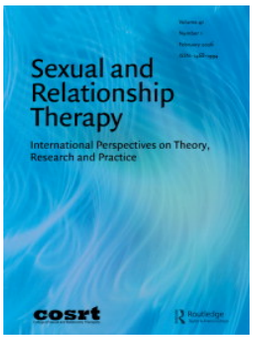

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School climate, victimization, and mental health: a joint latent profile analysis of transgender youth's experiences and identities within educational contexts

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ABSTRACT

As transgender, nonbinary, and gender-diverse young people (TNGY) increasingly hold multiple marginalized identities (e.g. multiple gender identities), we must examine how holding these identities relates to victimization and negative mental health outcomes. Educational contexts may be particularly important to consider as these contexts play a key role in the health and development of young people. The analytical sample included 610 TNGY (18-28 years) from the U.S. Participants shared retrospective accounts of their experiences of victimization, perceptions of school climate, and mental health during high school. Reflecting a growing understanding of multiple identities, 18.6% of the sample reported multiple racial identities, 27.6% reported multiple sexual orientation identities, and 27.9% reported multiple gender identities. Joint latent profile analyses were conducted to establish TNGY identity profiles and determine how these profiles were associated with anxiety, depression, victimization, and perceptions of school climate within educational contexts. Results indicated that those who held multiple identities within at least one domain were more likely to be part of the "*seriously concerned about youth adverse outcomes*" profiles (i.e., high anxiety, depression, & experiences of victimization, negative perception of welcoming climate). Implications of findings include how we might best support TNGY within educational contexts.

LAY SUMMARY

Transgender youth with multiple marginalized identities may experience increased negative outcomes in schools. This study identified distinct groups based on victimization, school climate, anxiety, depression, and identity diversity. Findings highlight the need for educational contexts to address evolving diverse identities to improve mental health and safety for their students.

KEYWORDS

Educational contexts; victimization; anxiety; depression; transgender

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Transgender, nonbinary, and gender diverse (TNG) students face significantly higher rates of victimization compared to their cisgender peers (Gower et al., 2018). Reports indicate that over 65% of TNG youth experience institutional (i.e., systemic; e.g. school policies) and/or interpersonal (e.g. bullying, harassment, exclusion) discrimination (Green et al., 2024; Nadal et al., 2016; Nath et al., 2024). School policy plays a significant role in these rates of victimization experienced by TNG students. In particular, discriminatory policies in schools are linked to heightened victimization and poorer mental health outcomes for TNG young people (Herry & Mulvey, 2024; Kosciw et al., 2022; Rimes et al., 2019; Scandurra et al., 2019; Thorne et al., 2019). In recent years, there has been a shift in how youth are identifying; young people are increasingly applying complex labels to themselves (Hammack et al., 2022) and research is increasingly accounting for intersectional marginalized identities (e.g. Mallory and Russell, 2021; Mallory et al., 2025). However, this literature has yet to consider that more nuanced and complex identities may also involve multiple marginalized identities *within* domains[1] (e.g. a transgender woman who, within the gender domain, also identifies as genderqueer) rather than *across* identity domains (e.g. a lesbian [sexual identity domain] transgender woman [gender identity domain]). To our knowledge, there is no research that examines the experiences of multiple marginalized identities within domains (MMIwD) TNG youth in educational contexts. Thus, in the current study we examine how holding singular (i.e., intersectional multiple marginalized identities *across* domains) or MMIwD relates to young people's interpersonal and institutional victimization within educational contexts and their mental health.

Theoretical framework

Minority Stress Theory suggests that health disparities experienced by lesbian, gay, bisexual, transgender, and queer (LGBTQ+) people result from distal (e.g. context and community influences) and proximal (e.g. internalized stigma, masking) stressors (e.g. stigmatization, victimization) they experience due to their membership in a marginalized community (Meyer, 2003). Distal stressors are external and originate from people and/or institutions targeting marginalized individuals or groups. Distal stressors manifest as discriminatory laws and practices, external chronic stressors, everyday experiences of discrimination, and more (Frost & Meyer, 2023). Some research suggests that the negative mental health impact of minority stress (also known as oppression-based stress) is often greater for those with intersectional multiple marginalized identities *across* domains due to compounding minority stressors (Cyrus, 2017; Staples & Fuller, 2021). However, recent scholarship with sexual minoritized youth of color has provided a more nuanced account of this association, finding that vulnerability to victimization and the related mental health consequences can result from not only additive and multiplicative, but also inuring effects, and that these effects vary—both positively and negatively—by the specific mental health condition being assessed (Mallory and Russell 2021; Mallory et al. 2025). This theoretical and empirical body of work informs the current research as we examine the experiences of victimization and mental health outcomes experienced by TNG young people, including those who hold singular (i.e., intersectional multiple marginalized identities *across* the domains) and multiple marginalized identities *within* the domains (i.e., MMIwD) of sexual, gender, and racial identities.

