WHEN ANGER FADES: CHANGES IN SADNESS AND FEAR AFTER NARRATING ANGRY EVENTS

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ABSTRACT

Humans relate to each other through shared stories of past experiences. Telling stories about emotionally charged memories gives the narrator an avenue through which to process the event and the emotions they felt as it happened. Previous research suggests that this narrative experience may lead to lower levels of the primary emotion associated with the event. However, most experiences involve more than one emotion. This study investigates how narrating anger changes secondary emotions (fear and sadness) in both intensity (how strongly the emotion is felt) and quality (from one dominant emotion to another), as well as age differences on both of these fronts. Adolescents (ages 8-17, $N = 118$) were asked to think of a recent event in their life in which they felt angry at another person, to narrate their memory to a trained research assistant, and complete ratings about their anger and additional emotions. We hypothesize that as the intensity of anger decreases throughout the study and narrations, the intensity of fear and sadness will increase, and that anger will change qualitatively into fear or sadness. We also predict that these changes will be greater among participants in late adolescence than those in early adolescence. Support for our first hypothesis was not found within the data. However, the data do indicate that decreasing anger makes room for sadness and fear to become the predominant emotions, even if their intensity is unchanging.

Narration as a Form of Emotion Regulation

Humans relate to each other through shared stories of past experiences. Telling stories about past experiences gives the narrator an avenue through which to process an event and the emotions they felt as it happened. This may be particularly useful for experiences that were charged with negative emotions such as anger. Earlier research indicates that narrating an experience can lead to lower levels of the predominant emotions associated with those events. For example, when narrating stories about negative emotions, participants tend to subsequently report lower levels of these emotions (Pasupathi et al., 2016).

Additionally, narratives for specific emotions do differ in meaningful ways. Characteristically, anger narratives contain more indirect speech – expressing the content of dialogue without quoting it explicitly – and the reported speech mainly serves to justify the speaker's anger (Habermas et al., 2009). Further, narratives about fear contain more inner monologues likely due to the nature of fear usually being experienced alone (Habermas, et al., 2009). Sadness narratives focus the most on resolving sad feelings and relating to others (Fivush et al., 2003).

Though these stories mainly focus on depicting a single, specific emotion, most experiences involve more than one emotion. Less research has been done exploring how narration may influence these additional emotions. For instance, if anger narratives are self-justifying, could they also increase fear or anxiety? A conceptual model for anger suggests that the emotion may emerge from the appearance of obstacles during goal-attainment (Berkowitz & Harmon-Jones, 2004) in which anger is directed at the obstacle itself. A person may tell an anger narrative in which some goal was blocked by another person. Though they may feel anger at the other person seemingly "at fault," the narrator may also feel anxiety about whether they will ultimately achieve the goal and become newly attentive to that possibility as they narrate. Alternatively, the narrator may also feel sad because of the loss of the desired goal. The process of narrating a story about anger may contribute to changes in the intensity and quality of additional relevant negative emotions such as sadness and fear.

On Discrete Emotions

The nature of emotions and emotional expression has been the topic of a longstanding debate about whether using a core set of basic emotions is the most accurate way to describe and study emotional experience. Most prominently, there is the discrete emotions theory (Ekman, 1992) which states that all emotions can be boiled down to a set of "basic" emotions, and any other emotion is some combination thereof. The concept of discrete emotions is particularly relevant because most theories of emotional experience view people's knowledge of emotions as important in influencing the way they experience emotion, as shown with the Conceptual Act Model (Barrett et al., 2009) which proposes that at a given moment, people categorize their internal affective state using prior knowledge of emotions.

A persistent problem with discrete emotion models is that they do not fully capture the idea that not all instances of a single emotion look exactly the same (Barrett, et al., 2009). In addition, discrete emotions do not account for the diversity of emotional experiences, and that when attempting to identify the basic emotions, different approaches whether by facial expression, biosocial, or neurological, lead to a different set of basic emotions (Turner & Ortony, 1992). However, Paul Ekman (1992) describes six emotions that he argues have universal expressions across various cultures: happiness, surprise, fear, sadness, anger, and disgust. While this limited repertoire may constrain the usefulness of discrete emotion models for studying adult emotional experience, children and adolescents may have a more difficult time identifying more complex

emotions (Ciarrochi et al., 2008), so a discrete emotion approach is more useful for the purposes of the present study.

