender minority young people are also understudied. The few studies that examined differences in risk among gender minority individuals found different results. For example, a study demonstrated that transgender adolescent men had significantly greater odds of lifetime suicidal ideation compared to nonbinary adolescents assigned males at birth (AMAB) and nonbinary adolescents assigned females at birth (AFAB) (Thoma et al., 2019), and no significant differences in odds of suicidal ideation were found between transgender young women, nonbinary, and questioning adolescents (Thoma et al., 2019). Three studies did not find significant differences in risk for past-year or current suicidal ideation among gender minority adolescents and young adults (Horwitz et al., 2020; Lefevor, Boyd-Rogers, et al., 2019; Rimes et al., 2019).

Regarding suicide attempts, one study demonstrated that transgender adolescent men and nonbinary adolescents had a higher prevalence of lifetime suicide attempts than transgender young women and questioning adolescents (Toomey, Syvertsen, et al., 2018). Another study found that transgender men, transgender women, and nonbinary AFAB young adults were more likely than nonbinary AMAB young adults to report a suicide attempt (Rimes et al., 2019).

Taken together, studies demonstrated differences in risk for suicidality between gender minority and cisgender individuals (Horwitz et al., 2020; Thoma et al., 2019; Toomey, Syvertsen, et al., 2018), but did not compare gender minority individuals to

specifically sexual minority cisgender young individuals but also cisgender heterosexual individuals. In addition, research examining differences among gender minority young adults is limited and results are inconclusive. Some studies indicate differences in risk for suicidal ideation between binary transgender and gender nonbinary individuals (Thoma et al., 2019; Toomey, Syvertsen, et al., 2018), while other studies did not find such differences (Horwitz et al., 2020; Lefevor, Boyd-Rogers, et al., 2019). Furthermore, since studies suggest that gender minority young adults have elevated risks for suicidality, it is important to examine what potential protective factors against suicidality are.

Social support and suicidality

Models on sexual orientation and gender minority stress suggest that social support may attenuate the impact of minority stress on mental health (Hendricks & Testa, 2012; Meyer, 2003; Testa et al., 2015). Moreover, the integrated motivational-volitional model of suicidal behavior (IVM) (O'Connor & Kirtley, 2018), which theorizes pathways to suicidal ideation and suicide attempts, posits that factors such as social support and resilience may affect the development of suicidal ideation. The IVM model explains this pathway in three phases. The pre-motivational phase describes biopsychosocial factors, environmental factors, and stressful life events. A combination of factors in the pre-motivational phase may lead to the motivational phase. The motivational phase includes factors that may influence the formation of suicidal ideation. For example, factors such as coping, rumination, social support, and resilience may enhance or buffer the development of suicidal ideation. Then, the third phase, the volitional phase describes factors that may influence the path from suicidal ideation to suicidal behavior (O'Connor & Kirtley, 2018). For the current study, we are particularly interested in the second, motivational phase during which social support may buffer the development of suicidality.

Previous studies have shown the important role of social support concerning the mental health of SGM adolescents and young adults. These studies demonstrated that social support from parents, friends, family, and community were associated with less depressive symptoms, anxiety, and suicidal ideation (McConnell et al., 2015, 2016; Parra et al., 2021; Puckett et al., 2019; Simons et al., 2013; Snapp et al., 2015; Watson et al., 2019). However, studies have also found that gender minority individuals receive less support from family than cisgender individuals (Lefevor, Sprague, et al., 2019) and this was even demonstrated for transgender individuals and their non-transgender siblings (Factor & Rothblum, 2008). In addition, transgender youth reported worse relationships with their parents than cisgender youth (Alanko & Lund, 2020). Whether the impact of social support on suicidality differs among SGM individuals is understudied. To our knowledge, one study examined if social support exacerbated or mitigated the association between gender identity (cisgender, transgender, gender non-

conforming young adults) and psychological distress. Their findings demonstrated that social support did not enhance or mitigate this association (Lefevor, Sprague, et al., 2019).

Current study

The current study examined to what extent young adults with different gender identities differ in risk for suicidal ideation and suicide attempts. We compared transgender men, transgender women, genderqueer young adults AFAB, and genderqueer young adults AMAB with cisgender non-heterosexual men and women. Based on previous research (Horwitz et al., 2020; Rimes et al., 2019; Thoma et al., 2019; Toomey, Syvertsen, et al., 2018), we hypothesized that transgender men and women, genderqueer AMAB, and genderqueer AFAB young adults are more likely to report suicidal ideation and attempts than cisgender sexual minority young adult men and women. In addition, we explored whether social support from heterosexual friends, LGBT friends, family, and the LGBT community buffered or enhanced the association between gender identity and suicidal ideation or attempts. See Figure 3.1 for the conceptual model of the study.

