

INTRODUCTION



MARC'S COLOUR THEORY

Franz Marc formulated a list of colour meaning associations:

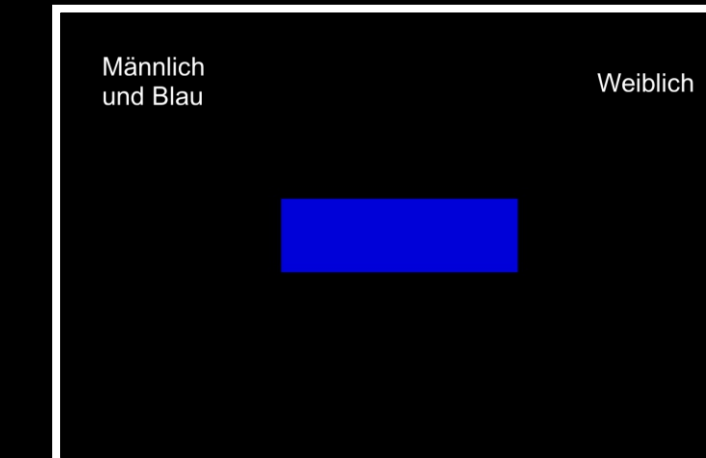
HYPOTHESES:	Blue	Yellow	Red
Sex	Male	Female	-
Temperature	Cool	-	Warm
Aggression	-	Gentle	Brutal



"Blue is the male principle, astringent and spiritual. Yellow is the female principle, gentle, cheerful and sensual. Red is matter, brutal and heavy."

EVALUATION IMPLICIT TEST

We tested the colour meaning associations using Single Category-Implicit Association Tests (SC-IAT) by Karpinski and Steinman (2006) which measure the association between one colour category (e.g., blue) and two attribute categories (e.g., male and female). Participants had to classify word and colour stimuli as belonging to these categories by pressing either the left or right key. Response times should be faster when related concepts share the same response key (blue + male) compared to unrelated concepts sharing the same key (blue + female).



METHOD

DESIGN

Fixed order of tested concepts:

1. Sex		2. Temperature		3. Aggression	
Left key	Right key	Left key	Right key	Left key	Right key
Male	Female	Warm	Cool	Gentle	Brutal

Hypotheses were tested using a 3 x 3 SC-IAT - Design:

Each attribute category of the 3 concepts (Sex, Temperature, Aggression) was tested in pairing conditions with the 3 primary colours (Blue, Yellow, Red).

- ⇒ Between-subject variation of colour sequence
- ⇒ Between-subject variation of pairing sequence

Stimuli: 10 words (5 words per meaning category) and 5 colour patches per colour

PARTICIPANTS

36 participants (20 females and 16 males) with a mean age of $M = 26.7$ years ($SD = 8.1$ years)

Description	Left key	Right key	Trials
Attribute-discrimination	♂	♀	10

Description	Left key	Right key	Trials
Training	Blue ♂	♀	36
Test	Blue ♂	♀	70
Training	♂	Blue ♀	36
Test	♂	Blue ♀	70

Description	Left key	Right key	Trials
Training	Yellow ♂	♀	36
Test	Yellow ♂	♀	70
Training	♂	Yellow ♀	36
Test	♂	Yellow ♀	70

Description	Left key	Right key	Trials
Training	Red ♂	♀	36
Test	Red ♂	♀	70
Training	♂	Red ♀	36
Test	♂	Red ♀	70

