

# Age and Emotion in Adulthood

Daniel K. Mroczek<sup>1</sup>

Department of Psychology, Fordham University, New York, New York

## Abstract

Evidence suggests that positive affect rises from youth through young and then older adulthood, but may decline after one's mid-70s. Negative affect appears to decrease steadily from early adulthood to older adulthood, but this decline may taper off in the oldest years. The relationship between age and affect in adulthood is further complicated by the effects of moderators, such as extraversion and marital status. Despite these complexities, recent empirical studies and current theory have furthered the understanding of age and affect in adulthood, although important questions remain.

## Keywords

adult development; affect; aging; emotion; well-being

What is the relationship between age and emotion over the adult life span? Affect plays a large role in the unfolding of many phenomena that occur in early human development, such as attachment to caregivers. It is thus germane to ask how emotion is manifested in later psychological development, especially in adulthood. Further, the question is important for researchers trying to understand age-related changes in psychological well-being over the life span, as most scholars agree that affect is one of the main cornerstones of well-being. Finally, much current thought on psychological development over the life span has centered on how people's emotions change over time (Carstensen,

1995; Carstensen, Isaacowitz, & Turk-Charles, 1999; Labouvie-Vief & DeVoe, 1991). In this article, I describe recent research on the association between age and affect.

## AGE AND AFFECT

Early investigations of how affect changes across the life span yielded mixed results. By the mid-1990s, many scholars had completed studies of age and emotion in adulthood, yet the collective body of literature did not draw a consistent picture with regard to either positive or negative affect (Ferring & Filipp, 1995; Malatesta & Kalnok, 1984; Rossi & Rossi, 1990; Ryff, 1989; Smith & Baltes, 1993). Some studies found that the frequency of positive and negative affect increases with age, others documented decreases in the frequency of affect with increasing age, and still others reported no association at all. Recently, Kolarz and I attempted to resolve some of these inconsistencies by addressing the question using a large national sample that would yield precise estimates of the relationship between age and affect (Mroczek & Kolarz, 1998). After analyzing data from the Midlife in the United States (MIDUS) survey, sponsored by the MacArthur Foundation Research Network on Successful Midlife Development, we concluded that older adults tend to report experiencing more positive affect and less negative affect than younger adults. Additionally, the effect for positive affect was nonlinear—it increased at an accelerating rate. The MIDUS respondents ranged in age from 25

to 74, and it would be risky to extrapolate the findings to adults who are even older. Nonetheless, over this 50-year age range, we documented discernible, but small, changes in the frequency of both positive and negative affect. Regression lines depicting these associations are displayed in Figure 1.

Further, the relationships between age and affect endured after we statistically controlled for a host of variables that are known to influence either positive or negative affect, and thus might have explained away the associations we found. Positive affect was higher for men than for women, for married people than for single people, for extraverts than for introverts, and for people in good physical health than for those in poor health; also, positive affect was inversely related to stress and neuroticism. Negative affect was higher for women than for men, for unmarried people than for married people, for individuals with high scores on measures of neuroticism than for those with low scores, and for people experiencing stress than for those with relatively stress-free lives; negative affect was lower among extraverts than among introverts and among people in good physical health than among those in poor health. Over and above the effects of this wide array of influences, older people reported more positive and less negative affect than those at midlife, who in turn expressed more positive and less negative affect than the youngest members of the sample.

This is an optimistic finding, suggesting that as people move away from the trials and vicissitudes of youth, they may increasingly experience a more pleasant balance of affect, at least up until their mid-70s. Of course, this statement rests upon the assumption that the association is an effect of the aging process and not a cohort effect (i.e., not an effect due to cir-

