Differences in the Age-varying Association of School Belonging with Socioemotional
Flourishing among Minority and Non-minority College and University Students

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BRIEF REPORT

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Abstract

School belonging is linked with socioemotional wellbeing and academic achievement, but an important question is whether school belonging or its effects vary for college or university students of minority identities. A number of outcomes associated with school belonging, including positive social relationships, perceptions of a fulfilling life, self-respect, optimism, and self-efficacy, are interlinked by the concept of socioemotional flourishing. This study aimed to assess the age-varying prevalence of and association between school belonging and flourishing among sexual or gender minority (SGM) and racial or ethnic minority (REM) students compared with non-minority students in the U.S. higher education setting. Data were drawn from a large national survey of U.S. college and university students ages 18–26, and were examined using varying-coefficient models to estimate the relation of school belonging and flourishing as a continuous function of age. SGM students ($n = 6,718$) had significantly lower belonging and flourishing than cisgender heterosexual students ($n = 19,492$) across all age points, and compared to white students ($n = 16,444$), REM students ($n = 10,539$) endorsed significantly lower belonging and flourishing at several age points. The association of belonging with flourishing was found to be significantly greater for SGM students than for cisgender heterosexual students across all ages, while age-varying associations for REM and white students were more complex. Findings of this study underline the unique importance and magnitude of the role of school belonging in socioemotional flourishing for SGM young adults, and highlight potential avenues for prevention of negative psychosocial and substance use outcomes among both SGM and REM college and university students.

Keywords: school belonging, minority health, sexual or gender minority, racial or ethnic minority, flourishing.

Differences in the Age-varying Association of School Belonging with Socioemotional Flourishing among Minority and Non-minority College and University Students

School belonging reflects connectedness to, and acceptance by, a school community, and among college and university-attending young adults, greater school belonging has been linked with higher academic performance, enhanced self-worth and perceived social acceptance, and reduced depression and loneliness (Freeman, Anderman, & Jensen, 2007; Goodenow, 1993; Gummadam, Pittman, & Ioffe, 2016; Hagerty, Williams, Coyne, & Early, 1996; Pittman & Richmond, 2007, 2008; Zumbunn, McKim, Buhs, & Hawley, 2014). Importantly, school belonging is not limited to interpersonal, relational belonging (i.e., one's sense of closeness to individuals or groups), but has been described as a broader attachment to a school environment that involves meaningful connection with peers and faculty, fulfilling engagement with academic and extracurricular groups, identification with university culture and norms of inclusion and diversity, and the presence of intrapersonal factors such as intrinsic motivation toward social connection, interest in opportunities for personal growth, and perceived balance of social and academic pursuits (Gummadam et al., 2016; Slaten et al., 2014).

Given the association of school belonging with wellbeing and achievement during early adulthood, an important question is whether school belonging or its effects vary for college or university students (hereafter referred to as college students) of minority identities, in particular those groups that have experienced disparities in academic and psychosocial outcomes in the college and university setting (Smith, Chesin, & Jeglic, 2014). A small number of studies have investigated disparities in school belonging or related outcomes among sexual or gender minority (SGM) and racial or ethnic minority (REM) older adolescents and college students, and found they experience different levels or effects of school belonging compared to non-minorities

(Gummadam et al., 2016; Hatchel, Merrin, & Espelage, 2019; Rostosky, Owens, Zimmerman, & Riggie, 2003). Specifically, older sexual minority adolescents (aged 14–18 years) report significantly lower perceived school belonging compared with heterosexual youth, and among SGM adolescents, lower school belonging is associated with substance use and low self-compassion (Hatchel et al., 2019; Rostosky et al., 2003). Similarly, among REM college students, depression, low self-worth, and low academic competence are associated with lower perceived school belonging (Gummadam et al., 2016). Moreover, potential mediating roles of school belonging have been identified in minority populations. For instance, a study by Mounts (2004) found a significant indirect effect of school belonging in the relation between campus racial climate and psychological adjustment outcomes (e.g., depression and substance misuse) among African American college students, suggesting that higher levels of belonging may blunt the effect of hostile school racial climate.