Adolescents

It is possible that these changes in secondary emotions, and to what extent they change, might depend on the age of the person doing the narrating. Previous research suggests that children in mid- to late-adolescence are more experienced with differentiating experiences by low or high arousal of emotions, and they are more likely to report having simultaneous mixed emotion experiences than early-adolescents (Burkitt et al., 2019). This is possibly because by mid-adolescence, children have had more opportunities for self-reflection and experiences with various complex emotions, in addition to having higher self-reflecting capacities and a greater ability for abstract thought (Burkitt et al., 2019). Consequently, since older adolescents are more aware of different and simultaneously occurring emotions, they may report more distinct emotions associated with an event than younger adolescents both before and after narrating.

The Present Study

This study will evaluate the level of intensity of fear and sadness before and after participants narrate an event about anger, as well as whether the predominant emotion associated with the event changes qualitatively (e.g., from anger to fear or sadness) from prior to narrating to after narrating. We hypothesize that as the intensity of anger decreases from before to after narration, the intensity of fear and sadness will increase, and that the predominant (most intensely endorsed) emotion of anger will shift into fear or sadness. In addition, this study will also investigate the age differences between early and late adolescents in the complexity of emotions associated with an event, both pre- and post-narration.

METHODS

Participants

Two hundred seventy-eight youth between the ages of 8 and 17 were recruited from local schools and community organizations in a Rocky Mountain metropolitan area. Data for 37 participants were excluded due to collection errors or failure to complete both sessions, leaving 241 total participants. These participants were part of a larger study that involved other conditions (Wainryb et al., 2018). However, the present study focuses only on the data from the 118 participants (51.7% female) between the ages of 8 and 17 ($M = 12.59$; $SD = 2.91$) who completed the targeted narration condition. Eighty-nine percent of participants were white ($n = 105$), six percent were Latino ($n = 7$), and four percent were African American ($n = 5$). Five other racial or ethnic groups ($n = 5$) and two participants who did not disclose their ethnicity, composed less than three percent of the sample. These participants were evenly divided between two age ranges: early adolescence (8-12) and late adolescence (13-17). Youth were paid $20 for their participation with an additional $5 for their timely arrival.

Procedure

After consent and assent, participants were hooked up to the physiological equipment and completed the baseline tasks required. This study focuses only on data collected during session one.

Initial Exposure

Next, participants were asked to recall a memory in which they were angry, specifically, a recent time in their life, "when someone did or said something and you ended up feeling really mad at that person." After they confirmed that they had thought of such a memory, they were told to spend several minutes thinking about that time, as if they were back in that moment again, and to try to remember and feel how mad they had been again. Typically, participants' anger narratives consisted of mild, everyday events one might experience at school or at home, such as an argument with a teammate at soccer practice, or with a parent for accidentally snapping a string on one's cello. Participants spent two minutes thinking about the time they had chosen and its associated emotions.

Narration

The participants were then asked to narrate this experience to a trained research assistant, who audiotaped and videotaped each narrative. This research assistant prompted them by asking, "Now I would like you to tell me everything you remember about that time. You know I wasn't there, so tell me all the details so I can picture it as though I had been there. Tell me everything that happened, how you felt about it, and also what you learned from that time." Participants were allowed to talk as much or as little about the event as they liked.

Additional Tasks

Participants were given one minute to rest and then completed and re-rated how they felt about the event using the same emotion scales. After this, participants engaged in a number of additional tasks, including a re-exposure to the memory and the completion of several questionnaires; these aspects of the procedure were not included in the present study. To conclude the session, the physiological equipment was removed, participants provided a title for their memory, were compensated for their time, and dismissed.