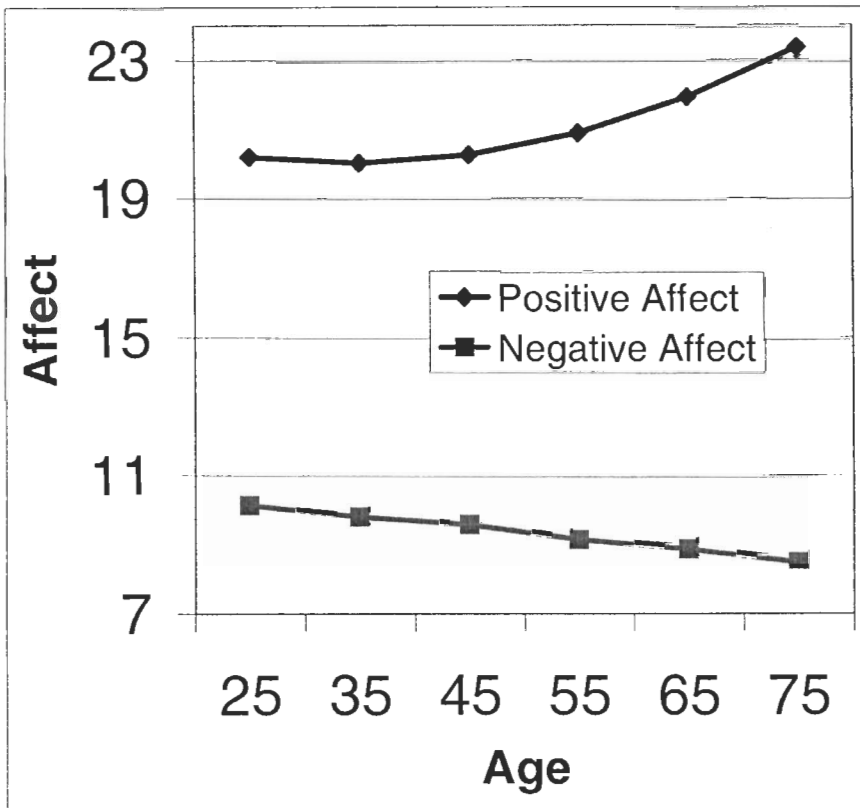


Fig. 1. Plotted regression lines showing the relation between positive affect and age (diamonds) and negative affect and age (squares). Positive and negative affect scores have a possible range of 6 to 30, with higher scores indicating higher levels of affect. The lines are based on the following equations: positive affect =  $22.38 + \text{age}(-.14) + \text{age}^2(.002)$ ; negative affect =  $10.94 + \text{age}(-.03)$ . Adapted from Mroczek and Kolarz (1998).

cumstances peculiar to this particular birth cohort). It is also generalizable only to the U.S. population from which the MIDUS sample was drawn. Nevertheless, it does fit with a body of findings collectively known as the *paradox of well-being* (Filipp, 1996; Staudinger, Fleeson, & Baltes, 1999)—the fact that the documented correlation between objective rigors and subjective happiness is small. The paradox is relevant to research on age and well-being, for despite the cruelties of aging (e.g., worsening physical health, deaths of old friends and relatives), older adults do not report concomitant decreases in the emotional aspects of well-being.

#### AFFECT AMONG THE OLDEST ADULTS

No MIDUS participant was older than 74 at the time of assessment, so it is necessary to look elsewhere for data regarding the level of affect among the oldest old. Recent reports have indicated that positive affect may drop during the oldest years. In the Berlin Aging Study, positive affect declined by as much as half a standard deviation across several age categories ranging from 70–75 to 95–100 (Smith, Fleeson, Geiselman, Settersten, & Kunzman, 1999). The same study also documented a correlation of  $-.22$  between age and positive af-

fect over the age range from 70 to 100 years, in contrast to an association of  $.10$  over the age range of the MIDUS survey (25–74). The decline in positive affect in the Berlin sample prevailed even when many other factors, including nearly all those utilized in the MIDUS study, were statistically controlled (Isaacowitz & Smith, 2000).

