**The Mediating Role of Family Acceptance and Conflict on Suicidality among Sexual and Gender Minority Youth**

David A. Klein, MD, MPH,a,b Anwar E. Ahmed, PhD,c,d Mikela A. Murphy, BA,d,e Arielle T. Pearlman, BA,d,e Nia Johnson, BS,d,e Joshua C. Gray, PhD,e Natasha A. Schvey, PhDe

a Department of Family Medicine, Uniformed Services University, Bethesda, MD

b Department of Pediatrics, Uniformed Services University, Bethesda, MD

c Department of Preventive Medicine and Biostatistics, Uniformed Services University, Bethesda, MD

d The Henry M. Jackson Foundation for the Advancement of Military Medicine (HJF), Bethesda, MD

e Department of Medical and Clinical Psychology, Uniformed Services University, Bethesda, MD

**Correspondence to:**

David A. Klein, MD, MPH

Department of Family Medicine

Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814

United States

Phone: 443-293-6804

Email: david.a.klein26.mil@mail.mil

**Co-authors’ institutional addresses**

Anwar E. Ahmed, PhD - anwar.ahmed.ctr@usuhs.edu; Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814, USA

Mikela A. Murphy, BA - mikela.murphy.ctr@usuhs.edu; Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814, USA

Arielle T. Pearlman, BA - arielle.pearlman@usuhs.edu; Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814, USA

Nia Johnson, BS - nia.md.johnson@gmail.com; Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814, USA

Joshua C. Gray, PhD - joshua.gray@usuhs.edu; Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814, USA

Natasha A. Schvey, PhD - natasha.schvey@usuhs.edu; Uniformed Services University

4301 Jones Bridge Road, Bethesda, MD, 20814, USA

**Key Words:** LGBT, suicidal behaviors, suicide, parent, transgender, children

**Acknowledgements:** none

**Reprints:** Reprints are not available from the authors

**Disclaimers:** The opinions and assertions expressed herein are those of the authors and are not to be construed as reflecting the views of Uniformed Services University (USU), the Department of the Air Force, the United States Department of Defense, or the U.S. Government.

Title 17 U.S.C. 105 provides that 'Copyright protection under this title is not available for any work of the United States Government.' Title 17 U.S.C. 101 defines a United States Government work as a work prepared by a military service member or employee of the United States Government as part of that person's official duties.

**Author Disclosure Statement**

**Funding/Research Support:** The research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. There are no acknowledgements of support or assistance.

**Conflict of Interest Disclosures (includes financial disclosures):** The authors have no relevant conflicts of interest to disclose.

**Abbreviations:** K-SADS - Kiddie Schedule for Affective Disorders and Schizophrenia; SGM – sexual and gender minority

**Additional Information:** Data used in the preparation of this article were obtained from the Adolescent Brain Cognitive Development (ABCD) Study (https://abcdstudy.org), held in the National Institute of Mental Health Data Archive (NDA). This is a multisite, longitudinal study designed to recruit more than 10,000 children aged 9 to 10 years and follow-up with them over 10 years into early adulthood. The ABCD Study is supported by the National Institutes of Health and additional federal partners under award numbers U01DA041022, U01DA041028, U01DA041048, U01DA041089, U01DA041106, U01DA041117, U01DA041120, U01DA041134, U01DA041148, U01DA041156, U01DA041174, U24DA041123, and U24DA041147. A full list of supporters is available at https://abcdstudy.org/federal-partners/. A listing of participating sites and a complete listing of the study investigators can be found at https://abcdstudy.org/principal-investigators.html. ABCD consortium investigators designed and implemented the study and/or provided data but did not necessarily participate in analysis or writing of this report. This article reflects the views of the authors and may not reflect the opinions or views of the National Institutes of Health or ABCD consortium investigators. The ABCD data repository grows and changes over time.

**The Mediating Role of Family Acceptance and Conflict on Suicidality among Sexual and Gender Minority Youth**

**Abstract**

**Introduction:** Prior research suggests sexual and gender minority (SGM) youth are profoundly impacted by levels of parental support. This study assessed mediating effects of generalized family acceptance and conflict on lifetime suicidal behaviors among a large diverse sample comprising both SGM and non-SGM youth in early adolescence, when intervention to optimize family dynamics may be critical.