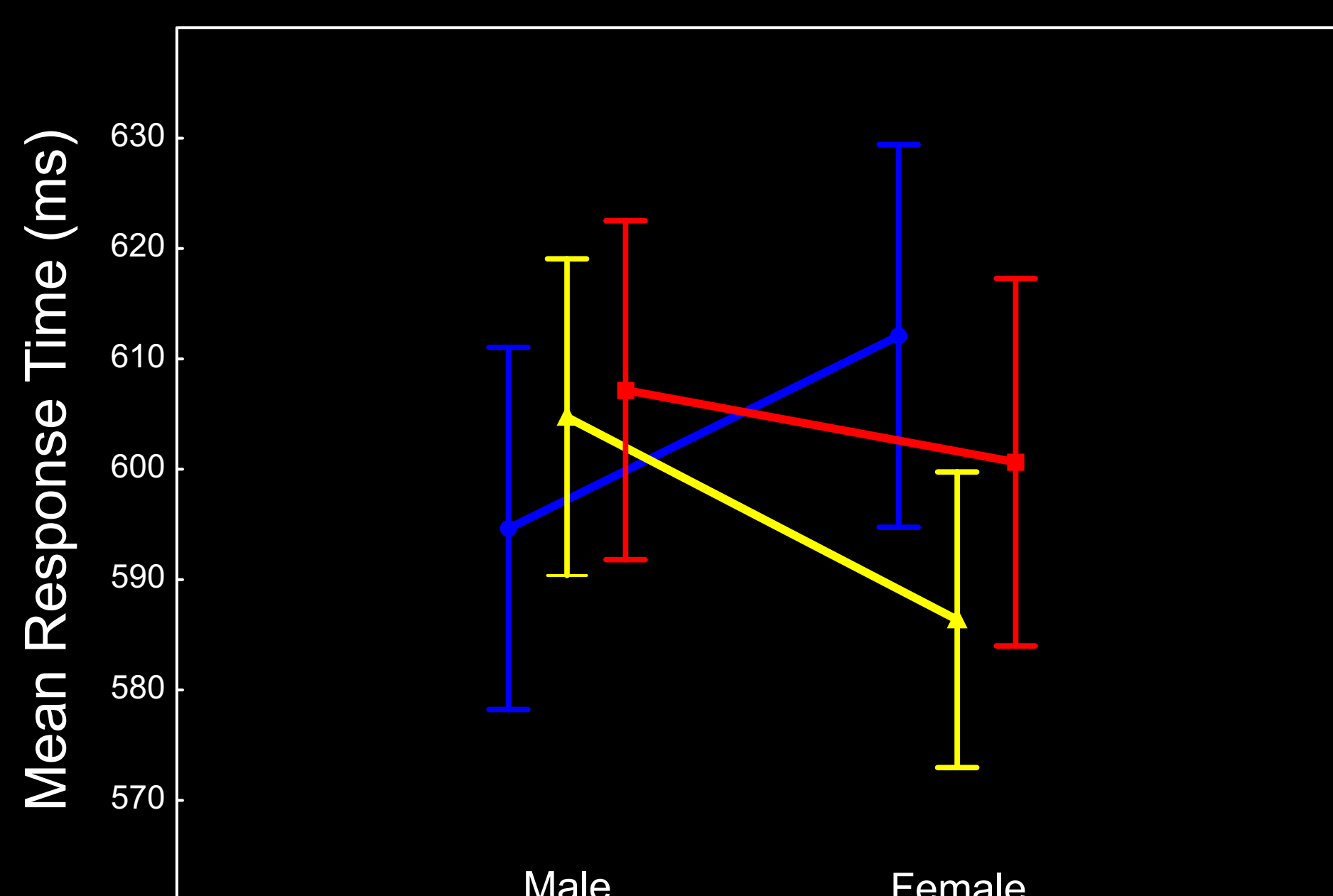
Example colour and pairing sequence of SC-IAT