Combining the MIDUS and Berlin results suggests that the relationship between positive affect and age is curvilinear, with frequency reports of this emotion rising from young adulthood through midlife before peaking in the earlier years of older adulthood, and then diminishing during the oldest years, when health deficits and other problems become more severe. This educated guess regarding the typical path of positive affect over the adult years is not supported by all the evidence, as one study documented a more consistent decline in positive affect, with no increase in midlife, in a sample ranging in age from 19 to 92 (Rossi & Rossi, 1990). Nevertheless, the combination of two of the largest samples brought to bear on the question of the relation between age and affect (MIDUS and Berlin) points toward a curvilinear association between age and positive affect in adulthood. Nonlinearity is likely the root of the confusion that has at times obfuscated the relationship between age and positive affect.

Less confusion surrounds the association between age and negative affect. Many investigators have reported declines in negative affect over wide age ranges (e.g., Isaacowitz & Smith, 2000; Mroczek & Kolarz, 1998; Rossi & Rossi, 1990). However, at least one study reported no relationship between age and negative affect among the oldest old (Smith et al., 1999). Thus, it is possible that negative emotion may steadily decrease through adulthood, but then the decline may taper off in the oldest years.

Again, this is a generally optimistic message, and it resonates with one of the most significant lessons of late-20th-century gerontology, namely, that gains as well as losses characterize the human aging process (Baltes & Baltes, 1990). Yet this very upbeat portrait may not characterize the very oldest members of the population. Further, it is perhaps simplistic to state that people get happier as they age (Isaacowitz & Smith, 2000). Expressing a more subtle view, Carstensen, Pasupathi, Mayr, and Nesselroade (2000) have suggested that older adults and others who are reaching end points in life may experience mixed and complex emotions. They use the term "poignancy" to describe the simultaneous experience of positive and negative affect, as well as the capacity of older adults (and others facing endings) to feel emotions in a more complex manner than younger adults. Other researchers have offered similar arguments, stating that well-being, especially among older adults, adds up to more than a maximization of positive and a minimization of negative affect (Ryff, 1989). Ultimately, the story of emotion and age may focus on greater complexity of affect in later life, and less on simple ups and downs in the frequency of positive and negative emotion.

### MODERATORS OF THE AGE-AFFECT RELATIONSHIP

Adult emotional development is complex in other ways as well, for certain combinations of variables are associated with heightened or diminished levels of affect (Mroczek & Kolarz, 1998). Such interaction, or moderator, effects provide another piece of the age-affect story. For example, the analysis of positive affect in the MIDUS study showed an interaction between age and extraversion, but only

among men. Specifically, the association between age and positive affect was weaker among extraverted men and stronger among introverted men. Men who were extraverted tended to have high positive affect, regardless of their age. Age made more of a difference in predicting positive affect among introverted men: Older introverted men reported higher positive affect than younger introverted men. Essentially, the effect of age was magnified if a man was an introvert, but was lessened if he was an extravert.

The analysis of negative affect in the MIDUS sample showed an interaction between age and marriage, again only for men (Mroczek & Kolarz, 1998). Among married men, there was a steep decline in negative affect from age 25 to age 74. Unmarried men, in contrast, reported high negative affect across the full age range. Basically, young men, married or not, admitted high levels of negative affect. However, midlife and older men (especially the latter) reported much less negative affect if they were married. This could be a cohort effect, but it could also indicate that one of the benefits of marriage for men is that it helps to diminish negative emotion once middle and older age arrive.

Earlier, I noted that the effects of age on the frequency of positive and negative affect are small. However, regardless of the size of these effects, age also appears to interact with other variables in determining the frequency of emotion.

### CONCLUSION

Several research questions in the area of adult emotion require answers. First, although most studies have reported a decline in negative affect (with perhaps an upturn in very late life), many investigators are in disagreement about the tra-

jectory of positive affect. It is clear that future research must resolve this issue by studying people across a broad range of ages, from the youngest adults to the oldest old. Second, and more important, research needs to ascertain whether these age differences in affect are due to aging or cohort effects. To fully answer this question, investigators will need to conduct longitudinal studies, and in particular, longitudinal studies that also contain a broad cross-section of age cohorts. Such studies (cross-sequential designs) would make it possible to tease apart how much change in affect is due to cohort influences, and how much is due to the effects of aging regardless of cohort membership.

