



*Diminished Adolescent Social Well-Being  
During the COVID-19 Pandemic<sup>1</sup>*

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<sup>1</sup> Because ISPA oral presentations allot only 15 minutes, this paper provides more information about how we conceptualized adolescent social well-being, the longitudinal sample we employed in the study, and more detailed information about the results. This paper is an early rough draft. Please attribute this paper's shortcomings to Michael Furlong—they do not reflect upon my splendid partners contributing to the conceptualization and data analysis. If you have comments or suggestions, please share them. I appreciate your interest in this paper.

## **Abstract**

### **Importance**

COVID-19's impact on our children's and adolescents' social well-being has been largely ignored, compared with depression, anxiety, and other aspects of psychosocial functioning. Social well-being is essential to youth's mental health and well-being and can be diminished even without depression and anxiety symptomatology. The pandemic required implementing pervasive, intrusive public health policies that disrupted all aspects of students' lives, creating conditions that could have substantially influenced their social worldview.

### **Objective**

This report explores changes in students' social well-being during the COVID-19 pandemic.

### **Study Context**

The study involves students attending a California school district engaged in a collaborative research partnership with the University of California at Santa Barbara. An annual student wellness survey, administered in the school district in 2019 and prior years, was continued in 2020 and 2021 when COVID-19 restrictions affected school attendance, and in 2022 after lifting the main pandemic restrictions.

### **Research Questions**

- 1: How did students' 2019 baseline social well-being compare to 2020, 2021, and 2022 after the onset of the COVID-19 pandemic?
- 2: Were there any common social well-being response patterns or profiles representing stable, improving, or deteriorating trajectories?
- 3: How are the identified social well-being profiles associated with other social-emotional well-being indicators?

### **Participants**

The 1,299 adolescents who participated in this study were in grades 7-8 and 9 in October 2019, before the COVID-19 pandemic, when they completed a comprehensive school-based mental health screening assessment. In October 2020, 2021, and 2022 (post restrictions), the students completed a survey that included social well-being items from the Mental Health Continuum-Short Form.

### **Results**

From 2020 to 2022, students' social well-being decreased substantially compared to the 2019 pre-pandemic baseline. A latent profile analysis identified five groups reflecting common trajectory patterns. Two profiles included *Stable-High* (28%) and *Stable-Low* (26%) patterns. The other three groups represented nonordered profiles labeled as *Succumbing* (20%), *Languishing* (14%), and *Stable-Low* (12%).

### **Conclusion and Relevance**

The results of this opportunistic, descriptive longitudinal study provided evidence of pervasive social well-being decreases. A positive finding is that one in 8 students showing a decrease in 2020/21 recovered to their pre-COVID-19 level in 2022. We use the gerund (ing) noun form for the group labels to emphasize that the pandemic impact on students' social well-being is still unfolding. A significant takeaway from this study is that school mental health professionals should be aware of the potential effects that the pandemic has had on students' social well-being, as this may be a risk factor for students developing generally jaded attitudes about their social contacts and diminish their potential engagement with sources of crucial social support.

### ***Diminished Adolescent Social Well-Being During the COVID-19 Pandemic***

*This section identifies the need to consider how COVID-19--related experiences impacted students' social well-being (SWB). This plea is straightforward because copious research indicates students' mental health suffered during the pandemic.*

During the pandemic, there was widespread concern that social distancing increased adolescents' mental health problems. Adolescents had less frequent personal interactions with peers, teachers, and others, which could have resulted in social isolation, loneliness, and depression. Ubiquitous, daily public service communications from local and national public health communications about the number of illnesses and deaths could have heightened fear and anxiety exacerbated by the ambiguity of the future course of the pandemic. Furthermore, even if adolescents drew upon their resilience and capacity to maintain their academic achievement and not experience anxiety or depression symptoms, they could still have diminished positive mental well-being. In this context, in December 2021, Murthy, the U.S. Surgeon General, issued a report calling attention to the pressing need to learn more about the mental health consequences on youths and identified their SWB as one domain of concern.

Since the early days of the pandemic in 2020, researchers have produced a flurry of research that has examined the possible effects of pandemic experiences on children's and adolescents' mental health and well-being. A recent meta-analysis by Madigan et al. (2023) compiled information from studies published between January 2020 and May 2022. This meta-analysis examined longitudinal cohort studies with participants 19 years old and younger and published in English peer-reviewed journals. A careful literature scan identified 53 studies involving 40,807 adolescents and children, providing longitudinal data about students' depression and anxiety-related symptoms. The mean age of the students involved in these studies was about 13 years. These studies included a pre-COVID-19 and a single post-COVID-19 assessment of depression and anxiety; however, 44 of the post-COVID-19 measurements occurred during 2020 and examined best the short-term effects of the pandemic on students' depression and anxiety. Only four studies measured students' depression anxiety during 2021; hence, this meta-analysis does not provide clear information about the longer-term effects of the pandemic on students' mental health and well-being, pointing to the need for investigations of long-term COVID-19 effects on children's mental health. In any case, the compilation of findings across these studies found that a slight to small magnitude effect size increases students' depression (0.26) and anxiety symptoms (0.10).

#### ***Social Well-being***

*Many studies have examined the status of children and adolescents' symptomatic experiences during the pandemic, particularly concerning depression and anxiety. Still, other aspects of children's social and emotional health have received substantially less attention. One impact, intricately related to overall well-being in the context of young people's day-to-day experiences, is their sense of SWB. This next section of the paper briefly describes the social well construct. It makes the case that there is reason to expect that pandemic experiences challenged students' social-emotional well-being. Some adolescents might not have had sufficient internal or external resilience assets to cope with the magnitude of the pandemic's demands.*

### *Was There Reason to be Concerned About Students' Social Well-Being?*

As a public health problem, the pandemic would have had sweeping impacts on countries worldwide, even if there was universal, positive support for the public health policies and practices employed to control the spread of the COVID-19 virus. Of course, in many countries, like the United States, the public health response to the pandemic had a pronounced political component. Wearing a face mask became a symbol of political ideology, with libertarian-valuing individuals defining mask-wearing as an attack on personal freedom, leading to confrontations when individuals refused to wear a face mask in public stores or when flying commercial airlines. Similarly, some saw vaccine mandates as an affront to personal freedom. Others questioned the scientific research supporting vaccines' efficacy with wide dissemination of claims that face masks were ineffective in spreading infection and that vaccines were dangerous and caused more deaths than the SARS-CoV-19 virus. The pandemic occurred in the United States along with substantial turmoil associated with protests related to White supremacy, police murders of African Americans, and the January 6, 2021, insurrection at the U.S. Capitol. These broader sociopolitical forces compounded the pandemic's potential social and psychological impacts by contributing to general social turmoil and a diminished sense that everyone had a shared interest, need, and benefit from working together during this stressful time. Even after lifting the pandemic social restrictions, many national and regional influencers continued to argue that social restrictions were unnecessary, and they had damaged students' mental health. All this social-political bickering contributes to a confusing, toxic societal landscape that adolescents witness daily.

These broader co-occurring societal dynamics also aggravate local school pandemic-related policies and operations. Early in 2022, for example, there were multiple examples of how pandemic management was associated with conflict at the local school level. In Colorado, students left classes to protest a school mask mandate (Gibbs, 2022). In another school, students walked out to protest the need to institute a mask mandate to create a safe school environment (Alfonseca, 2022). In Virginia, a parent speaking at a school board meeting about establishing a mask mandate said their child would not wear a mask and "And I will bring every single gun loaded and ready" (Boboltz, 2022). At the same time, a newly elected Virginia governor, on his first day in office, issued an executive order giving parents the authority to waive their children out of a mask mandate and set up a tip line for students and parents to report teachers (Moran, 2022; Vargas, 2022). And the politicization of the pandemic management response morphed into other divisive public policies impacting schools and students, such as the widespread banning of books from school libraries and discriminatory laws passed affecting the educators' and students' historical study of American slavery (Juell, 2023) and discussions of LGBTQ+ related topics (Izaguirre & Farrington, 2023).

