

Perceptual Orientation and Legitimacy of Interpersonal Cues to Endangerment (P.O.L.I.C.E.)



Harry Piper*, Dr. Paloma Mari-Beffa, & Maria Manoli
Bangor University, School of Human and Behavioural Sciences

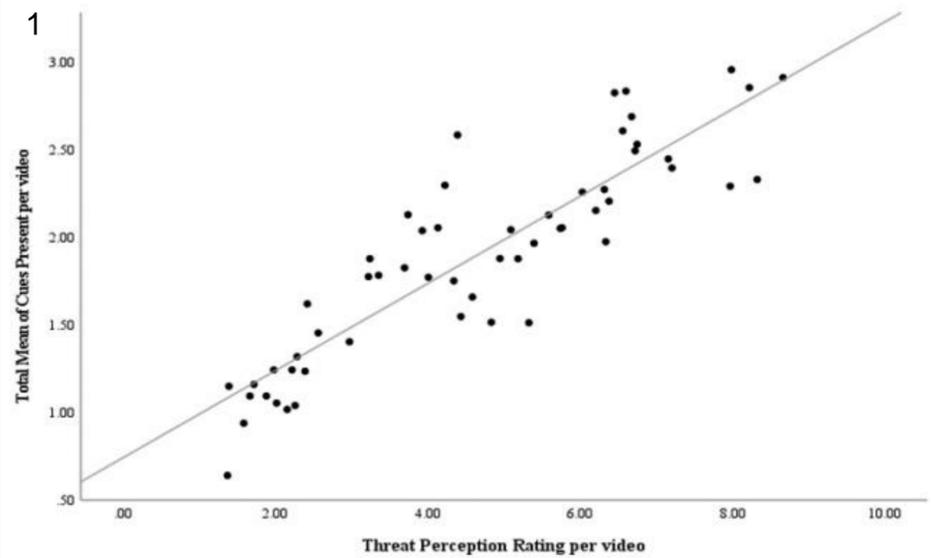


✉ hpb19lqn@bangor.ac.uk

🐦 [@MariBeffaEFLab](https://twitter.com/MariBeffaEFLab)

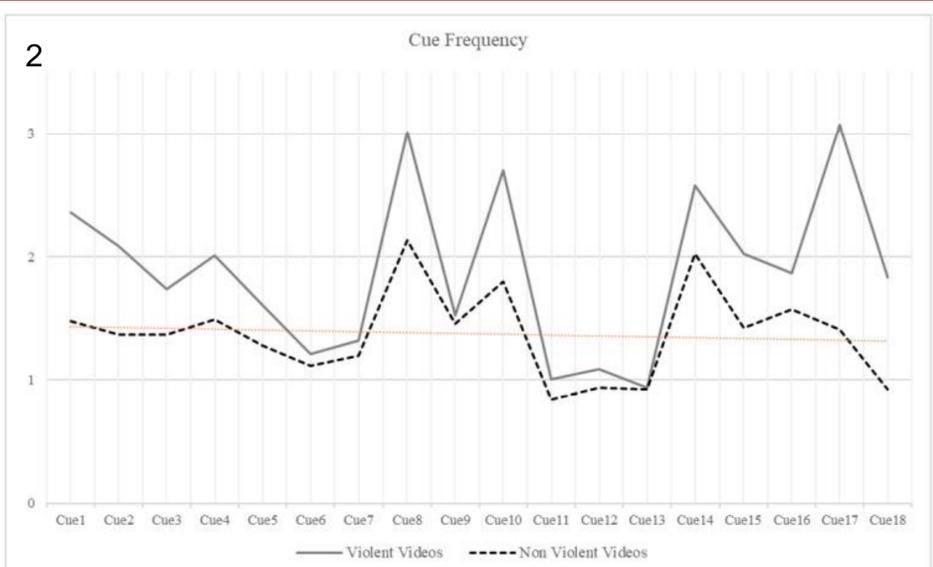
Background:

- Interpersonal aggression is a severe, and pervasive problem for public health and security. ¹
- In Wales the health costs of violence is over £200 million per year. ²
- 80% of many of these cases (knife crime) are avoidable, resulting from over-reactions to threat cues. ³
- Identification and evaluation of these cues are important for groups with higher exposure to violence, such as the police who received over 37,000 assaults alone last year. ⁴
- In the present study we developed the Perceptual Orientation and Legitimacy of Interpersonal Cues to Endangerment (P.O.L.I.C.E.) test, to analyse how individuals evaluate visual cues to perceive threat in naturalistic environments.



