A maturing picture of emotion

Louisa Lawrie and Louise H. Phillips on how we process emotions in ourselves and others as we age

We tend to think of adult ageing as a time of losses: many aspects of our health and memory get worse. However, wellbeing and wisdom often show increases across the lifespan. How might the pattern of age-related gains and losses influence emotional skills in old age? Traditionally, lifespan psychologists have studied cognition and emotion separately, but by considering both aspects together we get a richer picture of adult ageing.

In this article we will focus on some core emotional skills, and how they are affected by the process of ageing. Firstly: how does ageing influence the experience of emotion and the ability to understand and describe one’s own emotions? Second: are there age effects on understanding others’ emotions, and what factors influence these age effects?

Ageing and subjective emotional experience

Emotions are subjective internal experiences. Although some aspects of emotion can be physiologically measured (e.g. facial expressions by using electromyography), those measures often cannot tell us much about the type of emotion experienced or how it is appraised by the person experiencing it. In studies asking people to report the frequency with which they experience specific emotions on a daily basis, older adults generally report less frequent experience of intense positive and negative emotions than younger people do (e.g. Lawton et al., 1992). Should this lower level of emotional experience in old age be seen as evidence of a ‘loss’? The influential ‘disengagement’ theory of ageing (Cumming & Henry, 1961) predicts emotional blunting in old age. Might decreased reporting of intense emotions reflect weaker autonomic nervous system activity in old age, as indicated by lower physiological response to emotional situations in older adults (Levenson et al., 1991)? Most evidence to date instead suggests that older adults’ lower reporting of intense emotions may in fact reflect superior emotion regulation skills (Gross et al., 1997), including a tendency to avoid situations likely to elicit intense emotions, and to reappraise negative emotions in a positive light. Older adults are particularly effective at regulating the inner experience of emotions (Phillips, Henry et al., 2008). Evidence indicates that although older adults may report fewer intense emotions in their daily lives, they often experience similarly intense emotions as young people when in identical situations. For example, when shown videos that elicit a strong disgust reaction, younger and older people reported similar levels of experienced emotion (Scheibe & Blanchard-Fields, 2009). Older and younger adults also report similar levels of subjective emotional reactivity to sad and funny films, despite lower cardiovascular responsivity to the films in older adults (Tsai et al., 2000).

There are some age differences in the nature of emotions reported. A detailed study of emotions experienced across the course of a week indicated no age differences in the frequency of positive emotions, and an age-related decline in negative emotions (Carstensen et al., 2000). A number of studies indicate that older adults are more likely to report experiencing positive emotions compared with their younger counterparts (Mather & Carstensen, 2005). Furthermore, older adults also tend to focus attention on stimuli of positive valence, whereas younger adults tend to focus attention on negative stimuli (Mather & Carstensen, 2005). This phenomenon has been labelled the ‘positivity effect’ or ‘positivity bias’ in adult ageing. A recent meta-analysis indicates that older adults’ positivity bias is highly reliable, and shows across many domains of cognition (Reed et al., 2014).

Older adults are more likely to report experiencing a variety of blended emotional states, such as a mixture of high- and low-arousing emotional states. For example, Charles (2005) documented that older adults reported invisible threads of social connection.

References

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Ageing and problems identifying one's own emotions: alexithymia

Understanding and being aware of one's own emotions includes the ability to identify and recognise internal affective states, such as physiological sensations that are associated with the experience of emotion. The ability to detect one's own emotions is a prerequisite to effectively describing emotions experienced in the self. Communicating information about our emotions has several positive implications for overall psychological wellbeing; for example, verbalising feelings can have a positive impact on personal relationships. However, the ability to identify, recognise and describe our own emotions varies considerably amongst individuals.

Alexithymia refers to a personality trait characterised by difficulties in effectively expressing and identifying emotions within the self, deficits in distinguishing emotions from bodily sensations and an externally orientated cognitive style (Sifneos, 1973). Research investigating alexithymia amongst older people is scarce. This is somewhat surprising given that alexithymia constitutes a general risk for mental and physical health. The Toronto Alexithymia Scale (TAS) is the most commonly administered self-report measure, designed to examine three dimensions of alexithymia: difficulty identifying emotions, difficulty describing emotions and externally orientated thinking. The former two dimensions comprise the emotional component of alexithymia, whereas the externally orientated thinking dimension, defined as a tendency to focus attention externally, reflects the cognitive component of the alexithymia construct (Bagby et al., 1994).

Some studies have demonstrated that older adults score higher on the TAS than young adults, suggesting that older adults have more difficulties in understanding their own emotions. For instance, one large-scale study found that the prevalence of alexithymia increased with age, with the highest TAS scores obtained by participants aged 83 years and older (Mattila et al., 2006). A more recent study revealed that age-related alexithymia was associated with poor neurocognitive abilities, as assessed via tests of verbal memory (Onor et al., 2010). However, it should be noted that the sample within this study was relatively small (including only 20 older adults). Nevertheless, based on these findings, it could be argued that older adults possess greater difficulties in identifying and communicating their own emotions compared with their younger counterparts. Furthermore, older adults are more likely to express emotional distress through somatic complaints, a factor that may be related to an inability to identify and verbalise emotion (McLeskey et al., 2008).

