

## Aging and Emotion Regulation Tactics Across the Historical Events of 2020

Hannah E. Wolfe, MS,\* and Derek M. Isaacowitz, PhD

Department of Psychology, Northeastern University, Boston, Massachusetts, USA

\*Address correspondence to: Hannah Wolfe, MS, 125 Nightingale Hall, Department of Psychology, Northeastern University, 105-107 Forsyth St., Boston, MA 02115 USA. E-mail:

[wolfe.h@northeastern.edu](mailto:wolfe.h@northeastern.edu)

## Abstract

**Background and Objectives:** Despite well-documented cognitive and physical declines with age, older adults tend to report higher emotional wellbeing than younger adults, even during the Coronavirus Disease-2019 (COVID-19) pandemic. To understand this paradox, as well as investigate the effects of specific historical contexts, the current study examined age differences in emotion regulation related to the events of 2020 in the United States. We predicted that, due to older adults' theorized greater prioritization of hedonic goals and avoidance of arousal, older adults would report more positivity-upregulation and acceptance tactics than younger adults.

**Research Design and Methods:** 81 younger adults (ages 18-25) and 85 older adults (age 55+) completed a retrospective survey on their emotion regulation tactic usage for three specific events: the COVID-19 pandemic outbreak, the killing of George Floyd, and the presidential election.

**Results:** Older adults tended to rely most on acceptance-focused tactics, while younger adults tended to rely on a more even variety of tactics. However, age differences in tactic preferences varied by event, possibly due to younger adults' greater emotion regulation flexibility.

**Discussion and Implications:** Older adults' higher emotional well-being may not be primarily a result of age differences in positivity-related emotion regulation tactics, but more about differences in acceptance use.

**Keywords:** Acceptance, Positivity, COVID-19, Context effects

## Background and Objectives

Older adults tend to report less negative affect than younger adults; predominant theories suggest that this is due to age differences in motivations leading to differences in emotion regulation behaviors. For instance, socioemotional selectivity theory (SST) posits that reduced future time horizons (typically associated with age) drive people to prioritize seeking out more pleasant affect (Carstensen, 2006). Similarly, the strength and vulnerability integration (SAVI) model posits that age-related bodily changes lead to greater avoidance of high-arousal emotions (Charles, 2010). Older adults do, in fact, report reduced high-arousal negative affect and increased low-arousal positive affect compared to younger adults (Kessler & Staudinger, 2009). Thus, affective aging is often characterized in the literature by its “positivity” (e.g., Charles & Carstensen, 2010) and age x valence interactions in emotional processing are referred to as “age-related positivity effects” (Mather & Carstensen, 2005), suggesting older adults may generally rely more on positivity-seeking emotion regulation behaviors.

Alternatively, more recent work has investigated how acceptance may help explain older adults’ more positive affective outcomes (e.g., Shallcross et al., 2013) and align with their arousal-avoidant goals (e.g., Campbell-Sills et al., 2006). While age differences in emotional well-being appear robust-- even through the Coronavirus Disease-2019 (COVID-19) pandemic (e.g., Cunningham et al., 2021)-- more work is needed to understand age differences in emotion regulation behaviors by teasing apart positivity- versus negativity- versus acceptance-related tactics, as well as studying what particular contexts may moderate these age differences. For example, are different historical events associated with different age-related patterns of emotion regulation? In the current study, we considered the specific historical events of 2020.

## Emotion Regulation Tactics and Aging

### *Valence-based tactics*

Emotion regulation is typically investigated through the lens of Gross' process model, which outlines five specific emotion regulation strategy types: situation selection, situation modification, attentional deployment, cognitive change, and response modulation (Gross, 1998). These five strategies can be broken down into *tactics*, which describe how a strategy is implemented (e.g., Livingstone & Isaacowitz, 2021; McRae et al., 2012). *Positivity-upregulation* tactics involve introducing positive aspects to an ongoing experience, while *negativity-downregulation* tactics involve reducing negative aspects. For instance, situation modification can be implemented with a positivity-upregulation tactic, such as listening to upbeat music during a long commute to work, or with a negativity-downregulation tactic, such as taking a shortcut. Other strategies can be implemented in similar ways, such as reappraising a scenario to emphasize its positivity (e.g., "the snowstorm will leave the landscape looking so beautiful") or to reduce its negativity (e.g., "the snowstorm could have been a lot worse"). *Negativity-upregulation* is a less frequent and less hedonic tactic-- as it involves engaging with or introducing negative aspects in a situation (e.g., choosing to watch a horror film)-- but it is still important to include when studying age differences in emotion regulation, given its occurrence in younger adults especially (e.g., Riediger et al., 2009; Wolfe & Isaacowitz, 2022).

The current study focused on tactics specifically: while less work has been done on changes in tactic preferences across the lifespan, we believe potential age differences in the *implementation* of strategies (i.e., tactics) is conceptually interesting and may potentially yield greater age-related differences than measuring strategies alone. Aging is often characterized by general affective "positivity" and measuring emotion regulation tactics allows for an examination of this notion by comparing older adults' relative use of positivity- versus negativity-focused tactics.

Previous research suggests that older adults use more positivity-upregulation and less negativity-upregulation tactics in their everyday life than younger adults (Wolfe & Isaacowitz, 2022). However, one laboratory study found relative age similarity for these tactics (Livingstone & Isaacowitz, 2019). Furthermore, an experience sampling study found that older adults reported greater positivity-upregulation but no age differences for negativity-downregulation, nor negativity-upregulation (Livingstone & Isaacowitz, 2021). *Thus, while prior empirical evidence (from both laboratory and ESM work) is mixed, we drew upon SST's focus on prohedonic motives in older adulthood and the bulk of empirical evidence to date by first hypothesizing (H1) that older adults will rely on positivity-upregulation tactics significantly more than any other strategy (H1a) and more than younger adults (H1b).*

#### *Acceptance tactics*

One emotion regulation strategy not explicitly included in the process model is *acceptance*, which involves engaging with an ongoing event or the emotion that event elicits as they naturally unfold, rather than actively trying to make yourself feel better (e.g., after an aggressive driver cuts you off, you say "it is what it is" [situation-focused acceptance] or you allow yourself to feel angry [emotion-focused acceptance]). Acceptance is conceptually different from the valence-based tactics described above, because positive/negative aspects are not being introduced or reduced; there is no intentional attempt to either upregulate or downregulate any aspect of the emotional experience. Acceptance is theorized to reduce emotional and physiological reactivity (Lindsay & Creswell, 2017), which according to SAVI, aligns with older adults' affective goals. Importantly, prior work has found age-related increases in acceptance use in moderately intense contexts that evoked sadness or anxiety (Schirda et al., 2016), as well as in the early stages of the COVID-19 pandemic (Wolfe & Isaacowitz, 2022), suggesting that this tactic may also reveal age differences, especially in certain historical contexts. *Thus, our second hypothesis (H2) was that acceptance would also be used significantly more by older adults than younger adults.*