**Materials:** Using data from the first-year follow-up of the Adolescent Brain Cognitive Development Study based in the United States, mediation was tested using a binary logistic regression model fitted with a generalized structural equation. Models included SGM status as the independent variable, family acceptance or family conflict sum score as the mediator, and the presence of lifetime suicidal behaviors as the dependent variable. Models adjusted for age, birth-assigned sex (as reported by the parent/guardian), and race/ethnicity.

**Results:** Of 11,235 youths, lifetime suicidal behaviors were reported by 1.5% (n = 164). Youths with SGM identities reported 40% less parental acceptance and 47% greater family conflict, compared to non-SGM peers. Both parental acceptance and family conflict partially mediated associations between SGM identification and odds of lifetime suicidal behavior (*p*s=.001).

**Conclusions:** Identification of modifiable risk factors for suicidality in this vulnerable population, including parental acceptance and family conflict, is critical to improving health outcomes. Clinicians should work with SGM youth and their families starting in childhood to optimize family dynamics and bolster acceptance to potentially reduce adverse health outcomes.

**Key Words:** LGBT, suicidal behaviors, suicide, parent, transgender, children, adolescents

**Highlights:**

Youths with SGM identity reported 40% less parental acceptance than non-SGM peers.

Parental acceptance was associated with lower odds of lifetime suicidal behaviors.

Family factors partially mediated SGM status and suicidal behaviors association.

**Introduction**

Suicide rates among youth are increasing in the United States (Curtin, 2020). One group particularly vulnerable to suicidal behaviors and other adverse mental health outcomes is sexual and gender minority (SGM) youth (Blashill, Fox, Feinstein, Albright, & Calzo, 2021), who face high rates of stigma, discrimination, and disparities across social environments and healthcare domains (Hatzenbuehler, & Pachankis, 2016).Therefore, identifying modifiable risk factors for suicidality to mitigate untoward outcomes, and protective factors that can be optimized to foster positive development, is critical starting in childhood (Blashill, Fox, Feinstein, Albright, & Calzo, 2021).

Family factors affect rates of suicidality among youth (DeVille, Whalen, Breslin, Morris, Khalsa, Paulus, & Barch, 2020; Mills-Koonce, Rehder, & McCurdy, 2018).However, studies examining family factors and suicidality among SGM youth have largely been limited to small samples of older adolescents (Katz-Wise, Rosario, & Tsappis, 2016; Ryan, Huebner, Diaz, & Sanchez, 2009; McConnell, Birkett, & Mustanski, 2016; Bouris, Guilamo-Ramos, Pickard, Shiu, Loosier, Dittus, Gloppen, & Michael Waldmiller, 2010), and the degree to which early family acceptance and conflict mediate suicidality among youth is poorly understood. In studies of gay, lesbian, and bisexual high school students in one geographic location in the United States, family connectedness was found to be significantly protective against suicidality (Eisenberg & Resnick, 2006; Taliaferro & Muehlenkamp, 2017).

Parent-child attachment affects distal relationship development (Mills-Koonce, Rehder & McCurdy, 2018; Katz-Wise, Rosario, & Tsappis, 2016). Prior research suggests this may be particularly true among SGM youth; parental rejection negatively and profoundly impacts health while acceptance fosters a healthy sense of self (Mills-Koonce, Rehder & McCurdy, 2018; Katz-Wise, Rosario, & Tsappis, 2016). Therefore, this study assessed mediating effects of generalized (i.e., not specific to one’s SGM identity) family acceptance and conflict on lifetime suicidal behaviors among a large diverse sample comprising both SGM and non-SGM youth in early adolescence, when intervention to optimize family dynamics may be critical.