Victimization

Prior work indicates that LGBTQ+ youth experience significantly higher rates of victimization compared to their cisgender and heterosexual peers (Blackburn et al., 2024; Ray et al., 2021; Russell et al., 2021), with a large proportion of these victimization experiences comprised of bias- and identity-based victimization. Both bias-based and identity-based victimization can be understood as negative treatment targeted at someone based on one or more aspects of their actual or perceived identity. Previous research has found that LGBTQ+ youth are victims of bias-based bullying and identity-based discrimination in their schools significantly more frequently than their heterosexual (Herry & Mulvey, 2024) and cisgender (Gower et al., 2018) peers. In terms of interpersonal bias- and identity-based victimization, 83% of LGBTQ+ students have heard transgender slurs often, 57% of transgender students have been verbally harassed based on their gender identity, and over 20% of TNG students have been physically harassed because of their gender identity and/or expression (Eisenberg et al., 2019; Kosciw et al., 2022). These experiences of interpersonal bias- and identity-based victimization are closely tied to worse mental health outcomes among TNG youth (Jones et al., 2019; Nath et al., 2024; Newcomb et al., 2020).

TNG youth are also confronted with institutional forms of discrimination in their educational contexts. School policies and practices can replicate and codify interpersonal discrimination experienced by TNG students and often reflect the broader social contexts in which LGBTQ+ students exist. For example, as of January 2026, only seven states within the U.S., have laws requiring LGBTQ+ inclusion in state curricula with twelve states explicitly banning any mention of LGBTQ+ issues in all school curriculum (Movement Advancement Project, 2026). Twenty-four states do not have any laws or policies aimed at protecting LGBTQ+ students from bullying or discrimination, and two states explicitly ban schools from adding LGBTQ+ protection to nondiscrimination and anti-bullying policies (Movement Advancement Project, 2024b). Eight states also force teachers and staff members to out transgender students to their families (Movement Advancement Project, 2024a).

Conversely, schools with comprehensive anti-bullying policies and guidelines for supporting transgender students report significantly lower rates of LGBTQ+ victimization, and higher rates of transgender acceptance (Kosciw et al., 2022). Additionally, students attending schools with more inclusive curricula (e.g. comprehensive sexual health classes that address LGBTQ+ sexual health) are less likely to endorse homophobic or transphobic beliefs (Kesler et al., 2023). Thus, it is clear how important school contexts, including the presence of inclusive or exclusive policies, are for the victimization experiences of TNG youth. The current study adds to the extant literature on victimization within educational contexts by examining the retrospective accounts of TNG people's experiences of victimization at the individual and institutional level during their high school years within their educational contexts.

Multiple marginalized identities within domain (MMIwD)

Prior research notes that bias-based victimization is targeted against people, especially youth, whose identities exist outside of the social norms of their society (Gill &

Govier, 2023). For example, both youth and adults who hold intersectional multiple marginalized identities *across* domains experience higher rates of bias-based victimization compared to those who hold one marginalized identity (Borgogna et al., 2019; Jackman et al., 2020; Turnamian & Liu, 2023). Although rates of depression and anxiety among TNG people are high, especially among young people (Bouman et al., 2017; Gibson et al., 2021), less is understood about the mental health of TNG people who hold multiple marginalized identities within a given identity domain, such as gender identity, rather than across domains (e.g. TNG people of color; Chun & Singh, 2010). Research on multiple marginalized identities, typically characterized as intersectional marginalized identities *across* domains in the literature, has often found that transgender youth with multiple marginalized identities have significantly higher rates of anxiety and depression compared to transgender youth with only the one marginalized identity (Turnamian & Liu, 2023; See Mallory and Russell 2021; Mallory et al. 2025 for exceptions). Thus, the current study aims to expand our understanding of the victimization experiences and mental health of TNG young people who hold MMIwD.

Current study

Research on the experiences of LGBTQ+ youth in schools has provided ample evidence of the importance of educational contexts in the health and development of these young people (Kosciw et al., 2022; Nath et al., 2024). However, very little is known about the experiences and mental health outcomes of TNG youth who hold MMIwD within educational contexts. As LGBTQ+ youth are appearing to hold increasingly complex and multidimensional identities (Hammack et al., 2022), understanding their experiences within educational contexts so that we might promote a more positive school climate is paramount. For example, the World Health Organization suggested that promoting a positive school climate is the key to promoting positive health outcomes for all youth (Wargo, 2004), and these contexts may be especially impactful for youth who hold multiple marginalized identities *across* domains (Borgogna et al., 2019; Jackman et al., 2020; Turnamian & Liu, 2023). Thus, the current study adds to the literature on LGBTQ+ youth in schools by examining TNG young people's experiences of victimization (i.e., at the interpersonal and institutional level), their mental health outcomes within educational contexts, and how holding MMIwD is associated with these experiences and outcomes.

Hypotheses

Given that no work that we are aware of has examined the experiences of TNG people who hold MMIwD as operationalized in the present study, these analyses are largely exploratory in nature. Although, there is robust literature that, in comparison to non-TNG students, TNG individuals tend to have worse mental health outcomes (Millet et al., 2017; Rimes et al., 2019; for exceptions see Mallory and Russell 2021; Mallory et al. 2025) and perceive their school climate more negatively—both of which are likely related to more frequent experiences of identity-based victimization (Day et al., 2018; Kosciw et al., 2022). The sample for this study is comprised of only TNG

students (i.e., without a non-TNG comparison group). As such, it is possible that we will find greater variability in participants' perceptions of school climate, anxiety and depression levels, and rates of victimization. We approached this as an open research question without a directional hypothesis.

