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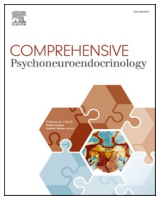

Trajectories of sociopolitical stress during the 2020 United States presidential election season: Associations with psychological well-being, civic action, and social identities

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ABSTRACT

Sociopolitical stress arises in reaction to awareness of, exposure to, and/or involvement in political events. Among a longitudinal cohort of 628 college students from 10 universities across the U.S., we explored trajectories of sociopolitical stress during the 2020 United States presidential election season and examined relationships to psychological well-being. Growth mixture modeling classified our sample into four subgroups each with distinct trajectories of sociopolitical stress: *High and Decreasing*, *Moderate and Increasing*, *Consistently Low*, and *High-to-Low*. Participants with lower levels of sociopolitical stress expressed higher psychological well-being (high flourishing, high optimism, low anxiety symptoms, low depressive symptoms). The *High and Decreasing* subgroup was associated with the highest levels of civic action. Participants in the *High and Decreasing* trajectory were 20 times more likely to identify as LGBQ+, and 4 times more likely to be a woman or a transgender/gender diverse student, compared to participants in the *Consistently Low* subgroup.

1. Introduction

The 2020 United States (U.S.) presidential election season was a pivotal period for youth, who voted in record numbers to make their generation's voice heard [1]. Many young people were voting for the first time as part of their transition to adulthood, including a large portion of "Gen Z" (those born after 1996) [2]. Along with voting, Gen Z participates in high numbers in a variety of civic actions from posting about social issues on social media [3] to attending protests [4]. Participation in civic actions is an important developmental experience for young people wherein they reflect on their own values, wrestle with diverse perspectives on social issues, and take action toward constructing the kind of world they want to be a part of [5]. While the election season may be an important period of civic activity, young people may also experience sociopolitical stress, defined as intense feelings stemming from awareness of, exposure to, and/or involvement in, political events like an election [6].

The 2020 U S. presidential election occurred amidst the global COVID-19 pandemic and was fraught with extreme partisan division and extraordinary challenges to democracy. During this time, young people also witnessed overt forms of violence, racism, and xenophobia, playing out in real-time over mass media (e.g., the murders of George Floyd, Breona Taylor, and many other Black people at the hands of police [7]; suspensions of visas and immigration paths by the Trump administration [8]; and 45 recorded cases of fatal violence against transgender or gender non-conforming people [9]). It is no wonder, then, that two in three Gen Z youth reported the U.S. presidential election as a source of stress in the summer of 2020 [10]. Alarmingly, the same nationally

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representative poll found that Gen Z had significantly higher levels of stress compared to all older generations. Therefore, it is important to examine youth's experiences of sociopolitical stress and the l implications of these experiences for their psychological well-being. We focus in particular on young adult college students, who are transitioning to adulthood. Young adult college students navigate a pressing need to reconcile their developing identities and life goals with sociocultural expectations all within settings that may underscore critical thinking and exposure to diverse perspectives.

Several studies indicate that young adult college students experience increased psychological and physiological stress around elections. Hoyt and colleagues [11] found greater rates of self-reported negative mood and elevated stress (as captured by diurnal cortisol patterns) during the week of the 2016 U S. presidential elections. Roche and Jacobson [12] found that youth experienced negative psychological well-being during the 2016 U.S. presidential elections as captured by levels of anxiety, stress, and sleep quality. The elevated sociopolitical stress during the 2016 election season persisted into the months following the election [13,14]. Illustratively, in an economically and ethnically diverse sample of young adult college students in the southwestern U.S., one out of four students met the criteria for clinically significant event-related distress symptoms related to the 2016 election [14]. A study with the same sample of youth as the current study found that during the 2020 election season, college students experienced high levels of sociopolitical stress and engaged in a diverse set of coping strategies as a result [6]. The present study extends prior work by examining longitudinal patterns of sociopolitical stress and their associations with psychological well-being. By doing so, we attempt to demonstrate how a macro-level [15] event like an election can affect individual-level psychological well-being, via sociopolitical stress.

This study consists of two central aims and two exploratory aims. In aim 1, we examined trajectories of sociopolitical stress among young adult college students during a 10-week period before, during, and after the 2020 U.S. presidential election. We predicted that there would be multiple subgroups including: those with consistently low sociopolitical stress, consistently high sociopolitical stress, as well as one or more subgroups with trajectories of sociopolitical stress that fall sharply after the election. In our second aim, we examined the relationships between identified subgroups and psychological well-being. We expected relationships that showed sociopolitical stress to be inversely related to psychological well-being, given a robust literature linking both physiological and perceived stress to poor mental health outcomes.

Our two exploratory aims examined how civic action may be differentially associated with sociopolitical stress trajectory subgroups (aim 3) and which subgroups of college youth are more likely to be in different sociopolitical stress trajectories based on their social identities, namely gender, sexual orientation, political party affiliation, socioeconomic status, and race/ethnicity (aim 4).

Our first exploratory aim extends prior work that highlights both the costs and benefits of civic action [16–18]. Youth who are engaged in civic actions during an election season may be likely to report higher sociopolitical stress due to personal investment in, and direct exposure to, election news and outcomes. However, to the extent that civic action may serve as an adaptive coping response for some youth [19], it is also possible that civic action mitigates feelings of sociopolitical stress.