Measures

Participants were connected to physiological equipment that collected EKG, respiration, and EDA information while completing the measures for the present study. Physiological data were collected for other purposes and was not relevant to the present study.

Anger ratings, as well as fear and sadness ratings, were collected once prior to the elicitation of the anger experience and three more times: after first recalling the anger memory, after narrating the event, and then after spending more time recalling the event as they had the first time. This study focuses on the first two sets of emotion ratings. Participants were instructed to respond to the prompt, "how are you feeling right now?" by rating the emotions mad, guilty, sad, happy, scared, and ashamed (1 = not at all, 5 = very, very), in which mad, sad, and scared correspond to anger, sadness, and fear in the present study. Predominant emotions were determined by comparing anger scores to each of the other emotion scores pre-narration. If anger scores were consistently greater than other negative emotions (one point or more), the event was characterized as anger predominant. The same was done for post-narration scores. Emotion complexity scores were calculated by counting the number of different emotions adolescents endorsed feeling at least a little (a rating of 2 or above).

Participants also completed additional ratings about elapsed time, the importance of the event, and the extent of prior narration.[1] These ratings provided context for and characterized the anger arousing experiences that participants recalled but are not included in the present study.

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[1] Participants rated the time elapsed since the event took place ("how long ago did the event occur?" where 1 = less than one week ago, 2 = one week to one month ago, 3 = 1 month to six months ago, 4 = six months to one year ago, or 5 = more than one year ago), the event's importance ("how important is this event to you now?" with 1 =

We hypothesized that the intensity of fear and sadness would increase after adolescents narrate their anger. We also hypothesized that the predominant emotion would shift from anger into fear or sadness, and finally, we predicted that those in late adolescence would endorse more complex emotions than those in early adolescence.

Emotion Intensity Across Time

Descriptive statistics were gathered to determine changes in anger, sadness, and fear intensity from pre-narration to post-narration. Post-narration scores were subtracted from pre-narration scores so that a positive score indicated that participants felt the corresponding emotion less intensely, while a negative score indicated higher intensity. These results are shown in Table 1.

Table 1
Descriptive Statistics for Emotion Intensity Pre-narration to Post-narration

	N	Minimum	Maximum	M	SD	Variance
Pre-narration Rating Anger	118	1	5	2.45	0.954	0.910
Post-narration Rating Anger	118	1	5	2.08	1.090	1.189
Pre-narration Rating Sadness	118	1	5	1.84	0.806	0.649
Post-narration Rating Sadness	118	1	5	1.86	0.945	0.894
Pre-narration Rating Fear	118	1	3	1.20	0.516	0.266
Post-narration Rating Fear	118	1	3	1.19	0.506	0.256
N	118					

We were primarily interested in whether there were changes in the secondary emotions sadness and fear when participants share stories about times when they were angry. We conducted two paired-samples t-tests to compare changes in fear and sadness intensity pre- to post-narrative. There was not a significant difference in the scores for sadness pre-narration ($M = 1.84$, $SD = .812$) and sadness post-narration ($M = 1.85$, $SD = .929$); $t(114) = -.98$, $p = .922$, nor was there a significant difference in the scores for fear pre-narration ($M = 1.20$, $SD = .516$) and fear post-narration ($M = 1.18$, $SD = .506$); $t(114) = .425$, $p = .672$. These results indicate that sadness and fear do not change in intensity from before to after adolescents talk about times when they were angry.

Correlations for Changes in Sadness, Fear, and Anger

Additionally, we were interested in whether changes in sadness and fear were correlated with a decrease in anger. Difference scores were used to indicate a positive or negative change and

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not at all, and 5 = very, very), and the extent of prior narration ("have you told this memory to someone else before?" where 1 = not at all, and 5 = very, very).

were obtained by subtracting pre-narration emotion ratings from post-narration emotion ratings; thus, larger numbers indicate that post-narration emotions were more intense than pre-narration emotions. Differences in sadness ($M = .139$, $SD = .928$) were weakly positively correlated with changes in anger ($M = .309$, $SD = .855$), $r(116) = .151$, $p = .108$. Differences in fear ($M = .054$, $SD = .451$) were also weakly positively correlated with a decrease in anger, $r(116) = .182$, $p = .052$. Neither of these results was statistically significant, suggesting that my hypothesis that declining intensity of anger would be associated with increasing intensity of sadness and fear after narrating was not supported.