## Context Effects and Emotion Regulation Flexibility

We chose to study historical events because other more common methods of investigating age differences in emotion regulation have important trade-offs. In laboratory studies, age differences in emotion regulation preferences are typically investigated within one context by exposing younger and older adults to normed emotional stimuli while their regulation behaviors are measured. For instance, participants may view affective images on a laboratory computer while their eye movements are tracked to assess whether one age group engages more in negativity-downregulation (i.e., looking away from the most negative parts of the images). In contrast, experience sampling methods (ESM) intermittently survey participants (usually via a mobile device) as they go about their everyday lives, with the goal of catching natural instances of emotion regulation across various contexts. Thus, ESM typically captures a variety of more salient emotional events, achieving greater ecological validity and allowing for an assessment of general context effects, including emotion regulation flexibility (i.e., deploying different tactics to match different contexts; Aldao et al., 2015). The ability to assess emotion regulation flexibility is particularly relevant for studies of aging because flexibility is a facet of emotion regulation that is thought to be adaptive (e.g., Bonanno et al., 2004; Haines et al., 2016), and older adults are often considered “better” regulators (e.g., Urry & Gross, 2010, p. 353), suggesting older adults may exhibit greater emotion regulation flexibility.

However, unlike the normed stimuli used in laboratory settings, ESM is often limited by the variability in emotion-eliciting contexts across individuals or age groups, which can introduce additional confounding factors. For instance, one participant might be an older adult attending a wedding while a different participant may be a younger adult studying for a final exam when they are both alerted to fill out a survey. It would be difficult to draw conclusions about how these age groups differed in their emotion regulation preferences because of the difference in events. This is important because while some ESM work suggests older adults rely more on positivity-upregulation

tactics (Livingstone & Isaacowitz, 2021) and, unexpectedly, exhibit reduced emotion regulation flexibility compared to younger adults (Eldesouky & English, 2018), this may be because they experience a lower amount and diversity of stressful contexts (Brose et al., 2013). However, very few studies have directly investigated age-related changes in emotion regulation flexibility (see Eldesouky & English, 2018; Benson et al., 2019). Therefore, to best measure emotion regulation preferences and flexibility in age-related studies outside of the lab, researchers would need to survey both age groups across the same contexts, so that group-level tactic preferences (e.g., *do older adults regularly prefer positivity-upregulation more than younger adults?*) can be teased apart from context effects (e.g., *do certain contexts consistently elicit more positivity-upregulation?*) and so that flexibility can be assessed across the same set of contexts (e.g., *are older adults truly less flexible in their regulation?*).

Historical events provide a unique opportunity to assess emotion regulation in contexts that are much less individual-specific than what ESM typically captures, but much more salient than laboratory stimuli. Using publicly-experienced events as emotion-eliciting stimuli holds (objective) contextual factors of an event consistent across individuals, allowing researchers to control extraneous variables (e.g., context variability across participants) and focus on specific context effects and age differences in emotion regulation. In a study that measured emotions following the 2013 Boston Marathon bombings, Ford et al. (2018) explain, “examining age-related differences in emotional reactions to a public event can allow researchers to isolate cognitive processes affected by aging, controlling for the remoteness and content of the event” (p. 419-420). Thus, by studying peoples’ emotion regulation behaviors during the events of 2020, the current study sought to build upon previous laboratory and ESM work (e.g., Livingstone & Isaacowitz, 2021; Scheibe & Moghimi, 2021; Schirda et al., 2016) to more precisely understand how emotion regulation may differ across age groups and across particularly important historical contexts.

## Historical Importance of 2020 Events

Numerous events contributed to making 2020 an emotional and historically important time period. Researchers observed record lows of self-reported happiness (Blanchflower & Graham, 2021), and marked increases in feelings of isolation, anxiety, irritability, and depression. Compared to the terrorist attacks in the U.S. that occurred on September 11, 2001, Americans reported fewer positive emotions and more negative emotions in 2020. And compared to the Kennedy assassination, more people reported losing their temper (NORC, 2021). While the COVID-19 pandemic was a prominent event contributing to these reductions in emotional well-being, other events evoked similar emotions and will be equally remembered for their historical significance, including the killing of George Floyd by former police officer Derek Chauvin (who was later convicted of this murder) and the presidential election between former-president Donald Trump and current-president Joe Biden. For instance, the percent of Americans reporting anger and sadness rose by 50% the week after George Floyd was killed (Eichstaedt et al., 2021). And a greater percentage of Americans claimed that the 2020 presidential election was a significant source of stress in their life (68%) compared to the 2016 election (52%; American Psychological Association, 2020). In sum, 2020 contained multiple emotional and unique events, and theorists have argued that major historical events like these represent key developmental influences (Baltes et al., 1980), making 2020 a useful period to consider the effects of historical context on age differences in emotion regulation.

## Current Study

Despite an overall decrease in people's happiness (Blanchflower & Graham, 2021), age-related advantages in emotional well-being were maintained during 2020 (e.g., Cunningham et al., 2021; Carstensen et al., 2020). The current study's primary research question was whether younger and older adults differed in their emotion regulation tactic preferences across three specific historical contexts of 2020: the outbreak of the COVID-19 pandemic, the killing of George Floyd, and the presidential election. In line with previous findings (Livingstone & Isaacowitz, 2021; Wolfe &



Isaacowitz, 2022), we hypothesized that positivity-upregulation (H1) and acceptance (H2) tactics would show the greatest age differences, with older adults relying on these tactics more so than younger adults.

We did not have specific *a priori* predictions as to whether potential age differences in emotion regulation would vary by event; the three events were used to gain a more complete understanding of regulation preferences throughout 2020 and to assess potential age differences in emotion regulation flexibility. Additionally, exploratory analyses were used to assess what specific contextual factors (subjective valence, arousal, and importance ratings related to the event) may have influenced real-world emotion regulation behaviors. We did not have specific *a priori hypotheses* about age differences in emotion regulation flexibility or about the relationships between context perceptions and emotion regulation behaviors, given the limited prior work on both empirical questions; rather, these served as descriptive exploratory analyses.

## Research Design and Methods

### Participants

81 younger adults (18-25 years;  $M_{age} = 19.3$ ) were recruited through Northeastern University's undergraduate Psychology pool and received course credit for participation. 85 older adults (55+ years;  $M_{age} = 65.2$ ) with a minimum approval rating of 95% were recruited through Amazon Mechanical Turk and compensated for their participation. Sample size was determined through an *a priori* power analysis using effect sizes for age differences in acceptance use during the COVID-19 outbreak (from Wolfe & Isaacowitz, 2022), which determined that a minimum total sample of 156 participants (78 per age group) would be needed for  $d=.40$  with 80% power; we aimed to recruit 80-85 per group in case of data loss. All participants were required to have been residing in the United States for the entire duration of 2020. Data collection took place February 1-16, 2021. Participants were excluded if they failed one or more attention checks.

