

Looking at the Sunny Side of Life:  
Age-Related Change in an Event-Related Potential Measure of the Negativity Bias

Michael A. Kisley, Stacey Wood  
Department of Psychology  
University of Colorado at Colorado Springs

Affective (ie, "emotional") content of information encountered in the environment can impact cognitive processing. For example, "negative" information has been found to have a stronger influence than "positive" information across a wide range of cognitive domains in studies of the "negativity bias". At odds with this literature is extensive work now documenting emotional and motivational shifts in older adults resulting in a "positivity effect." But whether this results from age-related increases in processing positive information or decreases in processing negative information remains unclear, as does the specific time-course of development from a negative bias to an apparent positive one. The present study was designed to investigate the negativity bias across the lifespan using event-related potential (ERP) measures of responding to emotionally-valenced images. The results suggest that neural reactivity to the emotional images declines linearly with age, but only for responses to the negative images. Responding to the positive images was found here to be surprisingly age-invariant across most of the adult lifespan.

Although these results can be taken as "good news" associated with aging, there's evidence to suggest that the effect depends upon intact cognitive function. In other words, older adults with cognitive impairment might not enjoy the development of a "positivity bias." Also, aside from improved mood and outlook in healthy older adults, a decrease in the negativity bias with aging might not be universally beneficial (eg, it might impair proper risk assessment, medical decision-making).

Concerning the theme of the Coleman Institute Conference, these findings highlight the importance of considering the possible affective aspects of technological assistance devices for cognitively impaired individuals. For example, such consideration could help inform the appropriate selection of device interfaces (eg, selecting "pleasant" or "threatening" icons) depending on specific disability, age, etc.