



Variations in students' perceived reasons for, sources of, and forms of in-school discrimination: A latent class analysis

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ABSTRACT

Although there exists a healthy body of literature related to discrimination in schools, this research has primarily focused on racial or ethnic discrimination as perceived and experienced by students of color. Few studies examine students' perceptions of discrimination from a variety of sources, such as adults and peers, their descriptions of the discrimination, or the frequency of discrimination in the learning environment. Middle and high school students in a Midwestern school district ($N = 1468$) completed surveys identifying whether they experienced discrimination from seven sources (e.g., peers, teachers, administrators), for seven reasons (e.g., gender, race/ethnicity, religion), and in eight forms (e.g., punished more frequently, called names, excluded from social groups). The sample was 52% White, 15% Black/African American, 14% Multiracial, and 17% Other. Latent class analysis was used to cluster individuals based on reported sources of, reasons for, and forms of discrimination. Four clusters were found, and ANOVAs were used to test for differences between clusters on perceptions of school climate, relationships with teachers, perceptions that the school was a "good school," and engagement. The Low Discrimination cluster experienced the best outcomes, whereas an intersectional cluster experienced the most discrimination and the worst outcomes. The results confirm existing research on the negative effects of discrimination. Additionally, the paper adds to the literature by highlighting the importance of an intersectional approach to examining students' perceptions of in-school discrimination.

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1. Introduction

Perceptions of discrimination based on identities such as race, gender, or sexual orientation can have negative consequences for youth (Bontempo & D'augelli, 2002; Fisher, Wallace, & Fenton, 2000; Leaper & Brown, 2008; Russell et al., 2012). When discrimination occurs from those at school, the consequences are not only for mental health but also for school engagement and academic achievement (Schmitt, Branscombe, Postmes, & Garcia, 2014; Wong, Eccles, & Sameroff, 2003). Discrimination refers to negative or unfair treatment based on a social identity such as race, gender, socioeconomic status, or sexual orientation (Brown & Bigler, 2005). The majority of existing research in this area has focused on racial-ethnic discrimination (Schmitt et al., 2014);

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however, youth from many stigmatized groups experience discrimination and may experience discrimination based on multiple social identities. Stigmatized groups include those with less power and privilege in society based on a social identity, such as racial-ethnic minorities, women, and gay men and lesbians. Yet little is known about how individuals experience the co-occurrence of discrimination (Garnett et al., 2014). Furthermore, some studies have examined the source (i.e., adults or peers) of discrimination (e.g., Benner & Graham, 2013; Fisher et al., 2000; Greene, Way & Pahl, 2006; Rosenbloom & Way, 2004), but more work is needed on how discrimination from different sources is differentially associated with outcomes (Niwa, Way & Hughes, 2014; Williams, Neighbors & Jackson, 2003). Similarly, work is needed that explores the different forms discrimination takes, for example name-calling versus being punished unfairly (Niwa et al., 2014). Finally, school success indicators such as engagement are understudied relative to mental health outcomes. The goal of the current study was to use a person-centered approach to explore the associations of varying sources, forms, and reasons for discrimination with academic engagement and perceptions of school climate in an adolescent sample.

1.1. An intersectional perspective on discrimination

The majority of research examining adolescents' experiences with discrimination focuses on racial discrimination (Garnett et al., 2014). For example, a recent review found that 65% of studies examining the relationship between discrimination and mental health examined race-ethnicity, but only 17% considered gender discrimination and 6% considered discrimination based on sexual orientation (Schmitt et al., 2014). Nonetheless, all three types have negative effects for youths' psychological, health, and academic outcomes (Bontempo & D'Augelli, 2002; Leaper & Brown, 2008; Saewyc, 2011; Schmitt et al., 2014). Yet few studies examine adolescents' perceptions of discrimination based on other social identities markers (e.g., socioeconomic status, [dis]ability, religion) or consider multiple identities at the same time (Grollman, 2012).

Because 60% of youth in the U.S. report experiencing perceived discrimination based on two or more identities during adolescence (Grollman, 2012), it is important to take into account potentially additive or multiplicative effects. The current paper uses intersectionality theory to understand youths' experiences with multiple perceived reasons for discrimination. Intersectionality theory is an analytic framework that "consider[s] the meaning and consequences of multiple categories of social group membership" (Cole, 2009, p.170). This theory seeks to examine how various biological, social and cultural categories of identity interact on multiple and simultaneous levels, contributing to injustice and inequality. Coined by Kimberlé Crenshaw (1989), the theory was initially used by scholars to examine how race and gender simultaneously interacted to affect the lived experiences of Black females (see also Collins, 2000). This theoretical approach recognizes the ways in which, for example, the schooling and life experiences of Black boys may differ from Black girls, even though they share the same racial identification. An intersectional approach to the study of discrimination assumes that different types of discrimination may be related to the extent that they are based on the intersection of multiple identities (Seaton, Caldwell, Sellers & Jackson, 2010). Because youth may be uncertain about the basis for any particular act (Garnett et al., 2014; Rosenbloom & Way, 2004), studies focused on just one identity may underestimate the role of perceived discrimination for youth who identify with multiple stigmatized groups. Furthermore, youth generally experience their multiple identities as a coherent whole (Warner & Shields, 2013), so it may be difficult for them to report on an experience as if it is related to just one portion of their identity. It is unknown whether youth experience discrimination based on certain identities (i.e., race) more frequently or as more distressing than discrimination based on another identity (i.e., gender). The double-jeopardy hypothesis suggests that individuals belonging to multiple stigmatized groups experience additive or multiplicative effects of discrimination because of their identities (Beal, 2008; Berdahl & Moore, 2006; Fierros & Conroy, 2002; Hayes, Chun-Kennedy, Edens & Locke, 2011). However, evidence for this is mixed (Grollman, 2012).

