
AMERICAN JOURNAL OF PSYCHOLOGICAL RESEARCH

Volume 1, Number 1
Submitted: April 20, 2005
First Revision: May 11, 2005
Accepted: May 16, 2005
Publication Date: May 20, 2005

RECALL OF EMOTIONAL INTENSITY AND PLEASANTNESS FOR EVENTS FROM ADOLESCENCE AS A FUNCTION OF AGE

Beth A. Hentges, University of Houston-Clear Lake, hentges@cl.uh.edu

ABSTRACT

Society in general often views adolescence as a time of great emotional intensity and negativity. Autobiographical memory research does indicate that over time people recall past events as being more emotionally intense but more pleasant than unpleasant. The current study of memory for emotions during adolescence involved asking 24 late-adolescent, 24 middle-aged adult, and 24 older adult participants to recall events from their past and retrospectively rate them on several qualities including emotion at the time of the event, current emotional reaction to the event, and importance of the event. Older adults reported higher levels of emotional intensity and importance for events from adolescence than adolescent or middle-aged participants. Older adults were also generally more positive about events from adolescence. However, for all three age groups, current emotion toward the event was more negative than the retrospective report of emotion at the time of the event. Implications of these findings for understanding adolescent emotion and memory for emotion are considered.

INTRODUCTION

Society in general and many researchers view adolescence as a time of “storm and stress” with great emotional upheaval (Arnett, 1999). Consequently many people think that adolescents are very moody and emotional. Research examining emotional intensity and moodiness in adolescence has produced mixed findings. Some studies support the idea that adolescents are moodier than adults (Larson & Richards, 1994), with both more extreme positive and negative moods. Adolescents are not necessarily more moody than children according to some researchers (Csikszentmihalyi & Larson, 1984; Larson & Lampman-Petratis, 1989). Some research suggests

that adolescents may be more prone to negative moods than young children or adults (see Buchanan, Eccles, & Becker, 1992, for a review), however, other research indicates that adolescents are generally happy, not depressed (Peterson & Ebata, 1987). Although adolescents appear to be slightly more moody than adults, the differences do not appear to be extreme. Furthermore, adolescents do not seem to be seething cauldrons of hormonal depression.

Why is there a popular consensus that adolescents are unusually emotional when there is little empirical support for this view? One possible explanation is in adults' retrospective views on their own adolescence. Adolescence might not actually be more emotional than other times in life, but may appear so retrospectively for adults who remember the adolescent years as being emotionally intense. An additional possibility is that adolescents might seem more negative than adults recall themselves being at that time of their life. While it is not clear that adolescents necessarily experience more intense emotions, there is some evidence that as people get older emotions are not viewed as being as central to experience (Malatesta & Kalnok, 1984).

Research on memory indicates that emotion impacts recall. The relationship between emotion and memory is complex and not fully understood. Research examining the distribution of memories in adult participants has found that adults tend to recall a disproportionately high number of memories from adolescence and early adulthood (the reminiscence bump). The reasons for this are not clear, but many researchers have examined the potential role of emotion. Typically researchers ask participants to recall a certain number of memories and then ask them to rate the events on a number of characteristics including emotion. While older adults do not report higher emotional intensity for events from adolescence compared to other times in their life (Conway & Haque, 1999; Schrauf & Rubin, 2001), Rubin and Schulkind (1997) did find that older adults had higher ratings of emotional intensity and pleasantness than younger adults. Additionally, Robinson (1980) found that intensity ratings for emotion at the time of the event and current ratings of pleasantness increased with memory age. Given these findings, older adults' ratings of emotional intensity and pleasantness for events from adolescence should be higher than adolescents' ratings for that same time period. What is not clear is the role of current feelings about past events.

Emotional events seem to be more memorable (Conway, 1990), but generally the emotional tone of the event is measured during recall rather than during the original event. There is some debate about how people recall the emotional tone of a prior event. It is possible that we can intellectually recall a previously experienced emotional reaction (cognitive) or we might actually re-experience the original emotion (Robinson, 1996). Additionally, a person's present attitude towards a prior event may influence how they remember feeling at the time (Robinson, 1996). Thus, if the outcome of a previous event was negative, thus engendering negative feelings in the present, the memory for the original emotional reaction is likely to be biased. This leads to the question whether individuals can separate current emotional reactions to past events from the original emotional experience.

Few studies on autobiographical memory have explicitly asked participants to separate out emotion at the time of the event and current emotional reactions to the event. Robinson (1980) examined the impact of emotions on memory retrieval and asked participants to rate current emotion and emotion at the time of the event. He was specifically interested in whether current

emotional intensity impacted memory retrieval more than the recollection of the original emotional intensity. Current emotional intensity and original emotional intensity were unrelated, but both seemed to impact memory accessibility as measured by time for retrieval. Thus, it does appear that both original emotional experience and current emotional reactions may impact memorability. Further, individuals seem to be able to separate out current emotional reactions to past events and their emotion at the time of the event. Although, it does appear that memory for past emotion might be skewed so that as time passes we recall things as being more intense and rate them more favorably (Robinson, 1980). How might this tendency impact our view of adolescence? The author of the current study hypothesized that ratings of emotional intensity, sensory detail, and importance for memories from adolescence (15-20 years) would be higher for the middle-aged and older adults than for the adolescents. Additionally, the researcher hypothesized that the middle-aged and older adult participants would recall events from adolescence (emotion at the time of the event) more positively than the adolescents. A final exploratory analysis examined the relationship between age and ratings of emotion at the time of the event versus current emotion about the same events.

