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## P2.17 Age effects on the relationships between felt emotions and cardiovascular and electrodermal reactivity to affective pictures

Patrick Gomez<sup>1</sup>, Armin von Gunten<sup>2</sup>, Brigitta Danuser<sup>1</sup>

*Institute for Work and Health<sup>1</sup>, Lausanne, Lausanne University Hospital<sup>2</sup>*

Knowledge about how the relationship between the emotional experience and the physiological response to affective stimuli may change during the adult lifespan is sparse. The present study aimed at determining whether age modulates the relationship between felt emotions (pleasantness and arousal) and the cardiovascular and electrodermal responses to affective pictures. Participants were 212 well-functioning individuals (94 men) ranging in age from 20 to 81 years with a mean of 47.4 years ( $SD = 17.3$ ). They watched 14 different one-minute long picture series and gave one valence and one arousal rating for each series. Systolic blood pressure (SBP) and heart rate (HR) were measured beat-to-beat by finger-cuff photoplethysmography with the Finometer. Skin conductance level (SCL) was recorded with a Psylab device. Change scores for the physiological measures were computed by subtracting the mean of the 10-s baseline immediately before onset of each series from the mean of the corresponding 60-s series epoch. Mixed effect regression modeling was used to determine the relationships between affective ratings, physiological measures and age. SCL increased with increasing self-rated arousal ( $\beta = 0.19, p < .001$ ). Yet, this relationship was modulated by age (i.e., significant Arousal x Age interaction,  $\beta = -0.006, p < .001$ ): Among the older participants SCL changes were only weakly related to arousal. HR changes were positively related to pleasantness, i.e., HR deceleration became increasingly larger with increasing self-reported unpleasantness ( $\beta = 0.12, p < .001$ ). However, this relationship was modulated by age (i.e., significant Valence x Age interaction,  $\beta = -0.003, p < .05$ ): Among the older participants HR changes did not show a valence-dependent modulation. SBP increased with both increasing self-rated pleasantness ( $\beta = 0.09, p < .05$ ) and arousal ( $\beta = 0.20, p < .001$ ). The Valence x Age and Arousal x Age interactions were not significant ( $p > .6$ ). Compared to younger adults, older adults show much weaker relationships between HR and valence and between SCL and arousal. This may result from blunted parasympathetic output to the heart and sympathetic outflow to the eccrine glands, respectively, among older adults. On the contrary, younger and older adults do not differ in their relationship between self-reported arousal and SBP suggesting that the arousal-dependent sympathetic control of SBP is largely preserved across adulthood. This study suggests that age effects on the coupling between felt emotions and physiology are not unitary but rather system- and measure-specific.