

Trends in Sense of Belonging During Challenging Times for Adolescents

Tai Do, Michael C. Rodriguez, Rik Lamm, Carlos Chavez
University of Minnesota

Minnesota Youth Development Research Group
www.mnydr.org

April 13, 2024

Paper presented at the annual meeting of the
American Educational Research Association, Philadelphia, PA.

Citation:

Do, T., Rodriguez, M. C., Lamm, R., & Chavez, C. (2024, April 13). *Trends in sense of belonging during challenging times for adolescents* [Paper presentation]. American Educational Research Association Annual Meeting, Philadelphia, PA.
<https://hdl.handle.net/11299/194886>

Trends in Sense of Belonging During Challenging Times for Adolescents

Abstract

Adolescents engaging in education settings have experienced multiple crises and disruptions, including the COVID-19 pandemic and many instances of civil and racial unrest, inequitable policies and racist rhetoric that have impacted their relationships, their education, and important agents in their environments. In this study, we explored trends in student sense of belonging across time. We followed two cohorts of adolescents who navigated K-12 education (a) prior to the pandemic and major civil and racial unrest events, such as the murder of George Floyd (from 2013 to 2019); and (b) during the pandemic and during and after the major civil and racial unrest events (from 2016 to 2022). The cohort that experienced these challenging events resulted in substantial declines in sense of belonging. We found preliminary evidence that may help education researchers better understand the impact of these crises and events on adolescent education outcomes across time.

Introduction

Adolescents currently engaged in education settings have experienced multiple crises and disruptions, including the COVID-19 pandemic (Loades et al., 2020; Magson et al., 2021) and many instances of civil and racial unrest (e.g., the murder of George Floyd), inequitable policies, and racist rhetoric (Magan, 2020; Torres et al., 2022; Wray-Lake et al., 2018). These crises and disruptions are not isolated events and aggregate in complex ways to impact the relationships that adolescents have with each other, their families, and their education and important agents in their environments (Bronfenbrenner & Morris, 2006; National Academies of Sciences, Engineering, and Medicine [NASEM], 2023). For example, the loneliness that may stem from distance learning and increased isolation from teachers and peers during the COVID-19 pandemic may be exacerbated by increased discriminatory rhetoric and encounters, especially for students most affected by the anti-immigration policies passed during the Trump administration (Barbieri & Mercado, 2022; Cortés-García et al., 2022; Gruber et al., 2023; Stokes, 2023).

Whether national attention is on COVID-19, or on ongoing instances of civil unrest, the lingering and ongoing effects of both still require considerable attention for the development support of the young adult population (NASEM, 2023). For example, the loneliness and isolation, exacerbated with the COVID-19 pandemic and civil unrest, recently have been declared a public health crisis (U.S. Surgeon General, 2023). Researchers (e.g., Hussong et al., 2021; Kauhanen et al., 2022) have noted the multifaceted impact of the pandemic, particularly noting how the impact of the pandemic on adolescent physical health and mental health likely will have future implications for their economic and social stability (e.g., less stable social relationships, fluctuating socioeconomic status).

Adolescence and the Pandemic

Significant disruptions within adolescent life course in-and-of-itself is a pressing issue, for adolescence is a critical period of development in which the brain matures, pivotal developmental relationships are formed, and identity development is negotiated (NASEM, 2019). Adolescence is also an important period of psychosocial development and reflection that encompasses a self-negotiation of values, beliefs, and aspirations in association with sociocultural contexts. As such, adolescence is a period when young people become even more aware of potential economic, social, and structural inequalities experienced by themselves, their family, and their communities (Offidani-Bertrand et al., 2022). Given that adolescents are required to navigate the ever-changing personal, interpersonal, and societal dynamics, it is not surprising that mental health and well-being often fluctuate during adolescence (Gadermann et al., 2022).

In addition to what traditionally occurs during the critical period of brain development, researchers have noted how the pandemic has added to and increased the frequency of poor mental health episodes (Jones et al., 2022; Madigan et al., 2023; Scott et al., 2021; NASEM, 2023). For example, Buist et al. (2023) found that depressive symptoms increased during the pandemic lockdown and decreased upon reopening. Interestingly, the researchers also described anxiety symptoms as gradually increasing in the reopening phase as well. Jones et al. (2022) found that adolescents who did not feel close to others at school experienced a higher prevalence of poor mental health during the pandemic than those who did feel close to others at school. Finally, multiple researchers have posited how the association between (poor) mental health and the pandemic varied for students from different backgrounds. Notably, the impact of the pandemic may have been more detrimental for students from low socioeconomic status, less stable migration backgrounds, racialized backgrounds, and/or from gender-minoritized backgrounds (Barendse et al., 2023; Joliff et al., 2021; Kauhanen et al., 2022; Scott et al., 2021).