Recent work has applied intersectional frameworks to the study of identity-based discrimination (Daley, Solomon, Newman & Mishna, 2008; Garnett et al., 2014; Poteat, Mereish, DiGiovanni & Koenig, 2011; Seaton et al., 2010). For example, studies of lesbian, gay, and bisexual (LGB) youth find that about 80% experience verbal abuse and hear homophobic remarks at school; these and other forms of victimization are associated with poor mental health and academic outcomes (D'Augelli, 2002; Diaz & Kosciw, 2009). At the same time, LGB youth also experience victimization based on other identities: more than half of LGB youth of color are verbally or physically harassed because of their race, about one-third experience discrimination based on their religion, and about 17% report discrimination based on their ability status (Diaz & Kosciw, 2009). Furthermore, those youth who reported discrimination because of both sexual orientation and race were more likely to miss school than those harassed because of sexual orientation or race alone, and more than three times as likely to miss school than those who did not experience discrimination (Diaz & Kosciw, 2009). Similarly, in a nationally representative sample of adolescents and young adults, Grollman (2012) found that those who were discriminated against based on more identities (i.e., race, gender, sexual orientation, or social class) had higher depressive symptoms and worse health than those who reported only one reason for discrimination. Research on adults has also found that reporting multiple reasons for major discrimination predicts worse mental health (Gayman & Barragan, 2013; Kessler, Mickelson & Williams, 1999). Some studies report no additive or multiplicative effects. For example, Cogburn, Chavous, and Griffin (2011) found that African American adolescents who experienced high levels of both racial and gender discrimination were not worse off than those experiencing high levels of either. Importantly, studies have not considered how experiencing multiple reasons for discrimination is associated with academic engagement and perceptions of overall school climate in addition to mental health. The current study advances this research by allowing youth to identify multiple identities as reasons for discrimination and considers the relationship to academic engagement and school climate. A second advance of the current study is that it also examines multiple sources and forms of discrimination.

1.2. Sources and forms of discrimination

The source of the discrimination is also influential for youth outcomes (Benner & Graham, 2013; Greene et al., 2006; Niwa et al., 2014). For example, some studies have shown that African American and Latino adolescents tend to perceive more discrimination from adults, but Asian American youth perceive more discrimination from peers (Fisher et al., 2000; Rosenbloom & Way, 2004). Discrimination from peers and adults can lead to lower feelings of connection to those at school (Roeser, Eccles, & Sameroff, 2000; Way, Reddy, & Rhodes, 2007) and lower grades (Huynh & Fuligni, 2010). Discrimination from adults may be associated with different outcomes than discrimination from peers (Benner & Graham, 2013; Greene et al., 2006; Medvedeva, 2010; Roeser et al., 2000; Smetana, Campione-Barr & Metzger, 2006). For example, Benner and Graham (2013) found that for a sample of Latino, African American, and Asian American youth, discrimination from adults was associated with grades and school engagement, whereas discrimination from peers was associated with psychological well-being. In another study, discrimination from peers was linked with changes in self-esteem and depressive symptoms, but discrimination from adults was associated with changes in self-esteem only over time (Greene, Way & Pahl, 2006). Both studies examined separate linear effects for peer and adult discrimination; few have examined additive or multiplicative effects or used person-centered analyses.

The most understudied area of variation in discrimination experiences has to do with the forms of discrimination. Form can be tied to source, since mainly teachers and administrators can punish students unfairly or deny access to academic resources. Nevertheless, name-calling or using derogatory language can occur from any source. Thus, form can be examined separately from source. Research on bullying overlaps with research on discrimination in that they are generally measured in similar ways (i.e., by asking about the frequency of negative behaviors such as being called names). However, studies regarding bullying seldom request that participants specify the particular reasons for their mistreatment (Garnett et al., 2014). Despite the lack of specificity in reasoning, some studies have suggested that different forms of victimization are highly correlated (Nylund, Bellmore, Nishina and Graham, 2007). For example, Wang, Iannotti, Luk and Nansel (2010) found that 48.5% of youth who experienced verbal victimization also experienced social exclusion, and 26.9% experienced rumors being spread. Using latent class analysis, they found three profiles of victims: a group of individuals reporting a high frequency of experiencing five types of bullying behaviors, a group experiencing a high frequency of verbal harassment and social exclusion but low physical and cyber victimization, and a group experiencing low frequencies of any bullying behavior. Class differences were associated with depressive symptoms, sleeping problems, and nervousness, such that the first group experienced the worst outcomes, followed by the second group, and then the third group. Although this study does not speak to identity-based discrimination specifically, it provides support for the utility of not only considering the frequency of discrimination but also the ways in which it is carried out.

An additional reason that further research on the forms of discrimination is needed is that students of certain backgrounds may experience some forms more frequently compared to students of other backgrounds. For example, in a diverse sample of adolescents Fisher et al. (2000) found that Asian American and Hispanic youth were more likely to have people assume their English was poor than African American and White youth. Hispanic youth were also most likely to be discouraged from joining an advanced class, but African American youth were the most likely to report other students being afraid of them (the African American students). Qualitative studies also report differences by race in the types of discrimination experienced (e.g., Liang, Grossman & Deguchi, 2007; Rosenbloom & Way, 2004). A third limitation remains in that studies have not investigated the disparate relations of different forms of discrimination to outcomes. Thus, the current study adds to the literature by exploring forms of discrimination for students of different backgrounds and their relations to outcomes.

1.3. Discrimination, academic engagement, and perceptions of school climate

When compared to research on mental health outcomes, less research on perceived discrimination has considered outcomes relating to school success. Understanding the role of perceived discrimination, particularly school-based discrimination, is important for understanding the barriers youth from stigmatized groups face when attempting to achieve success in mainstream society. A number of studies find that racial minorities, sexual minorities, and youth with disabilities are at risk for lower school engagement and academic achievement in part because of discrimination they experience (e.g., Beal, 2008; Bontempo & D'Augelli, 2002; Diaz & Kosciw, 2009; Fierros & Conroy, 2002, Le & Stockdale, 2011; Oswald et al., 2003; Schmitt et al., 2014). Studies such as the current one can illuminate the types of experiences youth from these marginalized groups have and show how those experiences are related to student outcomes. In the current study, we examine perceptions of school climate, perceptions of the school as a good school, academic engagement, and relationships with teachers. Previous research has shown links between perceptions of discrimination and school climate (Bellmore, Nishina, You, & Ma, 2012; Reid & Radhakrishnan, 2003; Stone & Han, 2005), showing that perceptions of positive and negative interactions across race are related to perceptions of the school overall. Further, perceptions of a positive school climate are associated with motivation and academic achievement (Thapa, Cohen, Guffrey, & Higgins-D'Alessandro, 2013; Wang et al., 2010). Our study included two indicators of school climate, one that explores students' perceptions of feeling valued and respected, and another more global indicator exploring whether students describe their school as a "good school." We also considered a more proximal indicator of academic success: relationships with teachers, as numerous studies highlight the importance of positive relationships in adolescence (Benner, 2011; Goodenow, 1993; Neel & Fuligni, 2012; Osterman, 2000). Finally, we measured student academic engagement and motivation, a key factor in whether youth persist in school and are successful (Ryan & Deci, 2009). Previous studies show clear negative associations between perceived discrimination and academic engagement (Chavous et al., 2008; Dotterer, McHale & Crouter, 2009; Wong et al., 2003).

