The Emotional Costs and Benefits of Politics: Implications for Adolescent Political Development

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Abstract

Political involvement is accompanied by a range of positive and negative emotional experiences, including stress, sadness, anger, regret, purpose, and empowerment. These experiences may be especially potent during adolescence when youth are forming political opinions and are becoming more integrated within the political system. Little research has examined adolescents' political emotional experiences and how these experiences are connected with concordant and future political engagement. Using an ecological momentary assessment design, this study tested cross-sectional and longitudinal within-day associations between adolescents' political emotional costs and benefits and political engagement. Participants ($N=291$, $M_{age}=16.09$) completed four assessments of political emotional experiences (stress/sadness, anger, regret, empowerment) and multiple forms of political engagement (intent to protest, intent to vote, political interest, political efficacy, political participation) across one day. Greater political empowerment was cross-sectionally associated with all forms of political engagement and longitudinally associated with greater next-moment intent to vote and protest, political interest, and political efficacy. Greater political anger was associated with greater cross-sectional political interest, political efficacy, and political participation, but lower next-moment political efficacy. Greater political regret was associated with lower cross-sectional political efficacy and political interest and greater political stress/sadness was associated with greater cross-sectional intent to vote. Findings emphasize the importance of empowerment for adolescent political engagement and demonstrate nuanced connections between adolescents' and subsequent involvement.

Keywords: *Political Emotions; Political Engagement; Political Efficacy; Adolescence; Political Intent*

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Adolescence is a developmental period characterized by neurobiological, social, and emotional changes. Neurological changes in the limbic system and nucleus accumbens combined with immaturities in the pre-frontal cortex produce increased emotional reactivity to positive and negative situations and greater susceptibility to mental health issues (Dahl, 2004; Paus, Keshavan, & Giedd, 2008; Steinberg, 2008). Simultaneously, adolescents also experience increases in abstract reasoning abilities (Dumontheil, 2014) and have more frequent contact with political and social systems, which may produce greater awareness of social and political issues (Erikson, 1968; Yates & Youniss, 1998). Recent conceptual models of adolescent political engagement emphasize the social and emotional consequences of political action (Oosterhoff & Wray-Lake, 2019). This perspective recognizes that politics can produce a variety of emotional “benefits” or positive states that result from politics and enhance social and personal functioning (e.g., purpose, empowerment) and emotional “costs” (e.g., stress, sadness, anger, regret) or negative states that result from politics and diminish social and personal functioning. Some evidence has shown that those who are more interested and engaged in politics report greater social and emotional costs and benefits relative to those who are less engaged (Oosterhoff et al., 2020; Smith, Hibbing, & Hibbing, 2019). Less research has examined how political emotional costs and benefits predict political engagement overtime. Examining within-day longitudinal links between political emotional costs and benefits and subsequent engagement may advance theory on the implications of political emotions for adolescent political development and elucidate sources of individual variability in political participation.

Examining longitudinal associations between youths’ political emotional experiences and subsequent engagement requires careful conceptual and methodological considerations.

Developmental scientists have called for greater clarification of the timescale at which developmental processes unfold (Nesselroade, 1991; Ram & Gerstorf, 2009). Emotional states are transitory and demonstrate substantial within-person variability throughout a given day (Larson, Moneta, Richards, & Wilson, 2002). Although these fluctuations may accumulate and demonstrate more long-term changes in mental health or behavioral habits (Ram et al., 2014), a logical first step in this research area is to examine the implications of momentary short-term changes in political emotional costs and benefits for subsequent political engagement. Ecological momentary assessment (EMA) study designs may be especially well-suited to capture momentary political emotional costs throughout a day given their ability to capture short-term, dynamic processes such as those often found when examining the implications of emotions on social behavior (Shiffman, Stone, & Hufford, 2008). Thus, this study utilized EMA methodology to examine adolescents' political emotions and engagement as they unfold in real-time over the course of one day.

Applying EMA methodology to study adolescent political engagement further presents important measurement challenges. Opportunities to participate in many forms of political action—such as voting and protesting—are infrequent among youth (Oosterhoff & Wray-Lake, 2019), and most past research examines political engagement over the course of several months using annual measurement waves (e.g., Glanville, 1999). However, youth can still form attitudes about whether they intend to participate in these activities which may fluctuate within and across-days. Youth may also vary in how interested they are in politics and how well-qualified they feel to participate in politics over the course of the day based on their political experiences (Beaumont, 2010). Youth also frequently report reading political news and engaging in political discussions with friends and family members (McIntosh, Hart, & Youniss, 2007), which may

fluctuate on a daily basis. It may be especially important to distinguish between engaging with political information that supports versus challenges youths' viewpoints, as belief-consistent versus belief-inconsistent political participation may produce or result from different emotional experiences. The current study employs a broad characterization of political engagement that captures a variety of intentions, attitudes, and behaviors, including intent to vote, intent to protest, political interest, political efficacy, belief-inconsistent political participation, and belief-consistent political participation. These forms of political action were chosen based on their accessibility among adolescence and potential to fluctuate across a given day.