In order to address the challenges adolescents face navigating education in a “post-pandemic” era, the National Academy of Sciences, Engineering, and Medicine (2023) recommended that educators and institutional agents develop interventions that focus on (a) building and maintain supportive relationships, (b) providing opportunities to learn and practice social and emotional skills, (c) fostering connections that allow for adolescents to see and cope with difficulties, and (d) developing resources for community and family resilience. In this study, we focused on the aspect of building and maintaining important developmental relationships by leveraging research on adolescent sense of belonging.

A Brief Primer on Sense of Belonging

According to Baumeister and Leary (1995), sense of belonging is a fundamental human motivation in which individuals seek out long-lasting, stable, and positive interpersonal relationships. Goodenow and Grady (1993) defined sense of belonging in classrooms or schools as referring to the extent to which students feel personally accepted, respected, included, and supported by teachers and other adults in their school environment. More recent sense of belonging researchers have posited that sense of belonging (a) requires authentic relationships characterized by humanization, mutuality, and respect for students’ cultural assets, values, and social identities (Alejandro et al., 2020); (b) reflects a condition in which one’s presence in a space is possible, desirable, and perceived as legitimate (Torres-Olave et al., 2021); and (c)

encompasses a perceived experience of consistent interaction and care from others, usually as part of a larger ingroup (Slaten et al., 2019).

Within education, researchers have frequently used Strayhorn's (2019) sense of belonging conceptualization, which frames sense of belonging as comprised of perceived support and connectedness; the experience of mattering, feeling cared about, accepted, respected, and valued; and the perception that one is important to their campus community (including faculty, staff, and peers). To perceive a sense of belonging according to education and psychological researchers, it appears that students must have access to and experience positive interpersonal relationships and spaces, climates, and environments (Allen et al., 2021; Bronfenbrenner & Morris, 2006).

Sense of Belonging, Adolescence, and the COVID-19 Pandemic

For adolescents currently pursuing education, sense of belonging, or sense of fit and mattering (Strayhorn, 2019) has been posited to be an essential buffer to feeling disconnected and devalued (Montoro et al., 2020). This was true prior to the COVID-19 pandemic and civil unrest, and we contend that it is even more relevant now. Researchers also have found that sense of belonging is positively associated with student academic motivation and achievement (Allen et al., 2018). School belonging during the COVID-19 pandemic in particular appeared to mitigate the negative impacts of the COVID-19 pandemic through bolstering adolescents' ability to cope, and through encouraging greater reliance on communities and cultural capital (Cortés-García et al., 2021; Exner-Cortens et al., 2022; Yosso, 2005). This is consistent with prior research (e.g., Allen & Furlong, 2021) that posits that the interpersonal connections that engender a sense of belonging can mitigate feelings of loneliness and isolation. Furthermore, relevant to instances of disconnection due to political events, through claiming and creating their own spaces of sense of belonging, students impacted by the discriminatory policies and rhetoric from the Trump administration and civil and racial unrest were able to begin to combat perceptions and feelings of being unwelcomed in their education environments (L.V. Rodriguez, 2023).

Recognizing the importance of developing and maintaining a sense of belonging for adolescents, we explored trends in student sense of belonging across time. Specifically, we followed two cohorts of adolescents who navigated K-12 education (a) prior to the pandemic and major civil and racial unrest events, such as the murder of George Floyd (from 2013 to 2019), and (b) during the pandemic and during and after the major civil and racial unrest events (from 2016 to 2022).

To support inferences about trends over time, we sought evidence regarding measurement quality by addressing two preliminary questions:

1. Do the selected items for measuring sense of belonging contribute to good fit for a unidimensional measure with no parameter drift over time?
2. Do the items function as expected in ways consistent with theory (content coverage) and in terms of relative challenge?

The primary research question was:

3. Are the sense of belonging trends for students similar or dissimilar across two cohorts over time?

Methods

Instrument

The data were from the Minnesota Student Survey administrations from 2013 to 2022 (Minnesota Department of Education, 2023). The survey was designed by the Minnesota departments of Education, Health, Human Services, and Public Safety, triennially administered anonymously to 5th, 8th, 9th, and 11th grade public school students. The purpose of the survey is to monitor important trends in students' beliefs and experiences in the contexts of positive and risky behaviors.

Participants

The study included students in the 2013 grade 5 cohort who were in grade 8 and 11 in 2016 and 2019 (average cohort size of 35,138 across years), and the 2016 grade 5 cohort who were in grade 8 and 11 in 2019 and 2022 (average cohort size of 33,818; Table 1). Across cohorts and years, we included students with complete item responses. The sample closely reflected the sex and race distributions across the state. In 2013, 2016, and 2019, the sample included over 80% of school districts and nearly two-thirds of the student population in the selected grades; in 2022, the sample was slightly smaller, where 70% of school districts and 51% of students participated.