A number of outcomes associated with school belonging, including positive social relationships, perceptions of a fulfilling life, self-respect, optimism, and self-efficacy, are interlinked by the concept of *flourishing* (Diener et al., 2010; Keyes, 2007). Flourishing is a multidimensional construct, and is viewed as a metric of socioemotional well-being and psychosocial competency that extends beyond subjective well-being (Diener et al., 2010). Flourishing has been alternatively described as the realization of both high social capital and high psychological capital, and dimensions of flourishing have been examined as indicators of successful psychological adjustment to the college setting (Diener et al., 2010; Fink, 2014; Low, 2011). For instance, college students reporting lower levels of flourishing have been found to experience significantly more depression symptoms compared to students reporting higher levels of flourishing (Low, 2011). Critically, among college-aged young adults, flourishing is predicted

by perceived school belonging (Fink, 2014). Further, among SGM young adults, low flourishing is predicted by low self-esteem and perceived non-acceptance by others (Whitman & Nadal, 2015), suggesting a potential link between school belonging (including perceived acceptance in a school community) and flourishing in this population.

Beyond the above findings, there is little extant literature on school belonging for minority populations at the college or university level, or on the relation of school belonging with socioemotional flourishing among minority college students. Consequently, the aims of the current study were to examine, 1) whether *levels* of school belonging and flourishing differ among SGM compared with cisgender heterosexual college students and between REM compared with non-Hispanic white college students, and 2) whether the *relation between* school belonging and flourishing differs between these groups. Both aims were examined over time (between ages 18–26) to investigate whether levels of, or the relation between, school belonging and flourishing change over the course of the typical college period among both undergraduate and graduate student populations. This study was exempt from institutional review board oversight as a secondary analysis of deidentified data.

Methods

Data and Sample

Data for this study were drawn from the Healthy Minds Study, an annual survey of the mental health and wellbeing of college and university students throughout the United States (Eisenberg & Lipson, 2018). The current sample is composed of respondents aged 18–26 years who completed the online survey questionnaire during the 2017–2018 academic year; Table 1 provides sample size information by each age. For the analyses presented here (see Analytic Approach section), comparison groups were constructed using the following criteria. For the

SGM subsample ($n = 6,718$), participants could endorse a sexual orientation of lesbian, gay, bisexual, queer, questioning, or *other*; endorse a gender identity of transgender male/transgender man or transgender female/transgender woman; or discordantly endorse sex at birth and gender identity (e.g., male sex at birth and female gender identity). Participants who endorsed a transgender gender identity and a heterosexual sexual orientation were included in this group. The cisgender heterosexual participant subsample ($n = 19,492$) was composed of participants endorsing a heterosexual sexual orientation and concordantly endorsing sex at birth and gender identity (e.g., male sex at birth and male gender identity). Participants who identified as transgender and heterosexual were excluded from this group. For racial/ethnic group comparisons, the primary criterion for inclusion in the REM subsample ($n = 10,539$) was endorsement of a minority racial/ethnic identity.¹ Participants could select more than one race/ethnicity, so this subsample included persons of mixed race/ethnicity (mixed minority races/ethnicities or individuals of mixed minority-white race/ethnicities). Finally, the non-Hispanic white subsample ($n = 16,444$) was composed of participants endorsing only a white race/ethnicity and not endorsing any other race/ethnicity. Due to these subsample criteria, analytic comparison groups (e.g., SGM–cisgender heterosexual) were independent, while non-comparison groups could have overlapping respondents.

Measures

To assess perceived school belonging, participant agreement with four items was summed to create a school belonging score. The first item, “I see myself as a part of the campus community,” is a measure adapted from the Perceived Cohesion Scale (Bollen & Hoyle, 1990). Two further items, “I fit in well at my school” and “Other people understand more than I do

¹ African American/black; American Indian/Alaskan Native; Asian American/Asian, Hispanic/Latino/a; Native Hawaiian or Pacific Islander; Middle Eastern, Arab, or Arab American; or *other*.

about what is going on at my school,” were adapted from a study of social and academic fit among college students (Walton & Cohen, 2007). The final item, “I feel isolated from campus life,” was developed for the Healthy Minds Study (Eisenberg & Lipson, 2018). Participants endorsed their level of agreement with each item using a six-level Likert-type scale, and items were recoded for analysis such that responses summed to greater perceived belonging. Before items were summed, internal consistency of the school belonging items was assessed for each population subsample included in the analyses. Among SGM participants, $\alpha = .77$; cisgender heterosexual participants, $\alpha = .74$; REM participants, $\alpha = .74$; and non-Hispanic white participants, $\alpha = .75$. Flourishing was assessed using the eight-item Flourishing Scale (Diener et al., 2010); level of agreement was endorsed using a seven-level Likert scale (with neutral center), and each item score was summed to an overall flourishing score as recommended by the scale authors. As with the school belonging items, flourishing item internal consistency was assessed prior to summing; in all subsamples Cronbach’s alpha ranged from .89 to .91. Respondents entered their age in years on the online survey questionnaire.