The purpose of this study was to examine cross-sectional and longitudinal associations between adolescents' political emotions and political engagement over the course of one day. Very little research has examined the intersection between adolescents' political emotional costs and benefits and subsequent engagement. However, greater social and emotional costs and benefits are cross-sectionally associated with greater political interests among adults (Smith et al., 2019) and youth (Oosterhoff et al., 2020) and some evidence suggests that the regulation of negative emotions may suppress political action in adults (Ford, Feinberg, Lam, Mauss, & John 2018). Although limited, there is some research that suggests that greater state-level feelings of political purpose among adults predicts next-day political engagement (Oosterhoff, Whillock, Sanders, & Poppler, 2020) and greater trait-level political purpose predicts political engagement one year later (Malin, Han, & Liauw, 2017). Some evidence indicates that that these effects may be emotion-specific. In college students, anger induced by political ads motivated greater intentions to vote whereas sadness reduced civic intentions (Weber, 2013). Experiencing approach-oriented political emotions such as anger and empowerment, may motivate political

engagement, whereas avoidance-oriented emotions of sadness and regret may motivated youth to withdraw from politics (e.g., Coricelli et al., 2005; Weber, 2013).

Based on past research (Ford et al., 2018), we hypothesized that negative political emotions (i.e., stress, sadness, anger, regret) and positive emotional experiences (i.e., purpose and empowerment) would be associated with greater concordant political engagement. Additionally, we expected that greater anger, empowerment, and purpose would be associated with greater future political engagement, whereas political sadness and regret would be associated with lower future political engagement. Given that political emotional reactions may be a reflection of mental health symptoms (e.g., anxiety or depression) more generally and vary across a variety of demographic characteristics (Oosterhoff et al., 2020), these constructs were included as covariates.

Method

Participants and Procedures

The initial survey was completed by 291 adolescents ages 13-19 years ($M = 16.09$, $SD = 1.22$). Participants completed four measurement waves over the course of one day and on the final measurement occasion, 93% ($n = 270$) were still participating. There were a total of 1,083 observations or an average of 3.72 observations per person. The sample was primarily 10th (23.1%), 11th (26.5%), or 12th (25.5%) graders with fewer 9th (14.1%) graders. Two youth stated that they were not currently in high school. The sample was composed of slightly more females (61.0%) than males (32.1%) with 6.9% indicating a gender other than male or female. The sample was primarily White/Caucasian (78.4%), followed by Hispanic/Latino (13.1%), African American/Black (5.8%), Asian American/Pacific Islander (12.4%), and American Indian/Alaskan Native (4.5%). A total of 1.7% indicated a race other than those listed. As a

proxy for family financial strain (Galinsky, 1999), youth were asked whether their families had: enough money to buy almost anything they wanted (11.0%), no problem buying the things they need and can also sometimes buy special things (57.2%), just enough money for the things they need (26.9%), or a hard time buying the things they need (4.8%).

This study was advertised on various social media platforms (Facebook, Instagram, Twitter, Reddit). Participants self-selected into the study and completed an initial 5-minute survey. Participants also provided their phone numbers to receive text message reminders to complete the EMA portion of the study. Participants completed the initial survey during a sign-up week; then all participants completed the EMA portion of the survey the following Monday. Momentary survey links were sent at to all participants at the following times: 8 AM, 12 PM, 4 PM, and 8 PM. This study involved no more than minimal risk and thus, passive parental permission was used. Upon selecting into the study, participants were given a link to a letter explaining their participation in the study and asked to provide this letter to their parents. All youth provided informed assent were invited to participate. Those who completed the initial survey were entered into a drawing for a \$100 Amazon gift card. This study was approved by the Institutional Review Board at the first author's institution.

Measures

Political Emotional Costs and Benefits. Political emotions were assessed using items adapted from the Political Costs Scale (Smith et al., 2019), which assesses a wide range of political reactions and has been used with adolescents in past research (Oosterhoff et al., 2020). Participants were asked to report the extent to which politics has caused them to experience 6 negative emotional states (i.e., stress, sadness, anger, hatred, guilt, regret) and 2 positive emotional states (i.e., purpose, empowerment) that have been linked with political engagement in

past research (Malin, Liauw, & Damon, 2017; Russell et al., 2009). Participants rated the extent to which they experienced each of these emotions because of politics since they were awake (first time point) or since their last survey (subsequent time points) on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Based on past factor-analytic research (Oosterhoff et al., 2020), these items were combined into 4-subscales including three negative emotional states: *stress/sadness* (2 items; momentary α 's ranged from .83 to .88), *anger* (2 items; momentary α 's ranged from .70 to .77), and *regret* (2 items; momentary α 's ranged from .62 to .71) and one positive emotional state: *empowerment* (2 items; momentary α 's ranged from .83 to .91). Mean scores were calculated with higher values indicating greater political emotions.

Political Intent. Two items assessed the extent to which participants would engage in protesting and voting. Participants were asked “If I could, I would participate in a protest right now” and “If I could, I would vote right now” with responses options given on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Past research that has demonstrated that intent to protest and vote has different developmental correlates (Oosterhoff & Wray-Lake, 2019), thus items were modeled separately.