**Materials and Methods**

*Participants*

Data were drawn from the first-year follow-up of the Adolescent Brain Cognitive Development Study (<https://abcdstudy.org/scientists/protocols/>) (Adolescent Brain Cognitive Development Study). At each study site, parents and youths provided written consent or assent, respectively (Adolescent Brain Cognitive Development Study). Local study procedures were approved by the authors’ Institutional Review Board. To determine SGM identification, children were surveyed via a computerized query: “Are you gay or bisexual?” and “Are you transgender?” In accordance with prior research, youths responding “yes” or “maybe” to either item were coded as probable SGM (Schvey, Pearlman, Klein, Murphy, & Gray, 2021). Lifetime (past and current) suicidal behaviors were self-reported by youths via the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS), a computerized semi-structured diagnostic interview (Kaufman, Birmaher, Brent, Rao, Flynn, Moreci, Williamson, & Ryan, 1997). Youths reporting at least one suicidal behavior (i.e., prior attempts and/or preparatory actions) were coded as having endorsed lifetime suicidal behavior.

Children’s perceived parental acceptance was assessed using the sum of the 5-item Acceptance subscale of the Children’s Report of Parent Behavior Inventory. Sample items include: “(this parent) Is able to make me feel better when I am upset” and “(this parent) Believes in showing his/her love for me.” Response options range from 1 (not like him/her) to 3 (a lot like him/her); higher scores indicate greater family acceptance. Children’s perceived family conflict was measured using the sum of the Conflict subscale of the Family Environment Scale, which is comprised of nine true or false statements, such as “We fight a lot in our family” and “Family members hardly ever lose their tempers (*reverse scored*).” Higher scores indicate greater family conflict. Both measures demonstrated acceptable internal reliability (Cronbach’s α =.72 and .67, respectively).

*Statistical Analysis*

Mediation was tested using a binary logistic regression model fitted with a generalized structural equation in STATA 14.0. The model included SGM status (0 = no, 1= yes) as the independent variable, family acceptance or family conflict sum score as the mediator, and the presence (0= no, 1= yes) of lifetime suicidal behaviors as the dependent variable. Models adjusted for age, birth-assigned sex (as reported by the parent/guardian), and race/ethnicity. Missing data were handled with pairwise deletion. Significant mediation is demonstrated whenever the confidence interval of the indirect effect does not include 1.

**Results**

The sample comprised 11,235 youth (Mage = 10.93 ± .64 years; 47.7% birth-assigned females, 53.3% white, 14.2% Black, 19.8% Hispanic, 2.2% Asian, and 10.5% “Other”) (table 1). Approximately 4% (n = 436) of the sample reported probable sexual (3.5%, *n* = 391) and/or gender (.9%, *n* = 99) minority identification. Lifetime suicidal behaviors were reported by 1.5% (n = 164) of youths (7.4% of SGM youths and 1.2% of non-SGM youths, χ2 = 108.19, *p* < .001). The mean parental acceptance score was 14.0 ± 1.4 (range: 5 ‒ 15) and mean family conflict score was 1.92±1.88 (range: 0 ‒ 9).

SGM identification was negatively associated with parental acceptance (OR = 0.60; 95% CI: 0.53-0.68), such that youths with SGM identities reported 40% less parental acceptance than non-SGM peers. Further, greater parental acceptance was associated with lower odds of lifetime suicidal behaviors (OR = 0.84; 95% CI: 0.76-0.92) (Table 2). The direct effect of SGM identification on suicidal behaviors was significant (OR=6.02; 95% CI: 3.90-9.29). The indirect effect of SGM on lifetime suicidal behaviors was also significant, indicating that parental acceptance partially mediated the association between SGM status and lifetime odds of suicidal behaviors (OR = 1.09; 95% CI: 1.04-1.15), accounting for 4.79% of the total effect (Figure 1).

SGM identification was positively associated with family conflict (OR = 1.47; 95% CI: 1.23-1.76), such that those with SGM identities reported 47% more family conflict than non-SGM peers. Greater family conflict was associated with greater odds of lifetime suicidal behaviors (OR = 1.27; 95% CI: 1.18-1.37). The indirect effect was significant, indicating mediation of family conflict in the association between SGM status and lifetime odds of suicidal behaviors (OR = 1.10; 95% CI: 1.04-1.15), accounting for 4.76% of the total effect (Figure).