There are also clear inequities in sociopolitical stress and well-being during dramatic societal events, such as elections [20]. Supported by the phenomenological variant of ecological systems theory (PVEST) [19], we explore how the trajectories of sociopolitical stress, and perhaps thereby the psychological consequences of the election, differ among youth with different social identities. PVEST underscores the embeddedness of structures of oppression within the developmental system, and how the individuals' phenomenology (i.e., how young people make meaning of their experiences as they move through these structures) shapes their lives. Therefore, youth with different social identities—situated differentially vis-à-vis multiple intersecting systems of oppression (e.g., cisheteropatriarchy, racism, class-based oppression, etc.)—may have distinct experiences of sociopolitical stress.

2. Method

2.1. Data

College students from 10 universities (8 public, 2 private) across 8 U. S. states were recruited to participate in this study. The states were geographically diverse and included California, Washington, Michigan, Montana, New York, West Virginia, North Carolina, and South Carolina. Students were recruited to the study with online flyers and classroom announcements and received class credit for participating in the study. All participants who completed the baseline survey (time 1) were sent reminders through the online survey system (SONA) to complete two follow-up surveys. Surveys were completed online via Qualtrics and those who completed all three time points of the survey were also entered into a raffle to win a gift card. This study was approved by the University of South Carolina Institutional Review Board.

Of the 628 time 1 participants, 435 participants took the survey at time 2, and 254 participants took the survey at time 3. Time 1 surveys were taken between October 1–19, 2020, shortly before election day (November 3, 2020). Time 2 surveys were taken between November 4–16, 2020. On November 7, major networks, including The Associated Press and Fox News, announced Biden as the president-elect. Time 3 surveys were taken between November 30 and December 13, 2020.

2.2. Participants

Participants ($N = 628$) were between 18 and 29 years old at time 1 ($M = 19.61$, $SD = 1.87$) and 165 (26.3 %) participants identified as a man, 458 (72.9 %) as a woman, 1 participant identified as a trans man, 1 participant identified as genderfluid and 2 participants identified as gender non-conforming (1 participant did not provide their gender). Most of the sample ($n = 421$, 67.0 %) identified as white, followed by Asian ($n = 70$, 11.1 %), Hispanic or Latino/a/e ($n = 69$, 11.0 %), Black or African American ($n = 27$, 4.3 %), two or more races/ethnicities ($n = 22$, 3.5 %), or another race/ethnicity ($n = 17$, 2.7 %). Two participants did not provide their racial-ethnic background. 43.8 % of participants said their party affiliation was the Democratic Party, while 21.7 % of participants said their party affiliation was the Republican Party. In addition, 9.2 % reported party affiliation with a third party, and 25.3 % were unaffiliated.

3. Measures

3.1. Sociopolitical stress

Sociopolitical stress was assessed using five items from the Perceived Stress Scale [21] that were adapted for this study [6] to refer to stress in the context of the 2020 election. Each item asked participants to reflect on their level of stress in the previous week and respond on a Likert scale of 0 (Never) to 4 (Very often). A sample item is "In the last week, how often have you found that you could not cope with things related to the 2020 election?" Internal consistency was very good at all three time points ($\alpha_{time\ 1} = 0.815$, $\alpha_{time\ 2} = 0.848$, $\alpha_{time\ 3} = 0.840$).

3.2. Psychological well-being variables

Flourishing was measured with Diener et al.'s [22] Flourishing Scale. Participants rate their agreement with 8 items (e.g., "My social relationships are supportive and rewarding" and "I lead a purposeful and meaningful life") on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's coefficient alphas indicated excellent internal consistency at all three time points ($\alpha_{time\ 1} = 0.914$, $\alpha_{time\ 2} = 0.932$, $\alpha_{time\ 3} = 0.946$).

Six items from the Life Orientation Test–Revised (LOT-R) [23] were used to measure participants' trait optimism. The LOT-R is rated on a scale of 1 (I disagree a lot) to 5 (I agree a lot). Sample items include "In uncertain times, I usually expect the best" and "I'm always optimistic about my future." Internal consistency was good across all three study time points ($\alpha_{time\ 1} = 0.755$, $\alpha_{time\ 2} = 0.796$, $\alpha_{time\ 3} = 0.749$).

The Generalized Anxiety Disorder 7-item scale [24] asked participants to report how often they had experienced symptoms of anxiety, such as trouble relaxing, over the past two weeks on a scale of 0 (not at all) to 3 (nearly every day). The measure had excellent internal consistency ($\alpha_{time\ 1} = 0.939$, $\alpha_{time\ 2} = 0.948$, $\alpha_{time\ 3} = 0.949$).

Seven items from the 9-item Patient Health Questionnaire [25] were used to measure depressive symptoms. As described in the results section, two items were removed due to poor longitudinal measurement properties in this sample, therefore clinical conclusions cannot be made with the scores in the present analyses. Participants were asked to report how often they had been bothered by symptoms such as "feeling tired or having little energy" and "poor appetite or overeating." Response options ranged from 0 (not at all) to 3 (nearly every day). The items had very good internal consistency as demonstrated by Cronbach's coefficient alphas ($\alpha_{time\ 1} = 0.906$, $\alpha_{time\ 2} = 0.926$, $\alpha_{time\ 3} = 0.920$).