RESULTS

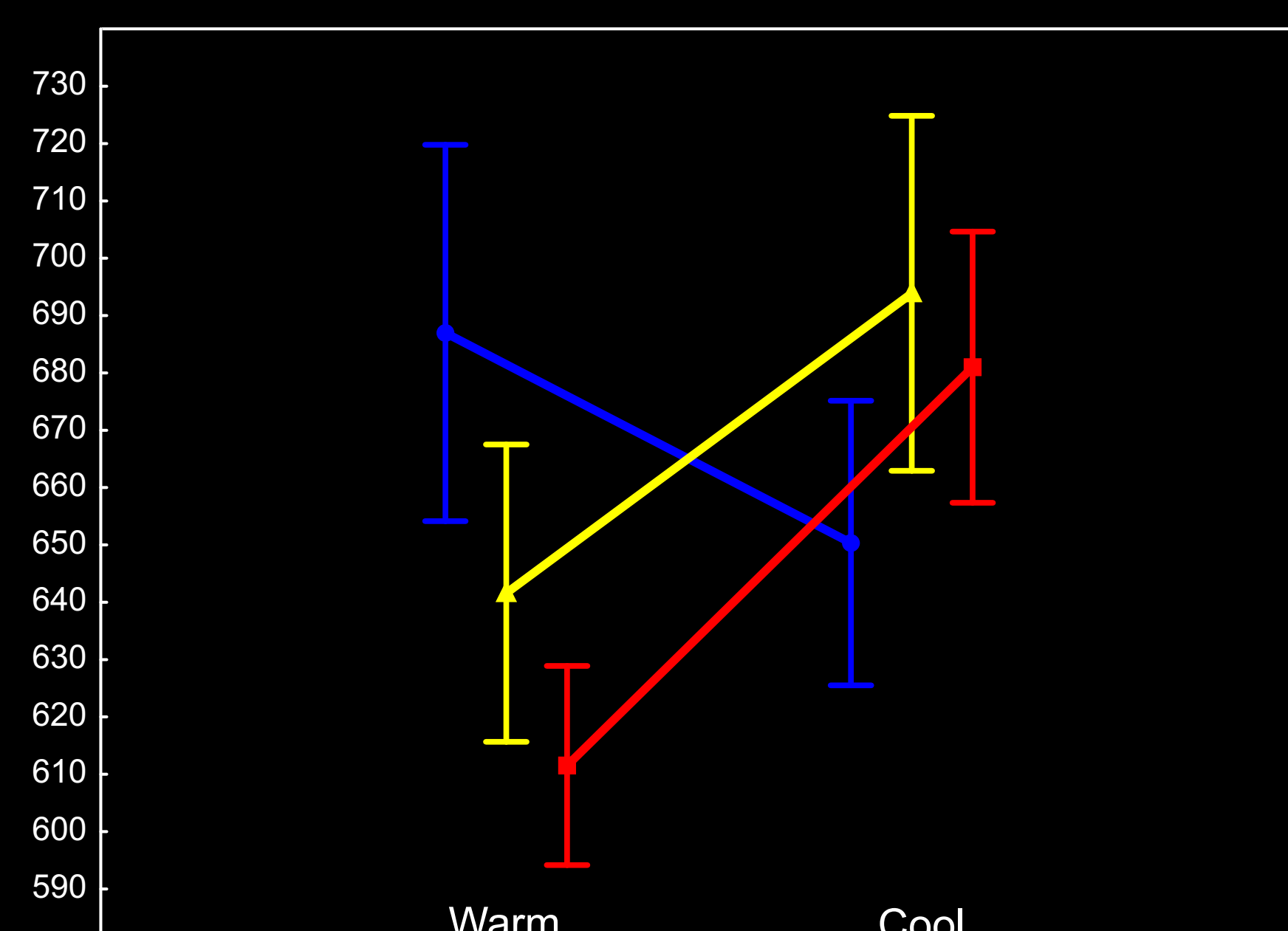
ANALYSIS

Exclusion of response times > 10 s and < 300 ms (0.5%) and incorrect responses (7.2%)