**Discussion**

The current findings demonstrate that youths with SGM identities report 40% less parental acceptance and 47% greater family conflict, compared to non-SGM peers. Further, results indicate that the association between SGM identification and risk for suicidal behaviors is partially accounted for by lower parental acceptance and higher family conflict. This study supports prior research suggesting that interpersonal, structural, and individual level factors contribute to minority stress and subsequent adverse outcomes (Hatzenbuehler, & Pachankis, 2016). Results also demonstrate that prior findings regarding family dynamics and interpersonal interactions (Hatzenbuehler, & Pachankis, 2016; Mills-Koonce, Rehder, & McCurdy, 2018; Katz-Wise, Rosario & Tsappis, 2016) may generalize to younger adolescents.

*Strengths and Limitations*

Strengths of this study include a robust and diverse sample of youth and validated study measures. Limitations include the fact that, given the small proportion of youths identifying as transgender, current analyses combined sexual minority and gender minority youths. Future research should examine these groups separately as experiences and risk and protective factors may vary by subgroup. An additional limitation is the use of general (i.e., non-SGM-specific) measures of parental acceptance and family conflict, which may not accurately capture family dynamics that are specific to, or resulting from, the child’s SGM identity. As terminology evolves, some participants may not identify with narrow study descriptors such as *gay* or *transgender*, leading to an underreporting of other diverse or non-binary SGM identities. SGM identities continue to develop through adolescence; therefore, future longitudinal analyses should characterize temporal trends between family dynamics and risk and protective factors, and elucidate potentially important effects of intersectionality (e.g., race disparities) in this population.

**Conclusions**

The current study found that both parental acceptance and family conflict significantly mediated the associations between SGM identification and odds of suicidal behaviors in a large sample of youth. Identification of modifiable risk factors for suicidality in this vulnerable population is critical to improving outcomes. Clinicians should work with SGM youths and their families starting in childhood to optimize family dynamics and bolster acceptance to potentially reduce adverse health outcomes (Mills-Koonce, Rehder, & McCurdy, 2018; Olson, Durwood, DeMeules, & McLaughlin, 2016; Hale, Chertow, Weng, Tabuenca, & Aye, 2021).

**References:**

Adolescent Brain Cognitive Development Study. [cited 2021 Sep 1] Available from: https://abcdstudy.org/scientists/protocols/

Blashill, A. J., Fox, K., Feinstein, B. A., Albright, C. A., & Calzo, J. P. (2021). Nonsuicidal self-injury, suicide ideation, and suicide attempts among sexual minority children. *J Consult Clin Psychol*, 89(2), 73-80.

Bouris A, Guilamo-Ramos V, Pickard A, Shiu, C., Loosier, P.S., Dittus, P., Gloppen, K., & Michael Waldmiller. J. (2010). A systematic review of parental influences on the health and well-being of lesbian, gay, and bisexual youth: time for a new public health research and practice agenda. *J Prim Prev*, 31(5-6), 273-309.

Curtin, S. C. (2020). State suicide rates among adolescents and young adults aged 10–24: United States, 2000–2018. *National Vital Statistics Reports*, 69, Hyattsville, MD: National Center for Health Statistics.

DeVille, D. C., Whalen, D., Breslin, F. J., Morris, A. S., Khalsa, S. S., Paulus, M. P., & Barch, D. M. (2020). Prevalence and family-related factors associated with suicidal ideation, suicide attempts, and self-injury in children aged 9 to 10 Years. *JAMA network open*, 3(2), e1920956.

Eisenberg, M. E., & Resnick, M. D. (2006). Suicidality among gay, lesbian and bisexual youth: the role of protective factors. *J Adolesc Health*, 39(5), 662-668.

Hale, A. E., Chertow, S. Y., Weng, Y., Tabuenca, A., & Aye, T. (2021). Perceptions of support among transgender and gender-expansive adolescents and their parents. *J Adolesc Health,* 2021, 68(6), 1075-1081.

Hatzenbuehler, M. L., & Pachankis, J. E. (2016). Stigma and minority stress as social determinants of health among lesbian, gay, bisexual, and transgender youth: Research evidence and clinical implications. *Pediatr Clin North Am*, 63(6), 985-997.

Katz-Wise, S. L., Rosario, M., & Tsappis, M. (2016). Lesbian, gay, bisexual, and transgender youth and family acceptance. *Pediatr Clin North Am,* 63(6), 1011-1025.

Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D., & Ryan, N. (1997). Schedule for affective disorders and schizophrenia for school-age children - present and lifetime version (K-SADS-PL): initial reliability and validity data. *J Am Acad Child Adolesc Psychiatry.* 36(7), 980-988.

McConnell, E. A., Birkett, M., & Mustanski, B. (2016). Families matter: Social support and mental health trajectories among lesbian, gay, bisexual, and transgender youth. *J Adolesc Health*, 59(6), 674-680.

Mills-Koonce, W. R., Rehder, P. D., & McCurdy, A. L. (2018). The significance of parenting and parent-child relationships for sexual and gender minority adolescents. *J Res Adolesc*, 28(3), 637-649.

Olson, K. R., Durwood, L., DeMeules, M., & McLaughlin, K. A. (2016). Mental health of transgender children who are supported in their identities. *Pediatrics*, 137(3), e20153223.

Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics,* 123(1), 346-352.

Schvey, N. A., Pearlman, A. T., Klein, D. A., Murphy, M. A., & Gray, J. C. (2021). Obesity and eating disorder disparities among sexual and gender minority youth. *JAMA Pediatr*, 175(4), 412-415.

Taliaferro, L. A., & Muehlenkamp, J. J. (2017). Nonsuicidal self-injury and suicidality among sexual minority youth: risk factors and protective connectedness factors. *Acad Pediatr*., 17(7), 715-722.

**Table 1. Participant Demographics (N = 11,325)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **SGM** | **Non-SGM** | **Total Sample** |
|  | **N (%)** | **N (%)** | **N (%)** |
| Birth-Assigned Sexa |  |  |  |
| Male | 94 (21.6) | 5758 (53.5) | 5879 (52.3) |
| Female | 342 (78.4) | 4999 (46.5) | 5356 (47.7) |
| Race |  |  |  |
| White | 262 (60.1) | 5711 (53.1) | 5988 (53.3) |
| Black | 53 (12.2) | 1531 (14.2) | 1595 (14.2) |
| Hispanic | 71 (16.3) | 2145 (19.9) | 2226 (19.8) |
| Asian | 3 (.7) | 241 (2.2) | 246 (2.2) |
| Other/Unknown | 47 (10.8) | 1129 (10.5) | 1180 (10.5) |
| Sexual and Gender Minority Status |  |  |  |
| Sexual Minority | 391 (89.7) | --- | 391 (3.5) |
| Gender Minority | 99 (22.7) | --- | 99 (.9) |
| Lifetime Suicidal Behaviors Reported | 32 (7.3) | 132 (1.2) | 164 (1.5) |
|  |  |  |  |
|  | **M ± SD** | **M ± SD** | **M ± SD** |
| Age (y) | 11.02 ± .65 | 10.91 ± .64 | 10.9 ± .64 |
| Family Conflict (Range: 0 ‒ 9) | 2.29 ± 1.99 | 1.90 ± 1.87 | 1.9 ± 1.9 |
| Family Acceptance (Range: 5‒ 15) | 13.59 ± 1.72 | 14.04 ± 1.42 | 14 ± 1.4 |