Political Interest. Political interest was measured with a single item which stated, “Right now, how interested are you in politics?” Responses were provided on a 6-point scale from 1 (*no at all*) to 6 (*extremely interested*), with higher values indicating greater political interest.

Political Efficacy. Political efficacy was measured with a single item which stated, “Right now, I feel well-qualified to participate in politics”. Responses were provided on a 7-point scale from 1 (*strongly disagree*) to 6 (*strongly agree*) with higher values indicating greater political efficacy.

Political Participation. Political engagement was assessed using four-items created for the purpose of this study. Two-items assessed *belief-consistent* political engagement in which participants rated the frequency in which they read political news or had a political discussion that was consistent with their beliefs (i.e., “Since your last survey, how much have you discussed politics with someone who shared your views?”; “Since your last survey, how much have you read or watched political news that shared your views?”) and two items assessed belief-inconsistent political engagement in which participants rated the frequency in which they read political news or had a political discussion that was inconsistent with their beliefs (e.g., “Since your last survey, how much have you discussed politics with someone who did NOT share your views?”; “Since your last survey, how much have you read or watched political news that did NOT share your views?”). Responses were given on a 5-point scale from 1 (*not at all*) to (*the entire time*). Momentary α 's ranged from .63 to .74 for belief-consistent political engagement and .60 to .72 for belief-inconsistent political engagement. Mean scores were calculated for each subscale with higher values indicating greater political engagement.

Anxiety Symptoms. Trait-level anxiety symptoms were assessed at the initial sign-up survey with two items ($\alpha = .82$; i.e., “In the past 7 days, I felt nervous” and “In the past 7 days, I felt worried” taken from the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Responses were given on a 5-point scale from 1 (*never*) to 5 (*almost always*). Mean scores were calculated with higher values indicating greater anxiety symptoms.

Depressive Symptoms. Trait-level depressive symptoms were assessed at the initial sign-up survey with two items ($\alpha = .77$; i.e., “In the past 7 days, I felt sad” and “In the past 7 days, I felt lonely” adapted from the Brief Symptom Inventory (Derogatis & Melisaratos, 1983).

Responses were given on a 5-point scale from 1 (*never*) to 5 (*almost always*). Mean scores were calculated with higher values indicating greater depressive symptoms.

Analytic Technique

Intra-class correlation coefficients (ICCs) were first used to describe within-day variability in political emotions and engagement. Next, six linear mixed-effects modeling were used to examine concordant and longitudinal associations between political emotions and engagement. Data was structured in long format and subject was treated as a random effect with measurement wave nested within person. Concordant negative (i.e., stress/sadness, anger, regret) and positive (i.e., empowerment) political emotions were entered as primary predictor variables. Lagged variables were created for each political emotion and entered into the model to examine longitudinal effects. Indicators of political engagement (protesting intent, voting intent, political interest, political efficacy, belief-inconsistent engagement, and belief-consistent engagement) were specified as outcome variables. All models accounted for participant gender, age, race, financial strain, anxiety symptoms, and depressive symptoms. Analyses were performed in R using the lme4 package (Bates, Sarkar, Bates, & Matrix, 2007). Data and analysis script are available at (https://osf.io/wjqnp/?view_only=13176b0947a04e169530f87d89add7d5). All political emotional costs and benefits items and engagement items are reported.

Missing Data. Multiple imputation was used to estimate the low levels of missing data in this study. Sensitivity analyses indicated that findings were similar in effect sizes and patterns of significance when using multiple imputation compared to listwise deletion.

Results

Table 1 displays the means and correlations among political emotional costs, benefits, and engagement. Most political emotional costs and benefits were moderately and positively

correlated and most forms of political engagement were moderately correlated. Political emotions were positively and moderately correlated with political engagement. ICCs were used to describe within-day variability in political emotions and engagement (see Supplemental File). The between-person variance for the political emotional costs and benefits ranged between 37% and 55% and within-person variability ranged from 45% to 63%. The between-person variance for political participation ranged from 40% and 47% and within-person variability ranged from 53% to 60%, whereas the between person variance for political intent, interest, and efficacy was slightly higher and ranged from 62% to 73% and within-person variability ranged from 27% to 38%. These results indicate adequate within-day variability for the political emotional costs and benefits as well engagement, with slightly less within-day variability for political intent, interest, and efficacy.

Linear mixed-effects models were used to examine concordant and longitudinal associations between political emotional costs and benefits and political engagement. The full mixed-model tables are available in the supplemental file. Figure 1 displays the concordant and longitudinal associations between political emotional costs and benefits and political intent. After accounting for gender, race, age, financial strain, anxiety symptoms, and depressive symptoms, greater political stress/sadness ($B = .05$, $95\%CI = .00, .10$, $p = .046$), anger ($B = .09$, $95\%CI = .03, .14$, $p = .002$), and empowerment ($B = .17$, $95\%CI = .12, .23$, $p < .001$) were associated with greater concordant intent to vote. Greater political anger ($B = .17$, $95\%CI = .10, .25$, $p < .001$) and empowerment ($B = .28$, $95\%CI = .20, .35$, $p < .001$) were also associated with greater concordant intent to protest. Greater political regret was associated with lower concordant intent to protest ($B = -.13$, $95\%CI = -.22, -.03$, $p = .010$). Additionally, greater past political

empowerment was associated with higher next-moment intent to vote ($B = .06$, $95\%CI = .00, .11$, $p = .038$) and protest ($B = .09$, $95\%CI = .02, .17$, $p = .010$).

