



Contextualizing the Well-being of Asexual Youth: Evidence of Differences in Family, Health, and School Outcomes

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Received: 21 July 2021 / Accepted: 7 September 2021 / Published online: 22 September 2021
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Abstract

Despite increasing efforts to better understand sexual and gender minority youth (SGMY), asexual youth remain understudied. This study examines differences in health, family support, and school safety among asexual youth ($n = 938$) from a national study of SGMY ($N = 17,112$) ages 13–17. Compared to non-asexual youth, asexual youth were more likely to identify as transgender and report a disability, and less likely to identify as Black or Hispanic/Latino. Transgender (versus cisgender) asexual youth fared worse on most study outcomes. Cisgender asexual (versus cisgender non-asexual) youth fared worse on all study outcomes. Transgender asexual (versus transgender non-asexual) youth reported lower sexuality-related family support. These findings underscore the role of gender identity in understanding the experiences of asexual youth.

Keywords Asexuality · Sexual and gender minority youth · LGBTQ · Social support · Mental health

Introduction

Research suggests that asexual people (i.e., an individual who experiences little to no sexual attraction; Yule et al., 2017) make up between 0.4 and 3.3% of the population (Greaves et al., 2017); yet however little is known about the experiences of asexual youth, despite a proliferation of diverse identities among sexual and gender minority youth (SGMY; Watson et al., 2020). Additionally, many commonly studied outcomes among SGMY (e.g., family social support; Watson et al., 2019b) have yet to be investigated among asexual populations. Previous work that has been conducted among asexual youth and emerging adults note greater levels of depression, anxiety (Borgogna et al., 2019), and perceived stress (McInroy et al., 2020) compared to non-asexual lesbian and gay individuals. Thus,

because research suggests there may be worse outcomes for asexual youth compared to non-asexual (including cisgender heterosexual) and other SM youth, the need for additional studies to better understand factors that may contribute to negative mental health outcomes in asexual youth is well documented (Yule et al., 2017). This is a critical gap given that many of these outcomes, such as those related to mental health, family life, and school have long-term impacts into adulthood for SGMY (Fish, 2020). As such this study investigated experiences of asexual youth as they relate to depression, self-esteem, stress management, sexuality-related and general family social support, and perceptions of school safety in a large national non-probability study of SGMY.

Asexuality and Identity

Asexuality is an emerging sexual identity that has not received proportionate scholarly attention relative to other sexual minorities; given recent research that indicates disparities relative to other heterosexual and sexual minority youth (e.g., asexual youth report greater anxiety than non-asexual SMY; McInroy et al., 2020), understanding relevant outcomes where asexual youth may be struggling is needed. Asexual is an identity label that encompasses people who experience little or no sexual attraction

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(Yule et al., 2017). Asexuality is often used broadly to describe various asexualities within the asexual community and includes people with other asexual identities, such as those who are grey-a (i.e., people who experience sexual attraction that falls somewhere between sexual and asexual) or demisexual (i.e., people who experience sexual attraction only after a deeper emotional bond has been established; Carrigan, 2011). Asexuality is also not necessarily a mutually exclusive identity, unlike many other sexual identities. That is, people may identify as asexual and another sexual identity (e.g., a gay asexual individual), and also be characterized by the absence or presence of romantic attraction, which means asexual individuals are an inherently diverse and heterogeneous community of sexual minority people (Clark, 2019).

Asexuality is still misunderstood within the general population and definitions of the term vary widely among researchers (Clark, 2019). The research that has been conducted, however, indicates that sexual people's attitudes toward asexual people are particularly distinct and dehumanizing (MacInnis & Hodson, 2012). That is, non-asexual people commonly dehumanize asexual people and perceive them as "robotic" or lacking in compassion or empathy (Hodson et al., 2014) and sexual people do not often recognize asexuality as a sexual identity, and may discredit asexual people (Hoffarth et al., 2016). Sexual people's negative attitudes toward asexual people and about asexuality likely impact the experiences of asexual youth and how they see themselves, given that romantic and sexual relationships are especially salient during adolescence (Russell & Fish, 2016). Thus, asexual youth may be expected to navigate the complexities of school life with few or no cultural scripts of asexuality and potentially with support systems (e.g., parents) who lack knowledge about or who may even be hostile toward asexuality (Robbins et al., 2016).

Asexual people also report intersectional experiences that may not necessarily occur among other sexual identity groups. Previous literature suggests that individuals who identify as queer or pansexual are more likely to also identify under the transgender umbrella (e.g., transgender man, nonbinary; Morandini et al., 2017), and asexual youth might show a similar pattern (McInroy et al., 2020). One potential explanation as to why the individuals in these groups (e.g., asexual; Gressgård, 2013) identify with diverse gender identities is that these individuals may not feel the need to conform to conventional social norms, such as binary or cisgender identities, leading to a greater proportion of gender minority people (Morandini et al., 2017).

Some individuals also report that their sexual and gender identities are fundamentally tied together and reciprocally shape one another (Galupo et al., 2016a, b), which in turn shapes how they navigate their social relationships (Cuthbert, 2019) and may also impact relevant outcomes.

However, what experiences may or may not change among asexual people based on whether they are transgender or cisgender are still unclear. Research suggests disparities among cisgender SM groups (e.g., bisexual youth report worse mental health than gay youth; Russell & Fish, 2016) and thus, understanding how asexual identity plays a role in relevant health outcomes (e.g., depression; stress) relative to other SM youth is also unclear. Given the complex intersection of sexual and gender identity, and the still present disparities between cisgender and transgender youth (Russell & Fish, 2016), separating studying these groups within asexual samples is an important goal of investigating experiences within asexual communities (i.e., differences between cisgender and transgender asexual youth) as well as differences within cisgender (i.e., differences between cisgender asexual and cisgender non-asexual youth) and transgender (i.e., differences between transgender asexual and transgender non-asexual youth) communities.