**Note: a** as reported by parent/guardian

SGM – Sexual or gender minority

**Table.** Sexual and Gender Minority Status and Lifetime Suicidal Behaviors through Family Acceptance and Conflict

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Ba | *p* | OR | 95% CI |
| **Lifetime suicidal behaviors**b | | | | |
| Sexual or gender minority identity | 1.80 | 0.001 | 6.02 | 3.90 ‒ 9.29 |
| Birth-assigned female sex | -0.36 | 0.036 | 0.70 | 0.50 ‒ 0.98 |
| Age | 0.28 | 0.025 | 1.32 | 1.04 – 1.69 |
| White | -0.17 | 0.489 | 0.84 | 0.52 – 1.36 |
| Hispanic | -0.17 | 0.567 | 0.85 | 0.48 – 1.50 |
| Black | 0.34 | 0.219 | 1.40 | 0.82 – 2.39 |
| Family acceptancec | -0.18 | 0.001 | 0.84 | 0.76 – 0.92 |
| Family conflictd | 0.24 | 0.001 | 1.27 | 1.18 – 1.37 |
| Intercept | -5.45 | 0.001 |  |  |
|  |  |  |  |  |
| **Mediation Models** | | | | |
|  | | | | |
| **Parental acceptancec** |  |  |  |  |
| Sexual or gender minority identity | -0.51 | 0.001 | 0.60 | 0.53 – 0.68 |
| Intercept | 13.93 | 0.001 |  |  |
| Error variance | 1.76 |  |  |  |
| Total effect | 1.88 | 0.001 | 6.58 | 4.28 – 10.13 |
| Indirect effect | 0.09 | 0.001 | 1.09 | 1.04 – 1.15 |
|  |  |  |  |  |
| **Family conflict#** |  |  |  |  |
| Sexual or gender minority identity | 0.39 | 0.001 | 1.47 | 1.23 – 1.76 |
| Intercept | 1.90 | 0.001 |  |  |
| Error variance | 3.53 |  |  |  |
| Total effect | 1.89 | 0.001 | 6.60 | 4.27 – 10.21 |
| Indirect effect | 0.09 | 0.001 | 1.10 | 1.04 – 1.15 |

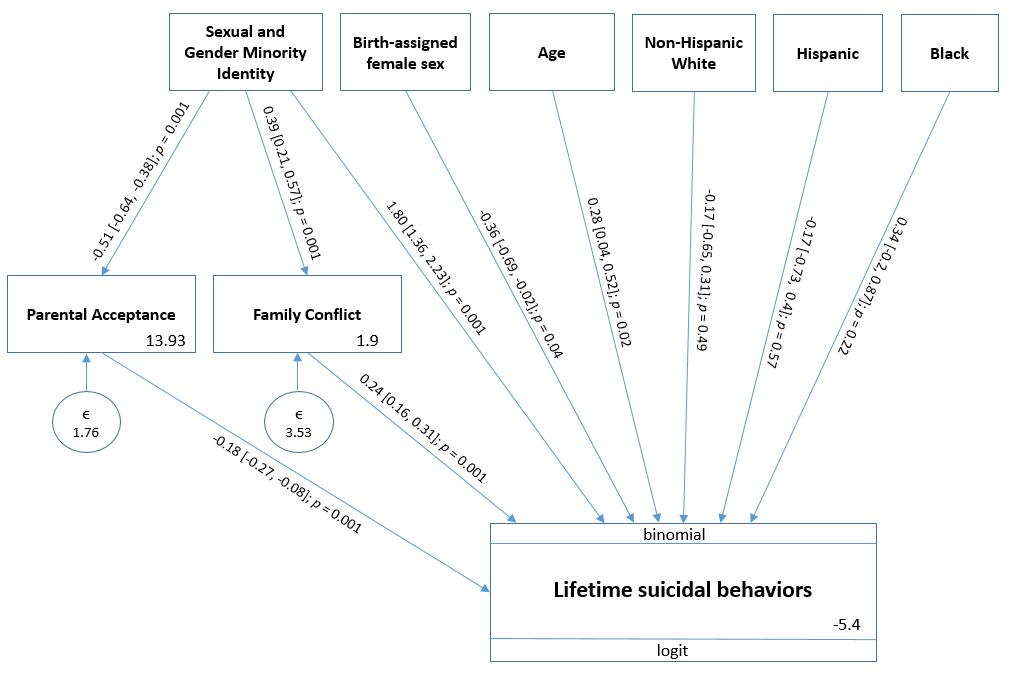
a Unstandardized betas

b K-SADS diagnoses indicating past or present preparatory actions toward imminent suicidal behavior or a suicide attempt (including an interrupted or aborted attempt)

c Higher scores indicate greater acceptance; model adjusts for covariates

d Higher scores indicate greater conflict; model adjusts for covariates

**Figure:**



**Figure Legend:** Mediation model using path analysis demonstrating the relationship between sexual and gender minority youth and lifetime suicidal behaviors through family acceptance and conflict (n = 11,235). Values along paths are unstandardized betasfrom a binary logistic regression model fitted by the generalized structural equation in STATA 14.0. Variance for error is marked (ϵ) and model intercepts are noted in the boxes.