3.3. Civic action

Civic action was measured using a subset of items from the Youth Inventory of Involvement [26]. Wording in some items were adapted for administration in the overall study [6]. For the current analyses, exploratory and confirmatory factor analysis was used to select six items from the measure that unidimensionally captures civic action (see supplemental material S1 for more information). Participants responded on a scale anchored from 0 (never) to 10 (very often). Sample items included "Contacted a political representative to tell him/her how you felt about a particular issue," "Attended a protest march, meeting, or demonstration," and "Participated in a political party, club, or organization." The six items had good internal consistency: $\alpha_{time\ 1} = 0.863$, $\alpha_{time\ 2} = 0.888$, $\alpha_{time\ 3} = 0.882$.

3.4. Analysis plan

Analyses were conducted in M*plus* 8.4 with full information maximum likelihood (FIML) estimation to handle missing data.

3.4.1. Measurement properties of latent variables and preliminary analyses

All hypothesized latent variables (sociopolitical stress, psychological well-being variables, and civic action) were assessed by fitting a multifactor confirmatory factor analysis (CFAs) at each time point. The goodness of model fit was determined by examining the root mean square error of approximation (RMSEA, values below 0.05 indicate good fit, values between 0.05 and 0.08 indicate acceptable fit) [27], the comparative fit index (CFI, values above 0.95 indicate good fit and values between 0.90 and 0.95 indicate acceptable fit) [27], and SRMR (values below 0.08 recommended) [28]. Following the CFAs, we investigated longitudinal measurement invariance (configural, loading, intercept) across the three time points for all latent variables [29]. Following Widaman and Thompson [30], we first calculated a null model that has the means and variances constrained to be equal across time. Then, we calculated whether each new level of invariance changed the CFI by less than or equal to 0.01 [31]. Items were removed when analysis of residuals indicated a poor fit with the longitudinal measurement invariance model. Latent variable values were converted into scale scores by taking the mean of each participant's answered items. We coded participants as missing if they answered less than a quarter of the items on a scale.

We conducted latent growth modeling on the sociopolitical stress scale scores to find the best-fitting model that describes the overall shape of growth. We compared intercept-only, linear, quadratic, and piecewise growth models using the χ^2 difference test. The Akaike information criterion (AIC) was also examined wherein smaller AIC values indicate a better fit. The overall model fit of the final growth model was assessed using CFI, RMSEA, and SRMR values (the recommended cutoff for CFI is at least 0.95 and the recommended cutoffs for RMSEA and SRMR are at most 0.05) [32].

3.4.2. Main analyses

Growth mixture modeling was applied to the best-fitting growth model for sociopolitical stress to identify possible trajectory subgroups. Multiple variations of the variance-covariance structure of the growth parameters were tested [33]. All models were compared on several metrics including the approximate correct model probability (CMP), Akaike information criterion (AIC), consistent Akaike information criterion (cAIC), unadjusted and sample size adjusted Bayesian information criterion (BIC and sBIC), approximate weight of evidence criterion, approximate Bayes factor, and Lo-Mendell-Rubin likelihood ratio tests [33].

For each subgroup, we used the Bolck-Croon-Hagenaars (BCH) procedure [34] to estimate associations with psychological well-being, civic action, and social identity variables. The BCH procedure is the preferred approach for relating variables to subgroups identified using mixture modeling as it accounts for classification error and therefore provides less biased estimates. Social identity variables were categorical and therefore a manual BCH procedure was used and odds ratios were interpreted [34]. An automatic BCH procedure integrated into Mplus was employed for the well-being and civic action variables, which were all continuous variables. Wald $\chi 2$ tests were conducted to compare the mean levels of the well-being and civic action variables between different trajectories. A Bonferroni correction was applied to an initial Type 1 error rate of 0.05 to account for multiple comparisons.

4. Results

4.1. Measurement properties

Although an initial multifactor CFA with all items had adequate model fit, two items from the original administered 9-item Patient Health Questionnaire did not pass longitudinal measurement invariance (item 7 and item 9). Therefore, these items were removed from further analyses. The revised multifactor CFAs had adequate model fit (see Table S2): across all three time points, RMSEA was at or below 0.059, CFI was at or above 0.899, and SRMR was at or below 0.056. Longitudinal measurement invariance was established according to criteria in Cheung and Rensvold [31] (see Table S3). Model fit indices (RMSEA, CFI, SRMR, AIC) and χ^2 difference testing from the latent growth modeling of sociopolitical stress levels across the three timepoints revealed the piecewise growth model as having the best fit to the data compared to intercept only, linear, and quadratic models (see Table S4). Therefore, growth mixture modeling was conducted on the overall piecewise growth model of sociopolitical stress.

4.2. Growth mixture model

Table S5 displays the model fit statistics for models with 1–5 groups in the diagonal and class invariant structure (models with other variance-covariance structures did not converge). Multiple fit criteria pointed to the four-group model as being the best-fitting model. The four-group model had the lowest consistent AIC, the lowest BIC and sBIC, the highest approximate Bayes factor, and the highest CMP. The four-group model also passes the adjusted Lo-Mendell-Rubin likelihood ratio test when compared to a model with three groups, while a five-group model is not preferred over a four-group model according to the same test.