Analytic Approach

To examine the age-varying relations of interest, a varying-coefficients model (VCM) was used (Hastie & Tibshirani, 1993). This modeling approach, also known as time-varying effects modeling, utilizes nonparametric spline regression to estimate model coefficients as a smooth, continuous function of time (Hastie & Tibshirani, 1993; Lanza, Vasilenko, & Russell, 2016). VCMs can accommodate data with various operationalizations of time, including longitudinal panel data, data collected using intensive longitudinal designs (e.g., ecological momentary assessment), or cross-sectional data with information available across a series of developmental points, and can examine relations of interest without potentially inaccurate or

untenable assumptions about the parametric shape (e.g., linear, quadratic) of the association over time (Lanza et al., 2016). In the present study, models examined the association of school belonging with socioemotional flourishing among the subgroup of respondents at each age; when modelled together, these age-specific effects can be interpreted as the age-varying association of school belonging and flourishing over the age range available in the data (Lanza et al., 2016). As suggested by Lanza et al. (2016), models were fitted for each subpopulation separately to ensure full moderation of relations of interests by minority or non-minority identities. Because of the numerous regression coefficients estimated in VCMs, model interpretation is typically carried out using plots of the spline function, around which 95% confidence regions are plotted to assess statistical significance. Models were estimated using the *mgcv* package (Wood, 2019) for R Version 3.6.0 (R Foundation for Statistical Computing, Vienna, Austria).

Results

SGM college students had significantly lower (all $ps < .001$) perceived school belonging and flourishing than cisgender heterosexual students across all age points (Table 1). Similarly, compared to non-Hispanic white college students, REM students endorsed significantly lower school belonging between ages 18–21 and flourishing at ages 19, 22, 23, and 25 (all $ps < .006$). Between the ages of 24–26, REM college students had significantly higher school belonging than white students (all $ps < .02$). Figure 1 shows VCM model results of the age-varying association of school belonging and flourishing for SGM and cisgender heterosexual college students (Plot A) and for REM and non-Hispanic white college students (Plot B). All model residuals were approximately normal, and models explained between 19–24% of variance in the flourishing outcome. Examining Plot A, the association of school belonging with flourishing is significantly greater for SGM college students than for cisgender heterosexual students across all ages. In Plot

B, the association of school belonging with flourishing is similar for REM and white college students between ages 18–22; after age 22, school belonging has a significantly greater association with flourishing for white college students than for REM students of the same ages.

Discussion

Findings of this study indicate that perceived school belonging has a potentially greater role in socioemotional flourishing for SGM students than for cisgender heterosexual students. One possible explanation for this finding is that, because SGM youth experience high levels of social and family rejection during adolescence (e.g., Durso & Gates, 2012), an accepting and supportive school climate may produce a compensatory effect on flourishing exceeding that of non-minority or REM young adults who did not experience prior family or social rejection. Beyond acceptance, greater school belonging may also reflect strengthened in-group connections, such as through access to SGM-focused campus groups, that may enhance perceived well-being. Findings for REM students were less clear. Aligning with model results that show the magnitude of the association between belonging and flourishing is greater for older white students, older REM students experienced higher belonging than older white students but similar levels of flourishing. This finding suggests that there may be other important contributors to flourishing for REM college students that compensate for the reduced effect of belonging, and aligns with recent findings that indicate strong ethnic minority (i.e., within-group) identity among college students may offset the effect of poor school belonging on perceived self-worth – a key dimension of flourishing (Gummadam et al., 2016). By contrast, white students may lack strong within-group social connection in comparison to those sharing a minority identity (Molix & Bettencourt, 2010), and as they age out of the intensely social undergraduate period (i.e., enter ages 23–26), may experience lower belonging as was found in this study.

A limitation of this study is that it utilizes cross-sectional data, and therefore any within-person changes in the relation of belonging with flourishing over time could not be investigated. Causal relations also could not be considered. Further, as noted above, there may be other factors beyond belonging that influence flourishing, in particular among REM students, that were not examined in this study. Nevertheless, using a large national sample of both undergraduate and graduate students, this study shows the unique importance and magnitude of the role of school belonging in socioemotional flourishing for SGM students and the complex role of belonging for REM students, using an analysis approach that did not require assumptions about how these relations may change over time. Considering these findings alongside existing evidence, it is clear that minority young adults can experience lower perceived belonging in college and university communities, while at the same time, belonging can have a substantial positive role in socioemotional flourishing in these settings. These and prior findings underline a need for university programming that enhances flourishing among both SGM and REM students to improve psychological adjustment and prevent negative mental health and substance misuse outcomes. Additional research should examine single and multipronged intervention approaches that support inclusion of minorities in campus communities, bolster perceived belonging among these populations, and strengthen within-group connections and minority identity.

