

LEVELS OF FAMILIARITY AND SOCIAL SUPPORT: MODULATIONS OF THE N170 THROUGH ADOLESCENCE

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Introduction

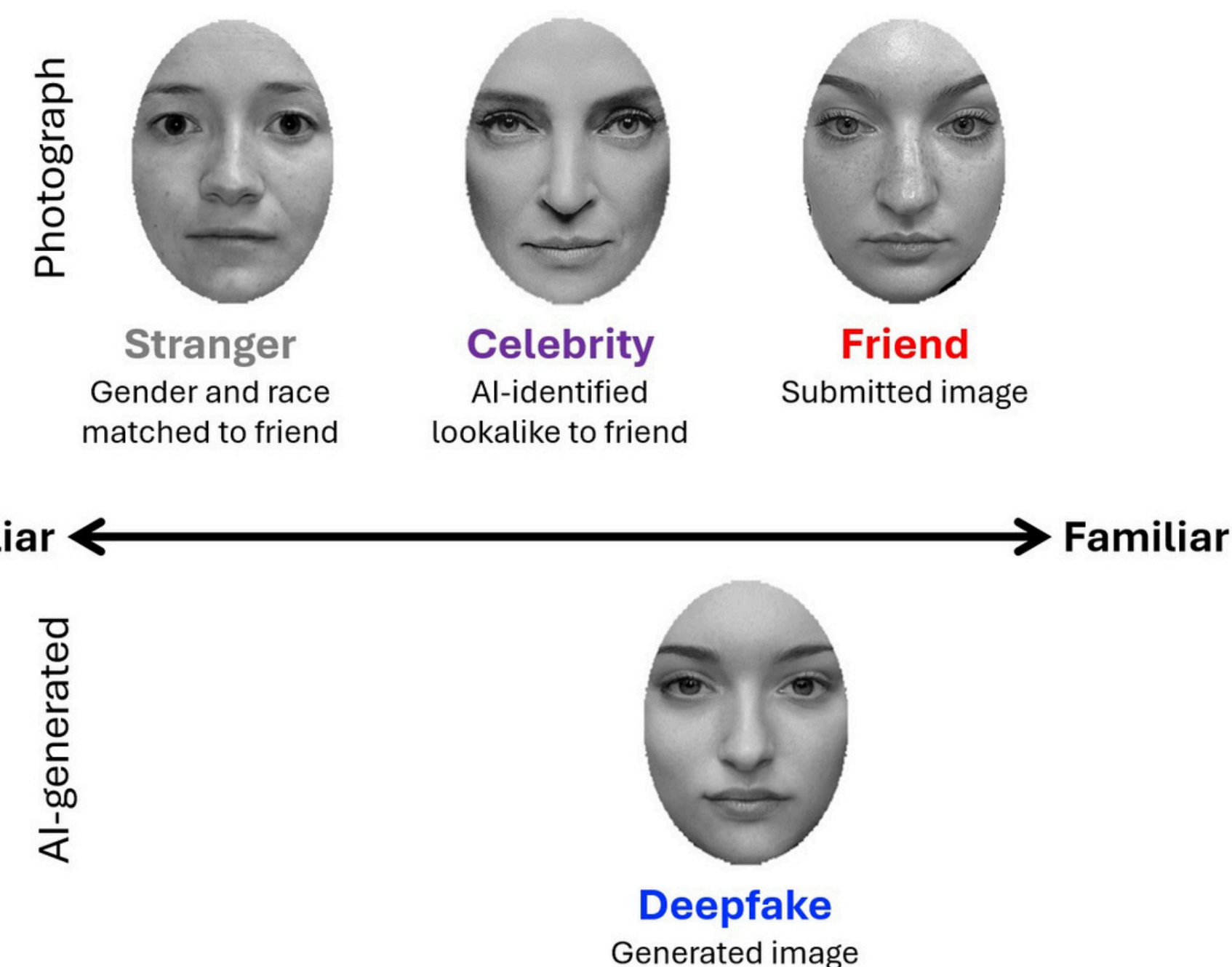
Social interactions necessitate automatic perception and evaluation of faces, and the abilities to identify and learn faces are highly specialized skills that continue to develop throughout adolescence.

Recent research suggests that feeling socially supported positively impacts the perception of familiar faces¹. Moreover, strong, supportive relationships during adolescence contribute significantly to overall well-being.