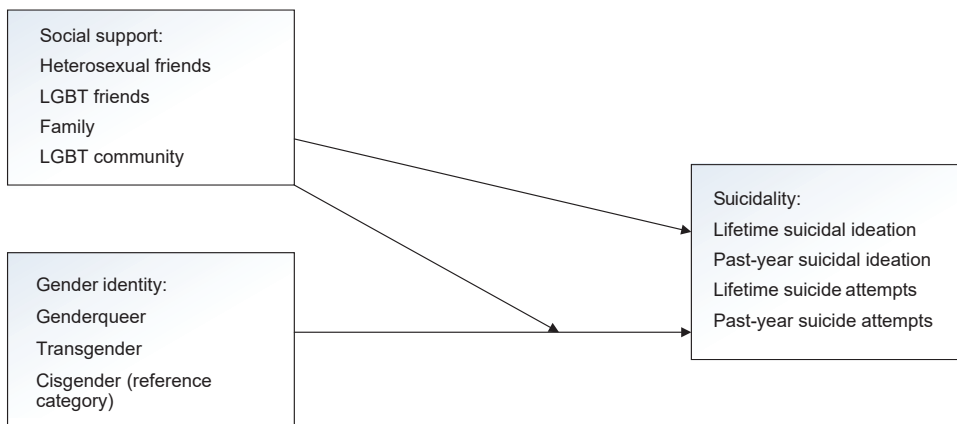


Figure 3.1 Conceptual model of logistic regression analyses in this study. Cisgender young adults identified as sexual minority, and transgender and genderqueer young adults identified as heterosexual and non-heterosexual.

Methods

Participants

The participant sample of the current study is part of a larger data collection which was conducted between September 2015 and February 2017. The full sample consisted of 2,625 Dutch and Belgian SGM individuals aged between 18 and 80 years old. Recruitment of participants occurred through LGBT organizations and their social media, distributing flyers at events, and snowballing. In addition, recruitment was conducted on suicide prevention websites. Participants completed online questionnaires in Dutch and provided informed consent prior to the questionnaire. Ethical approval was given by the ethics committee of the Department of Pedagogy and Educational Sciences of the University of Groningen, and the Ghent University Hospital. This dataset was also utilized for another publication by Parra et al. (2021). This study examined the moderating role of social belongingness between minority stress and suicidal ideation among sexual minority young adults.

For the current study, we included participants aged 18 to 29 years old, which resulted in an analytic sample of 1,408 SGM participants. Crossdressing men and women ($n = 19$) and participants who identified with a different gender identity than listed (e.g., demigender, agender, no label; $n = 24$) were excluded from the analyses due to too the small sample size. See Table 3.1 for sample characteristics. Data from participants not residing in *Belgium* (0) or *the Netherlands* (1) were excluded ($n = 7$). In this study, cisgender sexual minority young adults refer to participants who identified as their sex assigned at birth and identified with a non-heterosexual sexual orientation. Gender minority young adults refer to participants who identified as transgender or genderqueer, but they also may identify as non-heterosexual.

Table 3.1 Sample characteristics

	<i>N</i> (%)
Gender identity	
Transgender man	85 (5.9%)
Transgender woman	38 (2.6%)
Genderqueer assigned male at birth	24 (1.7%)
Genderqueer assigned female at birth	134 (9.2%)
Cisgender man	433 (29.8%)
Cisgender woman	694 (47.8%)
Country of residence	
Belgium	515 (35.5%)
The Netherlands	936 (64.5%)
Education	
Practical/lower	392 (27.0%)
Theoretical/higher	1,059 (73.0%)
Lifetime suicidal ideation	948 (65.3%)
Past-year suicidal ideation	486 (33.5%)
Lifetime suicide attempts	310 (21.4)
Past-year suicide attempts	72 (5.0%)

Measures

Suicidal ideation and suicide attempts

Lifetime suicidal ideation was assessed with a single question: “Have you ever seriously thought about ending your life?” The response options were: yes, multiple times; yes, once; and no, never. The response options were dichotomized into yes (1) and no (0).

Past-year suicidal ideation was assessed with a follow-up question about whether suicidal ideation occurred in the past year: “Have you had these [suicidal] thoughts during the past 12 months?” Response options were yes (1) and no (0). Participants who answered *no* to lifetime suicidal ideation were also assigned (0).

Lifetime suicide attempts was assessed with a single question: “Have you ever attempted suicide?”. The response options were: yes, multiple times; yes, once; and no, never. The response options were dichotomized into yes (1) and no (0).