Compliance with Ethical Standards

- a. Conflicts of interest: The author declares that he has no conflicts of interest.
- b. Ethics approval: This article was a secondary analysis of deidentified participant data, and does not contain any studies with human participants performed by the author.
- c. Informed consent: This study was a secondary data analysis; data were collected with informed consent from all participants during the original survey administration.

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Table 1

Descriptive Details for Sexual or Gender Minority–Cisgender Heterosexual and Racial or Ethnic Minority–non-Hispanic White Student Comparison Groups by Age

	18	19	20	21	22	23	24	25	26
Sexual or gender minority									
<i>n</i> (%)	1057 (15.7)	1463 (21.8)	1428 (21.3)	1260 (18.8)	594 (8.8)	334 (5.0)	240 (3.6)	199 (3.0)	143 (2.1)
Belonging, mean (SD)	14.4 (4.0)	14.3 (3.9)	14.2 (4.0)	14.3 (4.1)	13.5 (4.0)	13.3 (4.0)	13.1 (4.2)	13.1 (4.2)	13.0 (3.9)
Flourishing, mean (SD)	39.0 (8.9)	39.1 (9.1)	39.5 (8.8)	40.0 (9.0)	40.1 (8.9)	40.8 (9.0)	40.4 (9.4)	41.8 (8.0)	40.9 (9.9)
Cisgender heterosexual									
<i>n</i> (%)	2602 (13.3)	3462 (17.8)	3515 (18.0)	3515 (18.0)	2141 (11.0)	1331 (6.8)	1156 (5.9)	1027 (5.3)	743 (3.8)
Belonging, mean (SD)	15.3 (3.8)	15.1 (3.9)	15.2 (4.0)	15.2 (4.0)	14.9 (4.0)	14.4 (3.8)	14.2 (3.9)	14.4 (4.0)	14.4 (4.0)
Flourishing, mean (SD)	44.7 (8.0)	44.1 (8.2)	44.4 (8.1)	44.6 (8.2)	45.1 (7.7)	44.5 (8.3)	45.3 (7.8)	44.5 (8.1)	45.2 (7.9)
Racial or ethnic minority									
<i>n</i> (%)	1471 (14.0)	1871 (17.8)	1749 (16.6)	1784 (16.9)	1077 (10.2)	780 (7.4)	724 (6.9)	634 (6.0)	449 (4.3)
Belonging, mean (SD)	14.6 (3.9)	14.5 (3.9)	14.6 (4.0)	14.6 (4.0)	14.4 (3.9)	14.2 (4.0)	14.5 (3.8)	14.5 (4.0)	14.5 (4.1)
Flourishing, mean (SD)	42.8 (8.4)	41.9 (9.1)	42.7 (8.8)	43.1 (8.7)	43.4 (8.6)	42.8 (9.2)	44.1 (8.2)	43.3 (8.7)	44.1 (9.0)
White (non-Hispanic)									
<i>n</i> (%)	2298 (14.0)	2184 (19.4)	3331 (20.3)	3132 (19.0)	1750 (10.6)	939 (5.7)	705 (4.3)	642 (3.9)	463 (2.8)
Belonging, mean (SD)	15.3 (3.9)	15.0 (3.9)	15.0 (4.0)	15.1 (4.1)	14.7 (4.1)	14.0 (3.9)	13.6 (4.2)	13.8 (4.1)	13.8 (4.0)
Flourishing, mean (SD)	43.2 (8.8)	42.9 (8.6)	43.1 (8.6)	43.5 (8.5)	44.3 (8.0)	44.5 (8.0)	44.7 (8.4)	44.9 (7.5)	44.9 (7.8)

Note. Analytic comparison groups (e.g., Sexual or Gender Minority–Cisgender Heterosexual) are independent, while respondents overlap among non-comparison groups. Overall *n* for Sexual or Gender Minority–Cisgender Heterosexual comparison = 26210. Overall *n* for Racial or Ethnic Minority–White (non-Hispanic) comparison = 26983. Boldface represents significantly different scores between comparison groups using a Welch's *t*-test for independent samples and a significance level of $\alpha = .05$.

Fig 1 Age-varying association of school belonging with socioemotional flourishing among (A) sexual or gender minority and cisgender heterosexual students, and (B) racial or ethnic minority and non-Hispanic white students between ages 18–26. Grey bands represent 95% confidence regions; non-overlapping confidence regions indicate significant differences between groups at an $\alpha = .05$ significance level.