METHOD

Participants: There were 24 college students (the adolescent sample), between 18 and 19 years of age, 24 middle-aged adults (the middle-aged sample), between 35 and 45 years of age, and 24 older adults (the older adult sample), between 65 and 75 years of age, in this study. The adolescent sample came from psychology classes at a large urban university. Participants received extra credit points for participation in the project. The middle-aged sample and some of the older adult sample came from an upper level psychology course at a large urban university. Students in the course received extra credit for collecting data from adults aged 35-45 or 65-75. The rest of the older adult sample came from an older adult activity center. These participants entered their names into a lottery for cash prizes of \$10, \$10, and \$30.

Table 1

Demographic Variables for Participants

<u>Variables</u>	<u>Adolescent</u>	<u>Middle-Aged Adults</u>	<u>Older Adults</u>
Age	<u>M</u> =19.44	<u>M</u> =40.52	<u>M</u> =73.14
Education	M=12.67	M=15.2	M=13.16
Percent Female	79%	75%	71%

Procedure: In order to examine the role of memory for emotion during adolescence the researcher asked participants to recall events from their life and rate those events on emotion at the time of the event (1-very negative, 2-negative, 3-neutral, 4-positive, 5-very positive), current emotion (1-very negative, 2-negative, 3-neutral, 4-positive, 5-very positive), sensory detail (1-very low, 2-low, 3-moderate, 4-high, 5-very high), and importance (1-very low, 2-low, 3-

moderate, 4-high, 5-very high). Although the adults could recall events from any point in their life, the current study focused only upon events before age 21. In order to more easily examine emotional intensity, separately from negativity, the researcher collapsed ratings of emotion, both at time of the event and currently, to form a 3-point intensity scale (1-low, 2-moderate, 3-high).

RESULTS

In order to investigate the impact of age group on ratings, the researcher broke down participants memories into 5 year intervals (0-5, 5-10, 10-15, 15-20 years), with ratings of emotional intensity, sensory detail, and importance (see Table 2) averaged within each period. Although 15-20 years was the primary time of interest, ratings were compared for other age intervals to determine if the adults recalled adolescence with more intensity than childhood memories. A series of ANOVAs and post-hoc analyses, with age of participant as the independent variable and emotional intensity, sensory detail, and importance as dependent variables, revealed several significant findings. Older adults rated events from ages 15-20 as more emotionally intense than the middle-aged and adolescent participants, $F(2, 54)=4.84$, $p<.05$). Additionally older adults' ratings of importance of events from ages 10-15, $F(2, 55)=4.18$, $p<.05$) and 15-20, $F(2, 54)=4.47$, $p<.05$) were significantly higher than those of the adolescents but not the middle-aged adults.

Table 2

Rated emotional intensity, sensory detail, and importance of remembered events from ages 0-20 for adolescent, middle-aged, and older adults separated by 5-year intervals.

<u>Interval</u>		<u>Adolescent</u>	<u>Middle-Aged Adults</u>	<u>Older Adults</u>
Emotional Intensity	0-5 years	2.08	1.93	2.48
	5-10 years	2.12	2.18	2.45
	10-15 years	2.17	2.22	2.52
	15-20 years	2.27	2.27	2.74 ^a
Sensory Detail	0-5 years	3.19	2.84	3.34
	5-10 years	3.08	3.21	3.28
	10-15 years	3.24	3.43	3.80
	15-20 years	3.71	3.48	4.04
Importance	0-5 years	2.45	2.74	3.35
	5-10 years	2.53	2.80	2.90
	10-15 years	2.59	2.92	3.49 ^b
	15-20 years	2.78	3.19	3.86 ^b

^a Older adults significantly different from the adolescent and middle-aged participants.

^b Older adults significantly different from the adolescent participants.

The researcher performed a second set of exploratory analyses to investigate whether adolescence was a more negative time than other periods in life. Participants reported their emotion at the time of the event and their current emotion toward the event. Analyses involved the percentage of negative emotions, both past and present (see Table 3), in comparison to positive and neutral emotions, was calculated for ages 0-5, 5-10, 10-15, and 15-20. There were several significant findings. For emotions at the time of the event, adolescent participants did not differ from middle-aged or older adults in any of the 4 time intervals. Older adults had significantly fewer negative memories than middle-aged adults for events from ages 15-20, $F(2, 55)=3.27, p<.05$). For current emotion, middle-aged adults did not differ significantly from adolescents or older adults. Adolescents were more negative than older adults for events from ages 5-10, $F(df=2, 42)=5.54, p<.05$ and those from 15-20, $F(2, 55)=4.75, p<.05$).