Past-year suicide attempts was assessed with a follow-up question about whether suicidal ideation had occurred in the past year: “Have you attempted suicide in the past 12 months?”. Response options were yes (1) and no (0). Participants who answered *no*

to lifetime suicide attempts were also assigned (0).

Social support

Perceived social support was assessed with a single question for each support type: “To what extent do you feel supported by the following groups of people?” Answer options were “heterosexual friends”, “LGB friends”, “transgender friends”, “family”, “the LGB community”, and “the transgender community”. Answer options were assessed on a 5-point Likert scale (1 = *not supported* to 5 = *strongly supported*). There was also an option for “not applicable”. Not applicable was recoded into missing values. After that, a mean score of LGB friends and transgender friends was calculated and a mean score for LGB community and transgender community was calculated, resulting in four sources of social support: from heterosexual friends, LGBT friends, family, and the LGBT community.

Gender identity and sexual attraction

Sex assigned at birth was assessed with the question “At birth, you were assigned as:” Answer options were ‘*male*’ and ‘*female*’.

Gender identity was assessed with the question “For some people, sex assigned at birth does not (fully) match their personal identity as male or female. Could you tell us how you currently identify?” Answer categories were ‘*crossdressing man*’, ‘*crossdressing woman*’, ‘*man*’, ‘*woman*’, ‘*trans man*’, ‘*trans woman*’, ‘*genderqueer, poly gender, or gender fluid*’, ‘*different, namely*’. If participants stated that their sex assigned at birth aligned with their current gender identity, it was recoded into cisgender.

Demographics

The questionnaire also included several questions about demographics. Participants were asked about age, sexual attraction, whether they (had) attended vocational education or lower (0), or university (1), and what country they lived in at the moment of filling out the questionnaire.

Data-analysis

IBM SPSS Statistics (version 26) was used to conduct all analyses. First, correlations of key variables were examined and one-way ANOVAs were performed as preliminary analyses. One-way ANOVAs were conducted to compare the means of support variables (heterosexual friends, LGBT friends, family, and LGBT community) between cisgender sexual minority, genderqueer, and transgender young adults. For significant results, we performed post hoc tests with Bonferroni correction. Second, we conducted Chi-Square tests to assess differences in risk for lifetime suicidal ideation, past-year suicidal ideation, and lifetime suicide attempts between transgender men, transgender women,

genderqueer participants AFAB, genderqueer participants AMAB, cisgender sexual minority men, and cisgender sexual minority women. We were unable to conduct a Chi-Square test for past-year suicide attempts with the aforementioned gender identity groups because 25% of the cells had an expected count of less than 5. Therefore, for Chi-Square tests on past-year suicide attempts, we combined transgender young adult men and women into one transgender group, genderqueer participants AMAB and AFAB into one genderqueer group, and cisgender men and women into one cisgender group. For significant Chi-Square tests, post-hoc z-tests with Bonferroni correction were conducted to assess which groups differed from another. Bonferroni was used because multiple comparisons were done for the same outcome variable.

Second, we conducted logistic regression analyses to assess gender identity and social support in association with suicidality outcomes. In addition, we examined whether social support (heterosexual friends, LGBT friends, family, and LGBT community) buffered or enhanced the association between gender identity and suicidal ideation or attempts. Due to too few events in sex-stratified analyses, we included the following three gender identity categories cisgender (0), genderqueer (1), and binary transgender (2). For lifetime suicidal ideation, past-year suicidal ideation, and lifetime suicide attempts we tested three models. For suicide attempts, we tested two models. The first model included age, sex assigned at birth, and gender identity. In the second model support from heterosexual friends, LGBT friends, family, and LGBT community were added. In the third model interaction terms between gender identity and social support were added. Significant interaction effects were assessed using simple slopes analyses (Hayes, 2018). We were unable to examine interaction effects in the model for past-year suicide attempts because of too few events in the outcome variable. Age and sex assigned at birth were included as control variables in all models because analyses showed that they were both significantly correlated with key study variables (see Table 3.2).

Results

Descriptives

Correlations between key variables are shown in Table 3.2. The means and standard deviations of social support variables and the results of the ANOVAs are shown in Table 3.3.

