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The Genetics of Assortative Mating

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ABSTRACT:

People tend to choose a partner that is alike; a phenomenon called (positive) assortative mating. This behaviour is apparent in a wide variety of characteristics, including physical characteristics, personality, educational level and socioeconomic status. Such behaviour can have substantial impact on the genetic make-up of subsequent generations. Yet, research has only addressed the underlying genetics of assortative mating in a sparse selection of traits. Therefore, we investigate genetic assortative mating in a broad range of traits regarding health, personality, cognition, behaviour and physical dimensions. In a sample of over 46.000 spouse pairs in the UK Biobank, we investigate the spousal resemblance based on polygenic scores for a range of traits. Furthermore, we compute genome-wide per-SNP spouse correlations and apply LD score regression (Bulik-Sullivan et al., 2015) to assess the genetic correlations of spousal resemblance with complex traits. Based on previous research we expect to find significant assortative mating for traits related to behaviour, health, and socioeconomic status. This work can offer novel insights on the relationship between mate choice and genetic variation related to complex traits.

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