Mental Health, Family, and School Experiences among SGMY

With adolescence marking a critical period of cognitive and identity-related development, ensuring positive mental health among youth is imperative (Fish, 2020). SGMY report worse mental health outcomes compared to their cisgender and/or heterosexual peers, such as higher rates of depression or suicidal ideation (Hall, 2018), lower self-esteem (Russell & Fish, 2016), and greater stress (Krueger et al., 2018). However, little is known about the mental health of asexual youth. Some research indicates that asexual youth report greater levels of depression and internalized homophobia compared to non-asexual SMY (McInroy et al., 2020). This may be due to the internalization of asexual stigma, as research suggests that sexual people report uniquely dehumanizing attitudes toward asexual people (MacInnis & Hodson, 2012) as well as the broader societal stigma focused on SM people (Robbins et al., 2016). Thus, a compounding effect may be occurring such that the combination of these two stigmas leads to greater levels of depression and internalized homophobia. In addition, with GMY often reporting even worse mental health outcomes compared to cisgender youth, distinguishing the experiences of asexual youth (cisgender and transgender) relative to non-asexual SMY (cisgender and transgender) is necessary. Revisiting past findings (McInroy et al., 2020) and extending this work to include additional health outcomes such as self-esteem, which have long-term implications for development (e.g., developmental impact on psychopathology; Fish, 2020), is an important next step in contextualizing the experiences of asexual youth within SGM communities.

Social support from family is also an important area of study for all youth, including SGMY (Watson et al., 2019b),

for a number of reasons (e.g., reduced depressive symptoms; Puckett et al., 2019). For example, feeling supported by one's family can be promotive of well-being (Watson et al., 2019a). Although some youth might feel generally supported and cared for by family members, others may still feel as if their SGM identity is not supported by family members (Snapp et al., 2015). At the same time, feeling that one's SGM identity is supported by family (i.e., sexuality-related social support; Snapp et al., 2015) is associated with reduced likelihood of youth suicidal ideation, and depression and anxiety (McConnell et al., 2015). For transgender youth, family social support is associated with positive outcomes such as greater life satisfaction (Guss et al., 2016). Given that transgender SMY may have to navigate aspects of sexuality- and gender-related social support (Pariseau et al., 2019), understanding if asexual youth's experiences differ based on gender identity is imperative to understanding their mental health and related outcomes.

Currently, it is not known whether or not asexual youth feel supported by their family—whether related to their sexuality or more generally. Research indicates that non-asexual adults often hold negative views of asexual people, to the extent that they rate asexual people more negatively than other sexual minority identities (Hoffarth et al., 2016). In a similar manner, when coming out to partners, friends, or family, asexual adults commonly report negative reactions, such as delegitimization, disbelief, dismissal, or that they should seek clinical help (e.g., Robbins et al., 2016). Given the importance of social support in fostering positive outcomes among youth (e.g., positive self-esteem; Snapp et al., 2015), and considering asexual adults commonly experience negative reactions to their asexuality, understanding how much support cisgender and transgender asexual youth feel they receive from family (both sexuality-related and broadly), is a step toward ensuring that asexual youth can thrive during adolescence. A substantial number of the interpersonal relationships that impact youth daily are likely tied to their school or family life (Russell & Fish, 2016). Unsurprisingly, feeling safe and supported in academic and family spaces is positively associated with a number of different important outcomes for all youth such as academic achievement (Baams & Russell, 2021). In contrast, prior research with SGMY has found that feeling unsafe in school is associated with worse outcomes in academic arenas (e.g., worse school attendance or grades; Kosciw et al., 2013) and in terms of mental health (Baams & Russell, 2021). Given the victimization or harassment that SGMY may face from others (Goodenow et al., 2016), perceptions of school safety are a particularly relevant area of interest to investigate, as there are potential negative long-term ramifications (e.g., academic or mental health)

that may need to be highlighted to better prevent future reoccurrences.

Although research has been conducted on perceptions of school safety with broad samples of SGMY (Day et al., 2019), no youth research has directly addressed school safety from asexual youth's perspectives. Further, given the research showing that gender minority students report feeling more unsafe or afraid in school spaces than their cisgender peers (e.g., in bathrooms; Weinhardt et al., 2017), it is also relevant whether experiences differ for transgender asexual versus non-asexual youth. Understanding whether asexual youth report feeling as safe as other SGMY in school will help us to further contextualize the experiences of asexual youth among other SGMY and inform relevant school safety policies to support asexual youth in schools. Previous work has found that asexual youth report fewer external stressors (e.g., bullying) and greater internal stressors (e.g., internalized stigma) relative to non-asexual SM youth (McInroy et al., 2020); however, is it unclear how this might extend to perceptions of safety.

Current Study

Existing research has pinpointed several differences between asexual and non-asexual youth, indicating a need for additional research with asexual youth—with a particular focus on potential differences based on gender identity. Using a large, national, sample of SGMY from the United States (US), drawn from the LGBTQ National Teen Survey, this study sought to better understand perceptions of health (i.e., depressive symptoms, self-esteem, and stress), family social support (i.e., general and sexuality-related), and school perceived safety among asexual youth. There were five exploratory research questions used to guide this work, with the first two questions focused on the demographic backgrounds of asexual and non-asexual SMY. First, what are the demographic characteristics of asexual youth among a large, national sample of SGMY? Second, are there differences in demographic characteristics among the asexual youth in the sample, such as gender, race, geographic region, or ability status? In anticipation of differences based on gender identity, the following three questions also considered potential differences between cisgender and transgender youth. Third, are there potential differences in health, family, and school experiences between cisgender asexual youth and transgender asexual youth? Fourth, are there differences in study outcomes between cisgender asexual youth and cisgender non-asexual SMY? And finally, are there differences in study outcomes between transgender asexual youth and transgender non-asexual SMY?