Methods

Participants & procedure

The study sample consists of 610 participants who were recruited during the Spring and Summer of 2024 through Prolific (i.e., an online research and recruitment platform). Potential participants were invited to take part in a larger study of TNG discrimination experiences within their educational context. Participants had to be over 18 years old and could not identify solely as cisgender (i.e., if they identified with their sex assigned at birth, they had to also identify with an additional gender identity not associated with their sex assigned at birth). Participants completed an online survey related to their retrospective accounts of their high school experiences. Of note, we assessed retrospective accounts of TNG experiences due to the current challenges of conducting research on TNG topics with youth. In particular, the practical challenges, such as getting into schools to conduct this work, and the very real concern that conducting such research in schools can entail the risk of involuntarily outing the youth's identity (see Herry et al., 2025 for additional information regarding the utility of retrospective accounts when conducting research on TNG topics). The online survey took approximately 20-30 min to complete, and the study was approved by the Institutional Review Board at the University of Connecticut where data were collected and stored.

At the time of data collection, participants were between 18-28 years old ($M = 23.62$, $SD = 2.58$). The sample predominantly identified as White (74.9%). The racial breakdown for the remainder of the sample was 16.2% Latine, 13.4% Asian, 11.3% African American or Black, 3.9% Native American, 0.7% Arab American/Middle Eastern/North African, and 0.7% other racial identity. Related to sexual identity, 3.8% identified as heterosexual, 38.0% bisexual, 33.0% queer, 21.6% gay or lesbian, 17.5% pansexual, 14.4% asexual, 4.3% questioning, and 2.3% other sexual identity. Related to gender identity, 0.5% identified as cisgender males, 0.8% cisgender females, 11.5% transgender, 16.2% transgender female, 26.7% transgender male, 42.3% nonbinary/genderqueer, 9.8% nonbinary male, 11.6% nonbinary female, 13.1 nonbinary other, 3.9% other gender identity not specified. It is important to note that race, sexual identities, and gender identities could add up to above 100% as participants were instructed to select all options that apply.

For analytical purposes, race, sexual identities, and gender identities were dichotomized as 1, holding multiple marginalized identities within a domain (MMIwD, or 0, not holding MMIwD. For example, MMIwD for gender means that a participant reported holding more than one marginalized gender identity such as transgender *and* genderqueer. In our sample, 18.6% of participants indicated that they held more than one racial identity (2 identities 16.1%; 3 identities 2.1%; 4 identities 0.3%); 27.6% of participants indicated that they held more than one sexual identity

(2 identities 21.5%; 3 identities 4.8%; 4 identities 1.1%; 5 identities 0.2%); and 27.9% of participants indicated that they held more than one gender identity (2 identities 21.8%; 3 identities 4.1%; 4 identities 1.3%; 5 identities 0.5; 6 identities 0.2%).

Measures

Anxiety

Anxiety was measured using the Patient-Reported Outcomes Measurement Information System (PROMIS)—Anxiety Short Form (Pilkonis et al., 2011). The instructions were adjusted to ask about their retrospective accounts of these experiences in high school. Participants were presented with the following instructions: "Please respond to each item by marking one box per row. When you were in high school, in a typical week…." Then, participants were presented with eight statements related to anxiety (e.g. I found it hard to focus on anything other than my anxiety; Cronbach's alpha = 0.95). Responses ranged from 1 (*Never*) to 5 (*Always*). Responses were t-transformed, *Range* = 23.01 – 64.52, thus scores are standardized and interpreted on a t-score distribution ($M = 50$, $SD = 10$). A score of 50 is considered a normal level of anxiety, 55-60 is considered mild, 60-70 is considered moderate, and scores above 70 are considered severe anxiety (Healthmatters.net, 2011n.d.). Higher scores indicated more anxiety.

Depression

Depression was measured using the Patient Health Questionnaire (PHQ-8; Kroenke et al., 2009), adjusted to address high school experiences retrospectively. Participants were asked "In high school, how often were you bothered by each of the following symptoms over a typical two-week period? For each symptom select the answer that best describes how you were feeling." Participants were presented with eight statements related to depression (e.g. little interest or pleasure in doing things; Cronbach's alpha = 0.91). The experiences were assessed on a four-point Likert-Type scale 0 (*Not at all*) to 3 (*Nearly every day*). Responses were summed, *Range* = 0—24. A PHQ-9 score of 5, 10, 15, and 20 indicate mild, moderate, moderately severe, and severe depression, respectively (Kroenke et al., 2001).

Experiences in school

All measures of experiences in school were created specifically for the purposes of this study. The aim of these measures was to collect information on TNG people's retrospective experiences within their high school educational contexts. The measures were developed after reviewing the extant literature and reports by organizations (e.g. Gay, Lesbian, and Straight Education Network's National School Climate Survey, Centers for Disease Control, and Prevention's Youth Risk Behavior Survey) on the experiences of LGBTQ+ youth in school. Measures were also developed through community engagement, TNG community focus groups, and qualitative assessments of frequent forms of discrimination and experiences of inclusivity in school among TNG individuals. Given the retrospective nature of this study, it is relevant to note that participants were also asked to rate their certainty while in high school of their self-reported current sexual and gender identities. 86% of the sample reported being

certain, mostly certain, or questioning their identities during high school, with only 14% reporting that they were not certain of their sexual or gender identity during high school.

Victimization – misidentification. To assess the occurrence of misidentification of people related to their gender in school, participants were asked to "Please rate how frequently or infrequently the following occurred in your high school." Participants were then presented with four statements related to misidentification within school settings (i.e., [Students/Adults] would deadname others (refer to a trans, non-binary, or gender expansive person by their birth name instead of their chosen name); [Students/Adults] would refer to someone as the wrong gender or with the wrong gender pronouns; Cronbach's alpha = 0.93). Reponses were assessed on a Likert-Type scale, 1 (*Never*) to 5 (*All of the time*). Responses were summed, higher scores indicated more misidentification-related victimization.