Differences in suicidality by gender identity

Chi-Square tests were conducted for lifetime suicidal ideation, past-year suicidal ideation, and lifetime suicide attempts by gender identity, and all demonstrated differences by gender identity. Results of the Chi-Square tests are shown in Table 3.4. Results for lifetime suicidal ideation showed that cisgender men and cisgender women

Table 3.2 Correlations of key variables

	1	2	3	4	5	6
1. Age	--					
2. Sex assigned at birth ^a	.16**	--				
3. Support from heterosexual friends	-.01	.01	--			
4. Support from LGBT friends	-.10**	-.04	.47**	--		
5. Family support	.11**	.04	.34**	.21**	--	
6. LGBT community support	-.21**	-.07*	.11**	.37**	.11**	--
7. Lifetime suicidal ideation ^a	-.06*	--	-.15**	-.08**	-.22**	-.03
8. Past-year suicidal ideation ^a	-.12**	--	-.18**	-.11**	-.32**	-.05
9. Lifetime suicide attempts ^a	-.03	--	-.13**	-.09**	-.26**	.03
10. Past-year suicide attempts ^a	-.06*	--	-.14**	-.08**	-.21**	-.01

Note. ^a = point-biserial correlations; social support variables minimum = 1 and maximum = 5, sex assigned at birth female = 0 and male = 1; *N* = 1108 - 1408

** *p* < .01

* *p* < .05

were less likely to report lifetime suicidal ideation than genderqueer AFAB participants, transgender men, and transgender women. Genderqueer AMAB participants did not significantly differ from any other gender identity group.

Results for past-year suicidal ideation showed that cisgender men and women were less likely to report past-year suicidal ideation than transgender men and genderqueer AFAB participants. Transgender women only differed from cisgender men, with higher rates of past-year suicidal ideation among transgender women. Genderqueer AMAB participants did not significantly differ from any other gender identity group.

Results for lifetime suicide attempts showed that cisgender men and cisgender women were less likely to report lifetime suicide attempts than genderqueer AFAB participants, transgender men, and transgender women. Genderqueer AMAB participants did not significantly differ from any other group.

Results for past-year suicide attempts by gender identity (not presented in Table 3.4) showed that there were significant differences between genderqueer participants and transgender participants, and cisgender sexual minority participants, $\chi^2(2) = 27.68, p < .001$. Post hoc tests showed that cisgender participants significantly differed from transgender and genderqueer participants. Fewer cisgender participants (3.5%) reported past-year suicide attempts than transgender participants (13.0%) and genderqueer participants (8.9%). Genderqueer and transgender participants did not significantly differ from another in the prevalence of past-year suicide attempts.

Table 3.3 Results of one-way ANOVAs of social support and gender identity

		Cisgender sexual minority young adults	Genderqueer young adults	Transgender young adults	ANOVA	Total sample
Heterosexual friend support	<i>M (SD)</i>	4.28 (0.81) ^a	4.03 (0.98) ^b	3.99 (0.98) ^b	$F(2, 1375) = 11.09, p < .001$	4.23 (0.85)
	<i>n</i>	1109	153	116		
LGBT friend support	<i>M (SD)</i>	4.43 (0.72)	4.42 (0.71)	4.32 (0.80)	$F(2, 1249) = 1.18, p = 0.309$	4.41 (0.73)
	<i>n</i>	984	154	114		
Family support	<i>M (SD)</i>	3.87 (1.08) ^a	3.63 (1.12) ^b	3.28 (1.29) ^c	$F(2, 1375) = 17.06, p < .001$	3.80 (1.11)
	<i>n</i>	1097	152	116		
LGBT community support	<i>M (SD)</i>	3.52 (1.03)	3.55 (0.92)	3.64 (1.04)	$F(2, 1090) = 0.54, p = 0.586$	3.54 (1.02)
	<i>n</i>	859	138	96		

Note. Post hoc tests were conducted with Bonferroni correction. Each group sharing a superscript does not significantly differ from another. *M* = mean; *SD* = standard deviation.

Table 3.4 Comparisons between gender identity groups regarding suicidal ideation and attempts

	Transgender man <i>n</i> (%)	Transgender woman <i>n</i> (%)	Genderqueer AMAB <i>n</i> (%)	Genderqueer AFAB <i>n</i> (%)	Cisgender man <i>n</i> (%)	Cisgender woman <i>n</i> (%)	χ^2 (<i>df</i>)
Lifetime suicidal ideation	71 ^a (83.5%)	35 ^a (92.1%)	17 ^{a,b} (70.8%)	107 ^a (79.9%)	244 ^b (56.4%)	439 ^b (63.3%)	χ^2 (5) = 53.48, <i>p</i> < .001
Past-year suicidal ideation	45 ^a (52.9%)	20 ^{a,b} (52.6%)	12 ^{a,b,c} (50.0%)	64 ^a (47.8%)	107 ^c (24.7%)	219 ^{b,c} (31.6%)	χ^2 (5) = 52.21, <i>p</i> < .001
Lifetime suicide attempts	34 ^a (40.0%)	20 ^a (52.6%)	7 ^{a,b} (29.2%)	42 ^a (31.3%)	61 ^b (14.1%)	133 ^b (19.2%)	χ^2 (5) = 64.68, <i>p</i> < .001

Note. Each group sharing a superscript does not significantly differ from another. AMAB = assigned male at birth; AFAB = assigned female at birth; *n* = 1408, categories “crossdressing” and “other” were not included in these analyses.