Figure 2 displays the concordant and longitudinal associations between political emotional costs and benefits and political interest and efficacy. After accounting for gender, race, age, financial strain, anxiety symptoms, and depressive symptoms, greater political anger ($B = .12$, $95\%CI = .06, .18$, $p < .001$) and empowerment ($B = .32$, $95\%CI = .27, .38$, $p < .001$) were associated with greater concordant political interest and greater empowerment ($B = .34$, $95\%CI = .27, .41$, $p < .001$) was associated with greater concordant political efficacy. Additionally, greater past political regret ($B = -.11$, $95\%CI = -.19, -.03$, $p = .005$) was associated with lower next-moment political interest and greater past empowerment was associated with higher next-moment political interest ($B = .12$, $95\%CI = .07-.18$, $p < .001$). Greater past political anger ($B = -.08$, $95\%CI = -.15, -.01$, $p = .023$) was associated with lower next-moment political efficacy and greater empowerment ($B = .11$, $95\%CI = .05, .18$, $p < .001$) was associated with higher next-moment political efficacy.

Figure 3 displays the concordant and longitudinal associations between political emotional costs and benefits and political participation. After accounting for gender, race, age, and financial strain, greater political anger ($B = .05$, $95\%CI = .01, .18$, $p = .016$) and empowerment ($B = .14$, $95\%CI = .11, .18$, $p < .001$) were associated with greater concordant belief-inconsistent political engagement and greater anger ($B = .09$, $95\%CI = .05, .13$, $p < .001$) empowerment ($B = .17$, $95\%CI = .13, .21$, $p < .001$) was associated with greater belief-consistent political engagement. We did not find evidence of lagged associations between political emotions and either belief-consistent or in-consistent engagement.

Discussion

Adolescence is a period characterized by substantial political development and rapid changes in emotional processing. Youths' political experiences are thought to shape and be shaped by emotional experiences (Marcus, 2000), yet few studies have examined the emotional costs and benefits youth experience because of politics and how these reactions are connected with their current and subsequent political engagement. This study used an EMA design to capture youths' political engagement and political emotional experiences throughout one day. Findings indicate that adolescents' political emotions vary throughout the day and demonstrate nuanced concordant and longitudinal associations with engagement. Importantly, these findings held after accounting for demographic characteristics, trait-level anxiety symptoms, and trait-level depressive symptoms.

Consistent with hypotheses, experiencing a greater sense of political empowerment was associated with greater concordant intent to vote and protest, political interest, political efficacy, belief-consistent engagement, and belief-inconsistent engagement. Empowerment is thought to motivate youth political action (Forenza, 2016) and it is possible that the feeling of empowerment promotes a wide range of cognitive and behavior benefits affiliated with political engagement, including attentiveness to politics, beliefs that one is capable of political participation, and motivation to participate in politics. It is also possible that political engagement fuels empowerment, especially if participation results in meaningful change (Beaumont, 2010). Results from this study provide some evidence that empowerment precedes later intent to vote and protest, heightened political interest, and higher political efficacy among youth throughout one day. These results support models of civic engagement that emphasize the role of political empowerment in mobilizing youth and provide some of the first longitudinal empirical evidence of this effect.

Associations between political anger and engagement were mixed. Greater political anger was associated with higher concordant intent to vote and protest, political interest, and both belief-consistent and inconsistent participation. These findings are consistent with past research demonstrating that greater emotion regulation is associated with lower political involvement (e.g., Ford et al., 2018), and research that has specifically linked anger with greater political participation in adults (Valentino, Brader, Groenendyk, Gregorowicz, & Hutchings, 2011). Although political anger is connected with greater momentary engagement in certain facets of political involvement, greater anger was also associated with *lower* next-moment political efficacy. It is possible that anger provides short-term motivation to engage in politics, but ultimately undermines youths' perceived competence in their own abilities to be politically involved. Anger may thus promote short-term political engagement but may also produce conflict that undermines self-confidence. These findings provide an important extension to past research that has emphasized the benefits of anger for political engagement by demonstrating that there are both short-term benefits and long-term disadvantages.

Greater political regret was associated with lower concordant political interest and political efficacy. Feelings of guilt and regret are thought to prompt withdraw or distancing from the event that produced these feelings as a means of avoiding scrutiny or criticism by others (Cohen, Wolf, Panter, & Insko, 2011). Youth who experience political regret become disinterested in politics and have an accompanying feeling of low efficacy as a means of distancing themselves from politics. We did not find evidence that past political regret predicts next moment political engagement, suggesting that the potential negative effects of political regret may be transitory and short lived within a given day. However, these transitory moments may still accumulate overtime and ultimately discourage future youth political action.

