The Influence of Expertise on the Multisensory Imagery of Wine

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Taste and smell seem hard to imagine, but people differ in this ability. Yet, the mechanisms by which people differ have been underexplored. Here we investigate whether one such mechanism is expertise. Wine is a multisensory experience, combining information from vision, taste, and smell; and wine experts learn their skills in this domain. Is wine imagery improved in expertise, and if so is this trait learnt or are they better imagers in the first place? If better chemosensory imagers become experts then their imagery ability should not improve over time. To investigate this, we first compared a group of 66 wine experts to 66 yoked novices using the newly developed Vividness of Wine Imagery Questionnaire (VWIQ) measuring wine imagery in the modalities vision, taste and smell. Overall, wine experts had greater vividness of wine imagery compared to novices, $F(1, 130) = 28.90$, $p < .001$. The interaction between expertise and modality, $F(2, 260) = 5.20$, $p = .009$, revealed that experts did not differ in vividness across modalities, whereas novices had more vivid visual than taste or odor imagery. Next, we followed 20 students from the Dutch Wine Academy and a group of 45 control participants. Participants completed the VWIQ at two time points; students completed the questionnaire before and after six months of weekly day-long wine classes. Students and controls did not differ before the course, but after the course students reported more vivid wine imagery, $F(1, 55) = 8.35$, $p = .006$. Overall, we show having vivid chemosensory imagery is not critical to become a wine expert, but that this ability can be trained. We provide strong evidence that expertise improves imagery, exemplifying the extent of its plasticity in cognition for the chemical senses.