

Stop! Or I'll Shoot!

The Contribution of Empathic Concern and Perspective Taking in Shoot/No-Shoot Decision-Making.

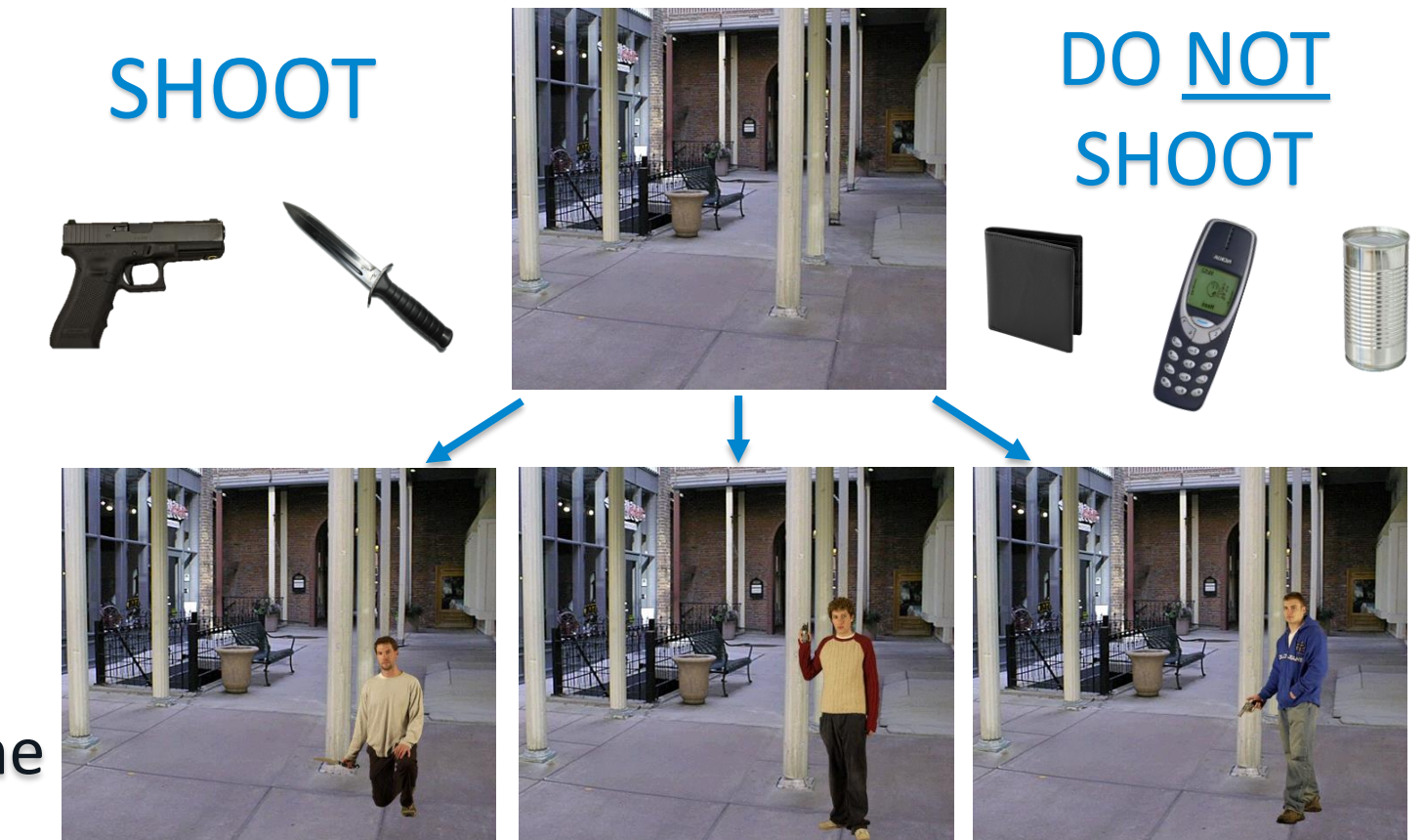
Ashleigh Haydock-Symonds (ah2012@kent.ac.uk) Prof. Tim Hothrow (T.Hothrow@kent.ac.uk)

Theoretical Background

- ❖ Empathy can be divided into four dimensions (Davis, 1983):
 - ❖ Empathic concern (EC), Perspective Taking (PT), Fantasy Proneness and Personal Distress.
- ❖ The specific dimensions of EC (affective empathy) and PT (cognitive empathy) have been shown as potential contributors among shoot/no-shoot decision-making (Mekawi et al., 2016).
 - ❖ **However...** Research is yet to explore these as standalone constructs within shoot/no-shoot decision making.
- ❖ Research reveals a dualistic approach to ethical decision-making for EC and PT dimensions (Cardona-Isaza et al., 2021) where:
 - ❖ PT facilitates an evaluative, and organised approach.
 - ❖ EC facilitates maladaptive and anxious thoughts resulting in avoidance tendencies.
- ❖ The current study explored whether differing EC or PT abilities can impact shoot/no-shoot performance and, if so, in what ways?