Gender identity, social support, and suicidality

Four separate logistic regression analyses were conducted for lifetime suicidal ideation, past-year suicidal ideation, lifetime suicide attempts, and past-year suicide attempts. We assessed age, sex assigned at birth, and gender identity in the first model for all four suicidality outcomes. The results demonstrated that transgender and genderqueer participants were more likely than cisgender participants to report lifetime suicidal ideation, past-year suicidal ideation, lifetime suicide attempts, and past-year suicide attempts (Table 3.5-3.8).

Next, we added all support variables in the second model for all four suicidality outcomes. Results demonstrated that support from family was associated with a lower likelihood of lifetime suicidal ideation, past-year suicidal ideation, lifetime suicide attempts, and past-year suicide attempts (Table 3.5-3.8). Support from heterosexual friends was also associated with a lower likelihood of lifetime suicidal ideation and past-year suicidal ideation. Notable was that participants who reported higher levels of LGBT community support were *more* likely to report lifetime suicide attempts. There were no significant associations between support from LGBT friends and the four suicidality measures.

Table 3.5 Results of logistic regression analysis for lifetime suicidal ideation

	Model 1	Model 2	Model 3
	aOR [95% CI]	aOR [95% CI]	aOR [95% CI]
Gender identity (ref = cisgender)			
Genderqueer	2.00 [1.28, 3.11]	1.79 [1.14, 2.82]	1.89 [1.16, 3.08]
Transgender	4.26 [2.23, 8.14]	3.52 [1.82, 6.81]	3.54 [1.79, 7.00]
Support			
Heterosexual friends		0.79 [0.64, 0.97]	0.75 [0.60, 0.95]
LGBT friends		1.02 [0.80, 1.30]	1.02 [0.79, 1.32]
Family		0.68 [0.59, 0.79]	0.71 [0.60, 0.83]
LGBT community		0.95 [0.82, 1.11]	0.95 [0.80, 1.11]
Genderqueer × support heterosexual friends			1.14 [0.60, 2.16]
Genderqueer × support LGBT friends			1.20 [0.49, 2.91]
Genderqueer × support family			0.70 [0.41, 1.22]
Genderqueer × support LGBT community			0.96 [0.57, 1.61]
Transgender × support heterosexual friends			1.66 [0.65, 4.25]
Transgender × support LGBT friends			0.72 [0.20, 2.58]
Transgender × support family			0.83 [0.42, 1.65]
Transgender × support LGBT community			1.27 [0.59, 2.28]

Note. *N* = 997; CI = confidence interval; aOR = adjusted odds ratio, controlling for sex assigned at birth (0 = female , 1 = male) and age; bold estimates are significant, *p* < .05.

Table 3.6 Results of logistic regression analysis for past-year suicidal ideation

	Model 1	Model 2	Model 3
	aOR [95% CI]	aOR [95% CI]	aOR [95% CI]
Gender identity (ref = cisgender)			
Genderqueer	2.17 [1.47, 3.19]	1.95 [1.30, 2.93]	1.94 [1.27, 2.95]
Transgender	3.10 [1.97, 4.85]	2.43 [1.50, 3.93]	2.38 [1.43, 3.97]
Support			
Heterosexual friends		0.78 [0.65, 0.95]	0.79 [0.63, 1.00]
LGBT friends		0.99 [0.78, 1.26]	1.02 [0.78, 1.34]
Family		0.60 [0.52, 0.69]	0.59 [0.50, 0.69]
LGBT community		0.97 [0.83, 1.14]	0.87 [0.73, 1.05]
Genderqueer × support heterosexual friends			0.98 [0.58, 1.65]
Genderqueer × support LGBT friends			1.14 [0.56, 2.29]
Genderqueer × support family			0.98 [0.64, 1.49]
Genderqueer × support LGBT community			1.79 [1.12, 2.86]
Transgender × support heterosexual friends			0.80 [0.40, 1.58]
Transgender × support LGBT friends			0.61 [0.25, 1.52]
Transgender × support family			1.26 [0.82, 1.95]
Transgender × support LGBT community			1.51 [0.85, 2.68]

Note. $N = 997$; CI = confidence interval; aOR = adjusted odds ratio, controlling for sex assigned at birth (0 = female, 1 = male) and age; bold estimates are significant, $p < .05$.