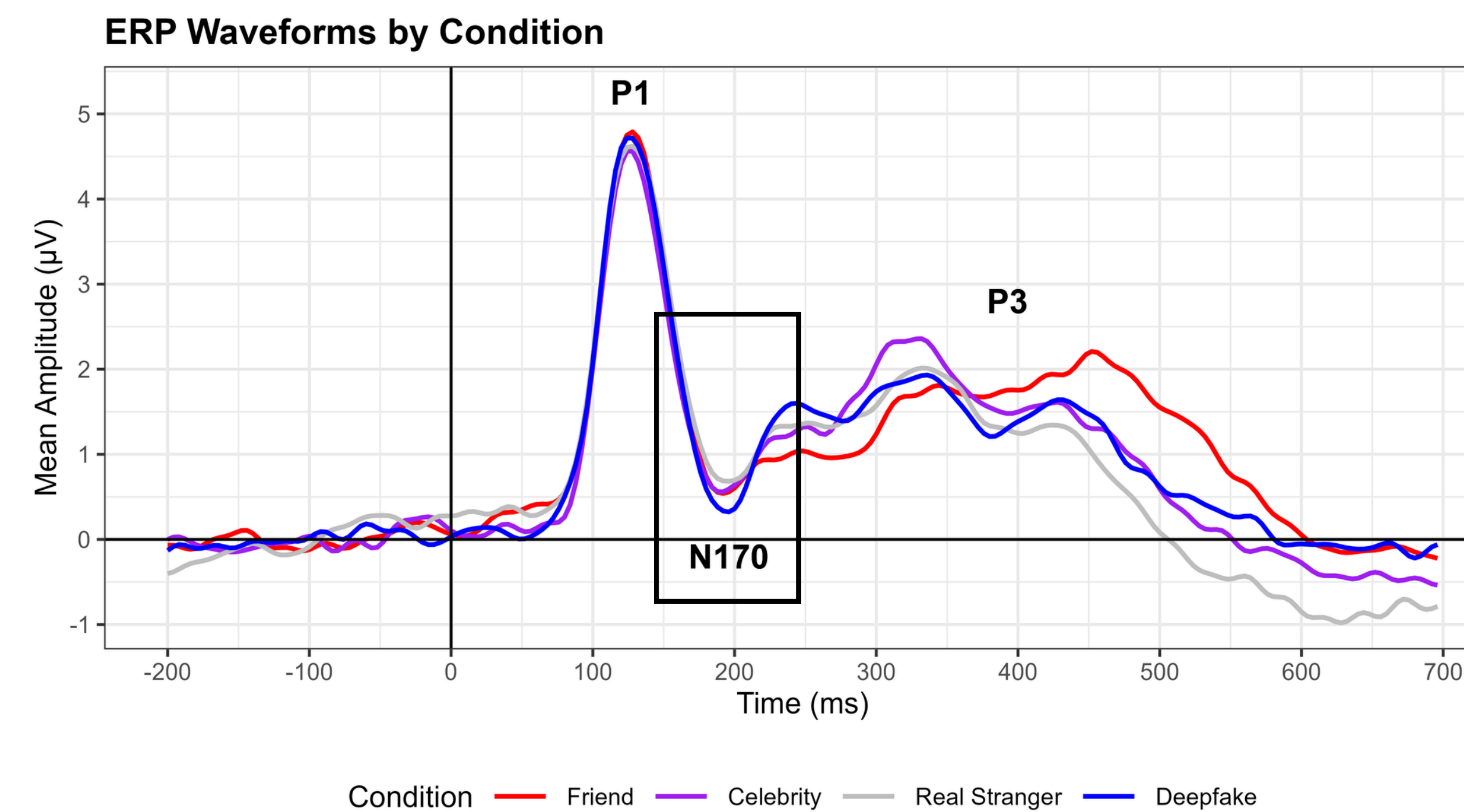
Adolescence is a period not closely examined for familiar face perception but could prove especially interesting due to the complex social navigation required during this time.