Table 1
Sample Sizes for 2013 and 2016 Cohorts by Grade

Year	Grade			
	5th	8th	11th	
2013	32,002			
2016	37,030	42,164		
2019		40,920	31,248	2013 cohort
2022			23,505	2016 cohort

Note. Sample sizes changed across years due to the sampling of schools and students within each cohort.

Variables and Measures

We used items from the MSS that represented the sense of belonging construct (Table 2). For the 2016 cohort, grade 5 students received a slightly different version for one item (i.e., I can shape and influence what happens in my life and future) compared to 2013 cohort grade 5 (i.e., I

feel in control of my life and future). In each case, these items were treated as unique items, with all other items being common (anchor) items in the scaling across years. Psychometric analyses were conducted to provide validity evidence supporting interpretation and use for both items as representations of the sense of belonging construct (M.C. Rodriguez, 2023).

Table 2
Items and Response Scales for Sense of Belonging

Item #	Item text	Response scale
1	How much do you feel your parents care about you?	1 = <i>Not at all</i> to 5 = <i>Very much</i>
2	How much do you feel friends care about you?	
3	How much do you feel adults in your community care about you?	
4	I feel in control of my life and future.	1 = <i>Not at all or rarely</i> to 4 = <i>Extremely or almost always</i>
4a	I can shape and influence what happens in my life and future.	
5	I build friendships with other people.	
6	I feel valued and appreciated by others.	
7	I accept people who are different from me.	

Statistical Analysis

We conducted confirmatory factor analysis (CFA) using the lavaan package (Rosseel, 2012) in R. We followed common guidelines for adequate fit: RMSEA < .10, CFI and TLI > .90 (Brown, 2015; Kline, 2011), and standardized factor loadings > .40 (Brown, 2015). The Rasch measurement model was used to calibrate items and produce person scores (*Winsteps*; Linacre, 2016a).

Through item response patterns, the Rasch model estimated probabilities of responses to estimate item and person locations on the underlying trait. The sense of belonging scale was centered at zero (location of the average item), producing person scores ranging from -5.0 to +5.0 (logit metric). To support score interpretation over time, we examined the Rasch scaling results for parameter drift by testing for differential item functioning (DIF) with *Winsteps* across years and identifying items with C-level DIF (Linacre, 2016b, p. 433).

The Rasch scores were transformed to support score interpretation. We estimated the corresponding score for students who responded that sense of belonging was characteristic of them more so than not, essentially responding at least 3 (very or often) out of 4 or 4 (quite a bit) out of 5 given the respective item response scale. This level of positive sense of belonging was 24 raw score points (on a scale of 7 to 31); the corresponding Rasch score (0.89) was found through the test characteristic curve and used to identify students with a positive level of sense of belonging (M.C. Rodriguez, 2023, p. 74). We also reported the Rasch model score reliability and provided McDonald's omega, an estimate of score reliability employing a congeneric measurement model that commonly fits survey-based rating scale items (Hayes & Coutts, 2020).

Results

Measure Quality

We found good unidimensional model fit for the measure of sense of belonging for both cohorts (Table 3). In addition, no C-level DIF was reported for any of the selected items across years, supporting the interpretation of scores over time (M.C. Rodriguez, 2023, p. 86). The evidence supporting a unidimensional model provided support for Rasch scaling. The Rasch model reliability for the measure was .78; the omega reliability coefficient was .81.

Table 3

Fit Statistics for the Sense of Belonging Measure for 2013 and 2016 Cohorts

Cohort	CFI	TLI	RMSEA
2013	.977	.965	.082
2016	.970	.956	.078

The item analysis results were positive (Table 4), where the Rasch locations had a good spread across the logit scale (-1.28, 1.18) and the item-measure correlations were all positive (.44 to .77). With respect to item ordering and relative challenge (Table 5), the Rasch item locations indicated that item 1 was the easiest item to endorse (respond positively): “How much do you feel your parents care about you?” This was followed closely by item 7: “I accept people who are different from me.” Item 4a was the most challenging item to endorse: “I can shape and influence what happens in my life and future.” This was followed closely by item 3: “How much do you feel adults in your community care about you?”

Table 4

Rasch Item Analysis Results

Item #	Item text	Rasch location	Item <i>r</i>
1	How much do you feel your parents care about you?	-1.28	.53
2	How much do you feel friends care about you?	-0.56	.66
3	How much do you feel adults in your community care about you?	0.95	.74
4	I feel in control of my life and future.	0.21	.65
4a	I can shape and influence what happens in my life and future.	1.18	.61
5	I build friendships with other people.	0.09	.68
6	I feel valued and appreciated by others.	0.37	.77
7	I accept people who are different from me.	-0.97	.44

Note. Rasch location is in logit metric. Item *r* is the correlation between the item score and the Sense of Belonging Rasch measure score, akin to item-total discrimination.