Several issues have been identified with the research on alexithymia and ageing. Firstly, as alexithymia is typically stronger experiences of anger, sadness, contempt and disgust than younger adults in response to videos depicting themes of injustice. It has been suggested that heterogeneous emotional experiences (experiencing a multitude of emotions) indicates greater complexity in emotional awareness. Socioemotional selectivity theory (Carstensen et al., 2003) postulates that as time horizons shrink with increasing age, shifts in motivational goals typically ensue. This leads to greater investment in social relationships and, subsequently, an enhanced appreciation of life. According to this theory, older adults are therefore more likely to experience complex (heterogeneous) emotions as they typically strive to derive meaning from life. On the other hand, some theories suggest that heterogeneous emotional responding indicates a reduced ability to detect a primary emotion experienced in response to a given emotional event (Feldman Barrett et al., 2001). Thus, it could be argued that heterogeneous emotional reactivity evidenced among older adults may actually represent diffuse emotional responding. Another interpretation might be that older adults have difficulty in separating out the experience of different emotions; this leads us to consideration of a possible link between age and alexithymia.

Meet the authors

‘Emotions in adult ageing are a really fascinating topic because of the complex interaction between bodily declines and positivity biases. We are interested in the effects of ageing on a range of different emotional processes. The literature on ageing and emotions includes quite separate fields looking at age differences in experiencing/regulating emotions and age differences in understanding others’ emotions. But embodied theories of emotion perception led us to question whether the inner experience of one’s own emotion in old age might have some link to the perception of others’ emotions.’

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assessed via a self-report measure (TAS), responses provided by young and old participants might be subject to memory biases and distortions (Henry et al., 2006). Furthermore, self-report assessments of alexithymia measure awareness of difficulties in understanding and communicating emotions, as opposed to the actual abilities concerned (Müller et al., 2004). In addition, although older adults usually score higher on the TAS alexithymia measure compared with younger adults, the scores do not typically fall within the pathological range. Moreover, the pattern of age effects can differ depending on which subscale is focused on. For example, Henry et al. (2006) found that older adults rated themselves as better than young in terms of the TAS identifying emotions subscale. In contrast, in the same study older adults scored higher in the externally oriented thought (EOT) subscale of the TAS, which is usually considered a marker of cognitive alexithymia.

A few questions concerning age and alexithymia remain unanswered. For instance, are existing measures of alexithymia assessing the same construct in young and older adults? The EOT subscale of the TAS measures the tendency to avoid introspective thought: it may be wrong to consider this a ‘deficit’ in older adults (Henry et al., 2006). In this study higher levels of EOT were associated with lower anxiety levels and reduced negative affect. These results indicate that adding scores across the different subscales to produce an overall measure of alexithymia may overestimate problems in emotion understanding amongst older adults.

Emotion perception
The ability to recognise others’ emotions is an essential skill in social interaction. To effectively engage with others and respond appropriately, we are constantly monitoring cues from their words, voices, faces and bodily posture, which provides information about how they are feeling. There is evidence that good emotion-perception skills predict enhanced quality of life (Phillips et al., 2010).

The most widely used measure of understanding others’ emotions assesses the ability to identify facial expressions of emotions from photographs. Participants are asked to choose which verbal label best describes a facial expression: the most commonly used emotion labels are disgust, anger, fear, surprise, sadness and happiness. This task involves both relatively automatic processes, such as physiological reactions to the valence of emotional information, as well as higher-level cognitive processes, such as weighing up multiple labels to decide which one best matches a face (Phillips, Channon et al., 2008). A meta-analytic review indicated that age differences vary across the six basic emotions (Ruffman et al., 2008). There were strong and clear age-related declines in the ability to label anger, fear and sadness, smaller (but reliable) age impairments in identifying happiness and surprise, and a trend towards age-related improvement in identifying disgust. The age deficits in emotion perception also extended to other modalities, such as auditory expressions.

Studies of age differences in emotion perception have mostly presented stimuli in a single modality (e.g. a voice or a face). This considerably reduces ecological validity because in real settings we tend to get multimodal information about emotions from sounds, gestures and faces together. Hunter and colleagues (2010) provide evidence that older adults particularly benefit from the availability of multimodal information when interpreting emotions. Adding contextual information (such as voices, bodily postures and situational descriptions) to traditional emotion perception tasks can reduce age differences in the ability to recognise emotions. For example, Sze et al. (2012) show that older adults are better than young at making continuous positive/negative judgements about a protagonist in a video, despite age-related declines in single-modality emotion perception. This evidence indicates that increased context and ecological validity reduces or sometimes reverses the effects of age on emotion perception.