## Measures

### *Demographic Questionnaire*

Participants first reported their gender identity from the options: male, female, self-identify as [optional write-in textbox], prefer not to say. They also reported their racial identity from a checklist of options: White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, self-identify as [optional write-in textbox]. To assess potential differences in age group diversity, minority groups were defined as Black/African American, American Indian/Alaska Native, Asian, and Native Hawaiian/Pacific Islander. Ethnicity was assessed from the options: Hispanic/Latino/a, Non-Hispanic, prefer not to say. The highest level of education participants had completed was selected from the options: some high school, high school, some college, bachelor's degree, master's degree, doctorate of professional degree. Participants rated their health at the current moment on a 1-5 Likert scale from 'poor' to 'excellent.' Participants were asked whether their employment status had been affected by the COVID-19 pandemic (yes/no) and their political affiliation (Democrat, Republican, Independent, other [write-in box], prefer not to say). Finally, participants provided a date of birth to confirm their age and reported on whether or not they had resided in the United States for the entire duration of 2020.

### *Subjective Event Perceptions Rating*

Each historical event was separately rated by the participant on valence, arousal, and perceived importance. Valence ("Overall, how pleasant/unpleasant did this event make you feel?") and arousal ("Overall, how activated/deactivated did this event make you feel? Activation can mean tense or excited, while deactivated can mean calm or bored.") were rated on a 1-7 Likert scale from 'very unpleasant' to 'very pleasant' for valence and 'very deactivated' to 'very activated' for arousal. Importance ("How would you rate the importance of this event?") was rated on a 1-5 Likert scale from 'not at all important' to 'extremely important.'

### *Emotion Regulation Tactic Use Branching Response*

Participants reported which emotion regulation strategies/tactics they used during the historical events through a branching response paradigm. For each event, participants were first asked whether they used each of the five main emotion regulation strategy types laid out by the process model (specifically: select a situation, take action/change a situation, shift your attention, rethink/cognitive change, change your expression), as well as 'person selection' and 'acceptance.' Participants were presented with a definition of each strategy and its associated tactics (see Supplemental Materials for a complete list of strategies and tactics included). If they responded 'yes' to using a strategy, they were then asked how they implemented that strategy (i.e., which tactic(s) they used) and how often they used each tactic (rarely, sometimes, very often). For instance, if a participant responded "yes" to using situation selection (a strategy), they would then be asked whether they avoided negative situations, sought out positive situations, and/or sought out negative situations (i.e., the tactics associated with situation selection), as well as how often they used any tactic that they selected. Participants could select a minimum of 1 and maximum of 3 tactics for each strategy they reported using (see Supplemental Materials for a figure of the branching response organization and wording of all strategy and tactic questions).

We grouped similar tactics from across the different strategies into four tactic types: positivity-upregulation, negativity-downregulation, negativity-upregulation, and acceptance (tactic categories were drawn from Livingstone & Isaacowitz, 2021; see also Livingstone & Isaacowitz, 2016, Livingstone & Isaacowitz, 2019, Wolfe et al., *in press* for further discussion and studies using similar tactic categorization). Some tactics do not carry a clear valence in their definition; for example, general expressive suppression and distancing could be directed toward or away from either positive or negative content. Because they do not fit clearly in a valence-based category, these tactics were categorized as "Other". A list of tactics by category can be found in the Supplemental Materials.

Because we were interested in the types of tactics that younger and older adults relied on most in responding to historical events, analyses focus only on the tactics that participants reported using “*very often*”. To control for potential age-related or individual differences in the total number of tactics reported, the main analyses use proportions, which were created by dividing the number of tactics a person reported in each tactic category *very often* by the total number of tactics they reported using *very often*, for each event (e.g., a participant who reported using 1 acceptance tactic very often and 2 positivity-upregulation tactics very often would have scores of .33 and .66, respectively). These proportions served as our main dependent variable. In sum, we analyzed what proportion of participants’ most frequently used emotion regulation tactics were positivity-upregulation, negativity-upregulation, negativity-downregulation, or acceptance tactics.

#### *Emotion Regulation Flexibility*

Emotion regulation flexibility was measured using two different indices, in line with Eldesouky & English (2018): categorical variability (the range of tactics used within one event) and temporal flexibility (the variability in tactic use across events). Categorical variability was calculated for each event separately by summing the number of tactic categories used by an individual (ranging from 0-4) during that event. We used this measure to assess how the categorical variability (or diversity) of younger and older adults’ repertoires differed for each event. Temporal flexibility was calculated by computing the standard deviation of the frequency of use for each tactic category across the three events. We used this measure to assess age differences in flexibility of employing the various tactics across events.

## Procedure

The online survey began with the demographics questionnaire. After this, participants were told they would be asked to reflect back on specific events of 2020 and answer questions about if/how they regulated their emotions related to these events. Each event (the COVID-19 pandemic outbreak, the killing of George Floyd, and the presidential election) comprised its own block and the order of the blocks was randomized across participants.

Each block began with a short description of the event (see Supplemental Materials) and participants were asked to take two minutes to reflect back on the event: "Please try to recall specific memories associated with this event and how they made you feel." They were also presented with a textbox where they were encouraged to write down any specific emotional memories or "ways they handled these emotions." Participants were required to remain on this reflection page for two minutes, after which they could progress to the main emotion regulation questions. The responses in the boxes were not analyzed; the textbox merely served as a space for reflection and memory retrieval to help participants think about the relevant event prior to the main emotion regulation questions (see also Talarico et al., 2004; Kennedy et al., 2004).

The main emotion regulation section began with the subjective event perceptions rating (i.e., valence, arousal, and perceived importance ratings) for that event. After this, participants reported which emotion regulation strategies/tactics they used during that event via the emotion regulation branching response.

## Plan of Analysis

We were first interested in how "even" or "uneven" an age group's repertoire was in order to understand whether certain tactics were prioritized over others, testing H1a. To assess this, we used paired t-tests with Bonferroni corrections,  $\alpha = .008$ , to compare the prevalence of each tactic type (e.g., Is 40% positivity-upregulation significantly greater than 30% acceptance?). Next, we

tested H1b and H2 by examining age differences for each tactic category (i.e., did one age group use a tactic more than the other group?) using one-way ANOVAs. All analyses were conducted using IBM SPSS Statistics for Mac, version 27 (IBM Corp., Armonk, N.Y., USA).

## Results

### Demographics

Age differences in demographic variables are presented in the Supplemental Materials. While the younger adult sample was more racially (37% minority) and ethnically diverse (15% Hispanic/Latinx) and contained more Democrats (62%) than the older adult sample (10% minority; 2% Hispanic/Latinx; 49% Democrats), this difference is fairly representative of the United States population as whole (Pew Research Center, 2018; Schaeffer, 2019). A one-way ANOVA revealed few differences in tactic preferences across race and ethnic groups, suggesting that key age-related patterns were not driven solely by differences in age group diversity.

### Subjective Event Perceptions

First, to characterize how participants viewed the three historical events, we used 2 (age group) x 3 (event) mixed ANOVAs to assess (a) how the events differed from one another on valence, arousal and importance perceptions and (b) whether there were any significant age differences in these perceptions (see Table 1 for post-hoc analyses). Bonferroni corrections were applied to all post-hoc analyses.