Method

Procedure and Participants

Participants from the LGBTQ National Teen Survey (Watson et al., 2020) were collected in collaboration with the Human Rights Campaign (HRC) with the goal of broadly assessing LGBTQ+ youth's experiences in school and with their families. To be eligible, participants needed to identify as a sexual or gender diverse youth between the ages of 13 and 17 years old and reside in the United States at the time of survey completion. Data were collected between April and December 2017. Participants were recruited through a variety of different methods such as social media (e.g., Twitter) or HRC community partners (e.g., the Trevor Project). Those who participated completed an online, anonymous, self-report survey via Qualtrics. At the end of the survey, participants were given the option to enter a raffle for gift cards and all were offered wristbands from the HRC. This study was approved by the University of Connecticut Institutional Review Board (IRB).

These data are drawn from a large diverse sample of SGMY ($N=17,112$). Given the research questions of interest that emphasize asexual identity, detailed demographics are specifically reported in the text on the subset of the total sample of participants who identified as asexual or an identity typically classified as part of the asexual spectrum (e.g., grey-A, demisexual; $n=938$). Asexual participants were on average 15 years old ($M=15.57$; $SD=1.27$). Regarding gender, the largest group of participants identified as transmasculine/nonbinary (44.6%), followed by cisgender female (37.5%), and smaller numbers of youth who identified as transgender male (11.2%), cisgender male (3.2%), transfeminine/nonbinary (2.3%), and finally transgender female (1.2%). Most asexual youth were assigned female at birth (93.3%) with a small minority of asexual youth assigned male at birth (6.7%). Further, most of the asexual youth represented in the survey were White (69.1%), followed by smaller groups of biracial/multiracial (14.9%), Hispanic/Latino (6.5%), Asian (3.9%), Black (2.3%), "Other" (2.3%), and Native American (1.0%). Regarding geographic region, slightly more than one-third of participants were from the Southern United States (35.7%), followed by the Midwest (23.8%), Western United States (23.3%), the Northeast (17.1%), and one participant from Puerto Rico. Approximately half of asexual youth reported not having a disability (49.9%), with roughly equal numbers of asexual youth reporting that they did have a disability (22.6%) or that they did not know (24.0%). Finally, the majority of asexual youth reported that at least one (or more) of their caregivers held a college (36.1%) or more advanced degree (32.9%), followed by caregivers who completed only some college (13.3%), caregivers with a high school diploma

(or GED; 12.0%), and then smaller numbers of caregivers who did not complete high school (or an equivalent; 3.4%) or who had completed vocational/technical schooling (2.3%). See Table 1 for additional demographic information that includes the non-asexual SMY sample.

Measures

Sexual identity

Participants chose a single sexual identity that best fit their current experience which included gay/lesbian, bisexual, heterosexual, and "something else." Youth who selected "something else" were then presented with additional options (i.e., queer, pansexual, asexual, and questioning) along with the option to write-in their own sexual identity if it was not listed. Participants who filled in the write-in option with a sexual identity on the asexual spectrum (e.g., demisexual; "grey-ace"), participants who reported an aromantic identity were only included in the asexual category if they listed an additional identity that falls on the asexual spectrum.

Gender identity

Participants responded to a check all that apply question to indicate their gender identity which included male, female, trans male/trans boy, transfemale/trans girl, nonbinary, genderqueer/gender non-conforming, or a different identity (i.e., write-in option). In addition, participants were also asked what sex they were assigned at birth (male or female). Participants who selected a gender identity that did not match their assigned sex at birth were coded as transgender and those who selected a gender identity that did match their assigned sex at birth were coded as cisgender.

Covariates

Age and assigned sex at birth were included as covariates in all analyses. Age was measured via self-report from participants. Sex was measured by asking participants if they were assigned male or female at birth.

School safety

To assess school safety, participants were asked, "While at school, how often do you feel safe...", with eight items indicating different school areas (e.g., cafeteria; bathrooms; hallway/stairwells) on a scale of 0 (Never) to 4 (Always). These items were modeled after the longitudinal British Columbia Adolescent Health Survey (Li et al., 2019). Higher scores in this index indicate greater feelings of safety at school. All eight items were averaged together to indicate overall feelings of safety in school.

Table 1 Demographic characteristics and comparisons of asexual and non-asexual youth