Considerable turmoil and social unrest have been associated with the pandemic and public health practices to control it. Still, these are not the only social dynamics that might have affected adolescents' SWB. As students cope with the pandemic, they are also observing and experiencing the implementation of substantial social divisions in the U.S. They see statements such as by a U.S. Senator who stated that it is "not society's responsibility to take care of 'other

people's children" and that "no person should have a child unless they are prepared to never need help" (Delany, 2022). This statement implies that some children born in the U.S. are "others" and not members of the national collective. Fourteen U.S. states enacted laws restricting schools from using books related to curricular materials related to African American history, like the 1619 project (Hannah-Jones, 2021; Jones, 2022) or focusing on sexual or gender identity (Harris & Alter, 2022). The "othering" included 12 states enacting laws prohibiting female-identifying transgender students from competing as female athletes. (O'Connor, 2022).

Given these divisive societal circumstances in the U.S., it is unsurprising that polls found that 72% of all Americans thought the country was going in the wrong direction, and 70% believed that partisan divisions would continue to grow (Saric, 2022). As adults form opinions and attitudes about these broader societal dynamics, so do adolescents. It is reasonable to speculate that adolescents observed what happened in the U.S. at the national, state, and local levels, and their judgments about the viability of their near micro supports (family, peers, school) and broader macro-social influences (society) were affected. And, whatever value or ideological lens adolescents observed and processed the social turmoil, it could have frayed their social bonds, the foundation of SWB.

### **Conceptual Models**

#### **Transactional Ecological Model**

*The following section discusses the conceptual/theoretical perspectives that helped better understand children and adolescents' SWB experiences during the COVID-19 pandemic. What the world's children experienced during this time is an example of a detrimental "butterfly effect." A virus mutated in Southeast Asia and, by circumstance, was transmitted to a person; that event's ripples spread worldwide, impacting children on every continent. This event began a cascading worldwide reaction involving the World Health Organization, national governmental organizations, and filtering down to regional and city governmental entities—truly a social-ecological event.*

Bronfenbrenner's Transactional Model includes components that help to frame the social forces that affect students' psychological and SWB. Emotional and psychological well-being represents the core characteristics of the experiences of a young person. Social well-being elements are associated with adolescents' proximal personal relationships (family, peers) further (school and community) and distal, less personal (government and societal) forces. In most historical circumstances, one would presume that adolescents would generally be oblivious to the impact of world governmental organizations or national educational policy on them. During the pandemic, however, adolescents observed what was happening at the local, national, and international stages. In some cases, adolescents could see public acrimony and polarization. They were required to wear masks at school and witnessed individuals claiming that wearing masks was equivalent to child abuse and that mask policies were damaging students' mental health. In these circumstances, adolescents had a heightened personal investment regarding macro-level social influences, such as governmental policies related to restrictions on educational activities.

## **Keyes Social Well-Being**

We the social well-being formulation proposed by Corey Keyes.

Drawing from his perspective as a sociologist, Keyes validated a SWB scale to complement Ryff's (1989; Ryff & Keyes, 1995) general well-being model. This SWB measure considered wellness from the perspective of people's interactions in various social contexts. Keyes proposed that SWB has five main features (Keyes, 1998, p. 122-123):

- **Social coherence:** *people not only care about the world kind of world in which they live, but also feel they can understand what is happening around them.*
- **Social actualization:** *people are hopeful about the condition and future of society, and they can recognize society's potential.*
- **Social integration:** *people feel they have something in common with others who constitute their social reality, as well as the degree to which they feel they belong to their communities and society.*
- **Social contribution:** *people believe they are vital members of society with something of value to give to the world.*
- **Social acceptance:** *people trust others, think that others are capable of kindness, and believe that people can be reasonable.*

Keyes's dual-continual complete mental health formulation includes merging SWB with emotional and psychological well-being. *Flourishing well-being without mental distress symptoms constitutes comprehensive mental health.*

## **Study Purpose**

*This article examines students' SWB trajectories from pre-COVID-19 to post-restriction. This opportunistic longitudinal study leveraged a long-term university-school district research partnership related to developing a practical social-emotional screening assessment. As such, it provides a descriptive analysis of students' annual self-reported SWB patterns from 2019 (pre-COVID-19) to 2022 (post-restrictions).*

This report examines the effects of the pandemic and remote learning in the context of broader social/political polarization on student SWB. We take advantage of a longitudinal survey of middle and high school students to examine this effect.

## **Research Questions**

**Research Question 1: How did students' 2019 baseline SWB compare to 2020, 2021, and 2022 after the onset of the COVID-19 pandemic?**

We hypothesized that compared to 2019, students' mean SWB would decline in 2020 and 2021. We collected surveys through October 2022 to sufficiently evaluate whether students' SWB might rebound. Given the magnitude of the pandemic's social disruption, we speculated that students' SWB would diminish overall.

***Research Question 2: Were there any common SWB response patterns or profiles representing stable, improving, or deteriorating trajectories?***

Latent profile analysis examined students' SWB trajectories from 2019 to 2022. Previous research indicates that adolescents' SWB is lower than their emotional and psychological well-being (Keyes, 2006). Hence, the first profile would include students who reported low SWB in October 2019 before the pandemic and continued to show low levels of SWB during and after the pandemic. It also was reasonable to anticipate a second profile consisting of students who had higher levels of SWB in October of 2019 and expressed reasonably high levels throughout the four years. Besides the two response profiles, we were particularly interested in identifying other meaningful patterns. We did not have a particular a priori hypothesis about the number of profiles of students who fell between the high and low groups. However, drawing upon perspectives from the resilience literature identifies students who may experience challenges and respond by *Succumbing* to the pressures they create or, through the challenge, experience some resilient growth.

***Research Focus 3. How are the identified SWB trajectories associated with other social-emotional well-being outcome indicators. In 2022?***

We expected all SWB items included in this analysis would diminish from pre-COVID-19 levels. When considering the transactional ecological framework, we anticipated the items asking about more micro-proximal contexts (social integration and social being acceptance) would diminish the least. Broader macro-distal elements (social coherence and social actualization), reflecting the influence of broader turmoil and ambivalence about societal reactions and management of the pandemic, would diminish the most.

## ***Method***

### ***Study Context***

As part of a U.S. Institute of Education Sciences Goal 5 grant to refine the Social Emotional Health Survey (Furlong et al., 2020), we collected longitudinal surveys with a partner school district. October 2019 was the last year of the grant data collection. When the pandemic arrived in early 2020, the school district started remote learning in April 2020 and did not return to in-person instruction until April 2021. In the interim, the school district requested to continue a modified survey. The district administrators wanted to make every effort to ensure that the survey was as efficient and brief as possible to encourage maximum student voluntary participation to assess students' need for follow-up mental health services. In this context, we recognize the need to streamline the study to provide information that captures the student's social and emotional experiences with the least burden possible on them and their families. We also recognized the early COVID-19 studies, understandably asked about students' anxiety and depression experiences. The survey we had been using with the district already included some items related to students' past month's emotional experiences and a brief index of students' life satisfaction. We recognized that the work with our partner district could contribute by tracking other aspects of

students' mental well-being. A distinctive focus of the district's annual student wellness survey was items focusing on students' perception of the quality of contexts and relationships. The survey included the Mental Health Continuum-Short Form as a validity measure. During the pandemic, school mental health staff used the information to monitor students' well-being.

### **Participants and Procedure**

Surveys were administered in October 2019 before the COVID-19 pandemic, in October 2020 during the pandemic, and in October 2021 and 2022 after the return to complete in-person instruction. In 2019, 2021, and 2022 students completed the online survey in a regularly schedule class period proctored by a teacher following a standard administration protocol. In October 2020, the students attended classes remotely, with the teacher allotting time to complete the survey. Parents had the opportunity to opt out their child the students could decline to take the survey.

From 2019 to 2022, all students in grades 7 to 12 had the opportunity to complete the survey. For this study, we identified 1299 students who in 2019 were in grade levels 7-9 and in grades 10-12 in 2022. These students had the opportunity to complete the survey all four times. Students completed the survey twice ( $n = 566$ ), three times ( $n = 375$ ), or all four years ( $n = 341$ ).