1.4. The current study

In sum, the current study investigated multiple reasons for, sources of, and forms of discrimination in an adolescent sample. We included both middle and high school students in our sample, because research has shown that victimization for bullying tends to be higher in middle school than high school (e.g., Bradshaw, Sawyer & O'Brennan, 2007; Rose et al., 2009). Additionally, studies have explored students' perceptions of racial/ethnic discrimination as early as fifth grade (e.g., Coker et al., 2009), but less research has included a focus on students across grades 7 through 12 (Goldweber et al., 2013; Pepler, Jiang, Craig & Connolly, 2008). We were interested in two primary research questions: what clusters existed in the data, and whether these clusters differed in academic engagement, perceptions of school climate, perceptions of the school being a good one, and relationships with teachers. In line with previous findings (e.g., Garnett et al., 2014; Niwa et al., 2014; Nylund, Bellmore, et al., 2007), we expected at least two clusters to be present: a cluster that reported discrimination and a cluster that did not report discrimination. Also in line with previous research, we expected the clusters characterized by reports of more discrimination to have worse outcomes. Our third research question concerned demographic differences in students' reports of the reasons for, sources of, and forms of discrimination. The demographic differences we explored were school, race/ethnicity, home language, socioeconomic status, living within the district, and special education status. Based on previous research on reasons for discrimination, we generally expected being a racial/ethnic minority and having a disability to be a frequent reason (e.g., Diaz & Kosciw, 2009; Fisher et al., 2000; Grollman, 2012; Kessler et al., 1999). We did not have expectations for the other categories because of the general lack of research in those specific areas.

2. Method

2.1. Participants

Participants were 1468 students (52% female) enrolled in a junior high (grades 7–8) and a high school in a central Michigan school district. According to district student demographic data, approximately 51% of junior high students were identified as White (followed by 18% Multiracial, 15% African American/Black, and 6% Other), and 52% of the student population at the high school was classified as White (followed by 17% Other, 16% African American/Black, and 12% Multiracial). Across the two schools, approximately 89% of teachers identified as White, 6% as Multiracial, 3% as Other, and 2% as Black/African American. Approximately 78% of the teachers identified as females, and 22% identified as male. In this study students were allowed to self-report their racial group identification from a list of choices.¹ Our sample was highly representative of the district: approximately half of the students (51.6%) surveyed identified as White/Caucasian, 15.4% identified as African American/Black, and 13.6% identified as Multiracial. The remaining students identified as Hispanic/Latino (5.4%), Asian American/Pacific Islander (6.7%) or some other category (e.g., "Arab", "Middle Eastern," "Somali," 4.8%) or did not identify their race (2.6%). Participants ranged in age from 10 to 22 ($M = 14.95$, $SD = 1.81$) and were in 7th through 12th grade. Our indicators of socioeconomic status included number of computers and books in the home. Number of computers was measured as 0 (none), 1 (one), or 2 (two or more); number of books was measured as 0 (fewer than 10), 1 (10–50), 2 (50–100), or 3 (over 100). Most (73.1%) of the sample had two or more computers at home, and about half (51.3%) reported having over 100 books at home. A more traditional indicator of socioeconomic status, participation in a free/reduced lunch program, was not used in this sample. However, we also conducted the survey in a neighboring school district with similar demographics ($N = 1366$), and in that district, free/reduced lunch status was significantly associated with the number of books ($\chi^2(df = 3) = 31.49$, $p < .001$) and computers ($\chi^2(df = 2) = 40.05$, $p < .001$) at home. Additionally, computer-ownership is significantly associated with parent education in census and national samples, with families with more education more likely to own a computer (File & Ryan, 2014; Roberts, 2000).

2.2. Measures

The measures included scales created by the one of the authors for use in school district academic achievement improvement efforts. They were reviewed by experienced researchers and school district personnel for appropriateness. Participants responded to measures of their perceptions of the school climate, relationships with teachers, and perceptions of discrimination. Item construction for each scale was informed by the Students as Allies in School Reform Survey (What Kids Can Do, 2003) and the Comprehensive School Climate Inventory (National School Climate Center, 2003). Participants also reported their background information: race/ethnicity, gender, grade, whether they had an individualized education plan (IEP) or 504 plan,² whether they

¹ The list of choices for race/ethnicity on the survey included: Black/African American, White/Caucasian, Native Hawaiian/Pacific Islander, Multiracial (multiple races/ethnicities), Hispanic/Latino, Asian/Asian American. "Other" is inclusive of Hispanic/Latino and Asian/Asian American students.

² Students with IEPs receive formal special education services in the Individuals with Disabilities Education Act. Students with 504 plans have disabilities or disabling conditions that do not qualify under IDEA but still receive some specialized services (e.g., readers for students who are blind, interpreters for students who are deaf). The main difference between an IEP and a 504 plan is that a 504 plan modifies a student's regular education program in a regular classroom setting and is monitored by classroom teachers. A student with an IEP, as part of the Individuals with Disabilities Education Act, may receive different educational services in a special or regular educational setting, depending on the student's need. Examples of accommodations in 504 plans include: preferential seating, extended time on tests and assignments, or verbal, visual, or technology aids.

lived in the school district,³ whether a language other than English was primarily spoken at home, and how many computers and books they had at home.

2.3. Procedure

The data collection procedures were determined to be exempt from oversight by the Michigan State University Institutional Review Board. The participating school district superintendent and principals at both schools approved all procedures. The data were collected in spring 2012. The schools informed parents using their weekly email blasts that the survey was being administered as part of the district's ongoing initiative to identify strategies for closing academic achievement gaps between students of varying racial/ethnic and socioeconomic backgrounds. Parents could inform the school principals by phone or email if they did not want their child to complete the survey. Because we were attempting to survey all students enrolled in both schools, we decided to use a passive consent procedure. We anticipated a higher response rate and a greater likelihood of a non-biased sample for a population-based survey. Passive consent procedures have been utilized by researchers (e.g., Pokorny et al., 2001) surveying all enrolled students at a school and have yielded high response rates representative of the student population. The paper survey was administered by classroom teachers during a single class period. Upon survey completion, teachers returned all surveys in a box to the school's front office. The surveys were retrieved by the research team at the end of the school day. Students were informed of the purposes, risks, and benefits of completing the survey prior to beginning the survey. All students were invited to complete the survey, but it is not known how many were absent or declined to participate on the days of survey administration.