Table 3.7 Results of logistic regression analysis for lifetime suicide attempts

	Model 1	Model 2	Model 3
	aOR [95% CI]	aOR [95% CI]	aOR [95% CI]
Gender identity (ref = cisgender)			
Genderqueer	2.02 [1.32, 3.10]	1.85 [1.18, 2.89]	1.69 [1.04, 2.77]
Transgender	4.11 [2.60, 6.52]	3.21 [1.98, 5.22]	3.52 [2.07, 6.00]
Support			
Heterosexual friends		0.88 [0.71, 1.09]	0.87 [0.67, 1.14]
LGBT friends		0.88 [0.67, 1.15]	0.84 [0.60, 1.16]
Family		0.60 [0.52, 0.70]	0.60 [0.50, 0.72]
LGBT community		1.26 [1.04, 1.52]	1.34 [1.06, 1.70]
Genderqueer × support heterosexual friends			0.76 [0.44, 1.32]
Genderqueer × support LGBT friends			1.46 [0.70, 3.05]
Genderqueer × support family			0.92 [0.61, 1.40]
Genderqueer × support LGBT community			0.74 [0.45, 1.21]
Transgender × support heterosexual friends			1.57 [0.82, 3.00]
Transgender × support LGBT friends			0.85 [0.36, 2.03]
Transgender × support family			0.97 [0.63, 1.51]
Transgender × support LGBT community			0.87 [0.48, 1.59]

Note. $N = 997$; CI = confidence interval; aOR = adjusted odds ratio, controlling for sex assigned at birth (0 = female, 1 = male) and age; bold estimates are significant, $p < .05$.

Table 3.8 Results of logistic regression analysis for past-year suicide attempts

	Model 1	Model 2
	aOR [95% CI]	aOR [95% CI]
Gender identity (ref = cisgender)		
Genderqueer	3.31 [1.58, 6.96]	2.81 [1.31, 6.02]
Transgender	4.53 [2.12, 9.66]	2.93 [1.31, 6.52]
Support		
Heterosexual friends		0.81 [0.56, 1.16]
LGBT friends		0.88 [0.56, 1.40]
Family		0.56 [0.43, 0.73]
LGBT community		1.17 [0.82, 1.67]

Note. $N = 997$; CI = confidence interval; aOR = adjusted odds ratio, controlling for sex assigned at birth (0 = female, 1 = male) and age; bold estimates are significant, $p < .05$.

For the third model, we added interaction terms between gender identity (reference = cisgender), social support (i.e., heterosexual friends, LGBT friends, family, and LGBT community) for lifetime suicidal ideation, past-year suicidal ideation, and lifetime suicide attempts. Results showed that the interaction between genderqueer and support from the LGBT community was significant for past-year suicidal ideation (Table 3.5-3.7). Follow-up analyses showed that experiencing higher levels of social support from the LGBT community *enhanced* the association between a genderqueer identity and past-year suicidal ideation. When LGBT community support was experienced as relatively high ($b = 1.03$, $SE = 0.32$, $p < .001$) or average ($b = 0.034$, $SE = 0.22$, $p = .002$) there was a significant difference between genderqueer and cisgender participants in the likelihood of past-year suicidal ideation. When support was low ($b = -.96$, $SE = 0.32$, $p = 0.749$) there was no significant difference between genderqueer and cisgender participants in past-year suicidal ideation (See Figure 3.2). All other interaction terms were not significant, indicating that social support did not significantly buffer the association between gender identity and lifetime, past-year suicidal ideation, and lifetime suicide attempts.

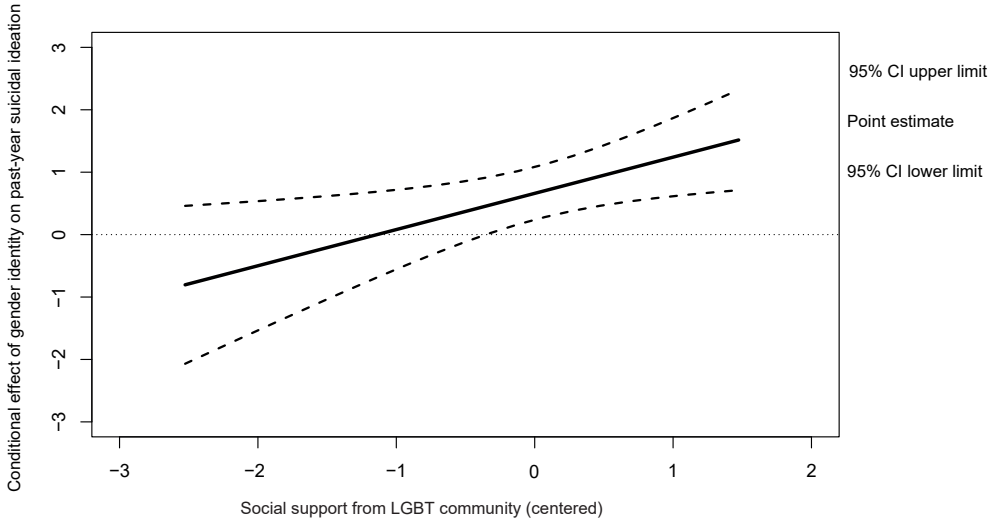


Figure 3.2 Conditional effect of genderqueer identity on past-year suicidal ideation at values of the moderator social support from LGBT community expressed in log odds. CI = confidence interval.