#### *Valence Ratings*

The 2 (age group) x 3 (event) mixed ANOVA for valence ratings revealed a significant main effect of event,  $F(2, 328) = 45.90, p < .001$ ; post-hoc analyses showed that, across all participants, the election was rated as the most positively-valenced event,  $p$ 's  $< .001$ . There was not a significant main effect of age,  $F(2, 328) = 1.85, p = .159$ , and age group did not interact with event to predict

valence ratings,  $F(1, 164) = 1.75, p = .188$ , meaning younger and older adults rated each event's valence similarly. This latter finding suggests that there was a lack of an age-related "positivity effect" in remembered experience.

#### *Arousal*

The 2 (age group) x 3 (event) mixed ANOVA for arousal ratings revealed a significant main effect of event,  $F(2, 328) = 15.09, p < .001$ ; post-hoc analyses showed that the pandemic outbreak was rated as the least arousing event,  $p$ 's  $< .001$ , but the other two events did not differ from each other,  $p$ 's  $> .05$ . The ANOVA also revealed a significant interaction between age group and event,  $F(2, 328) = 11.53, p < .001$ ; post-hoc analyses showed that older adults rated the pandemic as significantly more arousing than younger adults, but did not differ for the other two events.

#### *Importance*

The 2 (age group) x 3 (event) mixed ANOVA revealed a significant main effect of event,  $F(2, 326) = 5.64, p < .05$ ; post-hoc analyses showed that the pandemic outbreak was rated as significantly more important than the killing of George Floyd,  $p < .001$ , but did not differ from the election after Bonferroni corrections,  $p = .03$ , and the latter two events did not differ from each other,  $p$ 's  $> .05$ . The ANOVA also revealed a significant interaction between age group and event,  $F(2, 326) = 8.36, p < .001$ ; post-hoc analyses showed that older adults rated the killing of George Floyd as significantly less important than younger adults, but did not differ for the other two events.

#### **Age Differences in Emotion Regulation Tactic Use**

To begin analyzing the participants' reported tactic use from the emotion regulation branching response, we first conducted a 2 (age group) x 3 (event) x 4 (tactic type) mixed MANOVA, which yielded a significant 3-way interaction, ( $F(6, 702)=3.55, p < .05, \text{ Pillai's trace} = .148$ ), suggesting the three events may yield different patterns of age differences in emotion regulation. We therefore conducted our main hypothesis tests separately for each event.

### *COVID-19 Pandemic*

To test H1a for the COVID-19 pandemic outbreak (Figure 1), paired sample t-tests were first used to assess repertoire evenness (see Table S2). These analyses revealed that younger adults' repertoire of emotion regulation tactics was evenly composed of positivity-upregulation (33.6%), negativity-downregulation (28.2%), and acceptance tactics (27.1%); negativity-upregulation made up only 3.7% of their repertoire. Older adults had a less even composition; they relied mainly on acceptance-focused tactics (43.2%), followed by positivity-upregulation (32.4%), negativity-downregulation (18.6%), and finally negativity-upregulation (1.8%). Acceptance made up a significantly greater proportion of older adults' repertoire compared to all other tactics except positivity-upregulation, which did not differ, partially supporting H1a. Positivity-upregulation made up a significantly greater proportion than negativity-upregulation and negativity-downregulation.

To test H1b and H2, a one-way ANOVA was conducted, which revealed a significant age difference in acceptance ( $F(1, 148) = 10.06, p < .05, \eta^2 = .064$ ), supporting H2, and negativity-downregulation ( $F(1, 148) = 7.11, p < .05, \eta^2 = .046$ ); the other two tactics did not differ, contradicting H1b. In sum, older adults relied primarily on acceptance tactics during the outbreak of the pandemic, while younger adults relied more evenly on a range of tactics.

### *Killing of George Floyd*

Similarly, for the killing of George Floyd (Figure 2), paired t-tests revealed that younger adults reported an even composition of acceptance (26.8%), positivity-upregulation (22.6%), negativity-downregulation (22.4%), and negativity-upregulation (14.0%); no tactics significantly differed (Table S2). In contrast, older adults again primarily relied on acceptance tactics (63.5%), followed by positivity-upregulation (17.7%), negativity-downregulation (14.3%), and finally negativity-upregulation (3.4%). Acceptance made up a significantly greater proportion than all other



tactics, contradicting H1a. Positivity-upregulation and negativity-downregulation were both significantly greater than negativity-upregulation, but did not differ from each other.

A one-way ANOVA revealed that acceptance made up a significantly greater proportion of older adults' repertoire than younger adults' ( $F(1, 133) = 33.37, p < .001, \eta^2 = .201$ ), again supporting H2. Additionally, negativity-upregulation made up a significantly greater proportion of younger adults' repertoire ( $F(1, 133) = 9.59, p < .05, \eta^2 = .067$ ); the other two tactics did not differ, contradicting H1b. In sum, older adults relied heavily on acceptance tactics, while younger adults maintained a more even repertoire.

#### *Presidential Election*

As shown in Figure 3, younger adults' repertoires for the election were primarily acceptance (34.5%), negativity-downregulation (27.9%), and positivity-upregulation tactics (24.7%), followed by negativity-upregulation (3.4%). Paired t-tests revealed that in younger adults, all tactics significantly differed from negativity-upregulation, but did not differ from each other (see Table S2). Similarly, older adults' repertoires were primarily acceptance (45.2%), negativity-downregulation (26.3%), and positivity-upregulation (24.7%), followed by negativity-upregulation (2.5%). All tactics were significantly greater than negativity-upregulation, but did not significantly differ from each other, contradicting H1a. One-way ANOVAs revealed no significant age-related differences,  $p$ 's  $> .05$ . Thus, the election was associated with a similar range of tactics in younger and older adults, contradicting H1b and H2.

#### **Emotion Regulation Flexibility**

In an exploratory analysis, we calculated two emotion regulation flexibility indices following Eldesouky & English (2018): categorical variability and temporal flexibility.

A one-way ANOVA revealed significant age differences in categorical flexibility for the pandemic outbreak ( $F(1, 164) = 10.656, p = .001$ ) and the killing of George Floyd ( $F(1, 164) = 8.887, p$

= .003), but not the election after Bonferroni corrections ( $\alpha = .0167$ ;  $F(1, 164) = 5.160, p = .024$ ); younger adults exhibited greater categorical variability (COVID:  $M = 2.21, SD = 1.00$ ; Floyd:  $M = 1.60, SD = 1.06$ ) than older adults (COVID:  $M = 1.72, SD = .95$ ; Floyd:  $M = 1.15, SD = .89$ ) for both events.

A 2 (age group) x 4 (tactic type) repeated measures ANOVA revealed a significant effect of age on temporal flexibility ( $F(1, 164) = 6.288, p < .05$ ), with younger adults exhibiting greater temporal flexibility ( $M = .603, SE = .032$ ) than older adults ( $M = .490, SD = .032$ ); age did not interact with tactic type, suggesting lower flexibility in older adults across all tactics.