Fortunately, there are thoughtful theories of life-span emotional development that can guide investigators in answering these questions (e.g., Baltes & Baltes, 1990; Carstensen et al., 1999; Labouvie-Vief & DeVoe, 1991). As a result of these theories and the empirical studies discussed in this article, psychologists now have a stronger grasp than ever before on the issues surrounding the relationship between age and emotion over the adult portion of the life span. The coming years will bring an even firmer understanding.

### Recommended Reading

- Carstensen, L.L., Isaacowitz, D.M., & Turk-Charles, S. (1999). (See References)
- Filipp, S.-H. (1996). (See References)
- Labouvie-Vief, G., & DeVoe, M. (1991). (See References)
- Mroczek, D.K., & Kolarz, C.M. (1998). (See References)
- Smith, J., Fleeson, W., Geiselman, B., Settersten, R.A., & Kunzman, U. (1999). (See References)

**Acknowledgments**—The author acknowledges the support of the John D. and Catherine T. MacArthur Foundation Research Network on Successful Midlife Development and the National Institute on Aging (R03-AG16054).

## Note

1. Address correspondence to Dan Mroczek, Fordham University, Department of Psychology, Dealy Hall, Bronx, NY 10458-5198; e-mail: mroczek@fordham.edu.

## References

- Baltes, P.B., & Baltes, M.M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P.B. Baltes & M.M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1-34). Cambridge, England: Cambridge University Press.
- Carstensen, L.L. (1995). Evidence for a life-span theory of socioemotional selectivity. *Current Directions in Psychological Science*, 4, 151-155.
- Carstensen, L.L., Isaacowitz, D.M., & Turk-Charles, S. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54, 165-181.
- Carstensen, L.L., Pasupathi, M., Mayr, U., & Nesselroade, J.R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, 79, 644-655.
- Ferring, D., & Filipp, S.-H. (1995). The structure of subjective well-being in the elderly: A test of different models by structural equation modeling. *European Journal of Psychological Assessment*, 11, 32.
- Filipp, S.-H. (1996). Motivation and emotion. In J.E. Birren & K.W. Schaie (Eds.), *Handbook of the psychology of aging* (4th ed., pp. 218-235). San Diego: Academic Press.
- Isaacowitz, D.M., & Smith, J. (2000). *Positive and negative affect in very old age: A reply to Mroczek & Kolarz (1998)*. Unpublished manuscript, Max Planck Institute for Human Development, Berlin, Germany.
- Labouvie-Vief, G., & DeVoe, M. (1991). Emotional regulation in adulthood and later life: A developmental view. In K.W. Schaie (Ed.), *Annual review of gerontology and geriatrics* (pp. 172-194). New York: Springer.
- Malatesta, C.Z., & Kalnok, M. (1984). Emotional experience in younger and older adults. *Journal of Gerontology*, 39, 301-308.
- Mroczek, D.K., & Kolarz, C.M. (1998). The effect of age on positive and negative affect: A developmental perspective on happiness. *Journal of Personality and Social Psychology*, 75, 1333-1349.
- Rossi, A.S., & Rossi, P.H. (1990). *Of human bonding: Parent-child relations across the life course*. New York: Aldine de Gruyter.
- Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.
- Smith, J., & Baltes, P.B. (1993). Differential psychological aging: Profiles of the old and very old. *Ageing and Society*, 13, 551-587.
- Smith, J., Fleeson, W., Geiselman, B., Settersten, R.A., & Kunzman, U. (1999). Sources of well-being in very old age. In P.B. Baltes & K.U. Mayer (Eds.), *The Berlin Aging Study: Aging from 70 to 100* (pp. 450-471). Cambridge, England: Cambridge University Press.
- Staudinger, U.M., Fleeson, W., & Baltes, P.B. (1999). Predictors of subjective physical health and global well-being: Similarities between the United States and Germany. *Journal of Personality and Social Psychology*, 79, 305-319.