Discussion

The present study examined whether SGM young adults with different gender identities (cisgender men, cisgender women, genderqueer AMAB participants and genderqueer AFAB participants, transgender men and transgender women) differed in risk for suicidal ideation and suicide attempts. Further, we examined whether social support moderated the association between gender identity (cisgender, genderqueer, transgender) and suicidality.

The findings of our study indicate increased risk for suicidal ideation and attempts among gender minority young adults (genderqueer and transgender) compared to sexual minority cisgender young adults, which is in line with our hypotheses and previous research (Rimes et al., 2019; Thoma et al., 2019; Toomey, Syvertsen, et al., 2018). Our findings demonstrated that transgender and genderqueer young adults were 2 to 4.5 times more likely than cisgender sexual minority young adults to report suicidal ideation or attempts. In theoretical work on minority stress (Hendricks & Testa, 2012; Meyer, 2003; Testa et al., 2015), these differences in suicidality are explained by the increased levels of stress and stigmatization among gender minority individuals. Gender minority individuals are more often victimized, discriminated against, and experience violence at higher rates than cisgender individuals (Clark et al., 2014; Factor & Rothblum, 2008; Martín-Castillo et al., 2020), or cisgender sexual minority individuals (Lefevor, Boyd-Rogers, et al., 2019). Our cisnormative society expects people to fall into binary and cisgender categories of male and female. When young adults expand the gender boundaries and express gender in another way, they are at risk of experiencing violence

and discrimination, ultimately resulting in mental health problems, including suicidality (Goldblum et al., 2012).

Regarding differences in risk for suicidality among gender minority young adults, our findings suggest that there are no differences among gender minority young adults (transgender and genderqueer) in rates of lifetime and past-year suicidal ideation or lifetime suicide attempts. Results of previous research on differences between individuals with different gender identities in risk for suicidality were inconsistent (Horwitz et al., 2020; Lefevor, Boyd-Rogers, et al., 2019; Thoma et al., 2019; Toomey, Syvertsen, et al., 2018). In contrast to our findings, some studies did demonstrate differences among gender minority young individuals in risk for suicide attempts (Rimes et al., 2019) and suicidal ideation (Thoma et al., 2019; Toomey, Syvertsen, et al., 2018). We may not have found differences among gender minority young adults because transgender and genderqueer young adults may both experience, for example, gender dysphoria (Lindley & Galupo, 2020; Toomey, 2021) and victimization or rejection because of their gender expression (Anderson, 2020), and as a result, both groups experience equal levels of suicidal ideation. However, it is then not clear why some studies did find differences in risk for suicidality. More research among representative samples is needed regarding differences in risk for suicidal ideation and attempts among gender minority individuals. Especially in the Netherlands and Flanders (Belgium) where, to our knowledge, no other studies examined differences in suicidality among gender minority young adults.

In addition, in line with research on social support and mental health among SGM young individuals (McConnell et al., 2015; Puckett et al., 2019; Snapp et al., 2015), the findings of this study highlight the importance of social support in relation to suicidal ideation and attempts among SGM young adults. Our results demonstrated that social support from family and heterosexual friends were associated with a lower likelihood of suicidal ideation and social support from family was also associated with a lower likelihood of lifetime suicide attempts. This indicates that especially family support serves an important function in the lives of SGM young adults. This is in line with research among SGM young adults demonstrating that family acceptance was associated with lower odds of suicidal ideation and attempts (Ryan et al., 2010), and that family acceptance and support were important predictors for mental health (McConnell et al., 2015; Snapp et al., 2015). For example, SGM youth who perceived a high level of family and friend support were less likely to report suicidality than SGM youth who perceived a low level of family support and a moderate level of friend support (McConnell et al., 2015). In addition, among transgender individuals, those who reported high levels of family and friend support reported less depression and anxiety symptoms than transgender individuals who reported low levels of family support and high levels of friend support (Puckett et al., 2019). In other words, SGM young adults may receive friend support, but overall family support may be most crucial in reducing risk for suicidal ideation and attempts.