### **Subjective Event Perceptions and Emotion Regulation Tactics**

Additional data-driven exploratory analyses were conducted to assess whether key subjective contextual perceptions that varied by event (i.e., valence, arousal, and importance) were associated with specific emotion regulation tactic preferences (Table 2). First, participants who rated the pandemic outbreak as more negative reported a greater reliance on negativity-upregulation tactics, while those who rated it as more positive reported greater acceptance. Those who perceived the pandemic as more important tended to rely less on acceptance. For the killing of George Floyd, participants who rated this event as less negative relied more on negativity-downregulation; those who rated it as more arousing reported greater negativity-upregulation; and those who perceived it to be more important reported more negativity-upregulation and less acceptance. Finally, those who rated the presidential election as more arousing reported more positivity-upregulation. See S3 for correlations split by age group.

### **Discussion and Implications**

The current study investigated age differences in emotion regulation tactic preferences during three historical events of 2020. We hypothesized that older adults would report more positivity-upregulation tactics (H1b) and acceptance tactics (H2) than younger adults, and that positivity-upregulation would be the most frequent tactic used by older adults (H1a). Age differences

were found for the COVID-19 pandemic outbreak and the killing of George Floyd, but not the presidential election. Specifically, for the first two events, older adults' repertoire of emotion regulation tactics was predominantly composed of acceptance, contradicting H1a, whereas younger adults' repertoires were more evenly composed. Compared to younger adults, older adults used less negativity-downregulation for the COVID-19 outbreak, less negativity-upregulation for the killing of George Floyd, and importantly, more acceptance for both events, supporting H2. For the election, both age groups relied on an even variety of tactics.

In sum, the results suggest that older adulthood was not characterized by greater positivity-related emotion regulation tactic preferences as SST may suggest (H1), but instead by a greater preference for acceptance-related tactics (H2). This finding of older adults reporting greater acceptance use supports previous work using similar retrospective methods (Schirda et al., 2016) and expands other prior work (Wolfe & Isaacowitz, 2022) to additional historical contexts. Also, the current study's results suggest that reliance on valence-based tactics may not differ across age groups, aligning with previous work (e.g., Livingstone & Isaacowitz, 2019). It is possible that older adults in this sample did not rely on positivity-related tactics as heavily as predicted because age-related positivity has faded (or stress has increased) in more recent older adult cohorts (Almeida et al., 2020). In sum, to the extent that there are age differences in emotion regulation tactics at all, they may reflect an age-related shift from a more diverse repertoire in younger adulthood to an acceptance-dominated repertoire in older adulthood.

Consistently, we found that older adults exhibited lower categorical variability and temporal flexibility in their emotion regulation tactic use, which supports previous ESM work (Eldesouky & English, 2018) and suggests that age-related reductions in emotion regulation flexibility were maintained during the unique historical events of 2020. It may be that older adults form emotion regulation habits over time-- especially if they encounter a more homogenous set of everyday stressors (Brose et al., 2013) and thus do not generally have much need for high emotion regulation

flexibility-- and carried those habits with them throughout the events of 2020. Furthermore, they exhibited fewer associations between contextual perceptions and regulation tactic preferences compared to younger adults, again suggesting that older adults' emotion regulation preferences may be less context-sensitive.

Additionally, some of the associations between contextual perceptions and regulation tactic preferences could help explain why particular tactics are chosen for particular contexts. For instance, across participants, events that were deemed less important (i.e., less deserving of energy and emotional engagement) tended to elicit more acceptance use, which may suggest that acceptance is a low effort/reactivity strategy (see Lindsay & Creswell, 2017) that is useful for less important situations. This interpretation could also align with SAVI to explain why older adults, who experience cognitive and physical declines and are thought to capitalize on specific emotion regulation behaviors that can minimize these vulnerabilities (Charles, 2010), relied more on acceptance; acceptance may be an easier strategy to enact that allows for quick emotional recovery during events not perceived as highly relevant.

On the other hand, those who rated an event as more arousing or important-- especially younger adults-- tended to report more negativity-upregulation. This tactic likely requires more cognitive, physical, and emotional effort to enact and more prolonged engagement with an event compared to acceptance, and thus it is possible (though future work should test this directly) that negativity-upregulation may be reserved for events that are perceived to be worthy of that effort (i.e., more arousing or important). Negative emotions can serve important functions, such as guilt leading to reparative actions (e.g., Graton & Ric, 2017), and thus if an unpleasant event is deemed important, it is possible that people may be more motivated to upregulate their negative emotions associated with that event to reap the functional benefits of those emotions.

## **Implications Beyond Affect**

Many of the context-specific emotion regulation behaviors we observed could have important impacts beyond immediate affective outcomes, which we elaborate on below. These are admittedly speculations derived from the current study's results, and should be directly tested in future studies.

### *George Floyd and White Fragility*

Recent work has sought to link emotion regulation and White fragility experiences among white participants in response to race-salient events, with a focus on engaging versus disengaging (Ford et al., 2021). Ford et al. suggest that while disengagement tactics may mitigate unpleasant emotional experiences, engagement-based emotion regulation tactics can be particularly effective for deriving utility from White fragility experiences and enabling actions that lead to greater societal change. While not directly measured in the current study, it is possible that negativity-upregulation was an engagement tactic (especially among white younger adults) that was intentionally employed during this race-salient event by those who deemed the event more important.

### *COVID-19 and Health Behaviors*

Acceptance was also frequently relied upon during the COVID-19 outbreak, which may have important implications for emotional wellbeing, as well as health and safety behaviors. Acceptance is a component of mindfulness, which has been linked to a variety of beneficial affective outcomes, and research has shown these benefits continued through the pandemic (e.g., Conversano et al., 2020). Additionally, researchers found that those higher in trait-level mindfulness were more likely to engage in social distancing, even when controlling for demographics, health, and personality (Haliwa et al., 2020). In the current study, older adults reported greater reliance on acceptance tactics, suggesting they may be reaping these benefits more than younger adults.

### *Election and Political Action*

Finally, for the election, acceptance made up a majority of both younger and older adults' repertoires. In a previous study, Ford et al. (2020) compared the use of reappraisal (which they conceptualized as negativity-downregulation) and acceptance as emotion regulation responses to daily political stressors. They found trade-offs for reappraisal use, such that this strategy made people feel better but also weakened their motivation to take political action; however, acceptance was found to be resistant to this trade-off, such that it maintained emotional wellbeing and motivation.

### **Limitations**

Importantly, this study only measured emotion regulation behaviors, but knowing whether participants (a) had exposure/tested positive for COVID-19, (b) attended rallies for racial justice following the killing of George Floyd, and (c) voted or engaged in other political actions during the election, could all give greater context to their emotion regulation preferences. The current study's survey was designed to be as streamlined as possible while still capturing key variables of interest, and thus self-reports of valence, arousal, and perceived importance were chosen as they were hypothesized to be similarly predictive of regulatory behaviors. However, the absence of behavioral measures related to the events is a limitation.

Additionally, the survey was designed to be retrospective. This allowed us to capture events throughout 2020, but admittedly, memory could have impacted the accuracy of these self-reports. Importantly, older adults did not exhibit a positivity bias in their memory, such that there were no age differences in the reported valence of any event. Additionally, prior work on the memory-experience gap in self-reported affect found no age differences for recalled positive affect and found a *smaller* memory-experience gap in older adults for negative affect (Junghaenel et al., 2021).