Fig. 1 is a plot of the four-group model. A subgroup with 42.8 % of the sample had consistently low levels of sociopolitical stress (i.e.,

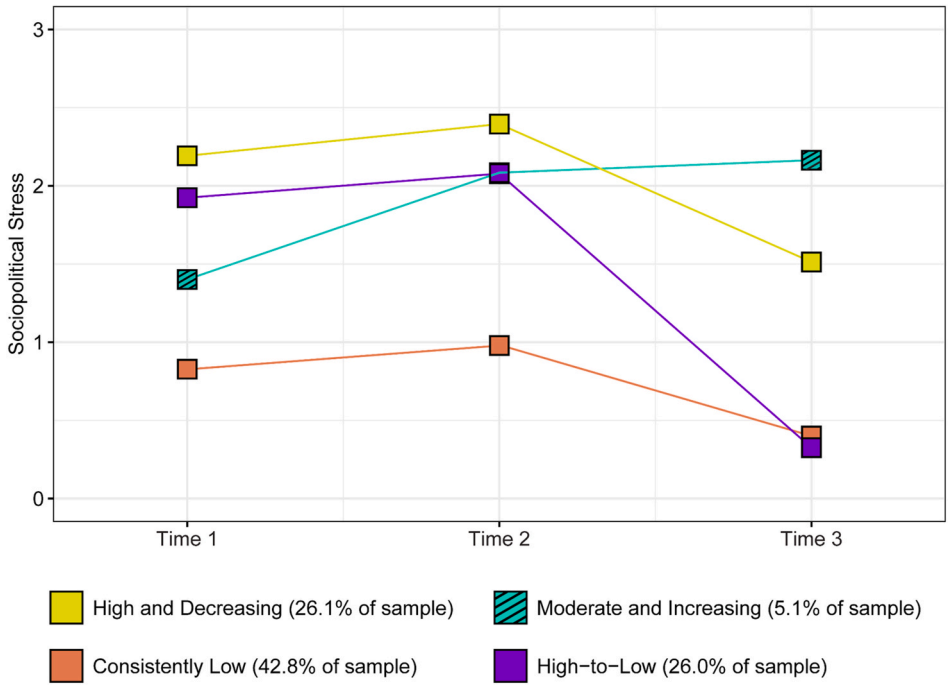

Fig. 1. Participants were classified into four subgroups based on their trajectories of sociopolitical stress. Please view this document online for a color version. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

reported feeling sociopolitical stress between "never" and "almost never" in the past week; time 1: $M = 0.83$, $SE = 0.06$; time 2: $M = 0.98$, $SE = 0.08$; time 3: $M = 0.40$, $SE = 0.06$) and was named "*Consistently Low*." A subgroup with 26.1 % of the participants modally assigned to it had high levels of sociopolitical stress (i.e., reported feeling sociopolitical stress between "sometimes" and "fairly often" over the past week) at time 1 ($M = 2.19$, $SE = 0.102$) and time 2 ($M = 2.40$, $SE = 0.10$), but lower levels of sociopolitical stress by time 3 ($M = 1.51$; $SE = 0.09$). This subgroup was labeled "*High and Decreasing*." A third subgroup, named "*High-to-Low*" (26.0 % of the sample) had high sociopolitical stress at time 1 ($M = 1.92$, $SE = 0.11$) and time 2 ($M = 2.08$, $SE = 0.10$) and low levels of sociopolitical stress at time 3 ($M = 0.33$, $SE = 0.05$). A subgroup with 5.1 % of the sample had moderate levels of sociopolitical stress at time 1 that corresponded to reporting feeling stress between "almost

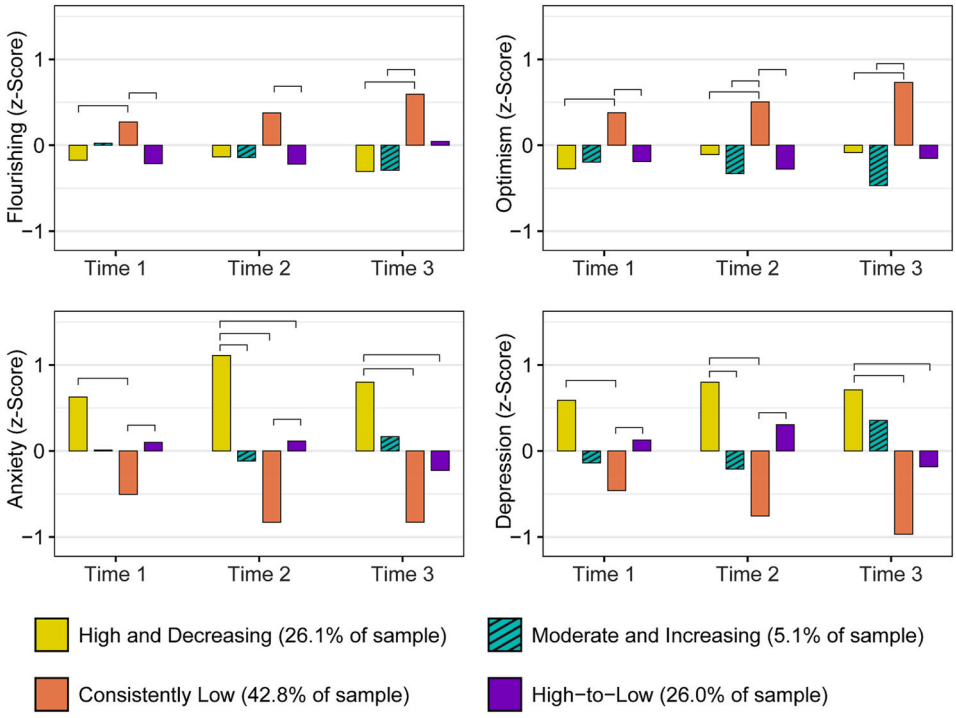

Fig. 2. Associations between subgroups and flourishing, optimism, anxiety, and depressive symptoms. Brackets indicate pairwise comparisons that were significant at $p < .01$. Please view this document online for a color version. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

never" and "sometimes" over the past week ($M = 1.40$, $SE = 0.23$). This subgroup's latter two sociopolitical stress means were higher at 2.08 ($SE = 0.12$) and 2.16 ($SE = 0.13$), therefore this subgroup was named "*Moderate and Increasing*".

