We performed model fitting and comparison on ten studies, some of which have had behavioural data previously-published and others comprise newly-reported studies. A number of previous reports have modelled behaviour on number-based and / or economic-framed full information problems, in which participants typically attempt to choose the best price (e.g., Baumann et al., 2020; Lee, 2006; Van de Wouw, et al., 2023). Indeed, our recent study (Van de Wouw et al., 2023) replicated previous findings showing that participants can undersample on such tasks (e.g., Baumann et al., 2020) and, further, implemented similar model comparisons as here, which suggested that undersampling in this domain may occur because participants perceive sampling as intrinsically costly (i.e., the CS model best explained participants’ behaviour). In contrast, the current study gathers together datasets from ten studies that use image-based domains, rather than numbers / prices, and which all show oversampling bias rather than undersampling bias. These include studies where participants choose the most attractive faces from sequences of potential dates (Furl et al., 2019; van de Wouw et al., 2022). However, we also explored other domains which also use face images – including studies where participants ch

Furl et al. reported that participants oversampled on this task, compared to the ideal observer model described herein. Moreover, Furl et al. analysed choice thresholds as a function of sequence position of participants and a selection of models. BV model thresholds resembled those of participants. Here we elaborate on that analysis by reporting a complete model fitting and comparison, including most of the models proposed in Furl et al. and adding the CO, BR and O models. One of the models whose thresholds were analysed in Furl et al. (2019) – the “biased prior model” – showed poor parameter recovery and therefore we do not report it as part of our comparison of fitted models here.

hypothesised that oversampling might occur because the domain of the task – personal mate choice – might instigate innate / instinctive mechanisms related to reproduction, such as the “high-threshold” mate choice behaviour claimed for some animals (e.g., Valone et al., 1996). The intent of the Matchmaker Study was to test this hypothesis using a paradigm that keeps the methods identical to those of Face Attractiveness Study 1, while concomitantly removing the personal mate choice element.

We hypothesised that, if oversampling when making personal mate choice decisions arises because of an instinctive high threshold, then one might hypothesise considerable contribution of the BV and / or BR models in Face Attractiveness Study 1. These models have been designed such that only options above a threshold can influence choice, with the threshold fitted as a free parameter. If the instructions used in Matchmaker Study can eliminate this instinct, we would hypothesise reduced contribution of BV and BR models in Matchmaker Study.