Finally, this study's convenience sampling approach may limit generalizability. While the racial and ethnic composition of the two samples (younger and older adults) approximately reflected the United States population as a whole (e.g., Pew Research Center, 2018; Schaeffer, 2019), there may have been factors not measured or not considered that affected the sample responding. For instance, living near event-relevant locations (e.g., close to where George Floyd was killed) or living on a college campus (which may have enforced mandated COVID-19 testing and/or may have exposed students to more frequent discussions about current events) could have led to different/more salient experiences of the events. Furthermore, these unmeasured factors might have varied by age, especially given the use of a university-recruited younger adult sample and an Amazon-Mechanical-Turk recruited older adult sample. However, at the time of data collection (as well as the latter two historical events: the killing of George Floyd and the presidential election), the university from which the younger adult sample was recruited had hybrid learning, such that only some students were actually on campus.

## **Conclusions**

Altogether, acceptance-related tactics appeared to be relied on frequently across the lifespan, but especially by older adults across all three measured historical contexts of 2020. This finding is important given the relative lack of acceptance's explicit inclusion in models of emotion regulation and theories of age differences in emotion regulation (e.g., SST), both of which tend to focus more on valence-based tactics. Furthermore, older adults' lower emotion regulation flexibility implies that acceptance was a prioritized strategy for them across various contexts, even more so than valence-based tactics. This suggests that older adults' greater emotional well-being may not primarily be a result of age differences in positivity-focused emotion regulation tactics, but perhaps more about differences in other tactics, such as acceptance. Future research should seek to better understand the relationship between aging and acceptance, as well as other potential context effects on its use and the affective/behavioral implications of its use as an emotion regulation

strategy. We also believe that current models of aging and emotion regulation, including SST and SAVI, should seek to accommodate acceptance more directly.

#### **Funding**

None reported.

#### **Conflict of Interest**

We have no conflict of interest to declare.

#### **Acknowledgments**

The original data used in this study are available to other researchers for replication purposes and can be found on the Open Science Foundation's storage website: <https://osf.io/bgxm2/>. The studies reported in the manuscript were not pre-registered.



## References

- Aldao, A., Sheppes, G., & Gross, J. (2015). Emotion Regulation Flexibility. *Cognitive Therapy and Research, 39*(3), 263–278. <https://doi.org/10.1007/s10608-014-9662-4>
- Almeida, D. M., Charles, S. T., Mogle, J., Drewelies, J., Aldwin, C. M., Spiro, A., & Gerstorf, D. (2020). Charting adult development through (historically changing) daily stress processes. *The American Psychologist, 75*(4), 511–524. <https://doi.org/10.1037/amp0000597>
- American Psychological Association. (2020, October 7). *2020 presidential election a source of significant stress for more Americans than 2016 presidential race.* <https://www.apa.org/news/press/releases/2020/10/election-stress>
- Baltes, P., Reese, H., & Lipsitt, L. (1980). Life-Span Developmental Psychology. *Annual Review of Psychology, 31*(1), 65–110. <https://doi.org/10.1146/annurev.ps.31.020180.000433>
- Barber, S., & Kim, H. (2021). The positivity effect. In G. Sedek, T. Hess, & D. Touron (Eds.), *Multiple pathways of cognitive aging: Motivational and contextual influences* (pp. 84-104). Oxford University Press.
- Benson, L., English, T., Conroy, D. E., Pincus, A. L., Gerstorf, D., & Ram, N. (2019). Age differences in emotion regulation strategy use, variability, and flexibility: An experience sampling approach. *Developmental Psychology, 55*(9), 1951. <https://doi.org/10.1037/dev0000727>
- Bonanno, G., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The Importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science, 15*(7), 482–487. <https://doi.org/10.1111/j.0956-7976.2004.00705.x>

Brose, A., Scheibe, S., & Schmiedek, F. (2013). Life contexts make a difference: Emotional stability in younger and older adults. *Psychology and Aging, 28*(1), 148–159.

<https://doi.org/10.1037/a0030047>

Carstensen, L. (2006). The influence of a sense of time on human development. *Science, 312*(5782), 1913–1915. <https://doi.org/10.1126/science.1127488>

Carstensen, L., Shavit, Y., & Barnes, J. (2020). Age advantages in emotional experience persist even under threat from the COVID-19 pandemic. *Psychological Science, 31*(11), 1374–1385.

<https://doi.org/10.1177/0956797620967261>

Charles, S. (2010). Strength and Vulnerability Integration (SAVI): A model of emotional well-being across adulthood. *Psychological Bulletin, 136*(6), 1068–1091.

<https://doi.org/10.1037/a0021232>

Charles, S., & Carstensen, L. (2010). Social and emotional aging. *Annual Review of Psychology, 61*(1), 383–409. <https://doi.org/10.1146/annurev.psych.093008.100448>

Conversano, C., Di Giuseppe, M., Miccoli, M., Ciacchini, R., Gemignani, A., & Orrù, G. (2020). Mindfulness, age and gender as protective factors against psychological distress during COVID-19 pandemic. *Frontiers in Psychology, 11*, 1900.

<https://doi.org/10.3389/fpsyg.2020.01900>

Cunningham, T., Fields, E., Garcia, S., & Kensinger, E. (2021). The relation between age and experienced stress, worry, affect, and depression during the spring 2020 phase of the COVID-19 pandemic in the United States. *Emotion. https://doi.org/10.1037/emo0000982*

Eichstaedt, J., Sherman, G., Giorgi, S., Roberts, S., Reynolds, M., Ungar, L., & Guntuku, S. (2021). The emotional and mental health impact of the murder of George Floyd on the US population.

*Proceedings of the National Academy of Sciences*, 118(39), e2109139118.

<https://doi.org/10.1073/pnas.2109139118>

Eldesouky, L., & English, T. (2018). Another year older, another year wiser? Emotion regulation strategy selection and flexibility across adulthood. *Psychology and Aging*, 33(4), 572–585.

<https://doi.org/10.1037/pag0000251>

Ford, B., Green, D. J., & Gross, J. (2021). *White Fragility: An Emotion Regulation Perspective*.

PsyArXiv. <https://doi.org/10.31234/osf.io/6u8ft>

Ford, B. Q., Feinberg, M., Thai, S., Gatchpazian, A., & Lassetter, B. (2020). The Political Is Personal:

The Costs of Daily Politics. PsyArXiv. <https://doi.org/10.31234/osf.io/hdz97>

Ford, J. H., DiBiase, H. D., Ryu, E., & Kensinger, E. A. (2018). It gets better with time: Enhancement of age-related positivity effect in the six months following a highly negative public event.

*Psychology and Aging*, 33(3), 419–424. <https://doi.org/10.1037/pag0000250>

Graton, A., & Ric, F. (2017). How guilt leads to reparation? Exploring the processes underlying the effects of guilt. *Motivation and Emotion*, 41(3), 343–352. [https://doi.org/10.1007/s11031-](https://doi.org/10.1007/s11031-017-9612-z)

[017-9612-z](https://doi.org/10.1007/s11031-017-9612-z)

Gross, J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General*

*Psychology*, 2(3), 271–299. <https://doi.org/10.1037/1089-2680.2.3.271>

Haines, S., Gleeson, J., Kuppens, P., Hollenstein, T., Ciarrochi, J., Labuschagne, I., Grace, C., & Koval, P. (2016). The wisdom to know the difference: Strategy-situation fit in emotion regulation in

daily life is associated with well-being. *Psychological Science*, 27(12), 1651–1659.