4.3. Associations with psychological well-being

The mean levels of flourishing, optimism, anxiety, and depressive symptoms associated with each subgroup are depicted in Fig. 2. Pairwise comparisons between the four subgroups resulted in 6 comparisons for each time point. To account for these multiple comparisons, the alpha level was adjusted from 0.05 to 0.01 using a Bonferroni correction (i.e., the alpha level was corrected to the family-wise error rate). Table 1 presents the change in mean levels (as raw scores).

Flourishing remained at high levels for all three time points for the *Consistently Low* subgroup. At time 1 and 3, the average levels of flourishing for the *Consistently Low* subgroup were significantly higher than those of the *High and Decreasing* subgroup, and at time 2, significantly higher than those of the *High-to-Low* subgroup. The level of flourishing in the *High-to-Low* subgroup rose from time 1 to time 3 such that it was no longer significantly lower than the *Consistently Low* subgroup by time 3. In contrast, the level of flourishing for the Moderate and Increasing subgroup fell from time 1 to time 3 such that just at time 3, it was significantly lower than the average level of flourishing of the *Consistently Low* subgroup.

Across the study time period, optimism was highest in the *Consistently Low* subgroup. Indeed, the average level of optimism in the *Consistently Low* subgroup was statistically significantly higher than the *High and Decreasing* subgroup, across all three time points. The average level of optimism in the *Consistently Low* subgroup was also significantly higher than the *High-to-Low* subgroup at time 1 and time 2. The levels of optimism in the *Moderate and Increasing* subgroup fell from time 1 to time 3 such that while it was no different from the high average levels of optimism in the *Consistently Low* subgroup at time 1, in time 2 and time 3, optimism levels in the *Moderate and Increasing* subgroup were significantly lower than the *Consistently Low* subgroup.

Anxiety was high in the *High and Decreasing* subgroup across all three time points and low in the *Consistently Low* subgroup across all three time points. Specifically, the difference in the average level of anxiety between the *High and Decreasing* and *Consistently Low* subgroups was statistically significant across all three time points. The level of anxiety in the *High-to-Low* group was higher than the *Consistently Low* subgroup at time 1 and time 2, but was no different from the *Consistently Low* subgroup by time 3. That is, for participants whose sociopolitical stress decreased over time (*High-to-Low*), their anxiety levels became as low as those in the *Consistently Low* subgroup. Anxiety in the *Moderate and Increasing* subgroup was lower than the *High and Decreasing* subgroup at time 2, but "caught up" with anxiety in the *High and Decreasing* subgroup by time 3.

The average level of depressive symptoms associated with the *High and Decreasing* subgroup was higher than the *Consistently Low* subgroup at all three time points. Additionally, the level of depressive symptoms associated with the *High-to-Low* subgroup fell over time such that while it was significantly higher than the *Consistently Low* subgroup at time 1 and time 2, it was no different to the *Consistently Low* subgroup by time 3 and only different from the *High and Decreasing* subgroup.

4.4. Associations with civic action

The mean levels of civic action associated with each subgroup are depicted in Fig. 3. Civic action associated with the *Consistently Low* subgroup was statistically significantly lower than civic action associated with the *High and Decreasing* subgroup at all three time points. In time 1 and time 2, civic action associated with the *High and Decreasing* subgroup was also higher than the civic action associated with the *Moderate and Increasing* subgroup. Civic action levels rose for the *Moderate and Increasing* subgroup rose by time 3 such that it was no longer significantly different from the *High and Decreasing* subgroup. Civic action decreased for the *High-to-Low* subgroup from time 1 to time 3 such that it was significantly higher than the *Consistently Low* subgroup at time 1 and time 2 but no longer at time 3.

4.5. Associations with social identity variables

The results of the manual BCH procedure examining the associations between subgroups and social identity variables are displayed in Table S6. To analyze relationships with gender, women and transgender, and gender diverse (TGD) participants were grouped together in one category, and men in another category. Analyses with a greater number of categories did not converge, and we decided to include TGD participants (and group them with participants identifying as women) in our analyses instead of removing them from the study. TGD participants have distinct experiences from women due to gender binarism (i.e., the privileging of those who are cisgender) [35], yet, they may share some experiences vis-à-vis hegemonic masculinity, especially in the context of the 2020 election [36].

The likelihood of a student being a woman or TGD student (compared to being a man) was statistically significantly different between the *High and Decreasing* subgroup and the *Consistently Low* subgroup (odds ratio = 4.40, 95 % CI = 1.91, 10.14). That is, a student in the *High and Decreasing* subgroup was 4.399 times more likely to be a woman or a TGD student, compared to a student in the *Consistently Low* subgroup.

Analyses also revealed statistically significant differences across subgroups in regard to sexual orientation. The odds ratio of being heterosexual versus being LGBQ+ (lesbian, gay, bisexual, queer/questioning, and other sexual identities different from heterosexual) between the *High and Decreasing* subgroup and the *Consistently* Low subgroup were statistically significantly different; the odds ratio was 20.29 (95 % CI = 3.13, 131.41). A student in the *High and Decreasing* stress trajectory was 20.29 times more likely to identify as LGBQ + than a student in the *Consistently Low* subgroup.