Welcoming school climate. To assess welcoming school climate, participants were asked how much they agreed or disagreed with statements related to their experiences in high school (5 items; e.g. I felt my gender identity was accepted; Teachers made sure different backgrounds and perspectives were valued and supported; Cronbach's alpha = 0.85). Participants' perception of their high school's welcoming climate was assessed on a seven-point Likert-Type scale 1 (*Strongly disagree*) to 7 (*Strongly agree*). Responses were averaged; higher scores indicated a more welcoming school climate.

Exclusion & victimization within sexual health education. To control for exclusion and victimization within sexual health education, participants were asked about their sexual health education experiences within high school. Participants were asked to "Please rate how much you agree or disagree with the following statements about your health education from when you were in high school." They were presented with four statements related to LGBTQ+ people being excluded from sexual health education (e.g. My health education was cisnormative (presented cisgender identities as typical, while seldom acknowledging identities outside of this); Cronbach's alpha = 0.76) and three statements related to LGBTQ+ people being victimized within sexual health education (e.g. LGBTQ+ individuals/experiences were labeled unacceptable and/or unnatural; Cronbach's alpha = 0.84). Statements were assessed on a 7-point Likert-Type scale, 1 (*Strongly disagree*), to 7 (*Strongly agree*). Responses were summed, with higher scores indicating more exclusion and more victimization within sexual health education.

Inclusive policies in school. To control for inclusive policies in schools, participants were presented with "In my high school, trans, nonbinary, and gender expansive people were allowed to…," followed by six statements (e.g. Use the gender-segregated bathrooms of their choice; Cronbach's alpha = 0.90). Statements were assessed on a 5-point Likert-type scale, 1 (*Never*), to 5 (*All of the time*). Responses were summed, with higher scores indicating more inclusive policies in school.

Movement Advancement Project state rankings

To control for transgender related state policies, a variable from the Movement Advancement Project (MAP; Movement Advancement Project, 2024a) assessing overall status of transgender related policies was used. The MAP assigns each state a score based on the absence or presence of policies (i.e., positive and/or negative policies). Each type of policy (e.g. school related policies) includes a different possible range of scores. Based on these scores, the MAP categorizes states on a five-point Likert-type scale from 1 (*100% negative policies*) to 5 (*75-100% protective or inclusive policies*), with scores on the scale representing the overall status of a given state. Higher scores indicated more inclusive policies within a participant's state of residence. See Movement Advancement Project (2024b) to learn more about the measure used.

Data availability statement

The data that support the findings of this study are available from the second author, Alaina Brenick, upon reasonable request.

Data analysis plan

Four continuous variables (i.e., depression, anxiety, welcoming school climate, and victimization) and three binary variables (i.e., multiple gender identities, multiple sexual orientations, multiple racial identities; 0 = single identity within domains, 1 = multiple marginalized identities within domains) were used to define the latent profiles. Inclusive school policies, state ranking, exclusion from sexual health education, victimization within sexual health education, and age of participants were included as covariates in all analyses. Table 1 illustrates the summary statistics of the seven outcome variables.

Using the R software package (version 4.4.1; R Core Team, 2023), we conducted a joint latent profile analysis (JLPA) to identify homogeneous subgroups of participants, so that participants in the same subgroup were homogenous in their response patterns while participants in different subgroups were heterogeneous (Jeon et al., 2017). Specifically, the JLPA introduced three types of categorical latent variables, where the first two latent variables were denoted as "latent profile variable" and summarized the response patterns of continuous and categorical outcome variables, respectively. The third categorical latent variable, which was denoted as "joint profile" variable, summarized the joint patterns of two latent profile variables into a smaller number of

Table 1. Summary statistics of outcome variables.

Variables	Mean / Proportion of *"Single identity within domains"*	Standard deviation
Anxiety	50	10
Depression	15.645	6.444
Victimization	3.561	0.978
Welcoming Climate	3.546	1.298
Sexual Orientation	0.275	–
Gender Identity	0.279	–
Race	0.185	–

categories. Jungwun Lee, co-author of this study, built a new R-function that enabled JLPA of both continuous and categorical variables simultaneously (this function is available upon request to Jungwun Lee). A two-level structure of JLPA, as presented here, has two advantages compared to the conventional finite mixture model with univariate latent variable. First, while estimated profiles are often dominated by some continuous outcome variables with large variances, the JLPA identifies two latent profile variables for continuous and categorical outcomes separately and thus provides a better explanation of how latent profiles are distinguished by outcomes. Second, by introducing two latent profile variables, the number of each latent profile variable can be reduced and can easily be interpreted, while the increase in the number of parameters is negligible.

The first step in implementing JLPA is to determine the numbers of latent profiles and joint latent profiles. The current study employed two strategies: Bayesian information criterion (BIC) and Bootstrap likelihood ratio test (BLRT). Specifically, we fit a series of JLP models with different numbers of latent profiles and choose the one with the lowest BIC value as a candidate model. Next, we evaluated the BLRT statistics by investigating adjacent models (i.e., models with smaller or larger numbers of latent profiles) and test whether the selected candidate model is preferred to other models. For example, if a three-class model presents the smallest BIC, we would investigate the p-values of BLRT, comparing two-class versus three-class models, and three-class versus four-class models.