Recent evidence has illustrated that other factors, such as familiarity and motivation, can impact the pattern of age effects in emotion perception. For instance, older adults perform better when their task is to decode the emotion depicted by a familiar romantic partner rather than a same-age stranger, and obtain higher accuracy scores when following high-motivation instructions to defend response choices in the emotion perception task (Stanley & Isaacowitz, 2015). Might this motivational advantage extend more widely to own-age effects?

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In other words, might older adults be better at perceiving emotions from own-age peers? Evidence to date does not support this hypothesis: older adults are no better at judging emotions from older compared with younger faces. Instead, it seems that it is more difficult for viewers of all ages to understand emotions from older faces compared with young faces (Bickerstaff et al., 2014), possibly because of changes in the morphology of the face or age-stereotypes in emotion attributions.

Above, we outlined older adults’ positivity biases in attention. It is therefore important to understand the potential role of positivity biases in emotion perception, particularly because most tasks are dominated by showing the negative ‘basic’ emotional expressions. But the evidence indicates that in traditional ‘labelling’ tasks of emotion perception, where participants must choose which verbal label best describes the facial expression in a photograph, there are no age-related positivity biases in choosing labels (Isaacowitz et al., 2007), even when the number of positive and negative emotions are matched (Lima et al., 2014). Instead, older adults may be biased to choose disgust more often than other negative labels (Isaacowitz et al., 2007). More subtle tasks have probed potential positivity biases in emotion perception by looking at responses to genuine and posed smiles. Older adults are more likely to respond positively to photographs of both types of smile (Slessor et al., 2010), and may be more able to discriminate between posed and genuine dynamic smiles (Murphy et al., 2010).

When we decode and react to the emotional states of others in our everyday lives, we do not always produce a verbal label for the emotion, we are not limited in our choice from a narrow range of labels, and we may indeed have no awareness of the emotion-decoding process. Most of the evidence reviewed indicates that older adults are impaired in explicit verbal labelling of others’ emotional expressions. The cognitive ageing literature indicates that automatic and implicit processes are usually less affected by age than the types of complex decision-making tasks involved in emotion-labelling paradigms. Therefore, we might predict smaller age effects on implicit measures. Some evidence supports this: there is age-related preservation of early processes of emotional detection in facial arrays (e.g. Ruffman et al., 2009), and facial muscle response to others’ emotions (Bailey & Henry, 2009). Despite difficulty in explicitly labelling expressions of negative emotion, these studies indicate that older adults can demonstrate intact implicit detection of emotions and respond to them appropriately.

**Avenues for research**

Important issues have yet to be addressed. For example, can superior emotion-regulation skills explain age differences that have been established in emotional experience? Although some research points to this explanation (Gross et al., 1997; Phillips, Henry et al., 2008) it cannot explain why findings have been inconsistent, with some studies demonstrating no age discrepancies in emotional experience (e.g. Scheibe & Blanchard-Fields, 2009). The fact that such diverse methods have been employed to assess emotional experience, namely measuring emotional responding in a naturalistic context (e.g. Lawton et al., 1992) and to stimuli presented in the laboratory (e.g. Scheibe & Blanchard-Fields, 2009), could explain why mixed results have been obtained. However, impure research is required to establish whether this is the case. In addition, it is difficult to establish whether findings from these cross-sectional studies are genuinely age-related or due to cohort effects. Some authors have argued that historical changes in child-rearing practices, diverse cultural values around emotional expression and the desirability to control emotions may be related to some of the findings regarding age differences in emotion regulation (Malatesta-Magai et al., 1992). Longitudinal studies would help to uncover whether this is the case. Notably, there are a handful of longitudinal studies that demonstrate increases in subjective wellbeing with older age and decreases in negative affect, suggesting the presence of genuine age-related changes in emotion processing (Cacioppo et al., 2008; Charles et al., 2001).

Furthermore, it would be interesting to assess whether older adults are considered more ‘alexithymic’ than young adults when alternative measures (other than the self-report TAS) are used to evaluate awareness of one’s own emotions. This could include more detailed qualitative interviews with old people themselves, as well as asking close relatives whether they have noticed any changes in the way their older relative communicates emotion. Indeed, it would be more beneficial for researchers to adopt a mixed-methods approach, combining both self-report and qualitative interviews, perhaps with psychophysiological data. As mentioned, research has yet to establish the link between alexithymia and emotion perception in older adults. Most ageing studies conducted in the field of cognition and emotion address only one aspect of emotion processing without considering how different emotional skills may be related. For example, could deficits in identifying one’s own emotion (alexithymia) partially explain the difficulties some older adults experience in decoding emotion in other people? Moreover, it is important to determine whether age effects on emotional skills have implications for everyday social interaction and wellbeing among the older generation.