We also found that greater political stress/sadness was associated with a higher momentary intent to vote. Youth who experience heightened political stress and sadness may view voting as an important means of reducing future sadness and stress and thus having greater intention to vote. These findings should be interpreted with caution given that they had a relatively weak evidence to reject the null-hypothesis ($p = .046$). Future research is needed to replicate these findings using a larger sample.

Implications for Theory and Practice

Results from this study contribute to theoretical models of youth political action in several ways. Findings highlight the need to examine the role of political emotions within models of adolescent civic development. There have been considerable efforts to understand adolescent civic development as a function of micro-ecological contexts and socialization (see Zaff et al., 2010 for review), yet fewer studies have sought to elucidate the emotional underpinnings of youth civic action. Results from this study demonstrate that youth report a variety of emotional experiences because of politics and these experiences are tied to both momentary and future political engagement. Integrating emotions into models of adolescent political engagement is necessary to provide a more complete understanding of youth civic development.

Findings from this study also highlight the value of examining political development within a short-term, dynamic timeframe. The vast majority of past research has examined adolescent political development over annual assessment periods (Zaff, Hart, Flanagan, Youniss, & Levine, 2010). Some studies have examined political processes using daily diary reports (Wray-Lake et al., 2019; Oosterhoff et al., 2020), however this is the first study to-date to examine within-day fluctuations in political processes among teenagers. For most constructs,

within-person variability ranged from 40%-60% indicating that political interest, efficacy, intent, and engagement have both state and trait-like properties. Understanding state-level individual and emotional differences in momentary fluctuations of adolescent political engagement may be important to advance research on political engagement.

Findings also have implications for applications. Emotional reactions to politics occur within a social context and may therefore be modified. Policy makers seeking to increase youth political action may benefit from identifying ways to promote feelings of personal empowerment and decrease situations that may produce feelings of political regret. These efforts may be especially important during adolescence when youth are forming emotion regulation and civic skills that are thought to accompany them throughout adulthood (Silk, Steinberg, & Morris, 2003; Zaff et al., 2010). Findings from this study further provide an important contingency on the engagement-related benefits of political anger (e.g., Ford et al., 2018), thus calling for future research to examine when and why political anger can be beneficial versus costly for youth political action.

Limitations and Future Directions

Findings should be interpreted in the context of certain limitations. Although an EMA design can offer reliable information about dynamic associations between political emotions and engagement, this study cannot determine causality. Third variables may account for the results found in this study. Additionally, the sample used in this study was composed of primarily White youth and lacks generalizability to other ages and demographic groups. Future studies should examine links between political emotions and engagement among those from diverse demographic backgrounds. To reduce response burden, many constructs in this study were measured with only a few number of items. Although these measures demonstrated adequate

psychometric properties in this study, future research should consider utilizing the full assessments of a wider-variety of political emotions that may be relevant to civic action (Smith et al., 2019). Findings should also be considered in light of the specific sociohistorical context from which this study occurred. It is possible that links between political emotions and engagement during historical periods with varying levels of political polarization. Future research may benefit from utilizing larger sample sizes to capture daily variability in political emotions and engagement when political polarization is low to better understand possible period effects. Additionally, due to structured nature of the EMA protocol, assessments were administered at standardized times throughout the day and were not randomized. This design provided the benefit of tracking political engagement and experiences at equal intervals throughout the day, but may not represent the true range of experiences that may occur throughout other time points of the day. Future research may benefit from utilizing EMA designs that randomly distribute surveys at different times throughout the day.

Conclusion

Adolescence is a time of emotional and political development. Politics represents one context that prompts an array of emotional experiences in youth, yet little is known about what these experiences mean for subsequent engagement. Findings from this study highlight the importance of considering political emotions for adolescent political engagement. Future research should continue to examine the intersection between political emotional costs and benefits and subsequent engagement using longitudinal, within-subject methodology. Understanding the role of emotions for adolescent political development will advance theory and provide direct guidance for programs seeking to enhance the well-being of people and their community.

References

- Bates, D., Maechler, M., & Bolker, B. (2011). *lme4: Linear mixed-effects models using Eigen and Eigen++*. R package version 0.999375-41. <http://CRAN.R-Project.org/package=lme4>.
- Beaumont, E. (2010). Political agency and empowerment: pathways for developing a sense of political efficacy in young adults. In L. R. Sherrod, J. Torney-Purta, & C. A. Flanagan (Eds.), *Handbook of research on civic engagement in youth* (pp. 525–558). Hoboken, New Jersey: John Wiley & Sons.
- Cohen, T. R., Wolf, S. T., Panter, A. T., & Insko, C. A. (2011). Introducing the GASP scale: A new measure of guilt and shame proneness. *Journal of Personality and Social Psychology*, 100, 947–966.
- Coricelli, G., Critchley, H. D., Joffily, M., O'Doherty, J. P., Sirigu, A., & Dolan, R. J. (2005). Regret and its avoidance: a neuroimaging study of choice behavior. *Nature Neuroscience*, 8, 1255-1262.
- Dahl, Ö. (2004). *The growth and maintenance of linguistic complexity*. Amsterdam, The Netherlands & Philadelphia, PA: John Benjamins Publishing.
- Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. *Psychological Medicine*, 13, 595-605.
- Dumontheil, I. (2014). Development of abstract thinking during childhood and adolescence: The role of rostral lateral prefrontal cortex. *Developmental Cognitive Neuroscience*, 10, 57-76.
- Erikson, E. H. (1968). *Identity: Youth and crisis* (No. 7). New York, NY & London, United Kingdom: W.W. Norton & Company.
- Ford, B. Q., Feinberg, M., Lam, P., Mauss, I. B., & John, O. P. (2018). Using reappraisal to regulate negative emotion after the 2016 US Presidential election: Does emotion