Our analyses included the binary categorical variables—MMIwD for gender, sexual identity, and race—to help define our joint latent profiles. Since only three binary variables were considered as categorical outcomes for the latent profile contstruction, the saturate model for the categorical outcomes yields $2\text{^}3 - 1 = 7$ distinct patterns, and thus, only two-profile models can be used for categorical outcomes variables. Consequently, we fixed the number of latent profiles for categorical outcomes as 2, and investigated the number of latent profiles for continuous outcome variables and joint latent profiles. Specifically, we investigated 16 JLP models by varying the numbers of latent profiles and joint profiles from 2 to 5 and 2 to 6, respectively.

Results

Table 2 presents the estimated BIC values of JLP models with different numbers of latent profiles for outcome variables and joint latent profiles. Among the 25 candidate models, the model with three latent profiles for the continuous outcomes (i.e., anxiety, depression, victimization, and welcoming climate) yielded the lowest BIC value.

Table 2. Estimated BIC values of JLP models with different numbers of latent profiles for outcome variables and joint latent profiles.

Latent profile / Joint profile	2	3	4	5	6
2	8746.45	8777.21	8785.06	8804.17	8823.84
3	8765.67	8751.56	8802.79	8828.32	8853.99
4	8767.27	8801.86	8830.84	8863.01	8894.80
5	8786.03	8819.81	8858.12	8896.33	8939.69

Note. BIC: Bayesian information criterion; JLP: Joint Latent Profiles.

Next, we calculated two Bootstrap *p*-values as follows: (i) comparing the three latent profiles, four joint profiles model with the selected model, and (ii) comparing the four latent profiles, three joint profiles model with the selected model. The bootstrap *p*-values for (i) and (ii) are 0.371 and 0.152, respectively. This implies that the selected model is as appropriate as other adjacent models with a larger number of latent profiles and joint profiles. In this way, we confirmed the model with three latent profiles for continuous outcomes and three joint profiles as the final model.

Table 3 illustrates the estimated mean vectors of continuous outcomes for three profiles. The first profile denoted a group of participants whose average values of anxiety, depression, victimization, and welcoming climate were [M_{Anxiety} = 35.20, $M_{\text{Depression}}$ = 8.38, $M_{\text{Victimization}}$ = 3.04, $M_{\text{Welcoming Climate}}$ = 3.91], and thus, this group could be understood as the "*Least concerned about youth adverse outcomes*" group. The second profile was a group of participants whose average values of four outcomes of the LPA were [M_{Anxiety} = 46.12, $M_{\text{Depression}}$ = 8.08, $M_{\text{Victimization}}$ = 3.12, $M_{\text{Welcoming Climate}}$ = 4.10], an overall average slightly higher than that of Profile 1. Consequently, this group was labeled as "*Moderately concerned about youth adverse outcomes.*" Finally, the third profile indicated a group of participants whose average values of four outcomes were [M_{Anxiety} = 54.47, $M_{\text{Depression}}$ = 19.18, $M_{\text{Victimization}}$ = 3.82, $M_{\text{Welcoming Climate}}$ = 3.31]. While the averages of the first three outcomes—anxiety, depression, and victimization—increase from Profile 1 to Profile 3, the average of "welcoming climate" decreases from Profile 1 to Profile 3. As a result, this group was labeled as the "*Seriously concerned about youth adverse outcomes*" group.

Table 4 illustrates the estimated response probabilities of "*Multiple identities within domains*" of the three categorical outcomes for two profiles (i.e., MMIwD for race, gender, and sexual identities). The first profile denoted a group of participants who were most likely to have a single identity within sexual, gender, and racial identity domains. Consequently, this profile was labeled as the "*Single identities within*

Table 3. Estimated mean vectors of three profiles of continuous outcomes.

Profile	Profile 1: *LCYAO*	Profile 2: *MCYAO*	Profile 3: *SCYAO*
Anxiety	−1.479*	−0.379*	0.458*
Depression	−1.094	−1.266*	0.534*
Victimization	−0.456	−0.452*	0.207*
Welcoming Climate	0.440	0.334*	−0.179*
Proportions	0.178	0.136	0.686

LCYAO: Least concerned about youth adverse outcomes; MCYAO: Moderately concerned about youth adverse outcomes; SCYAO: seriously concerned about youth adverse outcomes. *mean scores are significantly different at $p \leq .05$.

Table 4. Estimated probabilities of *"multiple identities within domains"* for three categorical outcome variables given the latent profile memberships.

Profile	Profile 1: *Single identity within domains*	Profile 2: *Multiple identities within domains*
Sexual Orientation	0.178	0.999
Gender Identity	0.208	0.799
Race	0.180	0.225
Proportions'	0.881	0.119

Note. Sexual orientation, gender identity, and race were dichotomized as 1, holding multiple marginalized identities within a domain (MMIwD, or 0, not holding MMIwD).

Table 5. Estimated probabilities of three profiles of categorical outcomes.