Table 3

Percentage of negative emotion ratings for the time of the event (past) and present separated by 5-year intervals.

<u>Interval</u>		<u>Adolescent</u>	<u>Middle-Aged Adults</u>	<u>Older Adults</u>
Past	0-5 years	.33	.33	.44
Negative Emotion	5-10 years	.44	.46	.46
	10-15 years	.28	.22	.31
	15-20 years	.32	.36	.11 ^a
Present	0-5 years	.76	.65	.48
Negative Emotion	5-10 years	.80	.69	.45 ^b
	10-15 years	.83	.81	.76
	15-20 years	.86	.67	.57 ^b

^a Older adults significantly different form the middle-aged participants.

^b Older adults significantly different from the adolescent participants.

Examination of Table 3 suggests that participants, regardless of age, felt more negatively about events currently than at the time of the event. In fact across all 3 age groups, for all 4 time periods, the percentage of current negative emotions was significantly higher than the reported negative emotions for the time of the event (Ages 0-5 $t=3.16, p=.01$, Ages 5-10 $t=3.12, p<.01$, Ages 10-15 $p<.01$, Ages 15-20 $p<.01$). The difference was particularly striking for events from 10-15 and 15-20.

DISCUSSION

Contrary to popular wisdom, the adolescent participants in this study did not seem to be more negative or intense in their recollection of past events than middle-aged or older adults. Actually, the older adult participants in this study seemed to recall their past with particular intensity and positive emotion. The older adults rated events from ages 15-20 as having more impact, more emotional intensity, and less negatively than the adolescent participants. However, the adolescent participants did not differ significantly from the middle-aged participants on any measure. If adolescents were particularly negative and emotional shouldn't their ratings be higher than those of adults for events from the same time period? These current findings suggest instead that adolescence may not be more emotionally intense, but older adults may remember them as being so. The findings also fit in with previous research indicating that ratings of intensity and pleasantness increase with time.

Adolescents in the present study were currently more negative about events from ages 15-20 than the older adults. The interpretation of this finding is difficult. It could be that adolescents today experience more negative events than older adults did during their youth. It could also be the older adults have more experience by which to judge how negative events from the past really are. It is interesting that the adolescents and older adults percentage of negative memories were not different in their retrospective rating for the time of the event. Additionally, it is interesting that participants in all three age groups reported less negative emotion for the time of the event than negative emotions about those same events in the present. Why people would become more negative over time is unclear. The authors could find no clues in the existing literature, but several possibilities exist. One possible explanation is that the methodology used in this study caused participants to select events about which they now felt negatively. An alternative explanation is that people better recall early life events in the life story of these events ultimately produced some kind of negative outcome. Further research will be needed to explore and establish this finding.

REFERENCES

- Arnett, J.J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist*, pp. 317-326.
- Buchanan, C.M., Eccles, J. S., & Becker, J.B. (1992). Are adolescents the victims of raging hormones: Evidence for activational effects of hormones on moods and behavior at adolescence. *Psychological Bulletin*, 111, 62-107.
- Conway, M.A. & Haque, S. (1999). Overshadowing the reminiscence bump: Memories of a struggle for independence. *Journal of Adult Development*, 6, 35-44.
- Czikszentmihalyi, M. & Larson, R. (1984). *Being adolescent: Conflict and growth in the teenage years*. New York: Basic Books.
- Larson, R. & Lampman-Petratis, C. (1989). Daily emotional states as reported by children and adolescents. *Child Development*, 60, 1250-1260.
- Larson, R. & Richards, M.H. (1994). *Divergent realities: The emotional lives of mothers, fathers, and adolescents*. New York: Basic Books.
- Malatesta, C.Z. & Kalnok, M. (1984). Emotional experience in younger and older adults. *Journal Gerontology*, 39, 301-308.

- Peterson, A.C. & Ebata, A.T. (1987). Developmental transitions and adolescent problem behavior: Implications for prevention and intervention. In K. Herrelmann & F. Kaufman (eds.), *Social Intervention: Potential and Constraints*, (pp. 167-184). New York: de Gruyter.
- Robinson, J.A. (1996). Perspective, meaning, and remembering. In D.C. Rubin (ed.), *Remembering our past: Studies in autobiographical memory*, (pp. 199-217). New York: Cambridge University Press.
- Robinson, J.A. (1980). Affect and retrieval of personal memories. *Motivation and Emotion*, 4, 149-174.
- Rubin, D.C. & Schulkind, M.D. (1997). Distribution of important and word-cued autobiographical memories in 20-, 35-, and 70-year-old adults. *Psychology and Aging*, 12, 524-535.
- Schrauf, R.W. & Rubin, D.C. (2001). Effects of voluntary immigration on the distribution of autobiographical memory over the lifespan. *Applied Cognitive Psychology*, 15, 75-88.