2.4. Discrimination

Similar to other person-centered studies (e.g., Garnett et al., 2014), perceived discrimination was assessed with checklists. Four were used in the current study. First, participants were asked to check if they experienced discrimination from any of the following sources: peers, teachers, administrators, front office personnel, counselors/social workers, security guards, others, or no one (i.e., "I do not experience discrimination at my school."). Based on our experience with students and in consultation with school district administrators regarding students' understanding of discrimination, the high school survey did not include a definition for discrimination; the middle school survey defined discrimination as "unfair treatment". Students could check as many sources as they wished. Sources of discrimination were selected based on research indicating the positive or negative effects that relationships with key personnel beyond peers and teachers can have on students' academic engagement and overall school success. For example, studies have shown that school counselors play a significant role in providing college preparation, career, personal, social, or emotional services for students (Gallant & Zhao, 2011; House & Hayes, 2002). Also having a highly effective school leader present in the building can raise student achievement (Louis et al., 2010; Wallace Foundation, 2011); yet, most studies have primarily focused on students' perceptions of discrimination from their peers and teachers (e.g., Chavous et al., 2008; Le & Stockdale, 2011; Neblett et al., 2006).

If students reported experiencing discrimination from any source, they were secondly asked to indicate the reason for the discrimination by checking as many of six choices that applied: my race/ethnicity, my gender, my religion, my family's financial status, my sexual orientation, my disability, or "other" (participants could write in a reason). For several of the aforementioned identity categories (e.g., race/ethnicity, gender, family's financial status, and disability), a plethora of research exists concerning the relationship between the identity marker and the degree to which students have positive or negative schooling experiences based on how individuals respond to their perceptions of the student's identity marker. Yet, because race, socioeconomic status, and gender have primarily been focused on in existing research, this study allowed for participants to also indicate perceptions of discrimination based on additional social identities for which growing bodies of research indicate discrimination and harassment in the learning environment based on these categories (e.g., Diaz & Kosciw, 2009; Medvedeva, 2010; Saewyc, 2011). Third, participants indicated in what form the discrimination took place by checking as many of seven choices that applied (e.g., "I don't get called on in class by the teacher", "I experience name-calling", "I am excluded from certain social groups", "I get punished more than others") or "Other" (participants could write in a description). Choices regarding forms of discrimination were informed by existing research on students' perceptions of bullying and discrimination and the forms that it takes in school (Eccles et al., 2006; Wang et al., 2010; Wong et al., 2003).

Lastly, participants identified the frequency of their experiences with discrimination on a scale from 1 (*daily*), 2 (*weekly*), 3 (*monthly*), 4 (*not more than once a semester*), to 5 (*not more than once a year*). Responses were recoded such that non-responses were coded as '0', and 'Daily' was coded as '5'. Thus, frequency of discrimination ranged from 0 to 5. Participants were only asked to identify frequency once across their experiences in order to minimize fatigue.

³ This school district is part of a larger countywide intermediate school district (ISD). In this ISD, individual districts opt to take part in the schools of choice program in which students who do not reside within the district, but live in the county, can enter a lottery to go to school outside their home district. Some students surveyed in this study did not reside in this school district and were attending the two schools as part of the schools of choice program.

2.5. Outcomes

First, school climate was measured with 10 items indicating perceptions that students felt valued and safe, staff and other students showed respect for cultural differences, and family were included in school activities on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*) ($\alpha = .84$). An example item is “Teachers in this school respect students’ cultural differences.”

Second, students reported whether they thought their school was a “good school” on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). This item provided an additional, global indication of their perceptions of the school climate. Third, relationships with teachers was measured with three items ($\alpha = .66$). Participants indicated how much teachers understood what their home life was like, how much teachers graded them fairly and got to know them on a personal level on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*).

Fourth, engagement consisted of 11 items measuring how much youth enjoyed learning, participated in class, needed encouragement to complete work, and spent time on homework. Eight items were on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Average amount of homework completed was on a scale of 1 (*none*) to 5 (*all*), hours spent on homework was on a scale of 1 (*0 h*) to 4 (*3 or more hours*), and amount of material understood well was on a scale of 1 (*none*) to 4 (*all*). All responses were standardized and averaged such that higher scores indicated greater engagement ($\alpha = .70$).

The distinctiveness of the outcomes was confirmed through a confirmatory factor analysis using MPlus 6.1. As suggested by Yu (2002), for the CFA, a non-significant chi-square, a CFI above .96, and an RMSEA below .05 will indicate excellent fit. Though some standardized loadings were low ($M = .48$) and correlations between factors were moderate to high (.54 to .81), the four-factor model with engagement, school climate, teacher relationships, and perceptions of a good school had a close to excellent fit: χ^2 ($df = 254$) = 1009.70, $p < .001$, CFI = .92, RMSEA = .045, and better model fit than a comparison model in which school climate, relationships, and perceptions of a good school were combined into one factor, with engagement on a separate factor (χ^2_{diff} ($df = 18$) = 1470.567, $p < .001$).

2.6. Data analysis plan

In the current study, we use a person-centered approach through a latent class analysis (LCA). Person-centered approaches focus on discovering relations among individuals in order to group them into categories. In contrast, variable-centered approaches aim to measure relations between variables with the goal of predicting outcomes. LCA identifies latent groups based on patterns in observed variables (Nylund, Muthen and Asparouhov, 2007). The goal of the analysis is to model relationships between observed variables as a function of an unobserved latent categorical variable. The analysis provides parsimony and goodness of fit statistics to determine the best model (Nylund, Muthen and Asparouhov, 2007). LCA and a person-centered approach in general are useful because they do not require a priori specification of groups. For example, one approach could compare youth who consider mostly discrimination based on race, mostly discrimination based on gender, and mostly discrimination on sexual orientation. The analysis would then be limited by the researchers’ assumptions and could potentially miss meaningful groupings. Furthermore, when seeking to examine multiple reasons for, sources of, and forms of discrimination, as in the current study, the number of potential combinations is high and would quickly give rise to a multiple comparison problem unless strong and potentially unwarranted assumptions are made. Second, LCA is advantageous over traditional person-centered approaches because it provides estimates of model fit and parameters to help determine the number of groups. Third, because LCA is model-based, the groupings can be tested in independent samples to confirm the generalizability of a proposed framework.