Joint Profile	Measures	Profile	Proportions
Joint Profile 1 (37.2%)	Continuous	LCYAO	0.379
		MCYAO	0.142
		SCYAO	0.479*
	Categorical	Single identity within domains	0.893*
		Multiple identities within domains	0.107
Joint Profile 2 (49.6%)	Continuous	LCYAO	0.112
		MCYAO	0.151
		SCYAO	0.737*
	Categorical	Single identity within domains	0.983*
		Multiple identities within domains	0.017
Joint Profile 3 (13.2%)	Continuous	LCYAO	0.017
		MCYAO	0.048
		SCYAO	0.935*
	Categorical	Single identity within domains	0.364
		Multiple identities within domains	0.636*

Note. LCYAO: Least concerned about youth adverse outcomes; MCYAO: Moderately concerned about youth adverse outcomes; SCYAO: seriously concerned about youth adverse outcomes. *participants were significantly more likely to belong to these profiles at $p \leq .05$.

domains" group. The second profile denoted a group of participants who were most likely to hold multiple sexual, racial, and/or gender identities within domains. Thus, we labeled the second profile as the "*Multiple identities within domains*" group.

Table 5 illustrates the estimated distributions of three continuous and categorical profiles in the three joint profiles. Note that, although 3 (the number of our latent profiles with continuous variables) x 2 (the number of our latent profiles with categorical variables) = 6 possible patterns exist, these three joint profiles appropriately summarize all possible patterns. The first joint profile denoted a group of participants with the highest probability of belonging to "*Seriously concerned about youth adverse outcomes,*", Profile 3, for the continuous outcome variables but also presented nonnegligible probabilities of belonging to Profile $1_{\text{continuous}}$: "*Least concerned about youth adverse outcomes*" and Profile $2_{\text{continuous}}$: "*Moderately concerned about youth adverse outcomes.*" At the same time, participants in the first joint profile were most likely to belong to the"*Single identity within domains*", Profile 1, for categorical outcomes. Consequently, the first joint profile, which consisted of 37.2% of the sample, could be understood as the "*Single identity within domains with moderate concern about youth adverse outcomes*" group. Similarly, the second joint profile could be understood as the "*Single identity within domains with serious concern about youth adverse outcomes,*" group in that participants in this joint profile were most likely to belong to the "*Seriously concerned about youth adverse outcomes*" profile for continuous outcomes and the "*Single identity within domains*" profile for categorical outcomes. This joint profile consisted of 49.6% of the sample. Lastly, the third joint profile consisted of 13.2% of the sample and could be understood as the "*Multiple identities within domains with serious concern about youth adverse outcomes,*" group in that participants in this joint profile were most likely to belong to the "S*eriously concerned about youth adverse outcomes*" profile for continuous outcomes and the "*Multiple identities within domains*" profile for categorical outcomes.

Finally, Table 6 illustrates the estimated odds ratios and their 95% confidence intervals that describe associations between subject-level covariances and joint profile memberships. The first joint profile membership, "*Single identity within domains with moderate concern about youth adverse outcomes,*" is fixed as the baseline category.

Table 6. The estimated odds ratio of joint profile memberships and covariates.

	Single identity within domains with SCYAO (vs Single identity within domains with MCYAO)	*Multiple identities within domains with SCYAO(vs Single identity within domains with MCYAO)*
Exclusion (SHED)	1.134 [0.868, 1.460]	1.227 [0.942, 1.599]
Victimization (SHED)	1.142 [0.954, 1.348]	1.360 [1.146, 1.613]
Inclusive Policies	0.926 [0.758, 1.160]	1.050 [0.851, 1.296]
State Ranking (MAP)	0.951 [0.800, 1.074]	0.998 [0.862, 1.155]
Age	0.909 [0.824, 0.996]	0.907 [0.827, 0.996]

Notes. Each row represents the covariates of interest, estimated odd's ratios. Baseline is joint profile one, compared to joint profile 2 and 3 (2 columns). If cell numbers are greater than 1, participants with high victimization are more likely to be in joint profile 2- SCYAO (seriously concerned about youth adverse outcomes*)* rather than joint profile 1, MCYAO: moderately concerned about youth adverse outcomes; SHED: Sexual Health Education in school; MAP: Movement Advancement Project; MCYAO: Moderately concerned about youth adverse outcomes; SCYAO: seriously concerned about youth adverse outcomes.

Conditioning on other factors, being 1-year older in age is associated with lower odds of belonging to "*Single identity within domains with moderate concern about youth adverse outcomes*" compared to "*Single identity within domains with serious concern about youth adverse outcomes*" by 0.91 times. This implies that younger participants were more likely to report experiencing worse mental health outcomes, less positive perception of welcoming school climate, and more experiences of victimization during high school, and they were more likely to report holding MMIwD, controlling for other factors.

Lastly, a higher value in experiences of victimization within sexual health education is associated with larger odds of belonging to "*Single identity within domains with moderate concern about youth adverse outcomes*" compared to "*Multiple identities within domains with serious concern about youth adverse outcomes*", increasing by 1.36. This implies that participants with more experiences of victimization within sexual health education were more likely to have moderate levels of anxiety and depression, moderate perceptions of a welcoming school climate, and moderate experiences of victimization in school more generally, and less likely to hold multiple identities within domains, controlling for other factors.

Discussion

The current study identified distinct profiles among TNG participants using JLPA, revealing three profiles for continuous outcomes: *"Least concerned about youth adverse outcomes," "Moderately concerned about youth adverse outcomes,"* and *"Seriously concerned about youth adverse outcomes."* These profiles highlight varying levels of depression, anxiety, perceptions of a welcoming school climate, and experiences of victimization. Similarly, two profiles for categorical outcomes, *"Single identity within domains"* and *"Multiple identities within domains,"* captured differences in those who hold single identities (e.g. only one gender identity) and those who hold multiple identities (e.g. those who hold multiple gender identities). Findings demonstrated that those who held multiple identities within at least one domain were more likely to be part of the "*Seriously concerned about youth adverse outcomes*" profiles, aligning with prior research on holding multiple marginalized identities, but through the lens of those who hold multiple identities within the same identity domain. Additionally,

three joint profiles (i.e., profiles that combine binary and continuous outcome profiles) were identified, with the largest group being *"Single identity within domains with serious concern about youth adverse outcomes,"* the second being *"Single identity within domains with moderate concern about youth adverse outcomes,"* and the last joint profile being *"Multiple identities within domains with serious concern about youth adverse outcomes."* Younger participants were more likely to belong to the *"Multiple identities within domains with serious concern about youth adverse outcomes"* profile, aligning with recent research that documented youth are utilizing increasingly complex labels to describe their identities.