<https://doi.org/10.1177/0956797616669086>

- Haliwa, I., Lee, J., Wilson, J., & Shook, N. (2020). Mindfulness and engagement in COVID-19 preventive behavior. *Preventive Medicine Reports, 20*, 101246.  
<https://doi.org/10.1016/j.pmedr.2020.101246>
- Junghaenel, D., Broderick, J., Schneider, S., Wen, C. K. F., Mak, H., Goldstein, S., Mendez, M., & Stone, A. (2021). Explaining age differences in the memory-experience gap. *Psychology and Aging, 36*(6), 679–693. <https://doi.org/10.1037/pag0000628>
- Kessler, E., & Staudinger, U. (2009). Affective experience in adulthood and old age: The role of affective arousal and perceived affect regulation. *Psychology and Aging, 24*, 349–362.  
<https://doi.org/10.1037/a0015352>
- Lindsay, E., & Creswell, J. (2017). Mechanisms of mindfulness training: Monitor and Acceptance Theory (MAT). *Clinical Psychology Review, 51*, 48–59.  
<https://doi.org/10.1016/j.cpr.2016.10.011>
- Livingstone, K. M., & Isaacowitz, D. M. (2016). Age differences in use and effectiveness of positivity in emotion regulation: The sample case of attention. In A. D. Ong & C. E. Löckenhoff (Eds.), *Emotion, Aging, and Health* (pp. 31–48). American Psychological Association.
- Livingstone, K., & Isaacowitz, D. (2019). Age similarities and differences in spontaneous use of emotion regulation tactics across five laboratory tasks. *Journal of Experimental Psychology. General, 148*(11), 1972–1992. <https://doi.org/10.1037/xge0000556>
- Livingstone, K. M., & Isaacowitz, D. M. (2021). Age and emotion regulation in daily life: Frequency, strategies, tactics, and effectiveness. *Emotion, 21*(1), 39–51.  
<https://doi.org/10.1037/emo0000672>

Mather, M., & Carstensen, L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in Cognitive Sciences*, 9(10), 496–502.

<https://doi.org/10.1016/j.tics.2005.08.005>

McRae, K., Ciesielski, B., & Gross, J. (2012). Unpacking cognitive reappraisal: Goals, tactics, and outcomes. *Emotion*, 250–255. <https://doi.org/10.1037/a0026351>

Pew Research Center. (2018, March 20). Wide Gender Gap, Growing Educational Divide in Voters' Party Identification. *Pew Research Center*.

<https://www.pewresearch.org/politics/2018/03/20/wide-gender-gap-growing-educational-divide-in-voters-party-identification/>

Reed, A., Chan, L., & Mikels, J. (2014). Meta-analysis of the age-related positivity effect: Age differences in preferences for positive over negative information. *Psychology and Aging*, 29(1), 1–15. <https://doi.org/10.1037/a0035194>

Schaeffer, K. (2019, July 30). The most common age among whites in U.S. is 58 – more than double that of racial and ethnic minorities. *Pew Research Center*.

<https://www.pewresearch.org/fact-tank/2019/07/30/most-common-age-among-us-racial-ethnic-groups/>

Scheibe, S., & Moghimi, D. (2021). Age and context effects in daily emotion regulation and well-being at work. *Work, Aging and Retirement*, 7(1), 31–45. <https://doi.org/10.1093/workar/waz014>

Schirda, B., Valentine, T., Aldao, A., & Prakash, R. (2016). Age-related differences in emotion regulation strategies: Examining the role of contextual factors. *Developmental Psychology*, 52(9), 1370–1380. <https://doi.org/10.1037/dev0000194>

- Shallcross, A. J., Ford, B. Q., Floerke, V. A., & Mauss, I. B. (2013). Getting better with age: The relationship between age, acceptance, and negative affect. *Journal of Personality and Social Psychology*, 104(4), 734–749. <https://doi.org/10.1037/a0031180>
- Urry, H., & Gross, J. (2010). Emotion regulation in older age. *Current Directions in Psychological Science*, 19(6), 352–357. <https://doi.org/10.1177/0963721410388395>
- Wolfe, H., & Isaacowitz, D. (2022). Aging and emotion regulation during the COVID-19 pandemic. *Aging & Mental Health*, 26(5), 890-897. <https://doi.org/10.1080/13607863.2021.1910797>
- Wolfe, H. E., Livingstone, K. M., & Isaacowitz, D. M. (2022). More positive or less negative? Emotional goals and emotion regulation tactics in adulthood and old age. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*. Advance online publication. <https://doi.org/10.1093/geronb/gbac061>

**Table 1***Age Differences in Subjective Event Perceptions Ratings by Event*

Context Perception	Total Sample	Younger	Older Adult	F test with Bonferroni correction	$BF_{10}$
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>		
COVID-19 pandemic outbreak					
Valence	2.31 (1.43)	2.42 (1.53)	2.21 (1.33)	$F(1, 164) = .876, p = .351$	.252
<b>Arousal</b>	4.83 (1.84)	4.33 (2.06)	5.31 (1.48)	<b><math>F(1, 164) = 12.324, p = .001</math></b>	<b>43.829</b>
Importance	4.57 (.78)	4.64 (.619)	4.49 (.908)	$F(1, 164) = 1.489, p = .224$	.334
Killing of George Floyd					
Valence	1.89 (1.33)	1.84 (1.37)	1.94 (1.29)	$F(1, 164) = .241, p = .624$	.188
Arousal	5.52 (1.38)	5.70 (1.28)	5.34 (1.46)	$F(1, 164) = 2.884, p = .091$	.633
<b>Importance</b>	4.27 (1.04)	4.49 (.69)	4.06 (1.26)	<b><math>F(1, 164) = 7.529, p = .007</math></b>	<b>5.206</b>
Presidential election					
Valence	3.37 (1.86)	3.62 (1.79)	3.12 (1.90)	$F(1, 164) = 3.186, p = .076$	.727
Arousal	5.43 (1.54)	5.27 (1.50)	5.59 (1.54)	$F(1, 164) = 1.773, p = .185$	.380
Importance	4.38 (.93)	4.23 (.94)	4.51 (.91)	$F(1, 164) = 3.705, p = .056$	.924

*Note.* One-way ANOVAs were used to calculate age differences in context ratings by event; Bonferroni corrections were applied to the F tests ( $p_{adjusted} = .0167$ ). Bolded cells represent a significant F test.  $BF_{10}$  = Bayes Factor. We suggest using Andraszewicz et al., (2015) guidelines for interpreting Bayes Factors: >100 is extreme evidence for  $H_1$ , 30-100 is very strong evidence for  $H_1$ , 10-30 is strong evidence for  $H_1$ , 3-10 is moderate evidence for  $H_1$ , 1-3 is anecdotal evidence for  $H_1$ , 1 is no evidence, .33-1 is anecdotal evidence for  $H_0$ , .1-33 is moderate evidence for  $H_0$ , .033-.1 is strong evidence for  $H_0$ , .01-.033 is very strong evidence for  $H_0$ , <.01 is extreme evidence for  $H_0$ .