In terms of political party affiliation, participants in the *Consistently Low* subgroup were 6.98 times more likely to be a Republican (rather

Table 1
The mean levels of flourishing, optimism, anxiety, depressive symptoms, and civic action associated with each subgroup, over time. Pairs of letters indicate pairwise comparisons across subgroups (columns of table) that were significant at $p < .01$.

	Flourishing			Optimism			Anxiety			Depression			Civic Action		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
High and Decreasing	5.44^{a}	5.49	5.31^{a}	3.43^{a}	3.58^{a}	3.69	1.44^{a}	1.87^{abc}	1.47^{ab}	1.25^{a}	1.47^{ab}	1.29	3.15^{ab}	2.95^{ab}	1.73^{a}
Moderate and Increasing	5.63	5.48	5.32^{b}	3.50	3.39^{b}	3.38	0.91	0.85^{a}	0.94	0.69	0.66^{a}	1.03	1.21^{a}	1.07^{a}	1.87
Consistently Low	5.88^{ab}	6.01^{a}	6.25^{ab}	3.96^{ab}	4.09^{abc}	4.34	0.48^{ab}	0.25^{bd}	0.10^{a}	0.44^{ab}	0.22^{bc}	0.03	0.74^{bc}	0.24^{bc}	-0.14^{a}
High-to-Low	5.40^{b}	5.40^{a}	5.67	3.50^{b}	3.43^{c}	3.64	0.99^{b}	1.04^{cd}	0.61^{b}	0.89^{b}	1.07^{c}	0.62	2.38^{c}	1.30^{c}	0.81

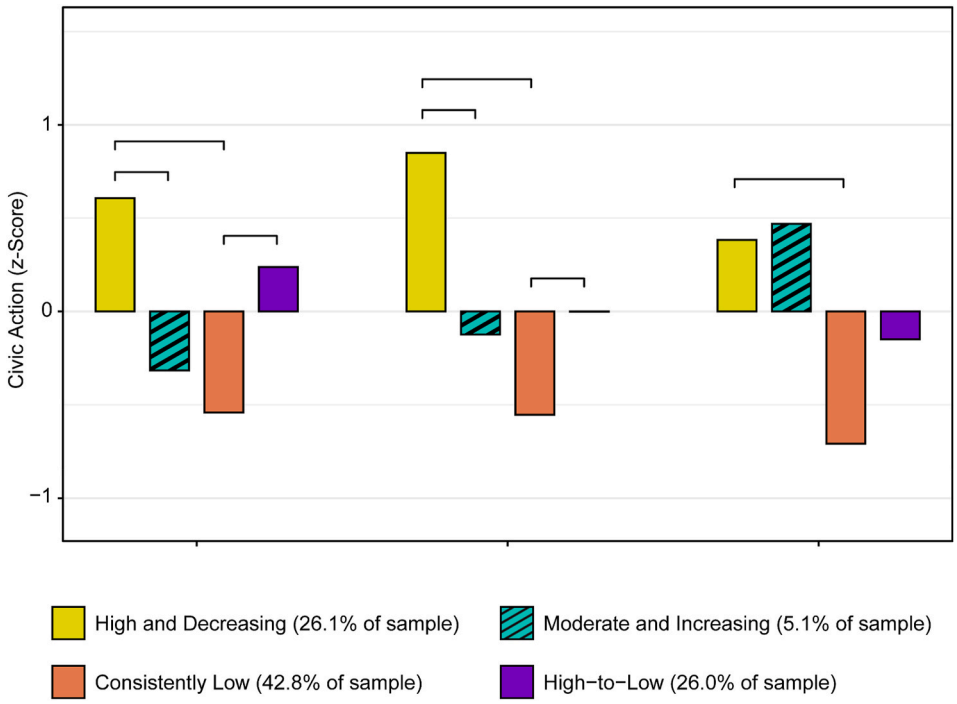

Fig. 3. Associations between subgroups and civic action. Brackets indicate pairwise comparisons that were significant at $p < .01$. Please view this document online for a color version. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

than Democrat, affiliated with a third party, or unaffiliated) compared to participants in the *High and Decreasing* subgroup (95 % CI = 1.81, 12.14).

The socioeconomic status of participants, as measured by self-reported parent education level and family household income, did not differ across subgroups. Additionally, the odds ratio of a student being white versus a person of color were not statistically significantly different across subgroups.

5. Discussion

Sociopolitical events like elections may be particularly salient for young adults exploring their identities and preparing for their futures. During the 2020 U S. presidential election, youth were affected by the COVID-19 pandemic, and many were grappling with racism, misogyny, and xenophobia in their communities and playing out over mass media [10]. For many Gen Z individuals, this was the first presidential election in which they could vote, and some young people were part of an upsurge in civic action related to movements like Black Lives Matter [4]. There is growing evidence that young people experience changes in physiological, behavioral, and psychological processes due to macro-level political events like elections [11,13,14]. However, the trajectories of stress over election periods, the magnitude of the effects of sociopolitical events on different groups of youth, and the implications for their psychological well-being, are not well known. We identified four unique subgroups of self-reported sociopolitical stress trajectories before, during, and after the 2020 election, demonstrating the diversity in experiences of sociopolitical stress in our young adult college student sample. We describe the four subgroups below, with attention to how stress subgroups are differentially associated with average levels on indices of psychological well-being.