The *"Seriously concerned about youth adverse outcomes"* group, characterized by higher rates of depression, anxiety, and victimization, with lower perceptions of a welcoming climate, may reflect the experiences of individuals who exist in especially challenging or stigmatizing environments, given the lower perception of welcoming school climate, in particular. As school climates are often indicative of the larger social contexts that students exist (Kosciw et al., 2009; Rudasill et al., 2018), this finding both aligns with Minority Stress Theory, and highlights the importance of considering contextual factors when examining experiences and outcomes among student populations (Herry & Mulvey, 2024).

The low welcoming climate scores across profiles also suggest that perceptions of inclusion may buffer stress and victimization—a finding consistent with prior work that emphasizes the protective role of social support and inclusion in the health and wellbeing of LGBTQ+ youth and adults (London-Nadeau et al., 2023; McCurdy & Russell, 2023; Warren et al., 2016), such as the existence of Gender and Sexuality Alliances in schools (Kosciw et al., 2022). However, given that we did not assess welcoming climate as a buffer, future research should continue to consider how TNG youth's social contexts indicate support, or lack of support, and the role that these indicators play in the health and development of youth who hold MMIwD.

Although addressing a different aspect of holding multiple identities than is typically characterized in the literature, the MMIwD profiles and associated findings do align with prior studies indicating that individuals with intersecting marginalized identities often experience heightened discrimination and stress due to overlapping stigma (Borgogna et al., 2019; Jackman et al., 2020; Turnamian & Liu, 2023). These patterns underscore the importance of considering the nuance of TNG people holding MMIwD, and what these identities mean for TNG youth's health and development. As youth continue to identify with increasingly diverse and multi-dimensional identities, fostering inclusive environments for young people is also increasingly important (Day et al., 2024). Future research should continue to consider these youths' experiences and how holding these identities is related to their mental health and wellbeing within educational contexts.

Using our newly developed analytical approach, we were able to define joint profiles that documented important intersections between continuous and categorical outcomes. A large proportion of the sample belonged to the *"Single identity within domains with serious concern about youth adverse outcomes "* group, this suggests that even TNG people with singular identities are still susceptible to significant stress and victimization within their educational contexts. Although previous research often focuses on how those who hold TNG identities experience worse mental health

outcomes and more experiences of victimization compared to cisgender youth (Borgogna et al., 2019; Jackman et al., 2020; Turnamian & Liu, 2023), our findings highlight a new and important area for further research, namely, the unique challenges faced by those who hold MMIwD. The existence of the *"Multiple identity within domains with serious concern about youth adverse outcomes"* group demonstrates the potentially enhanced vulnerabilities experienced by those navigating multiple intersecting and marginalized identities, even within the same identity domain. However, given the exploratory nature of this study, future research is needed to further examine these associations, and whether youth with MMIwD are especially vulnerable to negative outcomes.

The results of this research extend prior findings that individuals with multiple marginalized identities are disproportionately affected by stressors such as discrimination and victimization (Borgogna et al., 2019; Jackman et al., 2020; Turnamian & Liu, 2023). In particular, these results contribute to the growing body of work on identity intersectionality and mental health, through the lens of those who hold multiple identities within the same identity domain, such as gender identity. In our sample, 18.6%, 27.6%, 27.9% of participants indicated that they held more than one marginalized identity *within* racial, sexual, or gender identity domains, respectively. Additionally, given that recent reports document that youth are indicating that they identify as members of the LGBTQ+ community at an increasing rate (Mpofu et al., 2023), the connection between younger age and membership in the *"Multiple identity within domains with serious concern about youth adverse outcomes "* group may demonstrate a generational shift in people more intentionally engaging in identity exploration (Herry et al., 2025), identity disclosure (Mousavi et al., 2024), and the use of increasingly complex labeling to define their identities (Hammack et al., 2022). In particular, younger individuals may feel more empowered to embrace and express diverse identities but given that they still exist in a society that stigmatizes those who are different (Cyrus, 2017; Frost & Meyer, 2023), they may also face heightened stigma as a result.

Implications

The current study documented distinct profiles of experiences with a novel analytical tool designed for our study. We are now better able to examine latent profiles that include both categorical and continuous variables. As a result, we identified the need for targeted interventions to support those who hold MMIwD. In particular, the existence of the "S*eriously concerned about youth adverse outcomes*" profiles, especially those with MMIwD, suggests that tailored interventions and school policies that address both individual and systemic stressors are important to support the health and development of TNG youth in school contexts. For example, policies that not only actively foster inclusive school environments and combat discrimination for all students but attend to the experiences of marginalized students with MMIwD, in particular, may be of importance.