Methodology

- ❖ To record baseline EC and PT levels, participants completed a modified version of the Interpersonal Reactivity Index (IRI; Davis, 1983).
- ❖ Seven days later, participants' shoot/no-shoot performance was assessed using a first-person shooter task (FPST; Correll et al., 2002).
- ❖ Participants were shown 1-3 random background images until a target appeared holding one of five items.
- ❖ With an 850ms time limit, each participant had to decide, by the press of a button on their keyboard, whether or not they should shoot or not-shoot the target.



Key Findings: The Presence of Errors and Biases

Error Rates

- ❖ EC and PT **did not** predict differences in reaction time.
- ❖ EC alone **did** predict increases in mean incorrect score:
 - ❖ $B = 0.04, p = 0.023$
- ❖ For the *type* of errors made, EC and PT **did not** predict misses, but **did** predict false alarms:
 - ❖ $B = 1.09, p = 0.015$ and $B = -1.11, p = 0.041$, respectively.
- ❖ When distinguishing by threat type (neutral, knife or gun), EC and PT only predicted increased error rates in response to neutral targets:
 - ❖ $B = 0.04, p = 0.026$ and $B = -0.05, p = 0.044$, respectively.

Figure 1
The four potential outcomes of the FPST.

	Armed	Unarmed
Shoot	Hit	False Alarm
No-Shoot	Miss	Correct Rejection

A Bias to Shoot

- ❖ Performance on the FPST can also be divided into:
 - ❖ Sensitivity = ability to discern armed and unarmed targets.
 - ❖ Bias = the tendency to favour a shoot or no-shoot decision.
- ❖ The data revealed that a statistically significant difference existed only for bias scores between those high and low in PT.
 - ❖ $t(151) = -2.39, p = 0.018$
- ❖ Interestingly, the mean bias scores for those high and low in PT were negative, indicating a more liberal threshold for a 'shoot' decision to be made.

Table 1
Means and standard deviations of bias scores for the T-Test comparing high and low perspective taking.

Perspective Taking Levels	Bias	
	M	SD
High	-0.31	0.25
Low	-0.42	0.28

Conclusions and Theoretical Applications

- ❖ EC and PT **do** contribute to shoot/no-shoot performance and demonstrate a duality amongst the behaviours observed. Namely:
 - ❖ Affective empathy (EC) alone contributes to error rate.
 - ❖ Cognitive Empathy (PT) alone contributes to shooter biases.
- ❖ Increased error rate for those higher in EC suggests that affective empathy may generate maladaptive and anxious thoughts during shoot/no-shoot decision-making.
- ❖ The bias towards a 'shoot' decision among those higher in PT may evidence a problem-solving, and an evaluative approach to reduce the number of potential fatalities.
- ❖ Given the potentially fatal outcome of shoot/no-shoot decision-making, targeting EC and PT prior to a shoot/no-shoot task may mitigate the number of errors made by participants.

References

- ❖ Cardona-Isaza, A. J., Velert Jiménez, S., & Montoya-Castilla, I. (2022). Decision-making styles in adolescent offenders and non-offenders: Effects of emotional intelligence and empathy. *Anuario de Psicología Jurídica*, 32, 51-60. <https://doi.org/10.5093/apj2021a23>
- ❖ Correll, J., Park, B., Judd, C. M., & Wittenbrink, B. (2002). The police officer's dilemma: Using ethnicity to disambiguate potentially threatening individuals. *Journal of Personality and Social Psychology*, 83(6), 1314-1329. <https://doi.org.chain.kent.ac.uk/10.1037/0022-3514.83.6.1314>
- ❖ Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113-126. <https://doi-org.chain.kent.ac.uk/10.1037/0022-3514.44.1.113>
- ❖ Mekawi, Y., Bresin, K., & Hunter, C. D. (2016). White fear, dehumanization, and low empathy: Lethal combinations for shooting biases. *Cultural diversity and ethnic minority psychology*, 22(3), 322. <https://doi.org/10.1037/cdp0000067>