| | Asexual (<i>n</i> = 938) (%) | Not asexual (<i>n</i> = 16,174) (%) | OR (95% CI) |
|------------------------------|----------------------------------|---|-------------------------|
| <i>Gender identity</i> | | | |
| Cisgender boy (REF) | 30 (3.2) | 4028 (26.6) | – |
| Cisgender girl | 352 (37.5) | 6986 (46.1) | 6.77 (4.65, 9.84)*** |
| Transgender boy | 105 (11.2) | 1120 (7.4) | 12.59 (8.34, 18.99)*** |
| Transgender girl | 11 (1.2) | 141 (0.9) | 10.48 (5.15, 21.33)*** |
| Transfeminine/nonbinary | 22 (2.3) | 425 (2.8) | 6.95 (3.97, 12.16)*** |
| Transmasculine/nonbinary | 418 (44.6) | 3006 (19.8) | 18.67 (12.85, 27.12)*** |
| <i>Transgender status</i> | | | |
| Cisgender (REF) | 381 (40.7) | 10906 (69.9) | – |
| Transgender/nonbinary | 55 (59.3) | 4690 (30.1) | 3.39 (2.97, 3.88)*** |
| <i>Assigned sex at birth</i> | | | |
| Female | 875 (93.3) | 11112 (70.8) | 5.74 (4.44, 7.43)*** |
| Male (REF) | 63 (6.7) | 4594 (29.2) | – |
| <i>Race/ethnicity</i> | | | |
| Asian | 36 (3.8) | 629 (4.2) | 0.85 (0.60, 1.20) |
| Black | 21 (2.2) | 901 (5.9) | 0.34 (0.22, 0.54)*** |
| Hispanic/Latino | 59 (6.3) | 1780 (11.7) | 0.49 (0.37, 0.64)*** |
| Native American | 9 (1.0) | 82 (0.5) | 1.62 (0.81, 3.25) |
| White (REF) | 630 (67.2) | 9309 (61.4) | – |
| Bi- or multiracial | 136 (14.5) | 2157 (14.2) | 0.93 (0.77, 1.13) |
| Other | 21 (2.2) | 304 (2.0) | 1.02 (0.65, 1.60) |
| <i>Geographic region</i> | | | |
| Northeast (REF) | 158 (16.8) | 2840 (18.1) | – |
| Midwest | 223 (23.8) | 3552 (22.6) | 1.13 (0.92, 1.39) |
| South | 337 (35.9) | 5846 (37.2) | 1.04 (0.85, 1.26) |
| West | 220 (23.5) | 3468 (22.1) | 1.14 (0.92, 1.41) |
| <i>Disability status</i> | | | |
| No (REF) | 468 (49.9) | 10574 (70.2) | – |
| Yes | 221 (22.6) | 2114 (14.0) | 2.05 (1.73, 2.43)*** |
| Don't know ^a | 225 (24.0) | 2374 (15.8) | – |
| <i>Caregiver education</i> | | | |
| Less than high school or GED | 29 (3.4) | 497 (3.5) | 1.16 (0.78, 1.71) |
| High school or GED | 103 (12.0) | 1965 (14.0) | 1.29 (1.02, 1.62) |
| Vocational/technical school | 20 (2.3) | 459 (3.3) | 1.55 (0.97, 2.46) |
| Some college | 114 (13.3) | 1998 (14.2) | 1.18 (0.95, 1.48) |
| College graduate | 309 (36.1) | 4931 (35.2) | 1.08 (0.91, 1.27) |
| Post graduate (REF) | 282 (32.9) | 4179 (29.8) | – |
| Age | 15.57 (1.27) | 15.57 (1.27) | – |

^aDisability status had three responses; however, only “no” and “yes” responses were included in these analyses

****p* < 0.001

Sexuality-related social support from family

Participants completed an adapted 8-item measure that assessed how accepting and rejecting youth believed their family to be of their LGBTQ+ identity (Ryan et al., 2010). Items asked participants, “How much do you feel that [your family]...”, with items corresponding to two subscales of

positive (e.g., “say they were proud of you for being an LGBTQ person?”) and negative (e.g., “taunt or mock you because you are an LGBTQ person”) sexuality-related social support from family members. The subscales include four items each, rated on a scale of 0 (Never) to 3 (Often). The negative subscale is reverse-scored such that overall average scores of both subscales indicate more positive

sexuality-related social support from family. The 8-item measure of sexuality-related family social support showed good reliability ($\alpha = 0.84$) in this sample.

General family support

General family connectedness was assessed using a 3-item measure of youth's perceived social support from family members used in the National Longitudinal Study of Adolescent Health and Young Adulthood (Crockett et al., 2010; Procidano & Heller, 1983). Participants were asked how much they believed their family provided them with general social support (not specific to sexual identity). Specifically, participants were asked how much their family “cares about their feelings,” “has fun together,” and “pays attention to their needs.” Items are on a scale of 0 (Strongly Disagree) to 4 (Strongly Agree), with higher scores indicating greater overall family social support. The 3-item measure of general family social support showed good reliability ($\alpha = 0.84$) in this sample.

Depressive symptoms

Participants completed the 10-item Kutcher Adolescent Depression Scale (Brooks et al., 2003) that assessed the frequency of depressive symptoms over the last week, on a scale of 0 (Hardly Ever) to 3 (All of the time). Participants were asked, “Over the last week, how have you been “on average” or “usually” regarding the following items...”, with items representing feelings that are reflective of depressive symptoms such as sadness (i.e., “low mood,” “sadness,” “feeling blah or down,” “depressed,” “just can't be bothered”) or irritability (i.e., “irritable,” “losing your temper easily,” “feeling pissed off,” “losing it”). Due to the research team's receipt of a parental waiver of consent, one item that assessed suicidality was removed from the original 11-item scale. Greater average scores indicate more frequent depressive symptoms. The depressive symptoms measure showed excellent reliability ($\alpha = 0.90$) in this sample.

Self-esteem

Participants completed the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1989), which is comprised of 10 items (e.g., “I feel that I'm a person of worth, at least on an equal plane with others”) and is on a scale of 0 (Strongly Disagree) to 3 (Strongly Agree). Higher average scores indicate greater self-esteem. The Rosenberg Self-Esteem Scale showed excellent reliability ($\alpha = 0.91$) in this sample.

Stress

To assess the experiences of stress and how participants were able to cope with daily stress, a stress management score was created by dividing the average stress participants experienced by their perceived ability to manage their daily stressors (Nelson et al., 2008). To measure daily stress, participants responded to the question, “Please mark the appropriate number corresponding with your average level of stress,” on a scale of 1 (Not stressed at all) to 10 (Very stressed). To measure perceived ability to manage daily stressors, participants responded to the question “Please mark the appropriate number corresponding with your effectiveness in managing stress” on a scale of 1 (Ineffective) to 10 (Effective). Higher stress management scores indicate that participants are experiencing average levels of stress that they are unable to successfully manage.