However, similar to prior research (Factor & Rothblum, 2008; Lefevor, Sprague, et al., 2019), our results also suggest that transgender and genderqueer young adults receive less family support than cisgender sexual minority young adults. Therefore, increasing family support and acceptance is a critical factor to target in interventions, especially among families of gender minority young adults.

Further, contradictory to our expectations, support from LGBT friends was not associated with any suicidality outcome, and support from the LGBT community was not associated with lifetime suicidal ideation or lifetime suicide attempts. Prior research showed that peer support was associated with less depressive symptoms (Parra et al., 2018; Puckett et al., 2019), and friend support regarding being LGBT was associated with higher levels of life situation and self-esteem while having a gay friend was not (Snapp et al., 2015). However, these studies did not differentiate between support from heterosexual or LGBT friends. Another explanation may be that social support clusters better predict the association with suicidal ideation and attempts. For example, a study on social support clusters suggested that regarding anxiety and hopelessness peer support and significant-other support may be important sources for support when family support is low (McConnell et al., 2015). Further, possibly level of connectedness with friends, the LGBT community, other communities, or other important institutions or individuals also plays a role in the association with suicidal ideation. The ideation-to-action framework suggests that connectedness could protect against suicidal ideation (Klonsky & May, 2015).

In addition, in contrast to our expectations and previous research (Snapp et al., 2015), support from the LGBT community was associated with a higher likelihood of past-year suicidal ideation and enhanced the difference between cisgender and genderqueer young adults in past-year suicidal ideation. One suggestion for this finding may be that gender minority young adults who received less support from their family and/or struggled with their mental health were more likely to seek support from the LGBT community. With the current cross-sectional, correlational design we cannot conclude whether support from the LGBT community preceded or followed the suicidal ideation. In future research, a longitudinal study might help us identify developmental patterns in both suicidality and support-seeking behaviors.

Last, our results demonstrated that other social support types did not moderate the associations between gender identity and suicidal ideation or suicide attempts. This indicates that the impact of social support did not differ among SGM young adults regarding suicidal ideation or suicide attempts.

Limitations and future research

This study has several limitations. First, participants were partly recruited via suicide prevention organizations. Thus, rates of suicidality may not be an accurate reflection of

suicidality rates among SGM young adults and results are not be generalizable to the SGM population. Future research should study differences in risk for suicidal ideation and attempts among a representative sample of SGM young adults in the Netherlands and Flanders. Second, the study had a cross-sectional, correlational design. We are therefore unable able to make statements about causality or temporal order. Third, concerning lifetime suicidal ideation and suicide attempts, we do not know whether participants experienced suicidal ideation or attempted suicide during the time they were aware of their sexual orientation and/or gender identity or whether their suicidal ideation or attempted suicide was associated with their sexual orientation or gender identity. Fourth, social support and suicidal ideation were measured as single items. We were unable to measure social support as a construct and we were not able to conduct reliability and validity analyses. Thus, participants may have interpreted support differently. Future research should measure social support as a construct. There are existing validated measures on social support, for example, the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988) or on community connectedness, for example, a scale from the Gender Minority Stress and Resilience Measure (Testa et al., 2015). Further, future research might examine whether types of social support buffer other associations, for example, between minority stressors and suicidal ideation or attempts. Some research has examined social support as a moderator between minority stress and suicidality (Parra et al., 2021; Scandurra et al., 2017; Trujillo et al., 2017), however, associations between minority stressors and suicidal ideation and attempts are still understudied and especially population-based studies examining this association are limited. Last, future research should further examine what factors could explain health disparities between cisgender, sexual minority and gender minority individuals.

Conclusion and implications

The findings of this study have given insight into subgroup differences among SGM young adults in risk for suicidal ideation and attempts. The study suggests that gender minority young adults were at higher risk for suicidal ideation and attempts than cisgender, sexual minority young adults. These results give implications for clinical and research practices, that is, it is important to view SGM young adults as a group with differences in risk for suicidal ideation and attempts, instead of one group with an equal level of risk. Gender identity or gender expression should be taken into account when examining mental health disparities. In addition, suicide prevention intervention should have attention for gender diversity and its possible associated aspects that relate to suicidal ideation, for example, lack of support.

Further, this study demonstrated that social support from heterosexual friends and family is related to a lower likelihood of suicidal ideation and attempts. Given that SGM young adults are not always accepted by their parents or family (Grossman et

al., 2021; Ryan et al., 2009), it is important that clinical practice also focuses on other support resources such as friends or significant others (McConnell et al., 2015), but also to increase. Taken together, SGM young adults are a diverse group with differences in risk for suicidal ideation, and social support plays an important role in the association with suicidal ideation and attempts.