Older adults spot phoney smiles better, study shows

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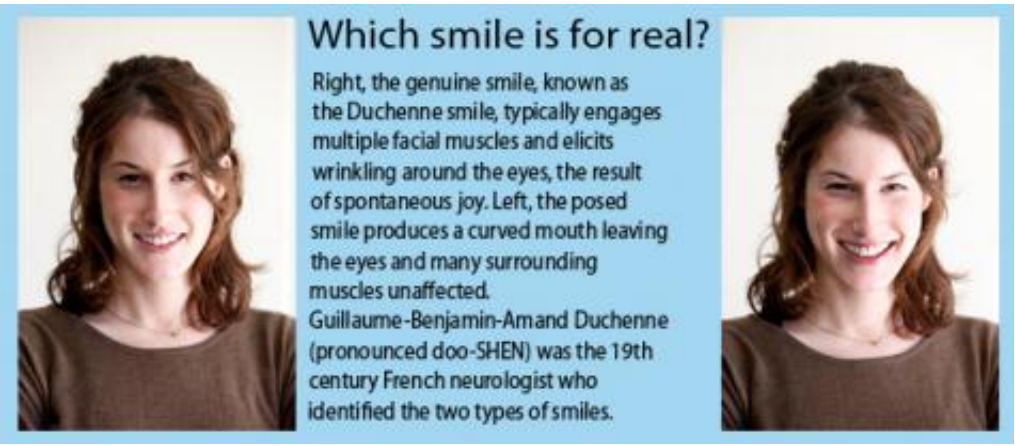

Credit: Mike Lovett

(PhysOrg.com) -- Your great aunt may be slowing down as she grows older, but a study created in a Brandeis laboratory reveals that she's probably better than you are at perceiving a genuine smile.

We're trying to understand how emotional experience, regulation and recognition changes with age," says Derek Isaacowitz, associate professor of psychology and the head of the Emotion Laboratory. As part of those investigations Nora A. Murphy, a postdoctoral research fellow in the Emotion Lab from 2005-2007, led a team that included Jonathan Lehrfeld '08, in a study to explore age differences and the ability to recognize sincere and posed smiles.

Previous studies on aging have used static images – photos – and investigated emotional recognition focused on anger and fear. They revealed that older adults lagged behind younger adults in their ability to recognize emotions through facial expressions, a pattern that parallels findings on non-social types of perception.

The emotion lab's team found that when dynamic images – video – were used, the greater acuity of older people was observable. A paper reporting these findings, "Recognition of Posed and Spontaneous Dynamic Smiles in Young and Older Adults," was recently published in *Psychology and Aging* magazine.

"My background is in nonverbal communication," says Murphy, now an assistant professor of psychology at Loyola Marymount University. "So much of how we communicate emotion is through our facial expressions and nonverbal behavior."

Findings in aging literature say that older people do worse at most emotional recognition tests than younger adults. Yet, explains Isaacowitz, older people report having the most satisfying relationships that they've had in their lives, and show no evidence of increased interpersonal errors, which is what would be expected if they were really lousy at reading emotional expressions in the faces of others.

"This raised the possibility that perhaps the types of things that we use in the lab to test for age differences don't tap into what older people are actually doing when they try to recognize emotions in other people in their everyday lives," says Isaacowitz.

Research suggests that studying dynamic smiles may be one of the only ways to investigate how individuals discriminate between positive emotional expressions such as happiness, contentment, pride or relief because they can be distinguished by the activation of specific facial

muscles over time.

“Static smiles do not contain the critical temporal cues of the cascade of facial muscle activations that signify a genuine smile," says Isaacowitz. For example, particular muscles around the corners of the mouth that are present in a genuine smile are absent in posed smiles; a distinction that is easier to detect in moving rather than static images.

Video-recorded smiles were used, both posed and genuine, from younger adults (mean age of 22) and older adults (mean age of 70), and shown to the study participants who rated whether they felt the smiles were posed or sincere.

The first study showed that both young and old adults were both able to distinguish between posed and spontaneous smiles in young adults. The second study, created by Lehrfeld, revealed that older adults scored much higher than younger adults in distinguishing between posed and spontaneous smiles in older adults.

“We were excited to discover that older adults outperformed younger adults in recognizing posed and spontaneous smiles as this was one of the first studies to show superior older adult performance in recognizing positive emotions,” says Murphy.

One potential explanation is that when static images were used, older adults were less able to use their accumulated life experiences in assessing facial nuances.

“The neat thing about this study is that you have the movement of the face [from video images] and this seemed to not only get rid of the age difference but showed an age advantage,” says Isaacowitz.

The study results also are interesting from a policy and life perspective,

says Isaacowitz, because they may indicate that in the emotional domain, unlike in psychological or physical functioning, there may be stability or improvement as people grow older—a very different age pattern than other mental and physical processes that decline with age.

“I think that’s very provocative,” says Isaacowitz. “Very preliminary, but provocative, that it may be on these more naturalistic, subtle emotion-recognition tasks that older adults are skilled.”

More information: www.ncbi.nlm.nih.gov/pubmed/20718538

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