In response to a question asking the students to identify their preferred gender identity, most indicated they identified as female (47.5%) or male (47.3%). A smaller proportion of the participants identified as nonbinary (3.2%), as having a different identity not listed (1.8%) or declined to answer the gender question (0.2%). The students responded to the following question, "*Some people describe themselves as transgender when their sex at birth does not match how they think or feel about their gender. Are you transgender?*" In response to this question, most of the students indicated that they did not identify as transgender (92.3%), 3.1% of the students identified as transgender, 1.4% of the students indicated they were unsure if they were transgender, and 3.2% of the students declined to respond to this question. Asked which sexual orientation best describes them, most of the students identified as straight (not gay, 71.1%), bisexual (12.5% closed parentheses, not sure of their sexual orientation yet (4.5%), identifying as some other sexual orientation (4.4%), gay or lesbian (3.5%), or declined to respond to this question (3.8%). Students identified with the following ethnic groups: White, not Hispanic (50.8%), Latin@ or Hispanic (31.9%), two or more groups (9.7%), Asian (4.5%), Black or African American (1.8%), Native Hawaiian or Pacific Islander (0.7%), American Indian or Alaskan Native (0.5%) and some declined to respond (0.1%).

### **Measures**

#### **Mental Health Continuum-Short Form**

The Mental Health Continuum Short Form (MHC-SF, Keyes, 2006) measures emotional (EWB, not used in this report), psychological (PWB), and social (SWB) well-being, with previous studies supporting a three-factor structure (Lamers et al., 2011). The item stem is: *During the past month, how often did you feel the following ways:* (a) an example item for emotional well-being is *...happy*; (b) an example item for the psychological well-being is *...that you liked most parts of your personality*; and (c) an example item for SWB is, *...that people are basically good*. Response



options are 1 = *never*, 2 = *once or twice*, 3 = *about once a week*, 4 = *2 or 3 times a week*, 5 = *almost every day*, and 6 = *every day*. Responses of “every day” or “almost every day” are considered to reflect flourishing mental health, and responses of “never” or “once or twice” are deemed to reflect *Languishing* mental health. A Latent Profile Analysis (see Data Analysis Plan) used the global SWB mean item score (range 1–6) for 2019–2022 (range 1–6). The six PWB mean item-total provided a mental health status indicator in 2022, the post-restriction year. For this study sample, the alpha coefficients for the SWB items across the four years were between .81 and .86. The alpha coefficient for the PWB items in 2022 was .84. Figure 1 lists the five SWB items.

### **Emotional Distress**

The *Social Emotional Distress Scale-Brief (SEDS-B)* (Dowdy et al., 2018, 2023) is a 5-item measure that assesses internal emotional distress. It uses a four-point response scale (1 = *not at all true*, 2 = *a little true*, 3 = *pretty much true*, 4 = *very much true*). A sample item is *I was easily irritated*. CFAs support a unidimensional model (Dowdy et al., 2023). The five SEDS-B items provided an index of students’ past-month emotional distress in 2022, the post-restriction year. The alpha reliability coefficient in this study’s sample in 2022 was .83.

### **Optimism**

The three-item Optimism subscale from the Social Emotional Health Survey-Secondary-2020 (Furlong et al., 2020) provided an index of students’ general attitudinal positivity in 2022, the post-restriction year. Given the pervasive uncertainty and unpredictability the students experienced during the core of their pandemic, we considered optimism to provide a glimpse into their future anticipations. We anticipated that students whose SWB declined would express less optimistic future expectations. The optimism mean-item value provided a status indicator in 2022, the post-restriction year. The response options for the items were 1 = *not at all true*, 2 = *a little true*, 3 = *pretty much true*, and 4 = *very much true*. The alpha reliability coefficient in this study’s sample in 2022 was .81.

### **School Belonging**

A four-item scale (Furlong et al. 2011), used as a covariate indicator, asked students about their sense of school membership and belonging. The response scale was: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither disagree nor agree*, 4 = *agree*, 5 = *strongly agree*. A sample item is, *I feel close to people at this school*. Previous studies report good reliability ( $\alpha = .82$  to  $.87$ ) and a unidimensional factor structure (Furlong et al. 2011). This report's sample had an alpha coefficient of .77 for the 2022 responses. The School Belonging global mean of the item responses (range 1–5) provided a status indicator in 2022, the post-restriction year.

### **Data Analyses**

#### **Research Focus 1: Descriptive Summary of Students Responses 2019–2022**

We provide a graphic representation of the mean item responses to each SWB item for 2019 through 2022.

### ***Research Focus 2: Latent Profile Analysis (LPA) to identify changes in students' SWB profiles from 2019 to 2022.***

The analytical plan included three steps. All analyses used Mplus version 8.2 (Muthén & Muthén, 2008). First, an analysis examined responses for missing data patterns, correlations among variables, and descriptive statistics of the dataset. Second, latent profile analysis was employed to explore unobserved subgroups of individuals who exhibit different trajectories of SWB before, during, and after the pandemic. After the model was specified, covariates and outcomes collected in 2022 were included in the model to assess predictors and outcomes of group membership using the manual BCH method.

Descriptive data information was examined in the first analysis stage. The percentages of the item level missingness on the demographic and outcome variables collected in 2022 were acceptable, ranging from 0.2% to 3.3% (Dong & Peng, 2013). Means of SWB at each time point and respondents' demographic characteristics were compared across the six response patterns. The results indicated no significant differences in the response patterns regarding their ethnicity and overall SWB at each time point. However, response patterns were related to gender identity and study cohorts; these demographic variables were controlled in the analysis. These results supported missing at-random assumptions (Little & Rubin, 2002). Built upon this assumption, we used maximum likelihood estimation with robust standard errors (MLR). When estimating model parameters, MLR conforms to the tenet that data are missing at random, uses all the data in the sample with the full information maximum likelihood (FIML) approach, and allows variables to be associated with missing data patterns (McKnight et al., 2007).

In the second analysis stage, using the four mean scores from each timepoint of the five SWB items, 1-to 7-class LPA models were estimated. A series of models were specified by changing the number of classes and model structures that allowed indicator means, variances, and covariances to be specified and vary across classes (Masyn, 2013). There is no single measure for how well a model fits the data when creating a mixture model; instead, a proper class structure was determined by combining various statistical indicators with a theoretical ground of the constructs (Nylund-Gibson et al., 2022). We utilized several fit statistics to compare models, including the Bayesian Information Criterion (BIC; Schwartz, 1978), the consistent Akaike Information Criterion (AIC), the Adjusted Bayesian Information Criterion (ABIC), Lo-Mendell-Rubin (LMR), and the bootstrap likelihood ratio test (BLRT). Lower AIC, BIC, and ABIC values suggest a better model. Significant p-values of LMR and BLRT tests indicate that the additional class significantly improves the model. In addition to this model fit and classification statistics, we also looked at the plots Mplus gave each model. Together, we evaluate varied class structures proposed by each model with theoretical grounds, fit statistics, and parsimony. Additionally, classification diagnosis of profiles' separation was conducted with high average posterior class probability (AvePP; i.e., > .70) and odds of correction classification ratio for Class k (OCCk; i.e., > 5). These additional indicators assess classification precision and separation (Masyn, 2013; Nagin, 2005).

### **Research Focus 3: LPA Profile Covariates**

Lastly, profile differences were examined using a manual BCH approach as a function of covariates to determine how well these factors can predict class membership and the relation between class membership and distal outcomes (Asparouhov & Muthén, 2013). The manual BCH method helps minimize class shifting with auxiliary variables and simultaneously assess the demographic covariates and distal outcomes of profiles (Asparouhov & Muthén, 2013). Wald tests were employed to evaluate whether distal outcomes' estimated means differ across profiles, and the demographic covariates were regressed on the latent profiles and each outcome.

## **Results**

### **Research Focus 1: SWB Descriptive Analyses**

Figure 2 shows the SWB item means for 2019 through 2022. The first observation is that each SWB item was at its maximum in 2019. Second, the three SWB elements most closely aligned with students' daily interactions (belonging to a community, people are good, and contributing to society) declined after 2019, occurring about 2-3 times per week. Third, students reported perception of belonging to a community was the most resistant to change, remaining above a value of 4.0. Fourth, Four of the five indicators had the most decrease in 2020, the first year of pandemic restrictions, gradually *Stable-Low* in 2021 and 2022. Still, none returned to pre-pandemic levels in 2022. Fifth, the two SWB items that asked students whether society made sense to them (social coherence) and if society was a good place (social actualization/growth) diminished the most during the pandemic and remained at lower levels in 2022. Of these two distal SWB indicators, on average, *students reported having experiences reinforcing these aspects of SWB once a week or less in 2022.*

### **Research Focus 2: Latent Profile Analyses**

Tables 1 and 2 show descriptive information of the variables in the analysis. Across the four time points, the SWB mean scores correlated positively. The SWB mean item value correlated moderately with optimism, school belonging, and psychological well-being. Psychological distress had small and negative correlations with the four SWB waves. The outcome variables were moderately correlated.