Previous research has used latent class analysis to identify groups of adolescents based on bullying victimization. For example, Nylund, Muthen and Asparouhov (2007) identified three groups of middle school students based on rates of peer victimization: a victimized group, a sometimes victimized group, and a non-victimized group. These clusters were in turn associated with differences in depressive symptoms and perceptions of school safety. In terms of intersectional discrimination, few studies have taken a person-centered approach. One exception is Niwa et al. (2014). In a study of Dominican American, Chinese American, and African American middle school students, Niwa et al. (2014) created two sets of profiles based on peer and adult ethnic-racial discrimination. For adult discrimination, there were two profiles: one that experienced a moderate amount of discrimination and one that experienced very little. There were three profiles for peer discrimination: a high, moderate, and low group. Cluster membership was related to self-esteem, depressive symptoms, teacher relationships, and school belonging such that the high and moderate clusters had worse outcomes than the low group. In another sample of diverse adolescents, Garnett et al. (2014) asked youth whether they experienced discrimination based on race, immigrant status, sexual orientation, and weight. They identified four clusters in the data: one with youth who reported very little discrimination, one with a high proportion reporting racial discrimination and few other reasons, one with a high proportion of sexual orientation and few other reasons, and a group with high endorsement of racial, immigration, and weight-based discrimination. In this study, a majority of youth experienced one particular reason for discrimination, about 7% of them faced multiple reasons; this cluster also had higher depressive symptoms and more suicidal ideation than the other clusters. Neither study considered a wide range of reasons for discrimination or combined sources and forms of discrimination. The current study builds on these existing studies by surveying students on discrimination based on six reasons, six sources, and seven forms.

Clustering was completed using the polCA package in R (Linzer & Lewis, 2013; R Core Team, 2014). In the current study, we modeled clusters based on all reason, source, and form variables from the discrimination checklist. There were no covariates included. We examined the Bayesian information criteria (BIC), log-likelihood, number of parameters, and model entropy for models with between 2 and 7 clusters. BIC is calculated based on the log-likelihood, number of parameters, and sample size,

and indicates parsimony in relation to those three factors (Nylund, Muthen, & Asparouhov, 2007). Entropy measures the degree of dispersion or concentration for a categorical model and indicates how clearly classes are delineated (Linzer & Lewis, 2013). We selected the model based on the lowest BIC, as research indicates that BIC is the most reliable indicator of the true number of classes (Linzer & Lewis, 2013; Nylund, Muthen, & Asparouhov, 2007).

Before clustering the data, we examined demographic group differences for each reason, source, and form of discrimination using chi-square tests. We also compared demographic groups on the outcomes using ANOVAs and t-tests. An alpha level of .05 was used to determine statistical significance. We were interested in differences by gender and race in order to see whether the patterns similar to other studies of discrimination and bullying which suggest that students of color and boys experience more negative treatment and worse academic engagement and perceptions of school climate (e.g., Diaz & Kosciw, 2009; Medvedeva, 2010, Nylund, Muthen and Asparouhov, 2007, Saewyc, 2011).

3. Results

3.1. Descriptive statistics and group differences

Scale scores for each outcome were computed as the average of the items to which participants responded. As a preliminary analysis, we examined descriptive statistics for the discrimination checklist and each outcome. We also examined differences across demographic groups for discrimination and the outcomes. Frequencies for each reason, source, and form of discrimination are shown in Table 1 for the total sample and by school level. More than half of the sample (53.6%) reported no discrimination. Discrimination was perceived most often because of an individual's race/ethnicity (16.4%) or "Other" (11.5%). Other perceived reasons listed included appearance and personality. The most frequently cited source of discrimination was peers (25.2%) followed by teachers (11.2%). The most common forms of discrimination were being called names (16.0%), being excluded from social groups (11.4%), and getting punished more than other students (10.4%).

We used chi-square tests of independence to explore differences in discrimination by gender and race. Girls were more likely than boys to perceive discrimination from front office personnel ($\chi^2 (df = 1) = 4.67, p = .031$) and less discrimination from counselors ($\chi^2 (df = 1) = 6.79, p = .009$). Boys reported more discrimination based on disability ($\chi^2 (df = 1) = 7.14, p = .008$) and reported being punished more than girls ($\chi^2 (df = 1) = 4.34, p = .037$). Differences by race were widespread. The only comparisons for which there were no race differences were for discrimination based on gender, social class, sexual orientation, and disability, and for being excluded from social groups and social opportunities. In general, a higher proportion of African American and multiracial students reported discrimination in most categories, compared to White and Other race youth.

Means and standard deviations for each outcome are in Table 2 (see column total). In terms of race, African American and Multiracial students reported more frequent discrimination than White and Other race students ($F = 11.62, p < .001$). There were no differences in reports that the school was a "good school." White students reported significantly more engagement than Multiracial students ($F = 3.30, p = .020$), better relationships with teachers than African American and Multiracial students ($F = 5.26, p = .001$), and more positive perceptions of school climate than Multiracial students ($F = 4.37, p = .004$). Boys and

Table 1
Frequencies of discrimination by perceived reason, source, and form.

	Middle school	High school	Total
Reason			
My race/ethnicity	10.5%	19.3%	16.4%
My gender	2.9%	7.1%	5.7%
My religion	4.2%	6.4%	5.7%
My social class/family's financial status	3.8%	9.8%	7.8%
My sexual orientation	2.3%	3.5%	3.1%
My disability	2.1%	3.9%	3.3%
Other attribution	19.5%	7.7%	11.5%
Source			
Peers	24.5%	25.6%	25.2%
Teachers	13.4%	10.1%	11.2%
Administrators	7.3%	5.6%	6.1%
Front office personnel	10.9%	7.0%	8.2%
Counselors/social workers	2.1%	2.7%	2.5%
Others	9.9%	4.4%	6.2%
No discrimination	45.7%	57.5%	53.6%
Form			
I don't get called on in class by the teacher	6.9%	4.0%	5.0%
I experience name-calling	16.6%	15.8%	16.0%
I have fewer opportunities to access people in the school that can help me succeed	4.0%	7.1%	6.1%
I am excluded from certain social groups	11.3%	11.4%	11.4%
I am excluded from academic opportunities	1.9%	5.3%	4.2%
I am excluded from social opportunities	6.7%	7.5%	7.2%
I get punished more than other students	14.3%	8.6%	10.4%
Other form	12.4%	7.4%	9.0%

Table 2
Means and standard deviations for outcome variables, total and by cluster.