Objectives

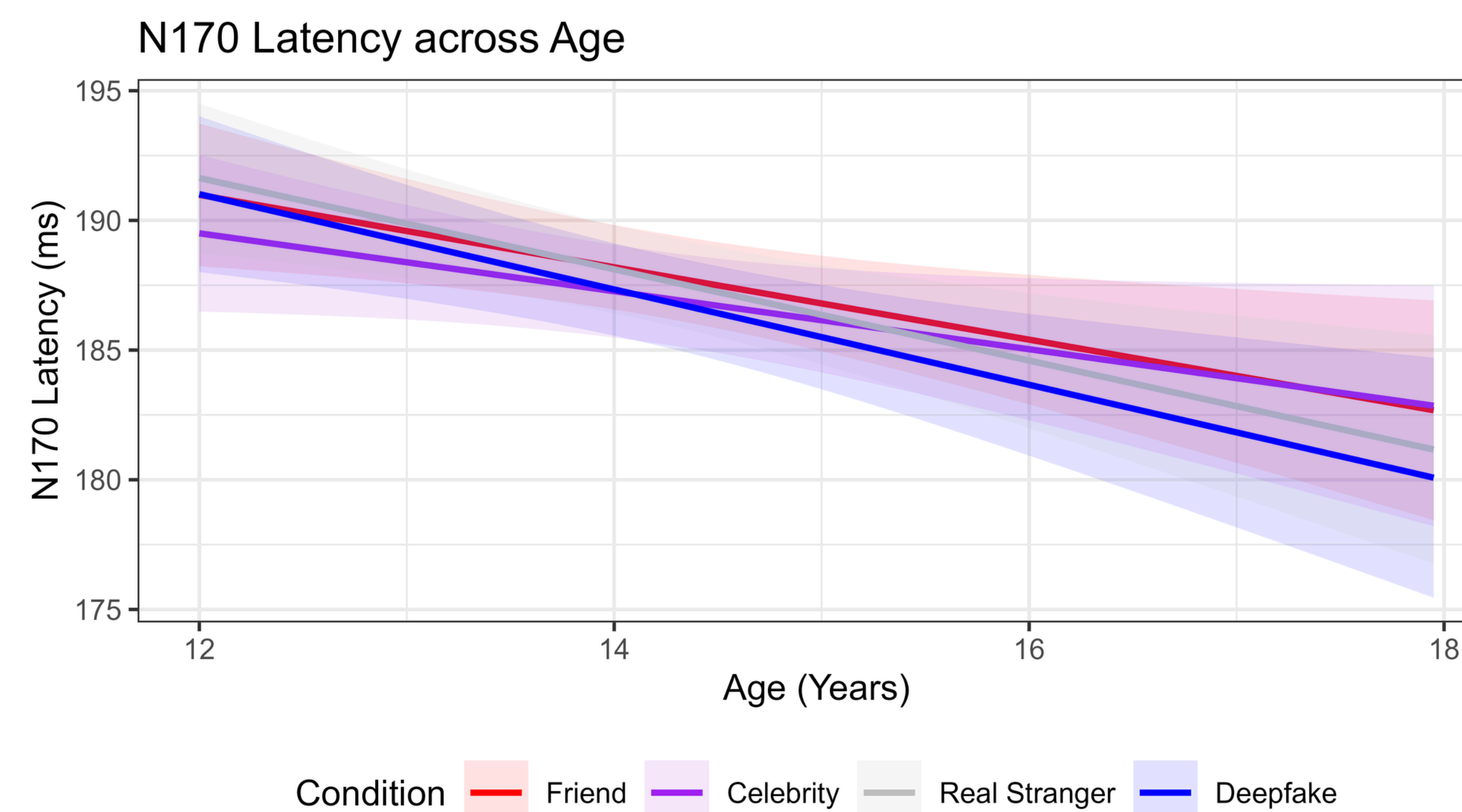
1. Examine how the brain responds to faces with varying levels of familiarity
2. Determine whether perceived social support influences facial processing