### **Model Selection**

Table 3 displays the fit statistics of each Model estimated. Model 1 was the default model structure with variance fixed across profiles and unspecified covariances. Conceptually, the SWB means across time points were expected to be correlated. Thus, we estimated the covariances of adjacent time points in the remaining model structures, which generally showed better fit statistics than Model 1. Model 2 specified covariances of adjacent time points, but they were estimated to be the same across profiles. Model 3 estimated class-specific covariances of SWB at adjacent time points. Model 4 estimated class-specific variances of the four profile indicators and covariances of indicators at adjacent time points. Because of the compounded parameters estimated, Model 4 did not converge after a 3-profile solution, and Model 3 did not converge after a 5-class solution.

The decrease in BIC, AIC, and saBIC was also slight when comparing Model 4 with Model 2. Model 2 showed slightly better or similar values on BIC, saBIC, and AIC than Model 3. Considering the principle of parsimony, profiles estimated in Model 2 were favored over Models 3 and 4; thus, its solutions were closely examined.

In Model 2, AIC decreased with added profiles. BIC showed the lowest value at a 4-profile solution, whereas saBIC was the lowest at a 6-profile solution. BLRTs were statistically significant with a p-value less than .05 from the 2- to 6- profile solutions. LRT was significant at the 2- or 4-profile solution. Because of the conflicting information based on the fit statistics and their minimal differences across solutions, we examined the profiles' configurations and sizes from the 4- to 6-profile solutions.

The 4-profile solution showed two ordered profiles (a consistently high or low level of SWB across time points) and two profiles characterized by *Stable-Low* and fluctuating trajectories. The 5-profile solution featured an additional profile with students failing to maintain SWB in the pre-COVID-19 period. This other group also comprised one-fifth of the participants. The 6-profile solution had a similar configuration with an added group showing a consistently moderate level of SWB across time points. There was also a small profile (< 3%) in the 6-profile solution. All solutions had low entropy values, ranging from .4 to .6. Considering the added meaningful and substantial group in the 5-profile solution and similar fit statistics between these three solutions, a 5-profile solution in Model 2 was selected.

Figure 1 shows the five-profile solution patterns and profile sizes. The profiles are named (1) *Stable-Low*, (2) *Languishing*, (3) *Succumbing*, (4) *Stable-Low*, and (5) *Stable-High* based on the patterns of the four profile indicators. Whereas the *Stable-High* and *Stable-Low* profiles (5 and 1) seemed to represent students with a somewhat endearing SWB orientation, we used the gerund form to describe the other three latent profiles to indicate that our perspective that these latent profiles do not represent end-states but describe an evolving, unstable SWB experience. Regarding the profile classification, the entropy of the five-profile solution was low (0.56). Looking into the *AvePPs* of each profile, only the (3) *Succumbing* and (2) *Languishing* profiles had lower than 0.7, whereas all profiles had *OCCKs* above 0.5. According to these classification diagnostic indicators, individuals across profiles 1, 4, and 5 were highly differentiated, and individuals within these three profiles also had considerably similar response patterns (Masyn, 2013; Nagin, 2005). However, individuals in profiles 2 and 3 showed relatively lower separation and classification precision.

Generally, about 60% of the students in 2019 (profiles 2, 3, and 5) reported at least moderately positive SWB experiences in the previous month. In comparison, in 2022, in this study, only 40% of the students (profiles 4 and 5) reported experiencing positive SWB more than two to three times per week. No matter the differences in students' SWB trajectories across the four years, all profiles showed decreased SWB during the pandemic. There was also a substantial increase in students experiencing less positive SWB after the pandemic.

### (1) *Stable-Low*

This group of students reported substantially lower SWB experiences before, during, and after the

pandemic. Students in this profile consistently reported having positive SWB experiences less than once a week during the previous month. This profile was the second largest, with 26% of respondents.

### **(2) Languishing**

Fourteen percent of students belonged to this profile. They reported fluctuating levels of SWB across the years. They started with a moderate level of SWB in 2019, followed by a significant drop in their perceived SWB amid the pandemic. Although their reported SWB rose again in 2021, they experienced another dip in 2022.

### **(3) Succumbing**

This profile comprised students experiencing a considerable and persistent decrease in their perceived SWB during and after the pandemic. Students in this profile perceived SWB more than two to three times per week before the pandemic. However, it substantially dropped to once a week during the pandemic, with minimal improvement after the pandemic. In 2022, the students in this profile reported experiencing positive SWB nearly equivalent to those in the (1) *Stable-Low* profile. This profile comprised 20% of the participants.

### **(4) Recovering**

Students from the *Recovering* (4) profile also initially reported SWB more than two to three times per week before the pandemic. Their SWB initially declined during the pandemic, like the *Succumbing* (3) profile. Nevertheless, students in the *Recovering* profile (4) returned to their higher pre-pandemic level. It was the smallest profile (12%).

### **(5) Stable-High**

The profile of *Stable-High* comprised 28% of students, the largest profile. Students in this profile reported more favorable SWB than students in other profiles. They experienced SWB almost every day before the pandemic. Although students in this profile also reported lower SWB during the pandemic, the drop in their SWB was smaller relative to other profiles, and the level of SWB persisted in the range between "almost every day" and "two to three times per week" across the four years.

### **Profiles' Associations with Outcomes**

Table 4 shows the means and standard deviations of the outcomes in each trajectory profile and their statistical differences between profiles. Students belonging to the *Recovering* and *Stable-High* profiles (4 and 5) reported the most favorable psychological well-being, optimism, and school belonging, as well as the lowest level of psychological distress in 2022 compared with other profiles. In contrast, students in the *Stable-Low* and *Languishing* profiles (1 and 2) perceived a higher level of distress and a lower level of psychological well-being, optimism, and school belonging after the pandemic. Students in the *Succumbing* profile (3) reported better psychological well-being, optimism, and school belonging than the *Stable-Low* profile (1). Still, the level of distress was statistically the same between the two profiles.

### ***Demographic Correlates of SWB Profiles***

Table 5 shows the results of demographic correlates of the latent profiles. Profiles differed mainly by students' sexual orientation, gender, and ethnic identities. The *Stable-Low* profile (1) was the reference group. Significantly more students identified as straight than students with other sexual orientations in the *Recovering* and *Stable-High* profiles (4 and 5) than in the *Stable-Low* profile (1). More females than males were classed into the *Stable-Low* (1) profile than the *Stable-High* profile (5). There were also a higher proportion of White students relative to Latinx students in the (5) *Stable-High* (5) profile than in the *Stable-Low* profile (1). The study cohorts (grade levels 7, 8, and 9 in 2019) did not differentiate the profiles' membership.

### ***Discussion***

*The discussion section presents initial observations, interpretations of the data analyses, and implications for delivering school-based mental health services.*

Latent profile analysis identified five profiles we interpreted as providing relevant and meaningful information about adolescents' SWB trajectories during the COVID-19 pandemic. As anticipated, the analysis delivered two ordered profiles, lower and higher SWB profiles (*Stable-Low* and *Stable-High*). These two profiles accounted for about 50% of the sample. These two profiles had slight SWB declines but were otherwise relatively stable across the four observations. The students in the *Stable-Low* profile reported experiencing positive SWB experiences no more than 1-2 times in the past month across all observations. This trajectory contrasted with the *Stable-High* profile, had positive SWB affirmations more frequently (2-3 per week—nearly daily). Notably, these groups make up about 50% of the sample.

Of specific interest, 46% of students had trajectories in between the *Stable-Low* and *Stable-High* patterns. We identified three profiles reflecting different SWB response patterns. These three trajectories included students showing *Stable-Low*, *Succumbing*, and *Languishing* patterns. Again, we used the gerund (ing) noun form to describe these groups because we do not regard these as established trait characteristics but still emerging trajectories.