Methodology:

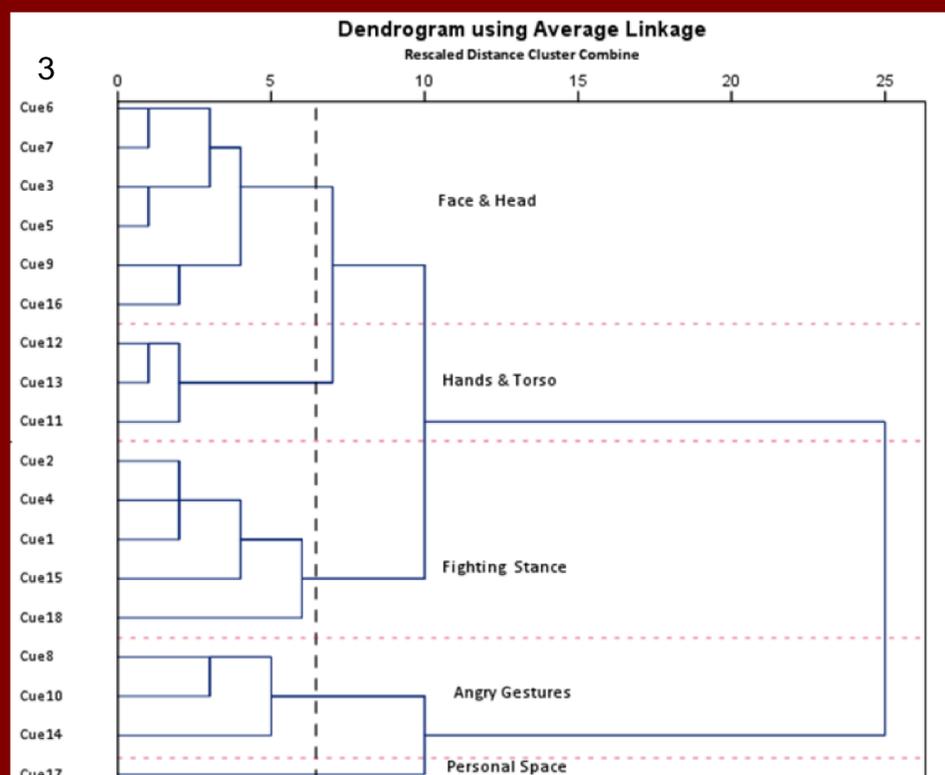
- A series of 56, 10-second videos, categorised by either a violent, or non-violent conclusion were shown to two different sets of participants. The end of video revealing the violence or non-violence was obscured.
- Participant set 1 answered two questions. (1) Will the video you have watched end in violence; Yes or No. (2) How likely is it that the video will end in violence; 0% (no chance of violence) – 100% (violence is certain).
- Participant set 2 answered two separate questions relating to the list of visual cues identified previously within the literature. ^{5**} (1) Rate if each cue is present or absent within the video. (2) Rate how severe each cue that is present on a scale of 1 (no concern) – 5 (very high concern).



Results & Conclusions:

- (1) We found a strong validation for the use of visual cues for the perception of threat using naturalistic scenes in the P.O.L.I.C.E. test ($r(54) = .89$; [0.82, 0.94]; $p < .001$). It also demonstrated excellent internal consistency (Cronbach's alpha = .93).
- (2) Not all cues were equally efficient to predict threat. Invasion of personal space demonstrated the highest potency in cue predictability of threat ($r=.90$, $p<.001$). Other cues (blink rapidly, stares away, face flush, hands in pockets) failed to provide a relation with threat perception. However it should be considered that although a wide range of videos have been selected, the availability and suitability of the stimuli may limit the frequency of the cues presented. Moreover, although different cues may vary in frequency, the severity, and salience should also be considered within the discrimination index.
- (3) It was found that cues grouped into different clusters, reflecting several distinct categories; (a) face and head, (b) hand movements in relation to the body, (c) cues assembled into a fighting stance position, (d) angry head gestures (e) personal space. (Figure 3)
- Early individual differences demonstrated a decrease in threat perception with age ($r=-.26$, $p=.02$). In contrast the police demonstrate an increase in threat detection with experience.
- The P.O.L.I.C.E. test used within the current research demonstrated both high reliability and validity in evaluating threat detection, perception, and cue predictive power within the general population. Research evaluating the model with specialised groups and predicting engagement in real-world threat should also be conducted.

**Cue1, tense up whole body; Cue 2, clenched hands; Cue 3, Jaw muscle tense; Cue 4, stretch arm/shoulder; Cue 5, Head roll; Cue 6, Blink rapidly; Cue 7, face flush; Cue 8; Stares towards; Cue 9, stares away; Cue 10, Angry expression; Cue 11, remove excess clothing; Cue 12, Hands on hips; Cue 13, hands in pockets; Cue 14, exaggerated hand gestures; Cue 15, Paces back and forth; Cue 16, Looks around the area; Cue 17, Invade personal space; Cue 18, Assumes a boxer's stance.



References:

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5. Johnson, R. R., & Aaron, J. L. (2013). Adults' beliefs regarding nonverbal cues predictive of violence. *Criminal Justice and Behavior*, 40(8), 881-894.