		Total	Adult	Multiple	Peer	Low	F (all ps < .001))
Discrimination frequency	Mean	1.35	2.90 _a	3.81 _b	3.13 _a	0.08 _c	1049.597
	SD	1.87	1.72	1.27	1.54	0.46	
School climate	Mean	3.64	3.31 _a	2.92 _b	3.49 _c	3.87 _d	117.387
	SD	0.71	0.76	0.76	0.65	0.57	
Good school	Mean	4.06	3.67 _a	3.37 _b	3.87 _a	4.31 _c	55.058
	SD	1.02	1.20	1.34	1.07	0.80	
Teacher relationship	Mean	2.94	2.67 _a	2.36 _b	2.84 _a	3.13 _c	43.399
	SD	0.87	0.88	0.92	0.86	0.80	
Engagement	Mean	0.00	−0.11 _a	−0.25 _b	−0.09 _a	0.09 _c	27.563
	SD	0.50	0.49	0.52	0.50	0.47	

Note: Different subscripts indicate significantly different means. For example, for discrimination frequency, the adult and peer groups (marked a) differ significantly from the multiple (b) and low (c) groups, but do not significantly differ from each other.

girls did not differ on the outcomes. There was no missing data on the discrimination checklist because there was no way to distinguish between students who did not select an item and those who chose not to respond. On the outcomes, missing data ranged from 0% to 1.2%. Missingness was not associated with student background. All available data was used in the latent class analysis using full information maximum likelihood estimation. The ANOVAs employed listwise deletion.

3.2. Latent class analysis

We selected a 4-cluster model as best fitting the data because it had the lowest BIC, as seen in Table 3. Figs. 1, 2, and 3 show the percentage of participants in each cluster (classified within their modal assignment) by reason, source, and form. Cluster 1 included 14.4% of the sample. This cluster included mainly students who were discriminated against by teachers, administrators, and front office personnel, thus we referred to them as the Adult cluster. They were also about half of those who reported being punished more often. Cluster 2 included 8.6% of the sample. This cluster was similar to Cluster 1 in that it included a large percentage of participants who reported experiencing discrimination from adults and who were more likely to report being punished. Cluster 2 participants also reported more discrimination based on each social identity compared to the other clusters, so we named this cluster the Multiple cluster. Though this group was less likely to be discriminated against by teachers (37% vs. 52%), they were more likely to not be called on in class (55% vs. 32%). Cluster 2 also included the majority of those who reported discrimination from counselors (65%), who were excluded from academic opportunities (82%), and who had less access to help (69%). Cluster 3 consisted of 17.8% of the sample. Since participants in this cluster included 63.5% of those who reported discrimination from peers, we labeled this the Peer cluster. The final cluster included 59.1% of the sample and 96.3% of those who reported no discrimination, so we labeled it the Low cluster.

3.3. Cluster differences on demographics

Next, we analyzed differences in cluster by demographics using chi-square tests of independence. The clusters differed by school ($\chi^2 (df = 1) = 49.85, p < .001$). High school students were more likely than expected to be in the Low Discrimination and Multiple clusters. There were also differences by race/ethnicity ($\chi^2 (df = 3) = 48.10, p < .001$). African American and Multiracial students were more likely to be in every cluster except Low. White students were overrepresented in the Low cluster—66% of White students were in this cluster compared to about half of the students of color. There were no differences in cluster membership by gender.

Those students whose parents spoke another language were more likely than expected to be in the Multiple cluster ($\chi^2 (df = 1) = 9.40, p = .02$). Compared to those with two or more computers at home, those without a computer at home or with only one were more likely to be in the other three clusters rather than the Low cluster ($\chi^2 (df = 2) = 15.03, p = .02$). There was a similar finding for those with fewer books ($\chi^2 (df = 3) = 30.67, p < .001$). Students who lived outside of the district were more likely to be in the three clusters that reported discrimination ($\chi^2 (df = 1) = 13.03, p = .04$). In terms of disability status, no

Table 3
Cluster log-likelihood (LL), number of parameters (N), BIC values, and model entropy.

Clusters	LL	N	BIC	Entropy
2	−7458.249	45	15,244.62	5.092817
3	−7240.425	68	14,976.68	4.946276
4	−7077.909	91	14,819.36	4.839202
5	−7004.686	114	14,840.62	4.785804
6	−6939.969	137	14,878.89	4.740023
7	−6891.482	160	14,949.63	4.705521

Note: Maximum entropy = 15.24924. BIC = Bayesian information criterion. Also, bolded values correspond to the model selected as best fitting the data in accordance with the observed BIC value.

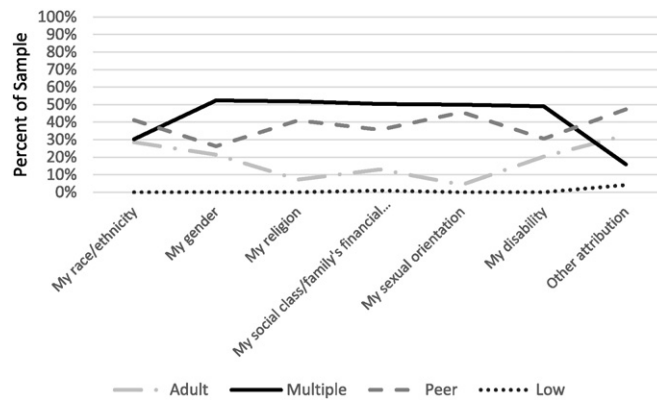


Fig. 1. Cluster differences by perceived reason for discrimination.

cluster was more likely to have an Individualized Education Plan, but participants in the Adult and Multiple clusters were more likely than expected to have a 504 plan ($\chi^2 (df = 1) = 15.44, p = .001$).

3.4. Cluster differences in discrimination frequency and outcomes

Finally, we conducted one-way ANOVAs and Tukey post-hoc tests to determine cluster differences in outcomes. Means are reported in Table 2. All clusters differed from each other in frequency of discrimination except the Adult and Peer clusters. Those in the Multiple cluster reported the most frequent discrimination (about weekly), and those in the Low cluster reported the least frequent discrimination. The Adult and Peer clusters reported experiencing discrimination around a monthly basis.