### ***Post-Restriction Mental Health Outcomes***

*Once the latent profile analysis identified five common SWB patterns, a relevant clinical interest was to further explore the relationships of these SWB trajectories with other indicators outcome mental health and well-being indicators. The school-based context of this opportunistic longitudinal study meant that we needed to use a restricted set of items so as not unduly to burden the school district and the students. Recognizing that this study had at its availability a limited set of outcome indicators, this section describes the status of each of the five trajectories on selected comprehensive mental health indicators.*

The first observation is that about 40% of the students, those in the *Stable-Low* and *Languishing* trajectories, reported less than optimal or sub-optimal mental health indicators, such as SWB, even before the pandemic. This finding points to the need to enhance surveillance of students' SWB because even without considering the effects of events such as a pandemic, many

students did not have daily experiences that fostered their optimal SWB. *By the end of 2022, after the post-pandemic restrictions were relaxed, these adolescents reported on average, experiencing positive SWB affirmations less than once a week each month.*

For the other approximately 60% of students with higher levels of SWB in 2019, the identified three trajectories during and through the pandemic. Twenty-eight percent of the students overall reported higher SWB in 2019, reporting almost daily positive SWB affirmations. This group reported some diminished SWB in 2020 and 2021 but returned to near-2019 levels by 2022. Two other groups had slightly lower levels of SWB in 2019, representing two different trajectories. The *Recovering* profile showed substantial decreases in 2020 and 2021 but returned to 2019 levels in 2022. This is only 12% of all the students, but it is encouraging because it shows that some students' resilience capacity allowed them to recover their SWB.

A more concerning finding was that the *Succumbing* and *Languishing* trajectories had higher-range SWB in 2019 but reported having positive SWB affirmations about once weekly across 2020-2021 and 2022. The *Languishing* profile, representing one in five students, had lower psychological well-being, school belonging, and optimism levels than the *Stable-High* and *Recovering* patterns. However, the *Succumbing* profile had higher psychological well-being than the *Stable-Low* and *Languishing* profiles. Further research is needed to determine if the *Succumbing* and *Languishing* might return to per-COVID-19 SWB levels.

Another observation is that students' SWB was substantially associated with their overall psychological well-being. Students in the stable-low and *Languishing* profiles reported experiencing positive personal psychological well-being only once a week. These groups also reported the lowest levels of school belonging, higher levels of psychological distress, and lower optimism. These findings reinforce the need for an increased focus on SWB in school-based mental health services. Comprehensive mental health services should attend to the student's internal psychological experiences, build their internal assets, and consider their SWB to reflect the external resources available to help them cope with their life challenges.

### ***School Belonging and Mattering***

*As school psychologists consider how students' experiences during the height of the COVID-19 pandemic restrictions affected their SWB, they may want to consider related conceptual perspectives that could increase understanding of factors affecting adolescents' SWB trajectories. A potential association comes from research examining the Mattering construct (Flett, 2022). This section describes our initial thinking about how the Mattering frame could enhance understanding of students' SWB and ways to strengthen it.*

Educators and mental health professionals should be aware of and concerned that children and adolescents experience life in ways that support accurate positive cognitions that foster higher SWB. Encouraging young people's SWB is desirable because it indicates the status of their life journey to become fully engaged and contributing members of their societies. Similarly, youth development and resilience research has identified student engagement and meaningful contributions to the community as essential elements of optimal youth development. Many schools

include service learning or community service activities in their curriculum and graduation requirements. These educational programs recognize that young people benefit from experiences that positively engage them and contribute to their communities. More significantly, students receive positive, encouraging feedback from community members, acknowledging them as essential community citizens. Of course, low perceptions of SWB are engagement's antithesis.

For 20+ years, the California Healthy Kids Survey (CHKS) has included resilience items asking students about meaningful participation in their school and community. Among the CHKS resilience indicators, students consistently report low levels of meaningful involvement/contributions in school. By extension, it makes sense that during the pandemic, when many students were not as engaged in face-to-face educational activities, they did not have opportunities to engage with others in ways that helped them feel they were making meaningful contributions. They also might not have had the opportunities to interact with others in ways that reinforce their sense of belonging to a community and acknowledge their meaningful contributions.

Related to school belonging and SWB experiences is the *Mattering* construct. Rosenberg and McCullough's (1981) *Mattering* construct had three essential emotional and cognitive components, defined from a young person's viewpoint: (a) a youth feeling that when they are not present, someone will notice their absence (Seen); (b) perceptions that other people regard the youth as necessary (Contributing); (c) other people paying attention and acknowledging the youth (Valued). Students with low *Mattering* feel unacknowledged or invisible in their environments, as when a student is absent from school for two days, and no teachers acknowledge the absence and inquire if the student is well.

The social distancing restrictions during the COVID-19 pandemic decreased students' interactions with peers and adults at school. Decreased social interaction could have contributed to students' sense that they were not meaningfully engaged and that their participation in school and community was not acknowledged and valued. These experiences are directly related to students' overall sense of SWB. This circumstance is a matter of concern because previous research shows that children and adolescents who express lower *Mattering* are vulnerable to negative developmental experiences, including depression and suicidal ideation (Flett, 2022). The *Mattering* construct contributes by considering how the pandemic may have affected students' SWB via its links to students' resilience. Could high *Mattering* have had strength-boosting power in helping students manage social challenges during COVID-19?

Flett and others more recently acknowledged that having a lower sense of *Mattering* and importance is not the same as *Anti-Mattering*. *Anti-Mattering* is not just low *mattering*—it is when an individual infuses their self-identity with the belief that they do not matter and are invisible. In adopting this mental state, individuals become vulnerable to avoiding social interactions that might foster a sense of engagement, importance, and significance in their community. The extent to which students' *Mattering* suffered during the pandemic is a topic worthy of exploration. In addition, understanding the combined effects of *Mattering* and SWB would also be interesting to explore further. What are the relative levels of *Mattering* for adolescents with SWB patterns like those identified in the present study? Is a *Stable-High* pattern associated with high and *Stable-Low*



with low *Mattering*? Are adolescents like the *Succumbing* pattern infusing their self-identities with *Anti-Mattering* cognitions with possible long-term negative developmental implications?

### **Limitations**

*This section mentions the limitations of the current investigation. The final version of this article will include a more thorough exploration of this report's methodological and generalizability limitations.*

A qualification of this study's findings is that the questionnaire was not anonymous, with possible social desirability response influences. The students entered a unique district identifier so the school staff could monitor student progress. Each school had a mental health care team that followed up to support students reporting low life satisfaction and higher levels of emotional distress. Providing this school support means that some students whose SWB was not optimal during the study period could have received counseling support services. These services could have comforted the students who might not have received help using an anonymous response format. However, the district administered a screening survey for nearly ten years. The procedures used in this study were ones with which the district staff, parents, and students were quite familiar. Despite the possible access to support services for students who might have been struggling, the study findings still show that many students' SWB diminished during the study period.

The study sample had a reasonable level of diversity. However, the results have limited generalizability because of the geographical limitations (a coastal California community and a moderate-sized, well-resourced community). Nonetheless, we believe that the results of this study are compelling enough to motivate future research examining the students' SWB in broader socioeconomic, sociopolitical, and geographical regions. The results of this study suggest that broadening the focus of student school-based mental health screening and evaluation to include social aspects of well-being may expand insights into understanding which students are developing optimally.

### **Main Summary Points**

The takeaways and conclusions of this study are presented below.

- **SWB Diminished:** The information the students shared revealed that a substantial portion, perhaps 40%, reported diminished SWB three years after COVID-19 restrictions began.
- **Diminished SWB Correlated with Suboptimal Mental Health in 2022.** Students' SWB was positively associated with their overall comprehensive mental health. The students reporting the most optimal mental health indicators in 2022 retained a *Stable-High* SWB level throughout the pandemic restrictions. The same relationship was found for students with declining SWB and then *Stable-Low* to pre-pandemic levels in 2022. This report does not identify the assets in these students' lives that may have helped them maintain/cope with the pandemic challenges. Identifying the resilience factors that support high SWB is a topic for future research consideration.