Data Analytic Plan

First descriptive statistics for the study outcomes among all asexual youth in this sample is provided. Following, a series of binary (e.g., assigned sex at birth) or multinomial (e.g., geographic region) logistic regression models were conducted to investigate potential differences between asexual and non-asexual SMY in this sample. Next, a series of generalized linear models (GLM) were conducted to investigate potential differences in our outcomes of interest between cisgender and transgender asexual youth, between cisgender asexual youth and cisgender non-asexual SMY, and between transgender asexual youth and transgender non-asexual SMY. Standardized regression coefficients and standard errors are reported to indicate relative differences between groups. Given this important developmental period in people's lives as it pertains to identity, age was included as a control in these analyses. Further, given associations between assigned sex at birth and gender identity, assigned sex at birth was also included as a control in the analyses. There were no confirmatory hypotheses and thus the findings below are exploratory in nature. Of the total sample, missing data was between 30 and 40% for all study outcomes. However, most missing data (greater than 90% of participants with missing data) were due to early survey termination which has been reported on elsewhere (McKay & Watson 2020). To avoid imputing large amounts of health-related data only informed from participant demographic data, we used list-wise deletion to address missing data concerns.

Results

Differences in Demographic Characteristics between Asexual and Non-Asexual Youth

There were significant differences in demographic characteristics based on asexual versus non-asexual identity. Specifically, asexual youth were 3.39 times higher the odds of identifying as transgender than non-asexual youth. Asexual youth were also 5.74 times higher the odds to have been assigned female at birth compared to non-asexual youth. In addition to this, asexual youth were 2.94 times lower the odds of identifying as Black and 2.04 lower the odds of identifying as Hispanic/Latino compared to non-asexual youth, but no other significant differences in racial-ethnic identity were found between asexual and non-asexual youth. Asexual youth were also 2.05 times higher the odds to report having a disability than not, compared to non-asexual SMY. In addition, there were no significant differences in caregiver educational attainment between asexual and non-asexual SMY. Finally, there were no significant differences in geographic region between asexual and non-asexual youth. See Table 1 for more details on these analyses.

Differences in Study Outcomes between Cisgender and Transgender Asexual Youth

There were significant differences in half of the study outcomes based on whether an asexual youth identified as cisgender or transgender. Specifically, transgender asexual youth reported greater depressive symptoms, $\beta = -0.23$, $t(691) = -4.11$, $p < 0.001$, and lower self-esteem, $\beta = 0.25$, $t(719) = 5.29$, $p < 0.001$, compared to cisgender asexual youth, but there was no significant difference in reports of stress, $p = 0.535$. Further, there was no significant difference in reports of sexuality-related family social support, $p = 0.150$; however, there was a significant difference in general family social support,

$p = 0.568$, dependent on whether an asexual youth identified as cisgender or transgender. Finally, transgender asexual youth reported feeling significantly less safe than cisgender asexual youth in school, $\beta = 0.44$, $t(721) = 7.55$, $p < 0.001$. Overall, transgender asexual youth reported significantly worse depressive symptoms, self-esteem, reported less general family social support, and felt less safe in school than their cisgender counterparts, but there was no difference in sexuality-related family social support or reported stress (see Table 2).

Differences in Study Outcomes between Cisgender Asexual and Non-Asexual Youth

There were significant differences across all study outcomes based on asexual identity among cisgender sexual minority youth. To be specific, cisgender asexual youth reported significantly greater depressive symptoms, $\beta = 0.12$, $t(7094) = 2.74$, $p = 0.006$, lower self-esteem, $\beta = -0.14$, $t(7338) = -3.73$, $p < 0.001$, and greater stress, $\beta = 0.47$, $t(7236) = 4.42$, $p < 0.001$, compared to cisgender non-asexual SMY. In addition to this, cisgender asexual youth reported less sexuality-related, $\beta = -0.13$, $t(7116) = -2.72$, $p = 0.007$, and general family social support, $\beta = -0.14$, $t(7464) = -2.36$, $p = 0.018$, compared to cisgender non-asexual SMY. Finally, cisgender asexual youth also reported feeling significantly less safe in school, $\beta = -0.10$, $t(7343) = -2.20$, $p = 0.028$, compared to cisgender non-asexual SMY. That is, cisgender asexual youth had worse outcomes on all variables of interest compared to their cisgender non-asexual SMY peers (see Table 3).

Differences in Study Outcomes between Transgender Asexual and Transgender Non-Asexual Youth

There was a significant difference in only one of the six study outcomes between transgender asexual youth and transgender

Table 2 Cisgender asexual youth compared to transgender asexual youth on study outcomes

| | Cisgender asexual (<i>n</i> = 297) | Transgender asexual (<i>n</i> = 434) | β (SE) | <i>t</i> | <i>p</i> | <i>F</i> (<i>df</i>) | η |
|------------------------|--|--|--------------|----------|----------|------------------------------|--------|
| Depressive symptoms | 1.38 (0.74) | 1.61 (7.2) | -0.23 (0.06) | -4.11 | <0.001 | <i>F</i> (3, 691) = 7.18*** | 0.03 |
| Self-esteem | 1.39 (0.61) | 1.14 (0.61) | 0.25 (0.05) | 5.29 | <0.001 | <i>F</i> (3, 719) = 10.32*** | 0.04 |
| Stress | 2.19 (2.28) | 2.31 (2.18) | -0.11 (0.17) | -0.62 | 0.535 | <i>F</i> (3, 695) = 1.20 | 0.005 |
| Family acceptance | 1.29 (0.80) | 1.20 (0.78) | 0.09 (0.06) | 1.44 | 0.150 | <i>F</i> (3, 699) = 3.59* | 0.02 |
| General family support | 2.43 (1.00) | 2.11 (1.04) | 0.33 (0.08) | 4.19 | <0.001 | <i>F</i> (3, 719) = 6.04*** | 0.03 |
| School safety | 2.97 (0.73) | 2.52 (0.81) | 0.44 (0.06) | 7.54 | <0.001 | <i>F</i> (3, 720) = 26.65*** | 0.10 |