Table 5
Items Ordered by Rasch Location

Rasch location	Item #	Item text
-1.28	1	How much do you feel your parents care about you?
-0.97	7	I accept people who are different from me.
-0.56	2	How much do you feel friends care about you?
0.09	5	I build friendships with other people.
0.21	4	I feel in control of my life and future.
0.37	6	I feel valued and appreciated by others.
0.95	3	How much do you feel adults in your community care about you?
1.18	4a	I can shape and influence what happens in my life and future.

Cohort Trends

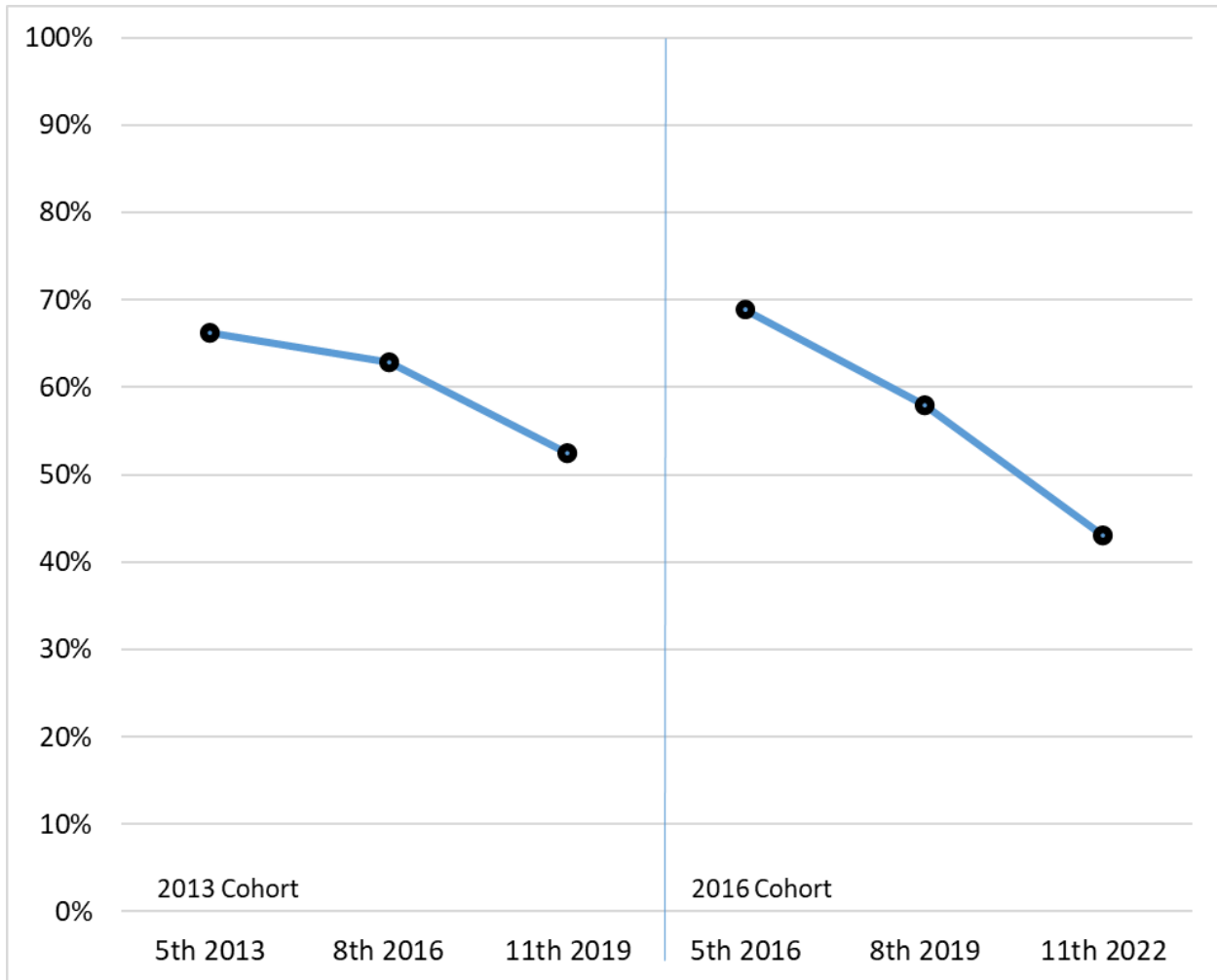
Regarding the primary research question concerning trends, in both 2013 and 2016 cohorts, the percentage of students with positive sense of belonging decreased over time from 5th grade to 11th grade. The baseline percentages for 5th graders for both 2013 and 2016 cohorts were similar (66% and 69% respectively). However, fewer 11th graders in the 2016 cohort (43%), compared to 11th graders in the 2013 cohort (53%), reported a positive level of sense of belonging (Table 6 and Figure 1).