- regulation trump political action?. *Journal of Personality and Social Psychology*, 117, 998–1015.
- Forenza, B. (2016). Psychological empowerment and the pursuit of social change: Outcomes of foster youth engagement. *Journal of Public Child Welfare*, 10, 274-290.
- Galinsky, E. (1999). *Ask the children: What America's children really think about working parents*. New York, NY: William Morrow and Company, Inc.
- Glanville, J. L. (1999). Political socialization or selection? Adolescent extracurricular participation and political activity in early adulthood. *Social Science Quarterly*, 80, 279-290.
- Larson, R. W., Moneta, G., Richards, M. H., & Wilson, S. (2002). Continuity, stability, and change in daily emotional experience across adolescence. *Child Development*, 73, 1151-1165.
- Malin, H., Han, H., & Liauw, I. (2017). Civic purpose in late adolescence: Factors that prevent decline in civic engagement after high school. *Developmental Psychology*, 53, 1384–1397.
- Malin, H., Liauw, I., & Damon, W. (2017). Purpose and character development in early adolescence. *Journal of Youth and Adolescence*, 46, 1200-1215.
- Marcus, G. E., Neuman, W. R., & MacKuen, M. (2000). *Affective intelligence and political judgment*. Chicago, IL: University of Chicago Press.
- McIntosh, H., Hart, D., & Youniss, J. (2007). The influence of family political discussion on youth civic development: Which parent qualities matter?. *PS: Political Science & Politics*, 40, 495-499.

- Nesselroade, J. R. (1991). Interindividual differences in intraindividual change. In L. M. Collins & J. L. Horn (Eds.), *Best methods for the analysis of change: Recent advances, unanswered questions, future directions* (p. 92–105). American Psychological Association.
- Oosterhoff, B., & Wray-Lake, L. (2019). Risky politics? Associations between adolescent risk preference and political engagement. *Child Development*. [Online]
<https://doi.org/10.1111/cdev.13313>
- Oosterhoff, B., Whillock, S., Sanders, C., & Poppler, A. (2019, October). Longitudinal associations between character strengths and civic Action: A daily diary study. Retrieved from psyarxiv.com/jmf9s/.
- Oosterhoff, B., Poppler, A., Hill, R.M., & Fitzgerald, H., & Shook, N.J. (2020, March). The Costs and benefits of adolescent political engagement among diverse youth. Retrieved from psyarxiv.com/3uc8g.
- Paus, T., Keshavan, M., & Giedd, J. N. (2008). Why do many psychiatric disorders emerge during adolescence?. *Nature Reviews Neuroscience*, 9, 947-957.
- Ram, N., & Gerstorf, D. (2009). Time-structured and net intraindividual variability: Tools for examining the development of dynamic characteristics and processes. *Psychology and Aging*, 24, 778–791.
- Ram, N., Conroy, D. E., Pincus, A. L., Lorek, A., Rebar, A., Roche, M. J.,...Gerstorf, D. (2014). Examining the interplay of processes across multiple time-scales: Illustration with the intraindividual Study of Affect, Health, and Interpersonal Behavior (iSAHIB). *Research in Human Development*, 11, 142–160.

- Russell, S. T., Muraco, A., Subramaniam, A., & Laub, C. (2009). Youth empowerment and high school gay-straight alliances. *Journal of Youth and Adolescence*, 38, 891-903.
- Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, 4, 1-32.
- Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' emotion regulation in daily life: Links to depressive symptoms and problem behavior. *Child Development*, 74, 1869-1880.
- Smith, K. B., Hibbing, M. V., & Hibbing, J. R. (2019). Friends, relatives, sanity, and health: The costs of politics. *PloS One*, 14, 1-13.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78-106.
- Valentino, N. A., Brader, T., Groenendyk, E. W., Gregorowicz, K., & Hutchings, V. L. (2011). Election night's alright for fighting: The role of emotions in political participation. *The Journal of Politics*, 73, 156-170.
- Weber, C. (2013). Emotions, campaigns, and political participation. *Political Research Quarterly*, 66, 414-428.
- Wray-Lake, L., DeHaan, C. R., Shubert, J., & Ryan, R. M. (2019). Examining links from civic engagement to daily well-being from a self-determination theory perspective. *The Journal of Positive Psychology*, 14, 166-177.
- Yates, M., & Youniss, J. (1998). Community service and political identity development in adolescence. *Journal of Social Issues*, 54, 495-512.
- Zaff, J. F., Hart, D., Flanagan, C. A., Youniss, J., & Levine, P. (2010). Developing civic engagement within a civic context. In M. E. Lamb, & A.M. Freund (Eds.), *Social and*

emotional development. The handbook of life-span development, Vol. 2. (pp. 590-630).