The subgroup with the greatest proportion of participants (42.8 %) was the *Consistently Low* subgroup, characterized by the lowest levels of sociopolitical stress across the election period. This subgroup also experienced the most positive indicators of psychological well-being (i.e., high flourishing, high optimism, low anxiety symptoms, low depressive symptoms) across all time points. It may be that youth in this subgroup had lower overall exposure to or engagement with election-related news and events. Excessive exposure to political news can lead to anxiety and stress among young people, especially if they feel overwhelmed by the negative news cycles and complexity of political issues [37]. These youth may have avoided engaging in the elections to avoid or offset these negative emotions [6].

Two other subgroups, the *High and Decreasing* and *High-to-Low* subgroups (each representing about a quarter of the sample), experienced high levels of sociopolitical stress prior to the election, but their post-election levels of sociopolitical stress diverged. The *High and Decreasing* subgroup continued to report elevated sociopolitical stress in the weeks after the election, while the other subgroup (*High-to-Low*) experienced a substantial decline after November 2020. It is possible that participants in this latter profile experienced dramatic decreases in sociopolitical stress and increases in psychological well-being after the elections because they were anxious about the moment of voting itself (e.g., voting during a global pandemic, voting for the first time), regardless of election outcomes. There is some evidence for increased physiological stress responses (measured by cortisol) among voters on election day compared to a control group at the same time one day later [38].

The *Moderate and Increasing* subgroup (5.1 % of the sample) experienced relatively low levels of stress before election day but the highest levels of stress on average out of any subgroup following the election. Accordingly, there was a drop in well-being after the election for the *Moderate and Increasing* subgroup. Although this is a small subgroup, the increase in sociopolitical stress over time suggests that these participants were perhaps reacting to tumultuous events in the weeks following the election that reflected significant challenges to the U.S. system of government. In the 2020 U.S. presidential election, outgoing President Trump made controversial and unprecedented challenges to the credibility of election results in the days immediately following the election. Even after election results had been called by major news networks, and, more egregiously, even after election results had been certified by local election officials, challenges were made to the handling of the elections, including the attacks on the Capitol on January 6th, 2021. Prolonged or increasing sociopolitical stress may be explained by closely following

this series of events taking place.

5.1. Exploring the role of civic action and social identities

Our two exploratory aims examining how sociopolitical stress trajectories relate to the civic action and the social identities of the participants were informed by the PVEST framework [19]. PVEST underscores how development occurs within a bioecological system that intersects with sociopolitical structures, including structures of oppression that perpetuate inequalities by race, gender, and other social identities [19]. According to PVEST, the developing individuals' phenomenology–i.e., how young people make meaning of their context–can influence trajectories of development recursively by shifting how context affects the individual (including their psychological well-being) and impacting what actions (including civic actions) are taken [19]. Importantly, within PVEST all youth are seen as agentic in their own development. This is consequential for youth who experience marginalization as civic action has the potential to be an adaptive and reactive coping strategy that can counteract cascades of negative effects that oppressive structures can have on their development [19].

Overall, our findings suggest a pattern of elevated sociopolitical stress "tracking" with greater engagement in civic action. For example, we found that the *High and Decreasing* subgroup was associated with greater civic action than the *Consistently Low* subgroup and that civic action fell for the *High-to-Low* subgroup between time 1 and time 2. On the one hand, this may be evidence that young people who are more heavily engaged in civic action during an election period are experiencing elevated sociopolitical stress. This may be due to increased exposure to stressful situations through taking part in civic action during a period surrounding the elections: they may be involved in tense conversations about partisan views with peers, they may be trying to organize critical events related to the election, or they may be taking a stand against problematic political events and rhetoric. This has potential implications for their psychological well-being, as we saw in our central findings that sociopolitical stress has negative consequences for psychological well-being.

On the other hand, it may be that our findings provide preliminary evidence for a proposition stemming from the PVEST framework—that civic action is an adaptive and reactive coping strategy. Young people in the *High and Decreasing* subgroup may have interpreted the election period in a manner that motivated taking civic action, and at the same, these interpretations may be also leading to high levels of sociopolitical stress. A sense of duty may have undergirded the phenomenological experiences of sociopolitical events for these youth; feelings of obligation have been found to spur civic action [39]. Yet, it is possible that a sense of duty made these youth more susceptible to greater sociopolitical stress. In addition, and especially for youth who experience marginalization, their interpretations of the sociopolitical events taking place during the election period may have been informed by critical reflection, or an analysis of how deep social inequality is a symptom of systems of injustice and oppression (rather than shortcomings of certain disadvantaged groups) [40]. In interviews with emerging adults, Quiles and colleagues [41] found that young people of color (compared to white youth) were more likely to name racism as a root cause of disparities and take actions that aligned with this analysis. Although findings are mixed on whether critical reflection is negatively or positively related to well-being [42], it is possible that youth who use critical reflection as a foundation for interpreting sociopolitical events may experience both higher sociopolitical stress and a greater impetus for engaging in civic action.

The participants who were most likely to have high levels of sociopolitical stress were also different from other subgroups in terms of their social identities. In terms of gender, sex, and sexuality, the *High and Decreasing* subgroup had more women, TGD, and LGBQ + youth than the *Consistently Low* subgroup, which had more men and heterosexual youth. Research by Oosterhoff and colleagues [17] help contextualize these findings regarding sociopolitical stress and social identities. For example, they found that young women (compared to young men) and gay or lesbian youth (compared to heterosexual or bisexual youth) reported more mental health issues as a result of politics. The gay and lesbian participants shared that politics negatively affected their mental health because their sexual orientation was being weaponized in politics and political decisions were being used to discriminate against them [17]. Furthermore, young women reported the lack of autonomy and outsized criticism women experience in political arenas, as well as the fact that many issues affecting women are politicized (e.g., abortion, rape, equal pay), as reasons why politics harms their mental health [17]. Similar processes may be at play for participants in the present study and this study aligns with and extends prior work through longitudinal analyses.