Table 6
Percentage of 2013 and 2016 Cohort Students Who Reported Positive Sense of Belonging

2013 cohort	Grade		
	5th	8th	11th
2013	66.2%		
2016		62.8%	
2019			52.5%
2016 cohort			
2016	68.7%		
2019		58.0%	
2022			43.0%

Figure 1

Percentage Responding Positively to Sense of Belonging by Cohort over Time



To better understand the nature of the decline over grades and between the two cohorts, we reported the response frequencies for each item from grade 5 to 11 for each cohort (Table 7). To facilitate the review of positive responses for the two cohorts, we summed the top two (positive) response frequencies. The 5th grade students in the 2016 cohort responded similarly or more positively to each item than the 5th grade students in the 2013 cohort. However, when the 2016 cohort was in 11th grade (2022), their responses were less positive for every item except 7 (I accept people who are different from me.), than the 2013 cohort.

Table 7*Response Percentages for the 2013 and 2016 Cohorts in Grade 5 and Grade 11*

2013 Cohort													
Grade 5 (2013)							Grade 11 (2019)						
Items	Item response options						Items	Item response options					
	1	2	3	4	5	4+5		1	2	3	4	5	4+5
1	1	2	3	8	86	95	1	1	3	7	19	69	88
2	2	6	14	36	43	79	2	2	5	18	34	40	75
3	8	14	22	28	28	56	3	14	20	29	21	16	37
	1	2	3	4	3+4		1	2	3	4	3+4		
4	15	29		34	22	56	4	8	30		38	24	62
5	5	18		38	39	77	5	5	25		42	28	70
6	6	18		35	41	76	6	8	30		39	22	62
7	3	8		25	64	90	7	2	10		35	53	88
2016 Cohort													
Grade 5 (2016)							Grade 11 (2022)						
Items	1	2	3	4	5	4+5	Items	1	2	3	4	5	4+5
	1	1	2	3	8	87		95	1	1	4	9	25
2	2	5	13	34	46	80	2	2	6	20	40	33	72
3	7	12	22	29	29	59	3	16	23	34	19	7	26
	1	2	3	4	3+4		1	2	3	4	3+4		
4a	11	26		38	25	63	4	9	36		38	17	55
5	5	18		36	40	77	5	7	32		40	21	61
6	6	18		35	41	76	6	8	36		39	16	55
7	2	7		27	63	91	7	2	9		34	56	90

Note. The top of the table contains the 2013 cohort grade 5 and 11 results. The bottom of the table contains the 2016 cohort results. The 4+5 and 3+4 columns contain the sum of the two highest response options, indicating positive responses. Items included:

1. How much do you feel your parents care about you?
2. How much do you feel friends care about you?
3. How much do you feel adults in your community care about you?
4. I feel in control of my life and future.
- 4a. I can shape and influence what happens in my life and future. [2016 grade 5 only]
5. I build friendships with other people.
6. I feel valued and appreciated by others.
7. I accept people who are different from me.

Discussion

Cohort Trends

We investigated whether there was initial evidence of the effects of the pandemic, civil and racial unrest, and discriminatory policies and rhetoric, following two cohorts who experienced the Trump presidency but differed on their experiences with the pandemic and civil unrest. For both the 2013 and 2016 cohorts, student sense of belonging declined as students progressed from grade 5 to 8 to 11. This trend is consistent with prior research, where researchers have found that as adolescents develop, their need for belonging becomes more complex, requiring more investment and purposeful actions on the part of the supportive actors in students' environments for them to feel belonging (Chhuon & LeBaron Wallace, 2014; Li & Julian, 2012).

However, we see a steeper decrease in sense of belonging from 2016 to 2019 for both student cohorts, which situates them during the height of the Trump administration (relative to the 2013-2016 period). Additionally, the steeper decrease for the 2016 student cohort from 2019 to 2022 likely captured their time spent navigating the COVID-19 pandemic. For the 2013 cohort, sense of belonging decreased from grade 5 to 11 by 14 percentage points. This trend nearly doubled for the 2016 cohort, who experienced a decline of 26 percentage points from grade 5 to 11. Although our findings are in line with prior research (e.g., Barringer et al., 2023), more investigation is needed to make sound hypotheses and claims. Our results provide initial evidence for education researchers to further explore how the pandemic, civil and racial unrest, and discriminatory policies and rhetoric during the Trump administration may compound and affect students' education experiences and outcomes, and particularly sense of belonging.

Measurement Quality over Time

The unidimensional model fit was strong across the two cohorts. In addition, evidence was reported elsewhere regarding the absence of item parameter drift over time (M.C. Rodriguez, 2023, p. 86)—the items functioned well over time. This provided evidence to support score interpretation over time.