Hoboken, NJ: Wiley (Editor-in-chief: Richard M. Lerner).

Table 1

Means, standard deviations, and correlations with confidence intervals

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	16.09	1.22															
2. Gender	1.88	0.96	-.04														
3. Race: White	0.78	0.41	-.01	.05													
4. Financial Strain	2.74	0.71	.07*	-.04	.05												
5. Anxiety Symptoms	3.36	0.99	-.06*	.31*	-.02	-.10*											
6. Depressive Symptom	3.13	0.99	-.11*	.32*	-.05	-.18*	.57*										
7. Stress/Sadness	3.38	1.75	-.04	.12*	-.02	-.07*	.30*	.25*									
8. Anger	3.31	1.74	-.09*	.09*	.01	-.11*	.31*	.22*	.61*								
9. Regret	2.41	1.27	-.07*	-.01	-.06*	-.07*	.18*	.10*	.35*	.41*							
10. Empowerment	3.77	1.70	-.00	.07*	-.09*	.01	.09*	.03	.52*	.35*	.29*						
11. Interest	4.20	1.53	-.01	-.03	.03	.01	.10*	.05	.34*	.29*	.12*	.54*					
12. Efficacy	5.00	1.71	.05	-.03	.08*	.00	.04	.02	.24*	.15*	.03	.47*	.64*				
13. Protest Intent	4.97	2.06	-.03	.19*	.01	-.07*	.28*	.25*	.40*	.36*	.09*	.40*	.51*	.43*			
14. Vote Intent	5.97	1.58	.08*	.05	.09*	.01	.22*	.08*	.33*	.28*	.12*	.37*	.49*	.54*	.52*		
15. Belief-Incon. Part.	1.75	0.87	-.10*	-.06*	-.07*	-.03	.04	-.05	.27*	.24*	.22*	.39*	.31*	.24*	.19*	.16*	
16. Belief-Con Part.	2.03	0.95	-.09*	-.05	-.04	-.05	.09*	-.01	.38*	.36*	.24*	.47*	.40*	.32*	.27*	.24*	.70*

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. * indicates $p < .05$. Belief-Incon. Part. = Belief-Inconsistent Participation. Belief-Con. Part. = Belief-Consistent Participation.

Figure 1. Same Moment (Figure 1a) and Lagged Effects (Figure 1b) of Political Emotional Costs and Benefits on Political Intent.

Figure 2. Same Moment (Figure 2a) and Lagged Effects (Figure 2b) of Political Emotional Costs and Benefits on Political Interest and Efficacy.

Figure 3. Same Moment (Figure 3a) and Lagged Effects (Figure 3b) of Political Emotional Costs and Benefits on Political Participation.

Supplemental File

1. Intra-Class Correlation Coefficients for Adolescent Political Emotions and Engagement
2. Linear Mixed-Models for Political Emotional Costs and Benefits and Political Intent
3. Linear Mixed-Models for Political Emotional Costs and Benefits and Political Interest and Efficacy
4. Linear Mixed-Models for Political Emotional Costs and Benefits and Political Participation

Table 1

Intra-Class Correlation Coefficients for Adolescent Political Emotions and Engagement

Construct	ICC
Stress/Sadness	.37
Anger	.50
Regret	.48
Empowerment	.55
Protesting Intent	.73
Vote Intent	.72
Political Interest	.71
Political Efficacy	.62
Belief-Inconsistent Participation	.47
Belief-Consistent Participation	.40

Notes: ICCs represent the proportion of variance attributed to between-person differences.

Table 2

Linear Mixed-Models for Political Emotional Costs and Benefits and Political Intent

<i>Predictors</i>	Intent to Vote			Intent to Protest		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	1.76	-0.35 – 3.88	0.102	1.15	-1.48 – 3.77	0.392
Gender	-0.05	-0.21 – 0.11	0.511	0.20	0.00 – 0.40	0.045
Age	0.12	0.00 – 0.24	0.046	0.00	-0.14 – 0.15	0.990
Race: White	0.42	0.07 – 0.77	0.019	0.18	-0.25 – 0.61	0.417
Financial Strain	0.05	-0.15 – 0.25	0.633	0.00	-0.25 – 0.25	0.993
Anxiety Symptoms	0.24	0.08 – 0.40	0.003	0.04	-0.16 – 0.24	0.690
Depressive Symptoms	0.01	-0.16 – 0.17	0.930	0.33	0.11 – 0.54	0.003
Political Stress/Sadness	0.05	0.00 – 0.10	0.046	0.05	-0.02 – 0.11	0.143
Political Anger	0.09	0.03 – 0.14	0.002	0.17	0.10 – 0.25	<0.001
Political Regret	-0.05	-0.12 – 0.02	0.132	-0.13	-0.22 – -0.03	0.010
Political Empowerment	0.17	0.12 – 0.23	<0.001	0.28	0.20 – 0.35	<0.001
Stress/Sadness Lag	0.02	-0.04 – 0.08	0.446	0.06	-0.02 – 0.15	0.130
Anger Lag	-0.03	-0.09 – 0.03	0.302	-0.00	-0.08 – 0.08	0.986
Regret Lag	-0.03	-0.09 – 0.04	0.411	0.01	-0.08 – 0.09	0.909
Empowerment Lag	0.06	0.00 – 0.11	0.038	0.09	0.02 – 0.17	0.010
Random Effects						
σ^2	0.54			1.08		
τ_{00}	1.37 subject			2.01 subject		
N	291 subject			291 subject		
Marginal R^2 / Conditional R^2	0.150 / 0.759			0.242 / 0.735		