- ***SWB and Social Mattering, What's the Link?*** Future research might examine the relationship between students' SWB and social *Mattering*. Of particular interest is further exploring if some students' SWB construal takes on aspects of what Flett (2022) refers to as *Anti-Mattering*. Do students with chronic low SWB, mainly when it involves perceptions of broader society and its effective functioning, become chronically disillusioned and form jaded-like attitudes about society? Another supporting rationale is that low SWB combined with high *Anti-Mattering* could lead to social disengagement and alienation, rendering these adolescents vulnerable to delinquency and other behavioral disorders (Flett, 2022). And indeed, from a societal perspective, a substantial portion of emerging adults harboring jaded views about their societies is highly undesirable. Societies need engaged adolescents to make meaningful contributions to sustain the arc of a healthy and viable community.
- ***Seen, Contributing, Valued.*** A final implication draws upon the perspectives Flett (2022) provides with the *Mattering* construct. Does SWB's foundation build from providing adolescents with authentic daily experiences, conveying to them that they (a) are visible and noticed by their peers and adults in their community; (b) think they are making meaningful contributions that are not taken for granted; and (c) feel valued as human beings? School psychologists can bring this adolescent valuing perspective to their work and encourage schools to create experiences to foster adolescents' SWB.

## References

- Alfonseca, K. (2022, January 20). *Denver students join nationwide protests, classroom walkouts over COVID-19 safety*. ABC News. <https://abcn.ws/3sar7vh>
- Argyle 1993;
- Asparouhov, T., & Muthén, B. (2014). Auxiliary variables in mixture modeling: Three-step approaches using M plus. *Structural equation modeling: A multidisciplinary Journal*, 21(3), 329-341. <https://doi.org/10.1080/10705511.2014.915181>
- Boboltz, S. (2022, January 20). *Virginia woman arrested after gun threat over school mask mandate*. HUFFPOST. <https://bit.ly/3sbM4Gf>
- Cummins & Cahil 2000
- Delaney, A. (2022, January. 26). Sen. Ron Johnson: Not 'society's responsibility to take care of other people's children': *People should become parents only if they're sure they'll never need help, the Wisconsin Republican suggested*. HUFFPOST. <https://bit.ly/34tKYNM>
- Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social indicators research*, 31, 103-157. <https://doi.org/10.1007/BF01207052>
- Dowdy, E., Furlong, M. J., Nylund-Gibson, K., Moore, S., & Moffa, K. (2018). Initial validation of the social emotional distress Survey-Secondary to support complete mental health screening. *Assessment for Effective Intervention*, 43(4), 241-248. doi:<https://doi.org/10.1177/1534508417749871>
- Dowdy, E., Furlong, M. J., Nylund-Gibson, K., Arch, D., Hinton, T., & Carter, D. (2023). Validating a Brief Student Distress Measure for Schoolwide Wellness Surveillance. *Assessment for Effective Intervention*, 48(3), 159-169. <https://doi.org/10.1177/15345084221138947>
- Flett, G. L. (2022). An introduction, review, and conceptual analysis of mattering as an essential construct and an essential way of life. *Journal of Psychoeducational Assessment*, 40(1), 3-36. doi:<https://doi.org/10.1177/07342829211057640>
- Flett, G. L., Nepon, T., Goldberg, J. O., Rose, A. L., Atkey, S. K., & Zaki-Azat, J. (2022). The Anti-Mattering Scale: Development, Psychometric Properties and Associations with Well-Being and Distress Measures in Adolescents and Emerging Adults. *Journal of Psychoeducational Assessment*, 40(1), 37-59. <https://doi.org/10.1177/07342829211050544>
- Furlong, M. J., O'Brennan, L. M., & You, S. (2011). Psychometric properties of the Add Health School Connectedness scale for 18 sociocultural groups. *Psychology in the Schools*, 48(10), 986-997. <https://doi.org/10.1002/pits.20609>
- Furlong, M.J., Dowdy, E., Nylund-Gibson, K. et al. Enhancement and Standardization of a Universal Social-Emotional Health Measure for Students' Psychological Strengths. *Journal of Well-Being Assessment*, (4), 245-267. <https://doi.org/10.1007/s41543-020-00032-2>
- Gibbs, J. (2021, September 1). *Students walk out of Douglas County Schools protesting mask mandate Hundreds urged personal choice as mandate went into effect*. Highlands Ranch Herald. <https://bit.ly/3ogAokf>
- Hannah-Jones, A., Roper, C., Silverman, I., & Silverstein, J. (Eds.). *The 1619 Project*. Random House.
- Harris, E. A., & Alter, A. (2022, January 30). *Book ban efforts spread across the U.S.: Challenges to books about sexual and racial identity are nothing new in American schools, but the tactics and politicization are*. The New York Times. <https://nyti.ms/3uiiaTu>
- Izaguirre, A., & Farrington, B. (2023). Florida expands "don't say gay": House oks anti-LGBTQ bills. AP News. (April 19, 2023). <https://apnews.com/article/desantis-florida-dont-say-gay-ban-684ed25a303f83208a89c556543183cb>
- Jones, J. (2022, January 26). *Texas students go off on school district's push to ban books on inequality: Fed-up students in Texas' Granbury Independent School District voiced their anger at school officials looking to ban books on social inequality from libraries*. MSNBC. <https://on.msnbc.com/34a2KWJ>
- Jose, P. E., Ryan, N., & Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time?. *Journal of research on adolescence*, 22(2), 235-251. [https://guilfordjournals.com/doi/abs/10.1521/jscp.2010.29.6.624?casa\\_token=A7V0j05T4ZsAAAAA:DT8IV92PhD\\_cfqAf0qgmM6edg6BR0KCcTwWuLvHG32gsNkGRDqBB4258s2wG\\_hhX2WLRESABT3rJ](https://guilfordjournals.com/doi/abs/10.1521/jscp.2010.29.6.624?casa_token=A7V0j05T4ZsAAAAA:DT8IV92PhD_cfqAf0qgmM6edg6BR0KCcTwWuLvHG32gsNkGRDqBB4258s2wG_hhX2WLRESABT3rJ)
- Juell, A. (2023). Texas state bill banning critical race theory passes in Senate. The Daily Texan, April 13, 2023). <https://thedailytexan.com/2023/04/13/texas-senate-bill-banning-critical-race-theory-passes-in-senate/>
- Keyes, C. L. M. (1998). Social Well-Being. *Social Psychology Quarterly*, 61(2), 121-140. <https://doi.org/10.2307/2787065>
- Keyes, C. L. M. (2006). Mental health in adolescence: Is America's youth flourishing? *American Journal of Orthopsychiatry*, 76(3), 395-402. doi:<https://doi.org/10.1037/0002-9432.76.3.395>
- Keyes, C. L., Yao, J., Hybels, C. F., Milstein, G., & Proeschold-Bell, R. J. (2020). Are changes in positive mental health