We examined item response frequencies, or how likely it was for students to report a given item response, for the sense of belonging items (Table 7). For both the 2013 and 2016 cohort, 5th grade students were most likely to positively respond to the question: How much do you feel your parents care about you? (95% selecting *quite a bit* or *very much*). This aligns with previous research and theory on the role of parents and caregivers (e.g., Slaten et al., 2018; Strayhorn, 2019), and also provides preliminary validity evidence that the sense of belonging item (and construct) is functioning as expected. Interestingly, for the 2013 and 2016 cohorts item 3 (How much do you feel adults in your community care about you?) was the least likely to be endorsed in 5th grade (56% to 59%), which prompts further investigation on the role of adults and community members within student environments.

This also warrants further investigation, for not only was this question administered to 5th graders who are still maturing, but prior researchers also have noted an increased feeling of uncertainty for students navigating education during the pandemic (Magson et al., 2021). Notably, for 11th grade students in both cohorts, positive responses to nearly all items were reduced, especially to item 3 (which received the lowest positive response rates (25% to 37%).

The one item that changed very little from 5th to 11th grade (1% to 2%) was item 7, where about 90% of students reported to accept people who are different than them across grades and cohorts.

Content Coverage and Relative Challenge

Lastly, given current popular conceptualizations of sense of belonging, including (a) sense of belonging as feeling personally accepted, respected, included, and supported by teachers and other adults (Goodenow & Grady, 1993); (b) sense of belonging as comprised of feelings of support, connectedness, mattering, value, care, and importance from their campus community (Strayhorn, 2019); and (c) sense of belonging as a subjective feeling of deep connection with groups, places, and experiences (Allen et al., 2022), we examined the construct coverage of the seven items comprising our measure of sense of belonging, relative to prior conceptualizations. Items 1, 2, and 3 reflect the extent to which parents, friends, and other adults in a students' community care about them. These first three items are consistent with the notion that for students to feel a sense of belonging, they must perceive that they are cared for (e.g., valued, respected, and accepted) by supportive actors in their environment. Item 4 (and 4a) captures students' overall perception and experience of agency and control, further reflecting a sense of stability in their life. Endorsement of this item suggests that students' needs are, more so than not, met.

Items 5 and 7 are consistent with prior conceptualizations of sense of belonging in that they emphasize feelings of belonging as necessarily social, in the context of student relationships and interactions with important agents or others (e.g., family, friends, community), which researchers mentioned in this section have pointed to as a necessary component of internalizing that one fits in and are valued in an environment. Notably, items 1, 2, 3, 5, and 7 appear to capture a breadth of important actors and interpersonal relationships that exist within students' immediate environmental settings (Bronfenbrenner & Morris, 2005). Finally, item 6 directly reflects students' perception of feeling integral, or valued and appreciated, in their environment, of which perceptions of value and appreciation is a core component of belonging.

Although there may be additional conceptualizations of belonging that can inform future item development and use, we believe that our current selection of items captures current knowledge and research on adolescent sense of belonging within an educational context. More research is required to investigate whether and how student background characteristics may play a consequential role with respect to construct coverage. Additionally, more research is required to parse out who the various community members are in student environments, which may provide additional insights into item 3 (regarding caring adults in the community) being the most challenging of the 7 items to endorse.

Given that self-reflection and interactions with parents and friends are readily accessible to most adolescents, it is not surprising to see items 1, 2, and 7 are the easiest to endorse. This is consistent with prominent conceptualizations of sense of belonging that emphasize important agents, oneself included, and the interpersonal relationships formed with those agents as critical for perceiving and feeling a sense of belonging.

Conclusion and Significance

We were interested in how adolescents reported their sense of belonging over time. Not only is growing up and navigating education difficult, it has become even more challenging, especially for adolescents from systematically marginalized backgrounds, because of the various crises that contemporary adolescent encounter. For this reason, it is imperative, as education researchers and youth development specialists, that we understand how such crises, events, and structural changes affect students in order to better support them moving forward. We concur with the NASEM (2023) recommendation to do more to provide students with internal resources and external supports to cope with uncertainty and change.

Sense of belonging is one of many social and emotional competencies that may bolster students' flourishing (i.e., emotional, psychological, and social well-being; NASEM, 2019). We encourage those that have influence over adolescent education settings to proactively foster a sense of belonging, and in doing so, facilitate their learning and growth.