LGBTQ+ youth in schools report more experiences of discrimination and worse perceptions of school climate compared to their heterosexual and cisgender peers

(Day et al., 2018; Herry & Mulvey, 2024; Johns et al., 2021). Now, we have identified intragroup variation that must also be addressed. This is a major issue, as the World Health Organization notes that promoting a positive school climate may be the key to supporting the health and development of all young people (Wargo, 2004). Thus, it is important that we promote a positive school environment for youth who may be most vulnerable, such as TNG youth with MMIwD. By integrating policies that create a welcoming climate for marginalized youth, we may mitigate stress and victimization for all students (Loverno et al., 2021). For example, educational contexts could make institutional changes such as addressing gendered rules and policies to make them more inclusive and less reliant on a gender binary and recognize the complexity of multiple marginalized identities within and across domains.

These changes would not only support those who do not identify with their sex assigned at birth or students who are cisgender but express their identity outside of what is considered the social norm for their sex assigned at birth, but could also support students whose multiple marginalized identities shift over time or by context. Changes to policies such as these may promote a more positive and inclusive social climate within schools for TNG youth as well. Institutional-level changes, such as changes to laws or policies that disproportionally impact a marginalized group, also impact public perception and treatment of that group (Russell et al., 2021). For example, prior research notes that following Obergefell v. Hodge (i.e., Supreme Court decision that nationally legalized same-sex marriage) public opinion on same-sex marriage became more positive (Kazyak & Stange, 2018). Thus, by creating more inclusive educational policies, schools may also be taking strides to support the students on a more interpersonal level as well.

Limitations and future directions

Although this research provides new insight into the experiences of TNG youth within their educational contexts, findings should be considered within the context of their limitations. First, this study was retrospective, with TNG young people looking back at their recent experiences in high school. Although retrospective methods can be helpful in addressing some of the potential ethical and practical challenges of working with TNG youth (e.g. parental consent, out status, potential safety concerns, youth still developing their sense of their gender identity; Herry et al., 2025), this method is vulnerable to potential inaccuracies in participants' responses due to recall bias (Hegarty et al., 2009). Thus, future research should integrate methods to reduce potential recall bias or to evaluate the accuracy of participants' recollections.

Another limitation of this study is that it is cross-sectional, and so it cannot fully address mental health outcomes, experiences of victimization, perceptions of a welcoming school climate, or how these experiences change over time. Thus, future research should consider examining TNG people's experiences in school and holding MMIwD using longitudinal methods to see how these experiences as well as their identities may or may not change over time. Daily diary research, in particular, may be an especially helpful method in parsing out concurrent and prospective

associations between experiences of victimization, perceptions of one's school climate, and mental health outcomes among TNG people with MMIwD.

Additionally, although assessing that participants held MMIwD, as defined in this study, is a novel way to consider how identities exist and develop, it is important to acknowledge that all participants identified under the TNG umbrella, and due to the sample size, we were only able to assess the differences between people who held multiple identities and those who did not. Thus, the current research cannot generalize to those who hold multiple marginalized identities who do not identify as TNG, nor can these findings explain how holding specific MMIwD is associated with experiences of victimization or mental health within educational contexts. Future research should continue to consider the complexity of holding MMIwD when examining TNG people's mental health and experiences of victimization. This may be especially important as youth continue to identify as members of the LGBTQ+ community at higher rates than in previous generations (Mpofu et al., 2023).

The current study was only able to assess a relatively limited number of factors, as related to individuals holding MMIwD. Further, as the method employed for this study was used to identify groups, rather than to explain associations between factors such as holding MMIwD and anxiety, additional qualitative and quantitative work is needed to understand the mental health, victimization, and school experiences of youth who have MMIwD. For example, qualitative research focusing on the lived experiences of TNG people who hold MMIwD could offer additional insights into the challenges they face within their educational contexts, and how interventions or policies may best support them.

Lastly, the current study was only able to include a relatively small number of education-related factors and covariates. Given that the current study focuses on educational contexts, it is clear that additional research is needed to further consider other education-related factors. For example, future quantitative research might consider additional educational factors, such as current educational attainment in these associations, as this may be more closely linked to past school experiences and current or future school engagement. More broadly, future research should also continue to examine the complex interplay between stress, identity, and important social contexts, such as educational contexts with people who hold MMIwD.

Conclusion

This study advances our understanding of how depression, anxiety, experiences of victimization, perceptions of a welcoming school climate, and MMIwD interact by identifying distinct latent profiles through JLPA. The findings emphasize the complex and multileveled challenges faced by TNG people with MMIwD within educational contexts and underscore the importance of fostering welcoming climates to mitigate these challenges. By acknowledging and understanding the experiences of TNG people with MMIwD, and integrating the insights provided by this study and the larger special issue into policy and practice, educators, policymakers, and other stakeholders may better support this vulnerable group and promote better mental health and more social inclusion for TNG young people.

Note

1. Multiple marginalized identities across domains are commonly referred to as intersectional marginalized identities; as an example, someone who identifies as a Black transgender woman holds multiple marginalized identities *across* domains of racial and gender identities. In contrast and using the same example, the Black transgender woman would hold multiple marginalized identities within domains (MMIwD) if, for instance, she held multiple marginalized gender identities, such as transgender woman and genderqueer, or multiple marginalized sexual identities, such as asexual and lesbian.

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Ethical statement

The study received IRB approval (#L20-0014) at the University of Connecticut where data were collected and stored.

Disclosure statement

The authors report there are no competing interests to declare.

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Data availability statement

The data that supports the findings of this study are available upon reasonable request.

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