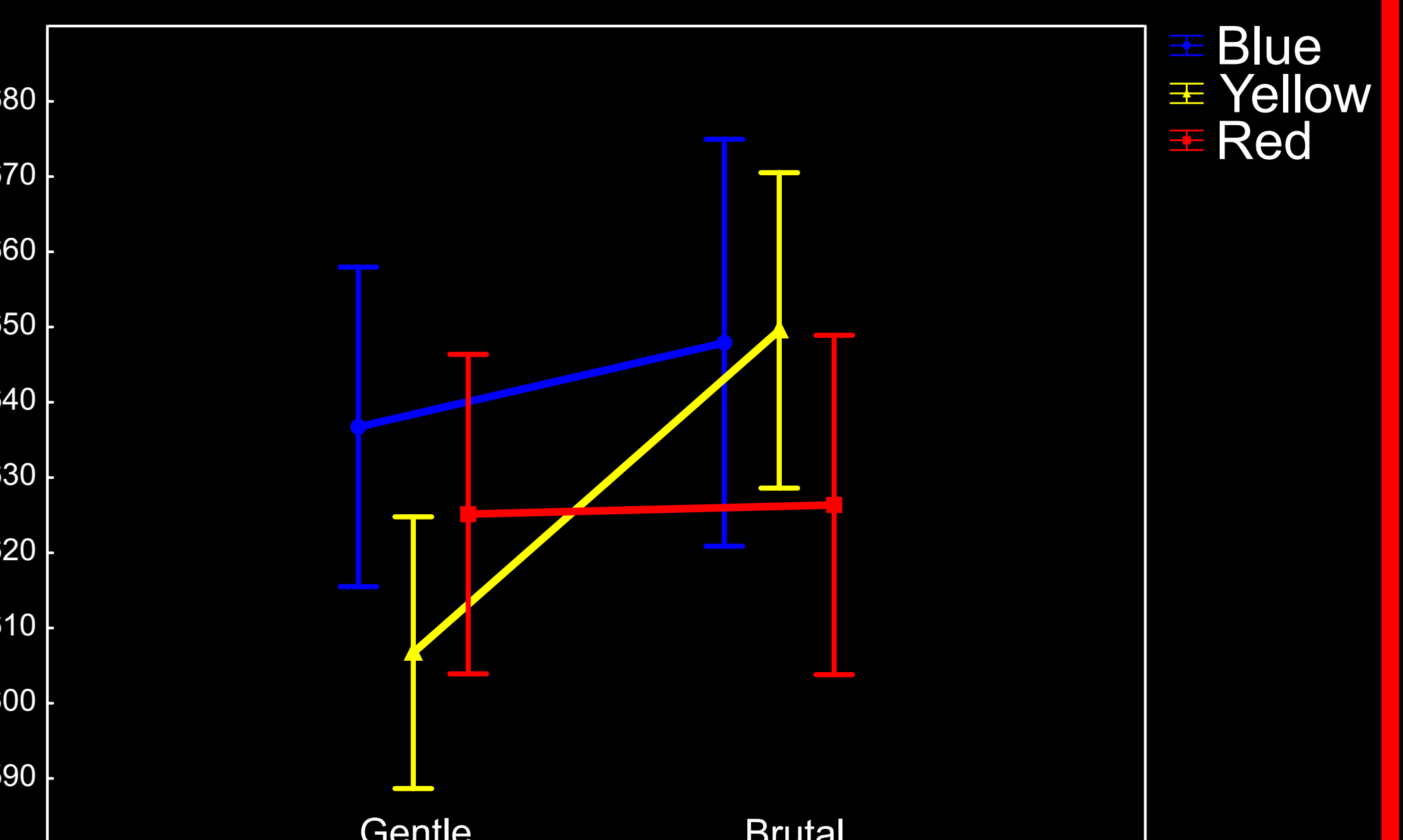
Per SC-IAT: RTs analysed with repeated-measures ANOVA (Within-subject factors: colour, paired attribute category; Between-subject factors: colour sequence, colour position sequence)



Significant colour x paired attribute interaction. Blue was associated with male, yellow was associated with female and red was weakly associated with female. Significant effect of colour position, all remaining effects n.s.



Significant colour x paired attribute interaction and significant effect of paired attribute. Blue was associated with cool, yellow was associated with warm and red was associated with warm. All remaining effects n.s.



Significant colour x paired attribute interaction. Blue was weakly associated with gentle, yellow was associated with gentle and red had no clear associations. All remaining effects n.s.

SUMMARY & DISCUSSION

Most of the colour meaning associations assumed by Franz Marc were confirmed and additional associations were identified.

We presented only highly saturated colour stimuli for which the participants likely imagined a "typical", saturated primary colour. It would be interesting to investigate if similar associations are also found at lower saturation.

REFERENCES

- Karpinski, A. & Steinman, R. B. (2006). The Single Category Implicit Association Test as a measure of implicit social cognition. *Journal of Personality and Social Psychology*, 91(1), 16-32.
Macke, Wolfgang (Hrsg.). (1964). *August Macke, Franz Marc: Briefwechsel*. Köln: Verlag M. DuMont Schauberg.