Higher school safety scores indicate greater feelings of safety. Higher depressive symptoms indicate more frequent depressive symptoms. Lower family acceptance scores indicate less family acceptance. Higher self-esteem scores indicate greater self-esteem. Higher stress scores indicate high levels of stress that are unmanageable. Age and assigned sex at birth were included as covariates in all models

* $p < 0.05$, *** $p < 0.001$

Table 3 Cisgender asexual youth compared to other cisgender sexual minority groups on study outcomes

| | Cisgender asexual (<i>n</i> = 297) <i>M</i> (SD) | Cisgender not asexual (<i>n</i> = 7179) <i>M</i> (SD) | β (SE) | <i>t</i> | <i>p</i> | <i>F</i> (<i>df</i>) | η |
|------------------------|--|---|--------------|----------|----------|--------------------------------|--------|
| Depressive symptoms | 1.38 (0.74) | 1.19 (0.73) | 0.12 (0.04) | 2.74 | 0.006 | <i>F</i> (3, 7094) = 10.87*** | 0.03 |
| Self-esteem | 1.39 (0.61) | 1.60 (0.65) | -0.14 (0.04) | -3.73 | <0.001 | <i>F</i> (3, 7338) = 102.74*** | 0.04 |
| Stress | 2.19 (2.28) | 1.68 (1.71) | 0.47 (0.11) | 4.42 | <0.001 | <i>F</i> (3, 7236) = 15.91*** | 0.01 |
| Family acceptance | 1.29 (0.80) | 1.44 (0.78) | -0.13 (0.05) | -2.72 | 0.007 | <i>F</i> (3, 7116) = 19.95*** | 0.01 |
| General family support | 2.43 (1.00) | 2.58 (0.97) | -0.14 (0.06) | -2.36 | 0.018 | <i>F</i> (3, 7464) = 3.29* | 0.001 |
| School safety | 2.97 (0.73) | 3.06 (0.75) | -0.10 (0.04) | -2.20 | 0.028 | <i>F</i> (2, 7343) = 48.90*** | 0.02 |

Higher school safety scores indicate greater feelings of safety. Higher depressive symptoms indicate more frequent depressive symptoms. Lower family acceptance scores indicate less family acceptance. Higher self-esteem scores indicate greater self-esteem. Higher stress scores indicate high levels of stress that are unmanageable. Age and assigned sex at birth were included as covariates in all models

* $p < 0.05$, *** $p < 0.001$

Table 4 Transgender asexual youth compared to other transgender sexual minority groups on study outcomes

| | Transgender asexual (<i>n</i> = 434) <i>M</i> (SD) | Transgender not asexual (<i>n</i> = 3368) <i>M</i> (SD) | β (SE) | <i>t</i> | <i>p</i> | <i>F</i> (<i>df</i>) | η |
|------------------------|--|---|--------------|----------|----------|--------------------------------|--------|
| Depressive symptoms | 1.61 (0.72) | 1.62 (0.73) | -0.02 (0.04) | -0.45 | 0.651 | <i>F</i> (3, 3617) = 16.89*** | 0.01 |
| Self-esteem | 1.14 (0.61) | 1.21 (0.59) | -0.05 (0.03) | -1.76 | 0.079 | <i>F</i> (3, 3766) = 29.64 *** | 0.02 |
| Stress | 2.31 (2.18) | 2.19 (2.11) | 0.11 (0.11) | 0.98 | 0.327 | <i>F</i> (3, 3665) = 3.69* | 0.003 |
| Family acceptance | 1.20 (0.78) | 1.33 (0.78) | -0.12 (0.04) | -2.88 | 0.004 | <i>F</i> (3, 3721) = 10.80*** | 0.010 |
| General family support | 2.11 (1.03) | 2.20 (1.00) | -0.08 (0.05) | -1.57 | 0.117 | <i>F</i> (3, 3798) = 8.92*** | 0.007 |
| School safety | 2.52 (0.81) | 2.50 (0.84) | 0.01 (0.04) | 0.28 | 0.777 | <i>F</i> (3, 3692) = 17.73*** | 0.01 |

Higher school safety scores indicate greater feelings of safety. Higher depressive symptoms indicate more frequent depressive symptoms. Lower family acceptance scores indicate less family acceptance. Higher self-esteem scores indicate greater self-esteem. Higher stress scores indicate high levels of stress that are unmanageable. Age and assigned sex at birth were included as covariates in all models

* $p < 0.05$, *** $p < 0.001$

non-asexual SMY. Specifically, transgender asexual youth reported significantly lower sexuality-related family social support, $\beta = -0.12$, $t(3721) = -2.88$, $p = 0.004$. However, there were no significant differences between transgender asexual and transgender non-asexual SMY in reported depressive symptoms, stress, general family social support, or school safety, $ps > 0.079$ (see Table 4).

Discussion

Asexual youth, relative to many other SMY, are an under-represented group and little work has focused on the background characteristics of the people who make up the asexual community. The limited existing research suggests there might be unique differences on a variety of mental health outcomes, however, researchers have not investigated potential disparities in many other relevant and

commonly studied outcomes, such as self-esteem. To address these issues, the current study investigated a number of demographic characteristics, as well as health, family social support, and school outcomes in addition to investigating differences within the asexual community and between SMY based on whether an individual also identified as transgender.