- associated with increased likelihood of depression over a two-year period? A test of the mental health promotion and protection hypotheses. *Journal of affective disorders*, 270, 136-142.  
<https://doi.org/10.1016/j.jad.2020.03.056>
- Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., & Keyes, C. L. M. (2011). Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF). *Journal of Clinical Psychology*, 67(1), 99-110.  
 doi:<https://doi.org/10.1002/jclp.20741>
- Little, R. J., & Rubin, D. B. (2002). Theory of inference based on the likelihood function. *Statistical analysis with missing data*, 95-132. <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119013563.ch6>
- Masyn, K. E. (2013). Latent class analysis and finite mixture modeling. In T. D. Little (Ed.), *The oxford handbook of quantitative methods: Statistical analysis (vol. 2); the oxford handbook of quantitative methods: Statistical analysis (vol. 2)* (pp. 551-611, Chapter xviii, 765 Pages). New York, NY: Oxford University Press. Retrieved from <https://www.proquest.com/books/latent-class-analysis-finite-mixture-modeling/docview/1400133763/se-2>
- Madigan, S., Korczak, D. J., Vaillancourt, T., Racine, N., Hopkins, W. G., Pador, P., ... & Neville, R. D. (2023). Comparison of paediatric emergency department visits for attempted suicide, self-harm, and suicidal ideation before and during the COVID-19 pandemic: a systematic review and meta-analysis. *The Lancet Psychiatry*.  
[https://doi.org/10.1016/S2215-0366\(23\)00036-6](https://doi.org/10.1016/S2215-0366(23)00036-6)
- Madigan, S., Racine, N., Vaillancourt, T., Korczak, D. J., Hewitt, J. M. A., Pador, P., Park, J. L., McArthur, B. 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.  
 doi:[10.1001/jamapediatrics.2023.0846](https://doi.org/10.1001/jamapediatrics.2023.0846)
- McGuire, E. (2022, January 13). *CPS students protested in favor of mask mandate*. ABC News. <https://bit.ly/3L1aXgu>
- Moran, L. (2022, January 26). *Glenn Youngkin sets up tip line to report teachers: And you know what pranksters did next: The GOP Virginia governor's email hotline seeking reports of "divisive practices" in schools has received some, well, interesting responses*. HUFFPOST. <https://bit.ly/3s8N5ih>
- Murthy, V. H. (2021). *Protecting youth mental health: The U.S. Surgeon General's advisory*. <https://bit.ly/3GAzJkl>
- Nylund-Gibson et al., 2022
- Nagin, D. (2005). *Group-based modeling of development*. Harvard University Press.
- O'Connor, L. (2022, February 1). *Bill banning trans youth from sports is passed by South Dakota legislature*. HUFFPOST. <https://bit.ly/35KvHsO>
- Papenfuss, M. (2022, February 2). *Fox News' Tucker Carlson was pummeled on social media Friday night after he compared vaccine requirements to protect Americans from COVID-19 to the barbaric experiments Nazis inflicted on Jews during World War II*. HUFFPOST. <https://bit.ly/3IZCahG>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. <https://psycnet.apa.org/doi/10.1037/0022-3514.57.6.1069>
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719-727. <https://psycnet.apa.org/doi/10.1037/0022-3514.69.4.719>
- Saric, I. (2022, January 23). *Poll: 72% of Americans think the U.S. moving in the "wrong direction"*. AXIOS. <https://bit.ly/3gkuRol>
- Robinette, J. W., Bostean, G., Glynn, L. M., Douglas, J. A., Jenkins, B. N., Gruenewald, T. L., & Frederick, D. A. (2021). Perceived neighborhood cohesion buffers COVID-19 impacts on mental health in a United States sample. *Social Science & Medicine*, 285, 114269. <https://doi.org/10.1016/j.socscimed.2021.114269>
- Vargas, T. (2022, January 26). *Youngkin's tell-on-a-teacher tip line drew jokes, but behind the laughter is a serious concern: Asking parents and students to police their schools for 'divisive practices' could cost Virginia quality educators*. The Washington Post. <https://wapo.st/34xeDpD>

**Table 1****Descriptive Statistics of Indicators and Covariates (N = 1,299)**

Indicators	<i>M</i>	<i>SD</i>
<b>Latent Profile Analysis Indicators</b>		
2019 Social well-being	3.97	1.25
2020 Social well-being	3.24	1.19
2021 Social well-being	3.31	1.16
2022 Social well-being	3.50	1.21
<b>Distal Outcomes</b>		
Optimism	2.65	0.74
School belonging	4.42	0.99
MHC-SF psychological well-being	4.08	1.11
SEDS-B Psychological distress	1.95	0.70
<b>Demographic Variables</b>		
	Percentage	
Female	49.9%	
Male	50.1%	
Other gender identification	26.0%	
Other ethnic identification	17.3%	
Latinx	31.9%	
White	50.8%	
Cohort: Grade 7-10	34.9%	
Cohort: Grade 8-11	37.0%	
Cohort: Grade 9-12	28.2%	

**Table 2****Correlations Among Study Variables**

Variables	1	2	3	4	5	6	7	8
1. 2019 Social well-being	–							
2. 2020 Social well-being	.54**	–						
3. 2021 Social well-being	.48**	.60**	–					
4. 2022 Social well-being	.45**	.54**	.52**	–				
5. Optimism	.33**	.38**	.37**	.62**	–			
6. School belonging	.32**	.34**	.33**	.52**	.44**	–		
7. Psychological well-being	.41**	.45**	.46**	.79**	.68**	.51**	–	
8. Psychological distress	-.22**	-.26**	-.28**	-.44**	-.49**	-.36**	-.50**	–

\*\* $p < .001$ .

Table 3

## Fit Statistics for LPA Class Enumeration (N = 1,299)

	k	LL	AIC	BIC	saBIC	BLRT p	VLMR- LRT p
<b>Model 1</b>	1	-5494.43	11004.85	11045.93	11020.52	–	–
	2	-5116.29	10258.57	10325.32	10284.03	< .001	< .001
	3	-5057.08	10150.16	<b>10242.59</b>	10185.41	< .001	< .001
	4	-5044.45	10134.90	10253.01	10179.95	< .001	<b>.003</b>
	5	-5032.07	10120.14	10263.92	10174.97	.013	.504
	6	-5017.58	10101.16	10270.62	10165.79	<b>&lt; .001</b>	.435
	7	<b>-5004.89</b>	<b>10085.78</b>	10280.91	<b>10160.20</b>	.013	.702
<b>Model 2</b>	1	-5208.52	10439.04	10495.52	10460.58	–	–
	2	-5066.33	10164.66	10246.82	10195.99	< .001	< .001
	3	-5047.33	10136.65	10244.49	10177.78	< .001	.486
	4	-5023.08	10098.17	<b>10231.67</b>	10149.09	< .001	<b>.022</b>
	5	-5013.04	10088.08	10247.26	10148.79	.012	.276
	6	-5002.98	10077.96	10262.81	<b>10148.46</b>	<b>.013</b>	.430
	7	<b>-4994.48</b>	<b>10070.95</b>	10281.48	10151.25	.050	.140
<b>Model 3</b>	1	-5208.52	10439.04	10495.52	10460.58	–	–
	2	-5063.68	10165.36	10262.92	10202.57	< .001	<b>&lt; .001</b>
	3	-5030.57	10115.14	<b>10253.78</b>	10168.02	<b>&lt; .001</b>	.326
	4	-5004.84	10079.67	10259.39	10148.22	.013	.111
	5	<b>-4982.73</b>	<b>10051.46</b>	10272.26	<b>10135.67</b>	.020	.485
<b>Model 4</b>	1	-5208.52	10439.04	10495.52	10460.58	–	–
	2	-5049.46	10144.92	10263.02	10189.96	< .001	<b>&lt; .001</b>
	3	<b>-4997.98</b>	<b>10065.95</b>	<b>10245.67</b>	<b>10134.49</b>	<b>&lt; .001</b>	.076

Note. K - number of classes; LL = model log likelihood; AIC = consistent Akaike information criterion; BIC = Bayesian information criterion; saBIC = sample size adjusted BIC; BLRT = bootstrapped likelihood ratio test; VLMR-LRT = Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test; p = p value; **Bold** = best fit statistic for each individual statistic. Model 1 indicates fixed variance across classes and no covariances specified. Model 2 indicates covariances are specified for the overall model; Model 3 indicates class-specific covariances across classes. Model 4 indicates class-specific covariances and variances across classes.

**Table 4**

**2022 Mean and Standard Errors of Outcome Indicators for Latent Profile Trajectories**

Social well-being trajectories profiles	Psychological well-being	School belonging	Optimism	Psychological distress
1. <i>Stable-Low</i>	2.99 (.09) <sup>a</sup>	3.75 (.09) <sup>a</sup>	2.10 (.06) <sup>a</sup>	2.26 (.06) <sup>a</sup>
2. <i>Languishing</i>	3.15 (.12) <sup>a</sup>	3.97 (.13) <sup>ab</sup>	2.23 (.08) <sup>a</sup>	2.20 (.08) <sup>a</sup>
3. <i>Succumbing</i>	4.10 (.16) <sup>b</sup>	4.24 (.19) <sup>b</sup>	2.55 (.11) <sup>b</sup>	2.09 (.12) <sup>a</sup>
4. <i>Recovering</i>	5.05 (.09) <sup>c</sup>	4.92 (.11) <sup>c</sup>	3.30 (.08) <sup>c</sup>	1.64 (.08) <sup>c</sup>
5. <i>Stable-High</i>	5.11 (.06) <sup>c</sup>	5.13 (.07) <sup>c</sup>	3.16 (.05) <sup>c</sup>	1.54 (.05) <sup>c</sup>
Score Range	1-6	1-6	1-4	1-4

Note. Means that do not share superscripts differ at  $p < .05$  on pairwise. Wald tests of equality for distal outcomes across profiles.

