Social status dominates attention: Understanding the low dominance bias of non-spatial attention

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- Humans can gain social status through a dominance pathway (power and intimidation), an evolutionary basic form of social status
- Dominance can be identified through facial features (masculine, mature, squarer jaw, hardened features)
- Most social attention studies show that people preferentially focus towards *high* dominance individuals
- However, Roberts et al. (2019)¹ found a non-spatial attention bias towards *low* dominance males individuals
- Within an Attentional Blink¹ paradigm, *low* dominance males attracted more attention compared to *neutral* and *high* dominance

Which theory best explain this low dominance bias – Counter Stereotype or Attention Competition?

Roberts et al. (2019)¹

Example of Attentional Blink RSVP
(does not contain entire RSVP stream)

Exp 1. COUNTER STEREOTYPE

- Stimuli incongruent with stereotype will bias attention².
- High dominance is incongruent with the female stereotype³
- H^{Exp1}: *High dominance females will bias non-spatial attention*

- Stream of images (RSVP – 10hz) with T1 as a dog and T2 as a female face (facial dominance – low, neutral, & high)⁴
- % accuracy identifying T1 and T2 recorded

- Arrow shows direction of attention competition bias ----->

- Significant non-spatial attentional bias to both *high* and *low* dominance faces

- The extremes of female dominance (low and high) biased attention
- Findings do **not support** Counter Stereotype theory

Exp 2. ATTENTION COMPETITION

- During competition for attentional resources (no shifts in spatial attention)⁵, *low* dominance will attract more attention
- H^{Exp2}: *Stimuli that follow low dominance males will be identified less accurately, due to low dominance attracting more attention*

- RSVP: T1 as male faces varying in facial dominance (low, neutral, high)⁴ and T2 as a number between 1-9 (% accuracy recorded)

- Low* dominance consistently attracts more attention than neutral dominance (T2 performance less accurate)
- BUT *high* dominance shifts between having strong and weak ability at competing for attention

- Attention Competition **supported** as *low* dominance shows consistent attention competition bias
- More research needed to understand effect of high dominance on attention

Attention Competition best explains low dominance bias

Low dominance individuals consistently attract greater amounts of attention when there is direct competition for attentional resources

- 1) Roberts, A., Palermo, R., & Visser, T. A. W. (2019). Effects of dominance and prestige based social status on competition for attentional resources. *Scientific Reports*, 9(2473), 1–11
- 2) Wu, L., Gu, R., Cai, H., Luo, Y. L. L., & Zhang, J. (2014). The neural response to maternal stimuli: An ERP study. *PLoS ONE*, 9(11), 1–9
- 3) Sutherland, C. A. M., Young, A. W., Mootz, C. A., & Oldmeadow, J. A. (2015). Face gender and stereotypicality influence facial trait evaluation: Counter-stereotypical female faces are negatively evaluated. *British Journal of Psychology*, 106, 186–208.
- 4) Sutherland, C. A. M., Young, A. W., & Rhodes, G. (2017). Facial first impressions from another angle: How social judgements are influenced by changeable and invariant facial properties. *British Journal of Psychology*, 108(2), 397–415.
- 5) Dux, P. E., & Marois, R. (2009). The attentional blink: a review of data and theory. *Attention, Perception, & Psychophysics*, 71(8), 1683–1700