Predominant Emotion

We were interested in whether the predominant emotion felt would shift from anger into sadness or fear. We used a Related-Samples McNemar's Change Test to test for the primary endorsement of anger pre- to post-narrative. The test showed a significant change in anger predominance post-narration ($p = .003$) as illustrated in Figure 1. Before telling their anger story, 50 (42.4%) participants reported feeling predominantly angry, while 68 (57.6%) did not. However, after sharing their stories, only 25 (21.2%) participants reported feeling predominantly angry, while 93 (78.8%) did not. These results suggest that narrating anger reduces feelings of anger to such an extent that other emotions become predominant. Those that changed their predominant emotion post-narration most often indicated a shift to sadness predominance, rather than fear.

Figure 1
Predominant Feelings of Anger Pre-narration to Post-narration
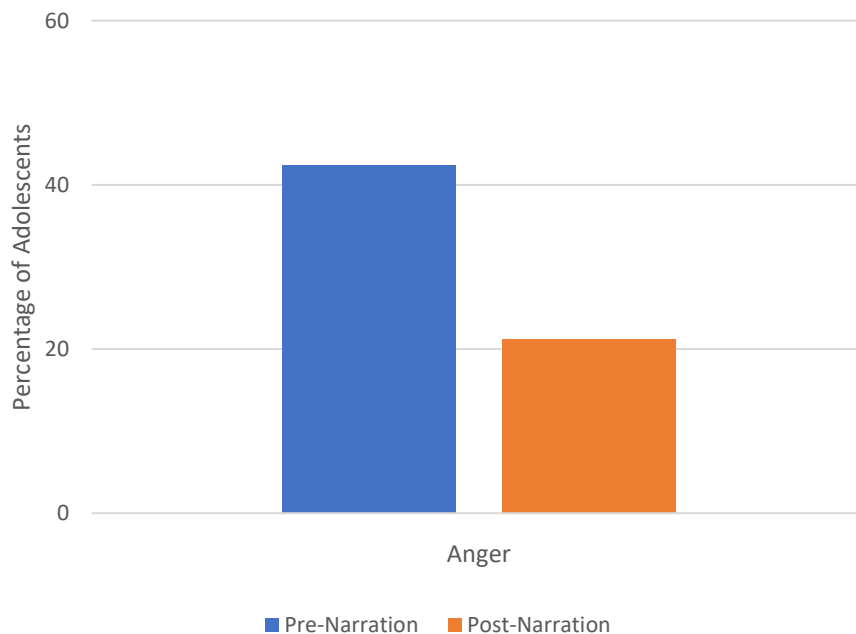
Note. N = 118. After telling a story about a time they were angry, adolescents reported that anger dominance had been reduced.

Age Differences

We primarily hypothesized that the intensity of sadness and fear would rise, and the predominance of the same emotions would shift away from anger after adolescents shared their anger stories. However, we were also interested in whether complexity of emotions would change as a function of age. All 118 participants were divided into two roughly equal groups based on

their age. These groups were early adolescence (younger than the mean age, 12.59; $N = 57$), and late adolescence (older than the mean age 12.59; $N = 60$).

An Independent Samples T-Test was conducted to compare differences in emotion complexity between participants in early adolescence with those in late adolescence. We predicted that older adolescents would report higher emotional complexity. There was a significant difference in the scores for emotional complexity between younger adolescents ($M = 1.912$, $SD = 1.169$) and older adolescents ($M = 2.517$, $SD = 1.295$) pre-narration; $t(115) = -2.645$, $p = .009$. There was also a significant difference between younger adolescents ($M = 1.473$, $SD = 1.283$) and older adolescents ($M = 2.283$, $SD = 1.497$) post-narration; $t(115) = -3.134$, $p = .002$. These results show that from pre- and post-narration, participants in older adolescence endorse more different emotions.