Overall, there were significant differences in demographic characteristics between asexual and non-asexual SMY, particularly as related to gender and racial-ethnic identities and ability status. Further, there were significant differences between cisgender asexual youth and transgender asexual youth in some, but not all, of the study outcomes. In addition, cisgender asexual youth reported worse outcomes as it relates to their health, family, and school experiences, compared to cisgender non-asexual SMY. Finally, transgender asexual youth reported significantly less sexuality-related family social support compared to transgender non-asexual SMY in this sample. These

findings represent foundational insights as to the experiences of asexual youth and allow us to pinpoint specific disparities (or similarities) that were present among asexual youth relative to other SGMY.

Although asexual youth were generally similar to their SGMY counterparts, there were some key differences in demographic characteristics that can shape our understanding of the experiences of asexual youth. Asexual youth were substantially more likely to identify as transgender than cisgender (and be assigned female at birth), relative to non-asexual SGMY. Further, there were differences based on racial-ethnic identity, such that asexual youth were less likely to identify as Black or Hispanic/Latino (with White as a reference group) compared to non-asexual SGMY. There were also differences based on self-reported ability status, such that asexual youth were more likely to report having a disability than non-asexual SGMY. There were no other significant differences in demographic characteristics between asexual and non-asexual SGMY as it pertains to caregiver educational attainment, geographic region, and age.

Past work has found that asexual (Chasin, 2015) and transgender (Galupo et al., 2016a) people report that the identity labels used to describe one's sexuality often do not align with their lived experiences—and that these identities, independently, also serve as opportunities to re-imagine one's relationship to sex and sexuality (Chasin, 2013; Galupo et al., 2016b). Thus, one possible explanation to our findings is that asexual people may be more likely to be transgender and transgender people may also be more likely to be asexual through two distinct identity development narratives, but researchers need to study this further. Finally, it may be the case that many sexual identity labels are so rooted in binary assumptions of sexuality that gender minority youth choose to identify in other ways (e.g., queer; asexual; Morandini et al., 2017).

Research in other countries has found differences in racial-ethnic identity among asexual adults, however this work found that asexual people were more likely to be Asian or Pacific Islander (by US Census standards) than White, which contrasts the current results (Aicken et al., 2013). One potential explanation for this finding is that, due to inappropriate stereotypes at the intersection of race and sexuality, such as how Black women are stereotyped as hypersexual (Foster et al., 2019), some youth of color may be reluctant to identify as asexual because asexuality clashes with these problematic cultural beliefs. As such, there may be more youth who are not White that may be asexual, but do not specifically identify with the label. Further research into the applicability of an asexual label among racial-ethnic minority groups would help clarify the prevalence of how accepted the terminology is as an identity. Another possibility is that some asexual communities do not fully acknowledge the intersectional experiences of all asexual people, particularly among

asexual people of color (Foster et al., 2019), which in turn may make youth of color reluctant to identify as asexual.

Previous research in adult populations has also found a link between disability and asexuality such that people with a disability may be more likely to identify as asexual (e.g., people with Autism Spectrum Disorder are more likely to identify as asexual compared to non-asexual people; Bush et al., 2021). The current results further support the possibility that ability status and sexuality are associated with one another, particularly as it relates to asexuality (Lund & Johnson, 2015). One possibility is that among some youth with disabilities, being asexual becomes inseparable with positive disability identity development as it buffers against stigmatization and pushes back on the normative assumption that all people are innately sexual (Kim, 2011). However, these findings should be interpreted with caution, as further investigation of disability status by specific diagnosis was beyond the scope of this work. Given the stigma associated with people who have physical disabilities, the complex intersection of ability status and asexuality warrants further investigation.

This work also investigated potential differences among asexual youth based on whether they identified as cisgender or transgender. There were significant differences in some, but not all the study outcomes, such that transgender asexual youth reported greater depressive symptoms and lower self-esteem as well as receiving less general family social support and feeling less safe in school, compared to cisgender asexual youth. Further, there were no significant differences between cisgender and transgender asexual youth in reports of sexuality-related family social support or stress.

These findings generally align with literature that indicates worse outcomes among transgender compared to cisgender youth (Russell & Fish, 2016). Previous research has also found that transgender youth are at particular risk of victimization or harassment in schools (Perez-Brumer et al., 2017) and thus, finding that transgender asexual youth also feel less safe compared to cisgender people of the same sexual identity (i.e., asexual), further supports that all transgender youth may feel less safe in schools. It may be that while asexual youth do show a number of disparities relative to non-asexual youth, the difficulties that many transgender youth face are so impactful that outcomes related to asexual people's experiences are not as pronounced when comparing within transgender communities.

This study investigated potential differences between cisgender asexual youth and cisgender non-asexual SGMY. Specifically, cisgender asexual youth reported greater depressive symptoms and more stress, lower self-esteem, lower sexuality-related, and general family social support, and felt less safe in school, compared to cisgender non-asexual SGMY. Thus, asexual youth may experience greater internal stressors that negatively impact their mental health that may reach beyond solely depressive symptoms or stress and include self-esteem.

Similarly, asexual youth may experience less family social support (both sexuality-related and in general) because people tend to hold more negative views—in comparison to heterosexual or other gender minority identities—about asexuality (MacInnis & Hodson, 2012). Another potential explanation for these findings is that even if family members were supportive, there are no role models or cultural scripts to adopt for helping an asexual youth explore and develop their asexual identity, which does exist for other LGBT youth (Ryan et al., 2010). Research should investigate the different ways in which disparities in these health, family, and school outcomes may emerge among asexual youth with normative gender identities.

