

# The Occupational Requirement of Thinking Creatively is Associated With Flow Proneness During Work: Genetic and Environmental Influences

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**Background:** Flow is the subjective experience of high but effortless attention, loss of self-awareness, control, and enjoyment that can occur during active performance of challenging tasks. Both qualitative and quantitative research suggest a relation between the proneness to experience flow and creative work [1, 2].

**Aim:** To investigate the phenotypic relation between the occupational requirement/importance of creative thinking and flow proneness during work.

**Method:** Data were collected from a twin cohort part of the Swedish Twin Registry [3]. The present sample consisted of 9,052 twins (age range 27 – 54 years,  $M = 41 \pm 7.7$  years; 5226 female), with information on zygosity. The O\*NET taxonomy was used to infer the importance of creative thinking for all occupations listed by the participants. The participants also rated to what extent their work was associated with flow experiences. The phenotypic relation between ‘Thinking creatively’ and ‘Flow at work’ was analyzed using a general linear model, adjusting for age and sex. The genetic and environmental influences on that relation were analyzed using structural equation modeling, based on 1,142 complete twin pairs and 978 singletons.

**Results:** There was a significant association between ‘Thinking creatively’ and ‘Flow at work’  $F_{(7223)} = 12.7, p < .001$ . The univariate heritability was 34% and 31% for the two variables respectively; 86% of the phenotypic relation was accounted for by genetic factors; 31% of the total genetic variance in the two traits was shared.

**Conclusions:** Individuals who hold an occupation which requires them to think creatively also report more flow during work. While creative work and related environments may fulfill many conditions for flow, the association appears to be predominantly genetic, suggesting that flow proneness is associated to an interest in creative professions through common genetic factors.

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## References

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