Table 3

Linear Mixed-Models for Political Emotional Costs and Benefits and Political Interest and Efficacy

<i>Predictors</i>	Political Interest			Political Efficacy		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	2.29	0.43 – 4.15	0.016	2.03	-0.08 – 4.13	0.059
Gender	-0.15	-0.29 – -0.01	0.031	-0.14	-0.30 – 0.01	0.071
Age	-0.02	-0.12 – 0.09	0.742	0.06	-0.05 – 0.18	0.287
Race: White	0.24	-0.07 – 0.54	0.132	0.44	0.10 – 0.79	0.012
Financial Strain	0.07	-0.11 – 0.25	0.454	0.01	-0.19 – 0.21	0.899
Anxiety Symptoms	-0.00	-0.15 – 0.14	0.955	0.02	-0.15 – 0.19	0.807
Depressive Symptoms	0.03	-0.13 – 0.18	0.731	0.11	-0.06 – 0.28	0.206
Political Stress/Sadness	0.02	-0.03 – 0.07	0.412	0.03	-0.02 – 0.09	0.254
Political Anger	0.12	0.06 – 0.18	<0.001	0.03	-0.03 – 0.10	0.335
Political Regret	-0.05	-0.12 – 0.03	0.217	-0.11	-0.19 – -0.03	0.007
Political Empowerment	0.32	0.27 – 0.38	<0.001	0.34	0.27 – 0.41	<0.001
Stress/Sadness Lag	0.02	-0.05 – 0.08	0.604	0.02	-0.05 – 0.10	0.516
Anger Lag	-0.01	-0.07 – 0.06	0.823	-0.08	-0.15 – -0.01	0.023
Regret Lag	-0.04	-0.10 – 0.03	0.263	0.02	-0.05 – 0.10	0.538
Empowerment Lag	0.12	0.07 – 0.18	<0.001	0.11	0.05 – 0.18	<0.001
Random Effects						
σ^2	0.66			0.85		
τ_{00}	0.96 subject			1.22 subject		
N	291 subject			291 subject		
Marginal R ² / Conditional R ²	0.269 / 0.700			0.204 / 0.675		

Table 4

Linear Mixed-Models for Political Emotional Costs and Benefits and Political Participation

<i>Predictors</i>	Belief-Inconsistent Engagement			Belief-Consistent Engagement		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	2.92	1.80 – 4.04	<0.001	2.43	1.33 – 3.53	<0.001
Gender	-0.05	-0.14 – 0.03	0.216	-0.09	-0.17 – -0.01	0.037
Age	-0.09	-0.15 – -0.03	0.005	-0.06	-0.12 – -0.00	0.047
Race: White	-0.08	-0.26 – 0.11	0.420	-0.00	-0.18 – 0.18	0.988
Financial Strain	-0.04	-0.15 – 0.06	0.414	-0.09	-0.20 – 0.01	0.090
Anxiety Symptoms	0.02	-0.07 – 0.11	0.695	0.05	-0.04 – 0.14	0.324
Depressive Symptoms	-0.11	-0.20 – -0.02	0.020	-0.09	-0.18 – 0.00	0.061
Political Stress/Sadness	-0.00	-0.04 – 0.03	0.936	0.03	-0.01 – 0.06	0.162
Political Anger	0.05	0.01 – 0.08	0.016	0.09	0.05 – 0.13	<0.001
Political Regret	0.03	-0.02 – 0.07	0.288	0.01	-0.04 – 0.07	0.573
Political Empowerment	0.14	0.11 – 0.18	<0.001	0.17	0.13 – 0.21	<0.001
Stress/Sadness Lag	-0.01	-0.05 – 0.03	0.585	0.02	-0.02 – 0.07	0.329
Anger Lag	0.02	-0.03 – 0.06	0.468	-0.03	-0.07 – 0.02	0.244
Regret Lag	0.01	-0.03 – 0.06	0.563	0.00	-0.04 – 0.05	0.884
Empowerment Lag	0.01	-0.02 – 0.05	0.466	0.02	-0.02 – 0.06	0.281
Random Effects						
σ^2	0.30			0.39		
τ_{00}	0.32 subject			0.27 subject		
N	291 subject			291 subject		
Marginal R ² / Conditional R ²	0.156 / 0.595			0.226 / 0.546		