It is unclear why cisgender asexual youth report feeling less safe in school compared to their cisgender non-asexual counterparts. Research, particularly with qualitative approaches, should further investigate this finding given how important school safety is to promoting youth development (Day et al., 2019). That this study may be the first to report this finding is concerning, as asexual youth appear to feel even less safe than other SGMY, who themselves often report not feeling safe in school (Russell & Fish, 2016). Past work indicates that asexual youth may experience fewer external stressors relative to non-asexual SMY and one might imagine that asexual youth feel less safe because there are proportionately more transgender-identified youth in asexual communities (McInroy et al., 2020). Why this effect persists among cisgender asexual youth is still unknown. One possibility is that greater internalized stigma among asexual youth may lead to asexual youth to feel less safe in school even when external stressors (e.g., bullying) are lower, relative to other SMY. Future research is needed to understand the mechanisms through which cisgender asexual youth perceive their school to be less safe than other cisgender SMY.

Lastly, this work investigated whether there were differences between transgender asexual youth and transgender non-asexual SMY. There was a significant difference in only one study outcome, such that transgender asexual youth reported less sexuality-related family social support compared to transgender non-asexual SMY. However, there were no significant differences between transgender asexual youth and transgender non-asexual SMY as it relates to depressive symptoms, self-esteem, and stress, as well as general family social support and school safety. This unique difference underscores the importance of studying family social support in multiple domains (i.e., general and sexuality-related) as a more global assessment of social support may not have captured this finding.

Although family of transgender asexual youth may be aware and generally supportive of a transgender identity, the same family may be entirely unfamiliar with asexuality, or may see it as an invalid identity (Robbins et al., 2016). This could explain why transgender asexual youth are less likely to receive sexuality-related family support. Previous research indicates that lower caregiver acceptance predicts higher depressive

symptoms and internalizing problems among transgender youth (Pariseau et al., 2019). Thus, relative to each other, transgender asexual and transgender non-asexual youth in the current study may have received similar levels of acceptance or support related to their transgender identity. Here, irrespective of sexuality, the transgender youth sampled may have experienced similar levels of general family support and therefore experienced comparable levels of depression, self-esteem, and stress. Future research should examine the relationships between sexuality-related family social support and asexuality among youth to better clarify why they might perceive less support.

As with any study, this work has some limitations to note. Although these data were collected across the US and the sample was substantially large enough to provide a subsample of asexual youth, the data still reflect a non-probability sample of SGMY. Thus, these findings are not generalizable to the experiences of all asexual youth in the US (or elsewhere in the world). Further, the coding of sexual and gender identity was characterized by the need to assign participants to singular categories and thus is a limitation as the heterogeneity within the asexual community could not be fully investigated (e.g., aromantic demisexual and singularly asexual youth in the same sample). Future work should investigate potential differences within asexual populations such as the distinction between romantic asexual and aromantic asexual individuals. In addition, the effect sizes reported here are relatively small and should not be overstated. At the same time, these new identifications of differences among SGMY are a relevant contribution to the literature and represent an important first step in guiding future research that can explain the mechanisms through which these disparities in health, family, and school experiences among asexual youth emerge. Future research should investigate the mechanisms through which these disparities occur among cisgender and transgender asexual to inform interventions and also inform developmental theories in understanding the experiences of asexual youth.

Conclusion

Asexual youth, despite increasing research on the experiences of SGMY, remain understudied. The current work sheds light on the ways in which cisgender and transgender asexual youth differ from one another and their non-asexual sexual minority counterparts as it pertains to demographic characteristics and experiences of health, family, and school. The associations found between demographic characteristics (i.e., gender identity, assigned sex at birth, disability status, and race/ethnicity) and asexuality provides further evidence that intersectional perspectives on the experiences of SGMY, especially

asexual youth, are still needed. Transgender asexual youth fared worse on measures of depression, self-esteem, general family social support, and perceptions of school safety but not stress management or sexuality-related family social support. Further, cisgender asexual youth fared worse on all study outcomes and transgender asexual youth fared worse on assessments of sexuality-related family social support relative to their non-asexual SGMY counterparts. These findings indicate a clear need for further examination of the experiences of asexual youth and to investigate how current interventions may, or may not, be adequately supporting asexual youth given the long-term implications of these disparities.

Acknowledgements This research uses data from the LGBTQ National Teen Study, designed by Ryan J. Watson and Rebecca M. Puhl in collaboration with the Human Rights Campaign, and supported by the Office for Vice President of Research at the University of Connecticut. The authors acknowledge the important contributions of Ellen Kahn, Gabe Murchison, and Liam Miranda in their support, conceptualization, and management related to the LGBTQ National Teen Study.

Authors' Contributions K. A. S. as the first author conducted the analyses and drafted a substantial portion of the manuscript; H. M. H. conceived the original research questions of the study, helped draft portions of the manuscript, and provided feedback throughout the writing process; A. N. C. and B. M. R. helped draft portions of the manuscript and provided feedback throughout the writing process; R. H. F. and L. A. E. provided feedback throughout the writing process in addition to helping frame the overall structure of the manuscript; R. J. W. provided feedback throughout the writing process, helped to frame the overall structure of the manuscript, and designed and coordinated the study. All authors read and approved the final manuscript.

Funding This work was supported through funding by the National Institutes of Drug Abuse (grant K01DA047918). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Data Sharing and Declaration This manuscript's data will not be deposited.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval All study procedures were approved by the University of Connecticut IRB board, protocol H16-322. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed Consent Informed assent was obtained from all youth participants included in the study. A waiver of parental consent was obtained from the IRB related to this study.

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