References

- Alejandro, A. J., Fong, C. J., & De La Rosa, Y. M. (2020). Indigenous graduate and professional students decolonizing, reconciling, and indigenizing belongingness in higher education. *Journal of College Student Development, 61*, 679-696.
- Allen, K. A., & Furlong, M. (2021). Leveraging belonging in response to global loneliness. *Australian Journal of Psychology, 73*(1), 1-3.
- Allen, K. A., Kern, M. L., Vella-Brodrick, D., Hattie, J., & Waters, L. (2018). What schools need to know about fostering school belonging: A meta-analysis. *Educational Psychology Review, 30*, 1-34.
- Allen, K. A., Waters, L., Arslan, G., & Prentice, M. (2022). Strength-based parenting and stress-related growth in adolescents: Exploring the role of positive reappraisal, school belonging, and emotional processing during the pandemic. *Journal of Adolescence, 9*(4), 176-190.
- Barbieri, M., & Mercado, E. (2022). The impact of stay-at-home regulations on adolescents' feelings of loneliness and internalizing symptoms. *Journal of Adolescence, 9*(4), 1022-1034.
- Barendse, M. E. A., Flannery, J., Cavanagh, C., Aristizabal, M., Becker, S.P., Berger, E., Breaux, R., Campione-Barr, N., Church, J. A., Crone, E. A., Dahl, R. E., Dennis-Tiway, T. A., Dvorsky, M. R., Dziura, S. L., van de Groep, S., Ho, T. C., Killoren, S. E., Langberg, J. M., Larguinho, T. L., ... Pfeifer, J. H. (2023). Longitudinal change in adolescent depression and anxiety symptoms from before to during the COVID-19 pandemic. *Journal of Research on Adolescence, 33*(1), 74-91.
- Barringer, A., Papp, L. M., & Gu, P. (2023). College students' sense of belonging in times of disruption: Prospective changes from before to during the COVID-19 pandemic. *Higher Education Research and Development, 42*(6), 1309-1322.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 793-828). Wiley.
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). Guilford Press.
- Buist, K. L., Boele, S., Bülow, A., Reitz, E., Verhoeven, M., & Keijsers, L. (2023). Quaranteens: Prepandemic relationship quality and changes in adolescent internalizing problems during the COVID-19 pandemic. *Journal of Research on Adolescence, 33*(4), 1164-1178.
- Chhuon, V., & LeBaron Wallace, T. (2014). Creating connectedness through being known: Fulfilling the need to belong in U.S. high schools. *Youth & Society, 46*(3), 379-401.
- Cortés-García, L., Hernández Ortiz, J., Asim, N., Sales, M., Villareal, R., Penner, F., & Sharp, C. (2022). COVID-19 conversations: A qualitative study of majority Hispanic/Latinx youth experiences during early stages of the pandemic. *Child & Youth Care Forum, 51*, 769-793.

- Exner-Cortens, D., Schwartz, K. D., McMorris, C., & Makarenko, E. (2022). Stress among Asian youth during COVID-19: Moderation by educational, spiritual, and cultural sources of belonging. *Journal of Adolescent Health, 70*, 500-503.
- Gadermann, A., Thomson, K., Gill, R., Schonert-Reichl, K. A., Gagné Petteni, M., Guhn, M., Warren, M. T., & Oberle, E. (2022). Early adolescents' experiences during the COVID-19 pandemic and changes in their well-being. *Frontiers in Public Health, 10*, 1-14.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friend's values to academic motivation among urban adolescent students. *The Journal of Experimental Education, 62*(1), 60-71.
- Gruber, J., Hinshaw, S. P., Clark, L. A., Rottenberg, J., & Prinstein, M. J. (2023). Young adult mental health beyond the COVID-19 era: Can enlightened policy promote long-term change? *Policy Insights from the Behavioral and Brain Sciences, 10*(1), 75-82.
- Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. But... *Communication Methods and Measures, 14*(1), 1-24.
- Hussong, A. M., Benner, A. D., Erdem, G., Lansford, J. E., Makila, L. M., Petrie, R. C., & SRA COVID-19 Response Team. (2021). *Journal of Research on Adolescence, 31*(3), 820-835.
- Jolliff, A., Zhao, Q., Eickhoff, J., & Moreno, M. (2021). Depression, anxiety, and daily activity among adolescents before and during the COVID-19 pandemic: Cross-sectional survey study. *JMIR Formative Research, 5*(12), 1-10.
- Jones, S. E., Ethier, K. A., Hertz, M., DeGue, S., Le, V. D., Thornton, J., Lim, C., Dittus, P. J., & Geda, S. (2022). Mental health, suicidality, and connectedness among high school students during the COVID-19 pandemic—adolescent behaviors and experiences survey, United States, January-June 2021. *Morbidity and Mortality Weekly Report Supplement, 71*(3), 16-21.
- Kauhanen, L., Yunus, W. M. A. W. M., Lempinen, L., Peltonen, K., Gyllenberg, D., Mishina, K., Gilbert, S., Bastola, K., Brown, J. S. L., & Sourander, A. (2022). A systematic review of the mental health changes of children and young people before and during the COVID-19 pandemic. *European Child & Adolescent Psychiatry, 32*, 995-1013.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.
- Li, J., & Julian, M. M. (2012). Developmental relationships as the active ingredient: A unifying working hypothesis of "what works" across intervention settings. *American Journal of Orthopsychiatry, 82*(2), 157-166.
- Linacre, J. M. (2016a). *Winsteps* [Computer Software]. <https://www.winsteps.com/>
- Linacre, J. M. (2016b). *Winsteps Rasch measurement computer program user's guide*. <http://www.winsteps.com/>
- Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C., McManus, M. N., Borwick, C., & Crawley, E. (2020). Rapid systematic review: The impact of social isolation on loneliness on the mental health of children and