**Table 2***Correlations Between Event Perceptions and Tactic Preferences by Event*

Tactic	Valence	Arousal	Importance
COVID-19 pandemic outbreak			
Acceptance	$r = .19, p = .019$	$r = -.03, p = .720$	$r = -.25, p = .002$
Positivity-upregulation	$r = -.01, p = .903$	$r = .09, p = .261$	$r = .04, p = .621$
Negativity-downregulation	$r = -.06, p = .488$	$r = .09, p = .325$	$r = .16, p = .075$
Negativity-upregulation	$r = -.17, p = .039$	$r = .02, p = .852$	$r = .08, p = .343$
Killing of George Floyd			
Acceptance	$r = -.07, p = .416$	$r = -.11, p = .221$	$r = -.29, p = .001$
Positivity-upregulation	$r = -.07, p = .436$	$r = .04, p = .684$	$r = .15, p = .075$
Negativity-downregulation	$r = .26, p = .002$	$r = -.06, p = .507$	$r = .10, p = .237$
Negativity-upregulation	$r = -.14, p = .119$	$r = .24, p = .005$	$r = .23, p = .007$
Presidential election			
Acceptance	$r = .06, p = .452$	$r = -.09, p = .265$	$r = -.12, p = .152$
Positivity-upregulation	$r = .05, p = .586$	$r = .19, p = .022$	$r = .14, p = .092$
Negativity-downregulation	$r = -.15, p = .065$	$r = -.07, p = .409$	$r = .09, p = .297$
Negativity-upregulation	$r = .01, p = .917$	$r = .10, p = .231$	$r = .05, p = .534$

*Note.* Regulatory preferences were measured as a proportion and only the tactics that were identified as being used *very often* were used in these analyses.



**Figure 1**

*Younger and Older Adult's Tactic Preferences for the COVID-19 Pandemic Outbreak*

**Figure 2**

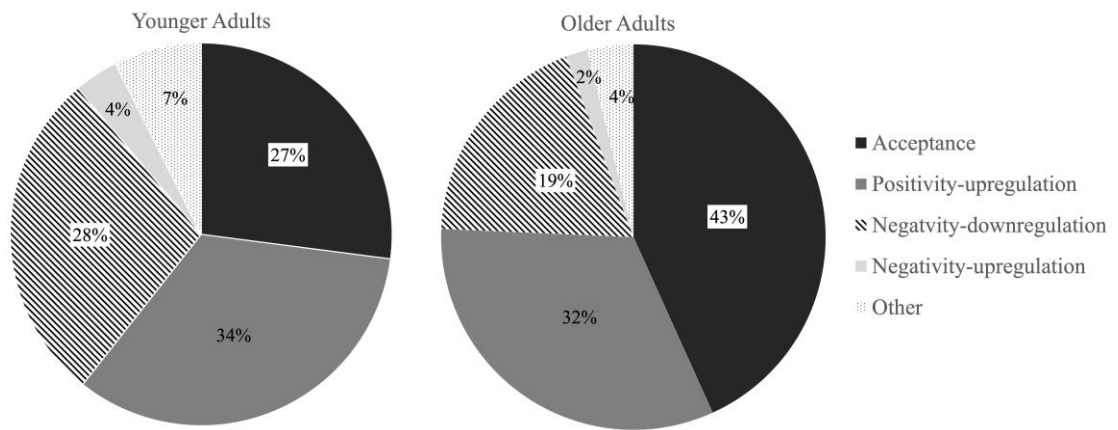
*Younger and Older Adult's Tactic Preferences for the Killing of George Floyd*

**Figure 3**

*Younger and Older Adult's Tactic Preferences for the Presidential Election*

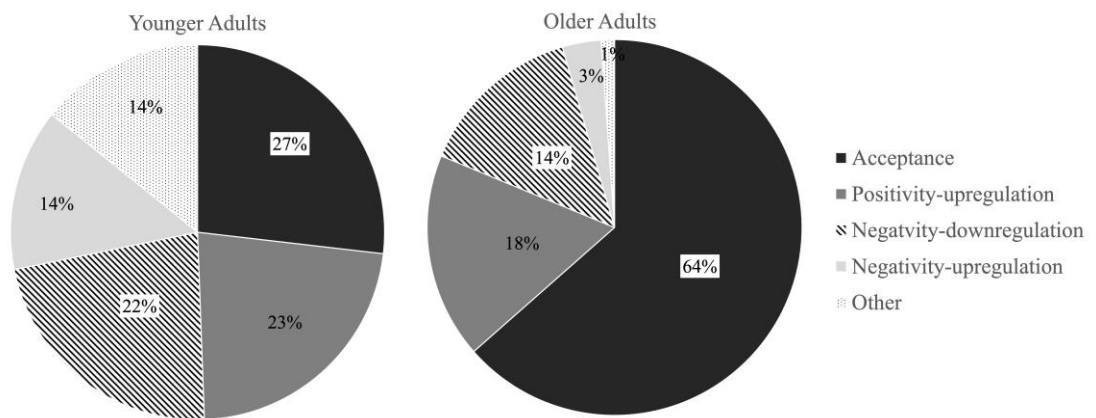
Accepted Manuscript

Figure 1



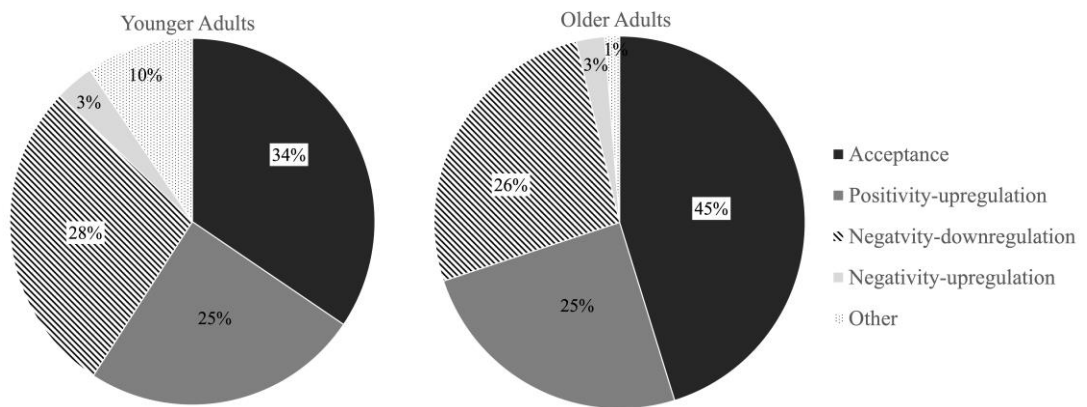
Accepted Manuscript

Figure 2



Accepted Manuscript

Figure 3



Accepted Manuscript