All clusters differed from each other in their perceptions of the school climate, with the Low cluster reporting the most positive perceptions of school climate, followed by the Peer cluster, then the Adult and Multiple clusters. For the perception that the school was a good one, the Adult and Peer clusters did not differ from each other, but they differed from the Multiple and Low clusters. Scores were highest in the Low cluster and lowest in the Multiple cluster. The same pattern was found for teacher relationships and engagement. In sum, the Multiple cluster perceived the most frequent discrimination and had more negative outcomes. The Adult and Peer clusters were similar in their perceptions of discrimination frequency and their outcomes (though the Adult cluster perceived a significantly more negative school climate). The Low cluster reported the highest engagement and most positive perceptions of the climate and teacher relationships.

4. Discussion

The goal of the current study was to investigate variations in discrimination experiences from an intersectional perspective and to understand the relations between profiles of discrimination experiences and perceptions of student-teacher relationships, school climate, good school, and academic engagement. Our first question was what clusters would be present in the data. We hypothesized at least two clusters, a Low Discrimination cluster and a higher discrimination cluster. We found four: a Low Discrimination cluster, two clusters primarily characterized by discrimination from adults, and one characterized by discrimination

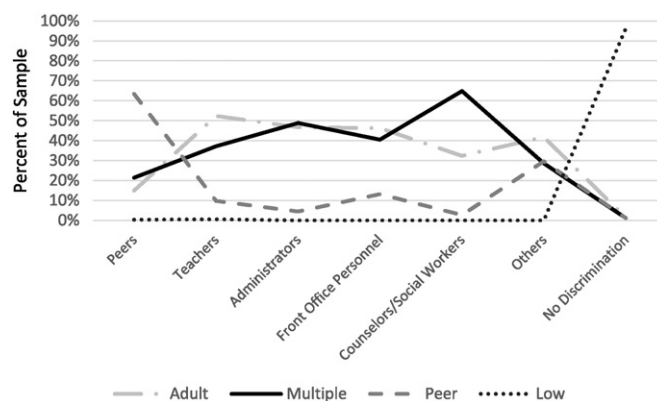


Fig. 2. Cluster differences by source of discrimination.

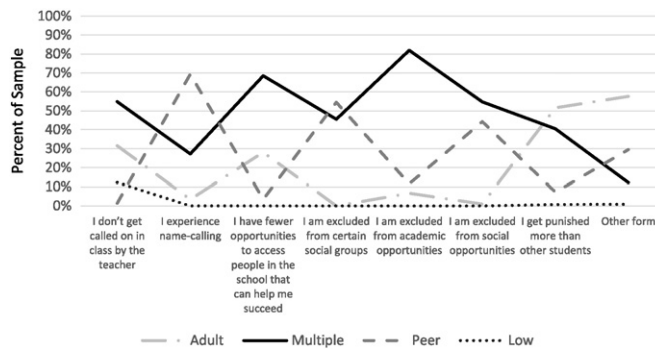


Fig. 3. Cluster differences by form of discrimination.

from peers. Having at least one high and low cluster is similar to previous research (Garnett et al., 2014; Niwa et al., 2014). Our findings were also like other studies (Garnett et al., 2014; Niwa et al., 2014) in that the Low discrimination cluster was around half of the sample. Additionally, our second hypothesis was confirmed, in that the clusters which perceived discrimination in more ways had worse outcomes, which supports research on the negative effects of identity-based discrimination (e.g., Schmitt et al., 2014; Stone & Han, 2005).

We also investigated differences in student background by cluster. Students of color were more likely than their White counterparts to report experiences with discrimination. That more White students were in the Low cluster than the other clusters aligns with existing research highlighting the greater disadvantaging effects of identification with a stigmatized group, such that students in a stigmatized group report more frequent discrimination and more negative effects from discrimination than students from non-stigmatized groups (Fisher et al., 2000; Grollman, 2012; Kessler et al., 1999). Further, students with other targeted identities were also more likely to report discrimination: students with 504 plans, students of parents who speak a language other than English at home, and lower-income students. The findings support previous research, for example, showing that students with disabilities are more likely to be discriminated against than those without disabilities (Rose et al., 2009). It is not clear why students with 504 plans were more likely to be in the Adult and Multiple clusters than students with IEPs. IEP students may be educated in the general education classroom or receive special services outside the general education classroom, whereas students with 504 plans receive all of their instruction in the general education classroom. Both types of students are considered to have a disability or limiting condition, but only IEP students are eligible for federally-sponsored special education. It may be that 504 students are more likely to perceive that their specific needs are not being met by the services they are offered (e.g., preferential seating in the classroom, extended time on tests and assignments, reduced homework or classwork, verbal/visual/technology aids) compared to the special education services of students with IEPs. We also found that high school students were more likely than middle school students to be in the Low cluster. Given the close connections between bullying and discrimination, this could support research in the bullying literature which shows that victimization is more frequent in middle school (Bradshaw et al., 2007; Rose et al., 2009).

Like many other studies, students most frequently reported their experiences with discrimination based on their race/ethnicity (e.g., Kessler et al., 1999), and girls reported more discrimination based on gender (e.g., Leaper & Brown, 2008). Where few other studies have focused directly on identifying the various forms that students report discrimination takes in the school environment, in this study students identified being called names, exclusion from social groups, and more frequent punishment as the most common forms of discrimination they experience. This finding underscores the need to further explore strategies for reducing negative treatment, increasing cross-cultural understanding among students and between students and adults, and identifying culturally relevant disciplinary practices in schools (e.g., Garnett et al., 2014; Larochette et al., 2010). Boys' perceptions of being punished more often and experiencing discrimination based on disability status supports existing research related to their high suspension and expulsion rates and overrepresentation in special education, in comparison to girls (Oswald et al., 2003; Verdugo, 2002). When race is examined, the data for boys of color is exacerbated in both special education and school discipline (e.g., Artiles et al., 2002; Peskin et al., 2006; Skiba & Rausch, 2006; Townsend, 2000). Additionally, the Peer cluster had a higher percentage of participants who reported discrimination by race/ethnicity, supporting existing research related to students of color and peer discrimination (e.g., Rosenbloom & Way, 2004; Scott, 2004; Thompson & Gregory, 2011).

4.1. An intersectional approach

In this study we found a cluster like the Intersectional cluster in Garnett et al. (2014) that experienced discrimination based on multiple identities. The cluster was also a similar proportion of the sample (8.6% compared to 7%). In Garnett and colleagues' study, the Intersectional cluster experienced multiple forms of discrimination and had the most negative outcomes. Likewise, the Multiple cluster in our sample reported the lowest engagement, worst relationships with teachers, and the most negative perceptions of the school climate.