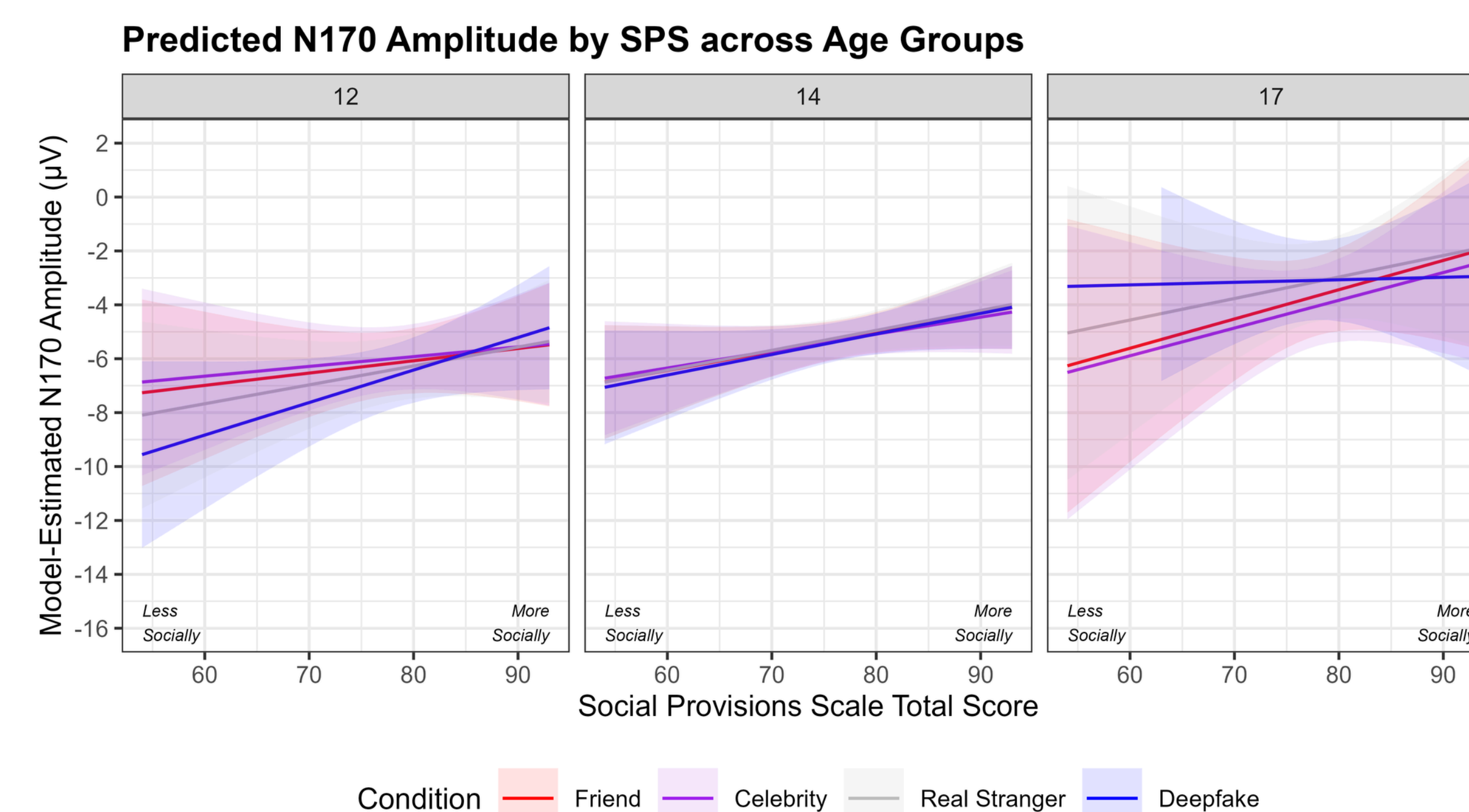
A.



B.



C.



Methodology

N=51, 12-17 years (M = 14.2, SD= 1.6)
64% white, 18% black, 10% mixed-race, 14% Hispanic/Latine
51% Female, 49% Male

Data was collected through high density EEG and a survey measure, the Social Provisions Scale (SPS) measuring self-reported social support.

N170 Component: structural processing and encoding of faces, known to be sensitive to personally familiar faces

Results

Figure A: ERP Waveform across all conditions.

Figure B: The Condition × Age interaction was significant for N170 latency, $F(3, 23976) = 6.31, p < .001$, indicating that older adolescents respond faster to the Deepfake and the Real Stranger.

Figure C: The Condition × Age × SPS interaction was significant for N170 amplitude, $F(3, 23976) = 3.19, p = .023$. Only in younger children who have less perceived social support do we see a heightened sensitivity to the Deepfake.

Conclusions

Social support does not strongly change how people respond to faces, but it changes which faces matter, and this shifts across adolescent development.

While the N170 is an early visual processing component, it appears to be subtly modulated by social and developmental factors.

Key Sources & Acknowledgements

1 Engfors, L. M., Wilmer, J., Palermo, R., Gignac, G. E., Germine, L. T., & Jeffery, L. (2024). Face recognition's practical relevance: Social bonds, not social butterflies. *Cognition*, 250, 105816.

Reciprocity of Social Connection and Well-Being: Convergence of Temporal and Neural Underpinnings of Adolescent Social Connection Quality, Quantity, and Need
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