DISCUSSION

The goal of the present study was to investigate how the emotions sadness and fear changed in intensity and predominance when adolescents told stories about times when they were angry. We examined emotion ratings provided before and after narrating an anger experience, and predicted that as anger lessened, sadness and fear would become more intense, and that the predominantly endorsed emotion would shift from anger into fear and sadness. We also hypothesized that older adolescents would endorse more complex emotional states than those in early adolescence.

The first hypothesis was not supported by the data, indicating that fear and sadness did not change in intensity pre- to post- narration. Correlations between differences in sadness and fear with changes in anger suggested that adolescents' endorsement of fear and sadness after narrating was also not related to reduced anger, which was also inconsistent with the idea that declining anger intensity gives way to increased fear and sadness intensity. Though the hypothesis was unsupported, this particular finding is interesting because it suggests that narrating anger does not necessarily result in increases of other types of distress. Additionally, it emphasizes a compelling quality of the effect of narrating, which is that the process of narrating seems to impact predominant emotions.

The second hypothesis was partially supported by the data. While the intensity of sadness and fear does not necessarily become higher than the intensity of feelings of anger post-narration, feelings of anger lessen to such an extent that additional secondary emotions, such as sadness and fear are reported and may become predominant.

The third hypothesis was supported by the data. When adolescents recall anger experiences, and tell anger stories, those who are older consistently reported feeling a greater number of different emotions than their younger counterparts. This finding lends support to the work done by Burkitt et al. (2019) which found that older adolescents are more aware of different and simultaneously occurring emotions than are late adolescents.

Limitations and Future Research

The next step in studying secondary emotion prevalence is to determine if similar changes occur when adolescents tell stories centered on different, perhaps more positive emotions. A major limitation of this study is that we only looked at three emotions, and all of them were negative. Among Ekman's basic emotions, happiness, surprise, and disgust have yet to be explored in this way. Lyubomirsky et al. (2006) found that narrating positive emotions may undermine overall positivity, but this may not be true with the kind of setting we studied. It is possible that narrating positive experiences may have the opposite effect of what we found with negative emotions,

meaning that relevant positive emotions may increase. Talking about positive events and emotions may brighten one's personal outlook on life or make individuals more optimistic overall.

This thesis did not examine individual narratives in much detail; however, we did look at the content of several narratives whose authors had indicated sadness as the dominant emotion after telling their story. These narratives revealed that the narrator had been personally hurt in some way. It is possible that as people process their anger, they are able to engage with their sadness more, and subsequently begin to understand in what ways the event hurt them, and why they may have reacted in the way they did. Acknowledging and engaging with additional negative emotions could expedite further healing and feelings of closure. This phenomenon was not tested here and may be worth researching in the future.

Additionally, when reading through narratives as well as examining the raw data, we noticed that even pre-narration, while anger was usually the most likely predominant emotion, participants reported feeling sad fairly often, and more frequently than feelings of fear in the post-narration emotion ratings. Fear may arise from the possibility of not attaining certain goals, and sadness from the perceived loss of not attaining these goals. It is possible that the narrative may enable acknowledging what has been lost but also engage less intensively with the uncertainty of a goal that was blocked. This raises interesting questions–do people simply refuse to acknowledge their fear? Is this only true when participants are asked to narrate anger? What is so different about fear than sadness that makes participants less likely to acknowledge this emotion? These conclusions likely arise from the instructions provided in terms of the narratives participants should choose for the purpose of the study. Nevertheless, these may be fascinating questions to explore in the future.

This research provides additional understanding about how narration of past experiences affects emotional regulation among adolescents. Examining how emotions change when narrating experiences can contribute to helping adolescents navigate an already confusing and constantly changing interpersonal atmosphere. As adolescents tell stories about experiences in which they were angry, their angry feelings resolve, allowing other negative emotions to be more salient, perhaps leading feelings of closure, and a strengthened ability to recognize and grapple with their own emotional complexity.

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