The presence of the Multiple cluster in the data supports the need for an intersectional approach to the study of discrimination. This cluster was similar to the Adult cluster in the percentage reporting discrimination from adults compared to peers. Yet this cluster had the highest proportion of youth reporting discrimination for all identities except race and “Other”. For example, the Multiple cluster had the highest proportion of reporting for gender, religion, social class, sexual orientation, and disability, whereas only the Adult cluster was similar to the Multiple cluster in the proportion reporting discrimination based on race/ethnicity. Furthermore, the Multiple cluster differed from the Adult cluster on every outcome and experienced discrimination on a weekly rather than monthly basis. An analysis only clustering by source would likely group the Multiple and Adult cluster together and obscure an important source of variation and risk. Thus, the current analysis advances the literature by highlighting the many factors involved in school-based discrimination.

Our analyses also showed that the Multiple cluster was in some ways demographically different from the other clusters, in that students were more likely to have a 504 plan, to be racial minorities, and to have parents who spoke another language. It may be that more youth in the Multiple cluster were students with disabilities and/or those whose parents speak a second language, which could place them in a position to experience more negative treatment from adults who may be harboring harmful stereotypes about their identities and also not meeting their educational needs. This combined with experiences as students of color could make their multiple identities more salient. Models of identity development suggest that youth who are schematic for one social identity may also be more aware of their other social identities, and thus, more likely to report discrimination based on every social identity (Brown, Alabi, Huynh & Masten, 2011). Future research should investigate the degree to which youth experience identity salience and integration and how this relates to their perceptions of discrimination (Seaton et al., 2010; Stirratt et al., 2008).

4.2. Study limitations

The current study has implications for enhancing our understanding of how experiences with in-school discrimination impact academic engagement, students' perceptions of school climate, student-teacher relationships, and ultimately, academic achievement, particularly for students of color and those from other stigmatized and historically marginalized groups. While the contributions to the perceived discrimination scholarship are significant, this study had several limitations. The findings were generated from a middle and high school youth sample in one Midwestern city school district. It is unclear how these results might generalize to other districts across the state or in other regions of the country or that have different staff composition. It is also unclear how these results may generalize to schools with more racially diverse or predominantly non-White student populations. Nevertheless, strengths of the study were that it included almost all students in the two schools and is thus highly representative of that district and districts with similar demographics. This study is also limited in that it relied exclusively on survey methodology with student responses. A stronger study would include grades as well as teacher ratings of behavior and engagement. Furthermore, the measures have not been tested for validity and reliability, and some reliability indicators were lower than standard benchmarks. Additionally, attempts to triangulate the data by using qualitative methodologies to obtain student perspective and perspectives of other stakeholders (e.g., teachers and staff) in the schools might deepen our understanding of youth perceptions of discrimination and the relationship to academic engagement, perceptions of school climate, and relationships with teachers. Another limitation is that students may have incorrectly identified their IEP or 504 status, which is a problem inherent to self-report data. Other limitations were that the study was cross-sectional and that students were not asked to identify their sexual orientation or perceived class status. Finally, measures of gender, racial, and sexual orientation identity beliefs could help illuminate why some youth who are members of marginalized groups report multiple forms of discrimination compared to in-group peers.

4.3. Implications for future research and practice

This study was able to measure multiple forms of discrimination, from additional sources beyond peers and teachers, and for various reasons beyond those typically explored in the literature. This study also took an intersectional approach to examining students' perceptions of discrimination based on multiple social identity markers and utilized intersectionality theory as an analytical framework for understanding the data. Future research in this area should continue to utilize an intersectional approach with larger samples of middle and high school students from multiple districts to better understand their perceptions of discrimination in the school environment. Given that our findings indicated heightened risk for students from certain backgrounds, additional research might consider focusing specifically on students of non-White racial/ethnic backgrounds and those who are identified as having a disability. Findings from this study also provide several implications for applied work in school settings. At an institutional/system level, schools must address policies and procedures that do not support cultural inclusivity and the use of culturally responsive discipline practices (e.g., restorative discipline). In a study of African American middle and high school students, Smalls and colleagues (2007) found that students' perceptions of discrimination were positively correlated with negative school behaviors. As our study found that African American students reported more discrimination than White students, their behavior may potentially be worse than White students. Culturally responsive teaching can reduce the amount of discrimination students experience and improve the outcomes of African American students.

These findings have several implications for the work of school psychologists to ensure that all students have the opportunity to learn in environments that cultivate their identities, self-efficacy, social-emotional growth, and school achievement. School psychologists should work to promote equity in learning spaces “by cultivating safe, welcoming, inclusive school environments” (National Association of School Psychologists, 2012a, 2012b). Our study indicated that almost 3% of students felt discriminated

against by school psychologists, and this number should be reduced to 0%. This reduction can be accomplished by focusing efforts at the individual (personal) and institutional level. At the personal level, school psychologists should engage in critical self-reflection about their own biases and ensure that these biases do not negatively affect their work with and for students and families. This type of critical self-reflection cannot be accomplished alone and requires dialog with others and engaging in effective ongoing professional development focused on building cultural competency. Ensuring that their knowledge, skills, and professional practices reflect understanding and respect for a variety of cultural backgrounds and promotes effective services and advocacy for all youth is critical for school psychologists.

At the professional level, school psychologists can work with administrators to promote school policies and practices that ensure the safety of all students in the learning context by reducing harassment and negative treatment of students. Additionally, they can work with educators, students, and families to develop policies to establish and maintain racial, cultural, and linguistic diversity among school personnel as well as implement research-based strategies that mitigate the effects of racism and other forms of discrimination in the school context (NASP, 2012a). This can aid in creating and maintaining a more positive school climate and having a more diverse representation of adults in the learning environment. School psychologists can also assist in developing school-wide prevention activities like positive behavior intervention support to help students develop appropriate social skills. Helping school leaders and teachers develop interventions to replace bullying and discriminatory behaviors with positive, prosocial behaviors can reduce the amount of negative treatment that students experience from their peers (NASP, 2012b).

5. Conclusions

The current study found four clusters of students based on their experiences with discrimination and showed that these clusters differed in student background and academic outcomes. The findings suggest that it is important for schools to further work to identify ways to reduce discrimination, such as by building cultural competence and positive interaction skills. Ultimately, reducing students' experiences with discrimination in the learning environment may be beneficial to nurturing the positive development of the whole child and creating an overall learning environment where all students feel safe and affirmed.

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