**2022 Outcome Indicator Means for Each Latent Profile Trajectory Groups (As shown in Table 4 above)**

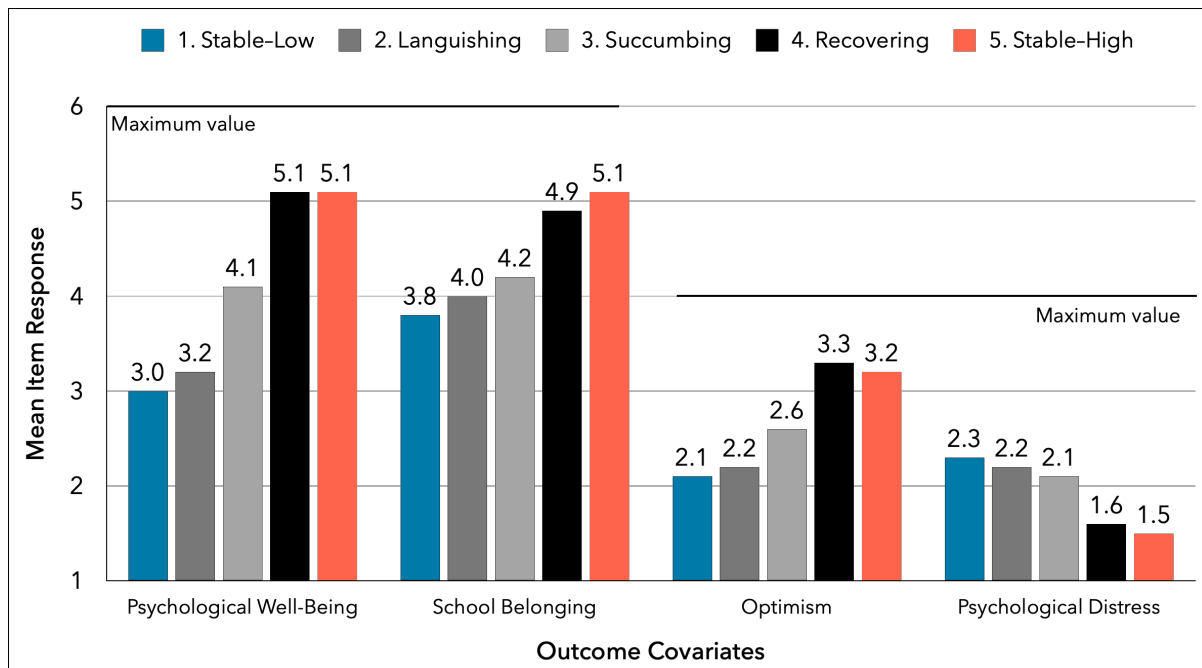




Table 5

**Students' Demographic Correlates for the Five-Class Solution with the Stable-Low (Profile 1) as the Reference Group**

Mental Health Class	Variable	Logit	SE	OR
<b>2. Languishing</b>	Female	-0.65	0.33	0.52
	Sexual Minorities	0.51	0.36	1.67
	Ethnic Minorities	0.11	0.44	1.12
	White	-0.32	0.36	0.73
	Cohort: Grades 7-10	-0.19	0.44	0.83
	Cohort: Grades 8-11	0.34	0.38	1.40
<b>3. Succumbing</b>	Female	0.19	0.53	1.20
	Sexual Minorities	0.69	0.51	1.99
	Ethnic Minorities	0.29	0.62	1.34
	White	-0.38	0.57	0.68
	Cohort: Grades 7-10	-0.15	0.55	0.86
	Cohort: Grades 8-11	-0.71	0.62	0.49
<b>4. Recovering</b>	Female	-0.37	0.30	0.69
	<b>Sexual Minorities</b>	<b>-1.29*</b>	<b>0.53</b>	<b>0.27</b>
	Ethnic Minorities	0.10	0.45	1.10
	White	0.34	0.33	1.40
	Cohort: Grades 7-10	0.53	0.40	1.70
	Cohort: Grades 8-11	0.42	0.39	1.52
<b>5. Stable-High</b>	Female	-0.51*	0.22	0.60
	<b>Sexual Minorities</b>	<b>-1.83***</b>	<b>0.42</b>	<b>0.16</b>
	Ethnic Minorities	-0.36	0.35	0.70
	<b>White</b>	<b>0.52*</b>	0.23	1.68
	Cohort: Grades 7-10	0.38	0.27	1.47
	Cohort: Grades 8-11	0.13	0.27	1.14

Note. OR = Odds Ratio.

\*  $p < .05$ . \*\*\*  $p < .001$ .

Figure 2.

Means for the Mental Health Continuum-Short Form Social Well-Being Items 2019 (Pre-COVID-19) to 2022 (post-Restrictions)

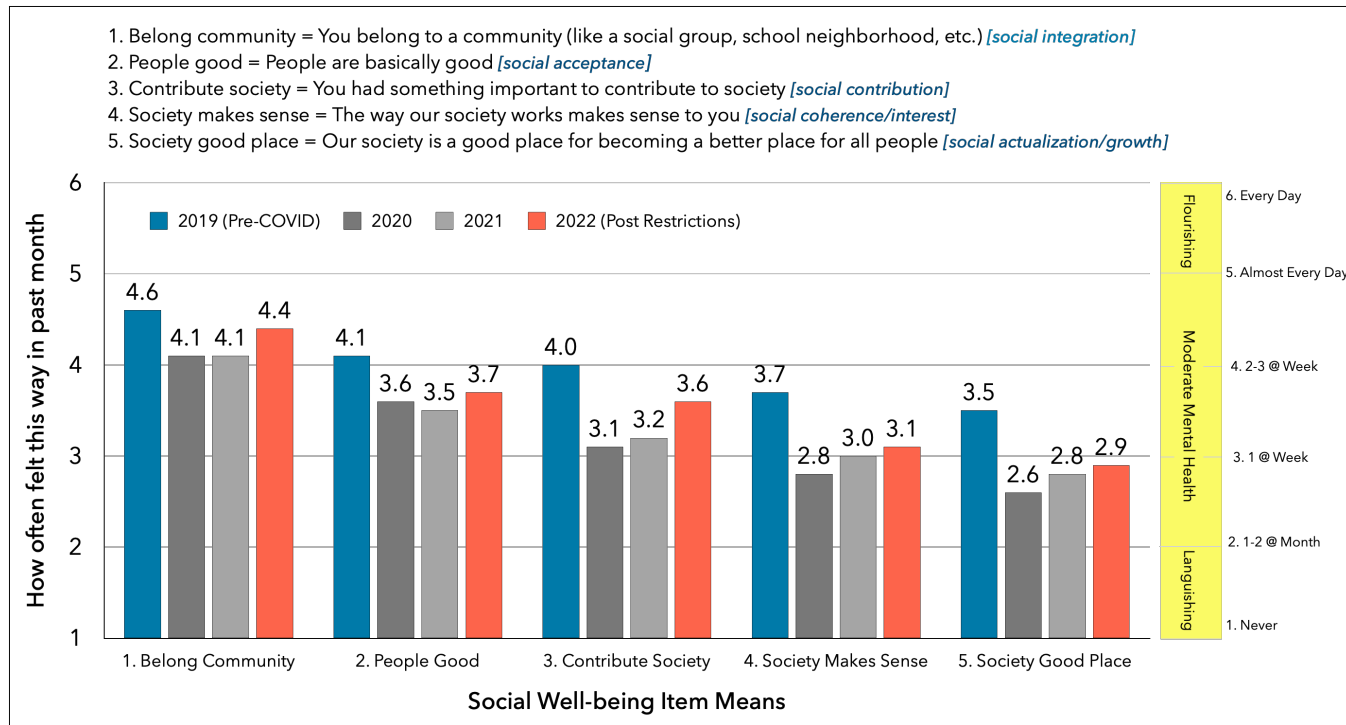


Figure 3.

Annual (2019-2022) MHC-SF Social Well-Being Mean Item Responses for the Five Latent Analysis Profiles