- adolescents in the context of COVID-19. *Journal of American Academy and Child Adolescent Psychiatry*, 59(11), 1218-1239.
- Madigan, S., Racine, N., Vaillancourt, T., Korczak, D. J., Hewitt, J. M. A., Pador, P., Park, J. L., McArthur, B. A., Holy, C., & Neville, R. D. (2023). Changes in depression and anxiety among children and adolescents from before to during the COVID-19 pandemic: A systematic review and meta-analysis. *JAMA Pediatrics*, 177(6), 567-581.
- Magan, I. M. (2020). On being Black, Muslim, and a refugee: Stories of Somalis in Chicago. *Journal of Immigrant & Refugee Studies*, 18(2), 172-188.
- Magson, N. R., Freeman, J. Y. A., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J. (2021). Risk and protective factors for prospective changes in adolescent mental health during the COVID-19 pandemic. *Journal of Youth and Adolescence*, 50, 44-57.
- Minnesota Department of Education. (2023). *Minnesota Student Survey*. <https://education.mn.gov/mde/dse/health/mss/>
- Montoro, J. P., Kilday, J. E., Rivas-Drake, D., Ryan, A. M., & Umaña-Taylor, A. J. (2020). Coping with discrimination from peers and adults: Implications for adolescents' school belonging. *Journal of Youth and Adolescence*, 50, 126-143.
- National Academies of Sciences, Engineering, and Medicine. (2019). *The promise of adolescence: Realizing opportunity for all youth*. <https://nap.nationalacademies.org/catalog/25388/the-promise-of-adolescence-realizing-opportunity-for-all-youth>
- National Academies of Sciences, Engineering, and Medicine. (2023). *Addressing the long-term effects of the COVID-19 pandemic on children and families*. <https://nap.nationalacademies.org/catalog/26809/addressing-the-long-term-effects-of-the-covid-19-pandemic-on-children-and-families>
- Offidani-Bertrand, C., Velez, G., Benz, C., & Keels, M. (2022). "I wasn't expecting it": High school experiences and navigating belonging in the transition to college. *Emerging Adulthood*, 10(1), 212-224.
- Rodriguez, L. V. (2023). Adolescent immigrant youth: Creating spaces of belonging. *Migration Studies*, 11(2), 312-329.
- Rodriguez, M. C. (2023). *Technical report on developmental skills, supports, & challenges from the 2013-2022 Minnesota Student Surveys*. Minnesota Youth Development Research Group, University of Minnesota. <https://hdl.handle.net/11299/194886>
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2), 1-36. <https://doi.org/10.18637/jss.v048.i02>
- Scott, S. R., Rivera, K. M., Rushing, E., Manczak, E. M., Rozek, C. S., & Doom, J. R. (2021). "I hate this": A qualitative analysis of adolescents' self-reported challenges during the COVID-19 pandemic. *Journal of Adolescent Health*, 68(2), 262-269.
- Slaten, C. D., Rose, C. A., Bonifay, W., & Ferguson, J. K. (2019). The Milwaukee youth belonging scale (MYBS): Development and validation of the scale utilizing item response theory. *School Psychology*, 34, 296-306.

- Stokes, S. (2023). A sense of belonging within the imaginative constraints of racial realism: A critical race analysis of Latinx students' racialized experiences during the Trump presidency. *International Journal of Qualitative Studies in Education*, 36(1), 26-41.
- Strayhorn, T. L. (2019). *College students' sense of belonging: A key to educational success for all students*. Routledge.
- Torres, S. A., Sosa, S. S., Flores Toussaint, R. J., Jolie, S., & Bustos, Y. (2022). Systems of oppression: The impact of discrimination on Latinx immigrant adolescents' well-being and development. *Journal of Research on Adolescence*, 32(2), 501-517.
- Torres-Olave, B. M., Torrez, M. A., Ferguson, K., Bedford, A., Castillio-Lavergne, C. M., Robles, K., & Chang, A. (2021). Fuera de lugar: Undocumented students, dislocation, and the search for belonging. *Journal of Diversity in Higher Education*, 14, 418-428.
- U. S. Surgeon General. (2023). *Our epidemic of loneliness and isolation. The U. S. Surgeon General's advisory on the healing effects of social connection and community*. U.S. Department of Health and Human Services.
<https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf>
- Wray-Lake, L., Wells, R., Alvis, L., Delgado, S., Syvertsen, A. K., & Metzger, A. (2018). Being a Latinx adolescent under a Trump presidency: Analysis of Latinx youth's reactions to immigration politics. *Children and Youth Services Review*, 87, 192-204.
- Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion on community cultural wealth. *Race Ethnicity and Education*, 8, 69-91.