It is also notable that in terms of political party affiliation, participants in the *Consistently Low* subgroup were 7 times more likely (95 % CI = 1.81, 12.14) than participants in the *High and Decreasing* subgroup to be a Republican (rather than Democrat, affiliated with a third party, or unaffiliated). The *Consistently Low* subgroup also had more white youth than the *High and Decreasing* subgroup, which had more youth of color. However, this difference was not statistically significant. The overall pattern across party affiliation and race-ethnicity aligns with national findings in 2022 that showed Republican youth tended to be white and Democrat youth tended to be youth of color [43]. However, in our analyses where we examined associations with race-ethnicity separate to associations with political party, we found a lack of statistical significance for race-ethnicity. This suggests that when considering sociopolitical stress, where youth are in terms of their party affiliation is related to their engagement in sociopolitical matters more than race-ethnicity, likely because a young person's party affiliation is reflective of their stage in political identity development [44]. The lack of statistical significance in the race-ethnicity differences may be because differences in sociopolitical stress by race-ethnicity have more "noise" due to youth who are disengaged from the election and related events, compared to differences by political party affiliation, which are more pronounced due to the underlying associations with being involved in the sociopolitical. Further, that Republican youth experienced *Consistently Low* sociopolitical stress may be an indication of racial apathy—a lack of concern about the oppression of people of color [45]. Republican youth (regardless of race-ethnicity background) who endorse racial apathy may have experienced lower levels of sociopolitical stress compared to their peers, who instead experienced elevated sociopolitical stress due to awareness of the implications for racial justice within the 2020 election. This is aligned with the PVEST framework, which suggests that what matters for sociopolitical stress and other indicators of psychological well-being may not just be the social identity youth hold, but the individual's perception of and analysis of sociopolitical structures.

5.2. Implications

Our democracy needs the energy and participation of all youth. Yet, for many young people, the period around the election was a time of prolonged disengagement. To support youth during elections, youth contexts, including colleges and universities, need to provide spaces where they can make sense of their experiences and reactions to the political environment in ways that motivate sustainable action-taking. Voter engagement organizations including "Get Out The Vote" efforts can pay attention to sociopolitical stress and the ways it may be related to inaction among different youth. Providing strategies for recognizing and mitigating sociopolitical stress may lead to greater civic engagement.

For students who were more active (and many of them were marginalized youth), the election season was a time of elevated sociopolitical stress and poor psychological well-being. Thus, the current findings point to a need for supportive figures and institutions during the election period that take into account the experiences of youth with

distinct social identities. In particular, organizations should support youth who may be experiencing sociopolitical stress as a result of already intensified discrimination and/or activism during elections. Teachings from radical healing [46] and healing justice [47,48] may help to shape these supports so that youth can find collective care, solidarity, and healing. Building a collective response among an interconnected community is a powerful response to conditions of oppression that are also felt collectively. A grounding in interdependence and collectivism values can support healing not just for the young person, but for whole communities.

5.3. Limitations

Several study limitations are worth considering. Perhaps most importantly, this was a convenience sample and therefore it was not representative demographically of the country at large, with the majority of participants identifying as white and female. Moreover, although there was geographic diversity, not all regions of the United States were represented (e.g., Southwest). All measures were self-report, and we lacked measures of physiological stress.

Additionally, while a strength of this study is examining change in levels of sociopolitical stress, psychological well-being, and civic action at three timepoints, we cannot infer causality about these pathways. For example, participants could be experiencing greater sociopolitical stress because their psychological well-being is already poor, and not that sociopolitical stress manifests as poor psychological being. Similarly, while we found that those with higher levels of anxiety and depression symptoms were also engaged in higher levels of civic action, we cannot conclude whether engagement in civic action worsened psychological well-being, or whether people turn to civic action when they are experiencing these symptoms.

6. Conclusion

There are differential individual-level consequences for many macro-level events such as the experience of sociopolitical stress during an election. Our findings showed that groups of young people were distinct in their sociopolitical stress trajectory over an election season, and those who manifested the most elevated sociopolitical stress experienced the worst psychological well-being. Moreover, the differential sociopolitical stress experiences intersected with social identities in ways that may reflect how institutions, culture, and policies are shaped by systems of oppression. Those who are most marginalized by existing structures—which privilege whiteness, heteronormativity, etc.—reported the most elevated levels of sociopolitical stress. Understanding which groups may be most vulnerable to sociopolitical stress is important to targeting resources for support during vital sociopolitical (and developmental) events like elections, especially given the potential implications for psychological well-being. And lastly, we found that sociopolitical stress rises alongside greater involvement in civic action, problematizing the notion that young people can act on the pressing issues of our day without harm. We hope this work can inspire future scholarship on the interplay between systems of power, civic action, and youth's identities as it relates to psychological and physiological manifestations of sociopolitical stress. Our research also underscores that interventions to support civic engagement among youth—within communities, within educational settings, and at the policy level—need to attend to the specific resources and supports that different youth need to navigate experiences of sociopolitical stress during election season.

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Declaration of competing interest

We have no conflicts of interest to disclose.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cpnec.2023.100218.

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