

Cognitive and emotional interaction in contemporary risks perception

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Abstract: The present research found a three-way interaction among emotional self-efficacy, inhibitory control, and concern about the risk in predicting the probability of contemporary risks. These findings will help to improve the tailoring of psychological training depending on the individual differences and maximize its potential benefits.x

Introduction

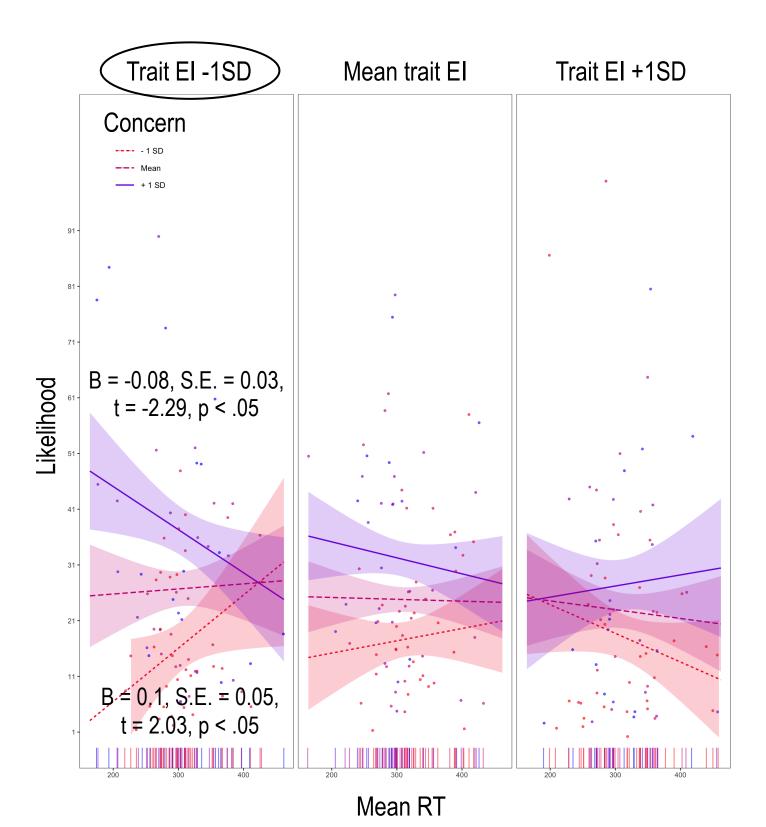
- Inhibitory control and emotion regulation relationship in driving risk perception is still under-investigated^{1,2}.
- Both inhibitory control and emotion regulation are important factors driving people's decision to engage in risky behaviors: both poor cognitive and emotional self-regulation may increase the propensity to take risks^{3,4}.

Method

- N = 284 participants (M_{age} = 30.41, SD_{age} = 13.12; 57% females)
- Go/No-Go Task (200 trials, 80% go trials; X = "go", consonants = "no-go")
- Likelihood of experiencing a series of 22 events on a scale from 0% to 100%
- Concern for each of the 22 events from 1 (not at all) to 10 (extremely)
- Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF⁶; α = .88)

Attack risks

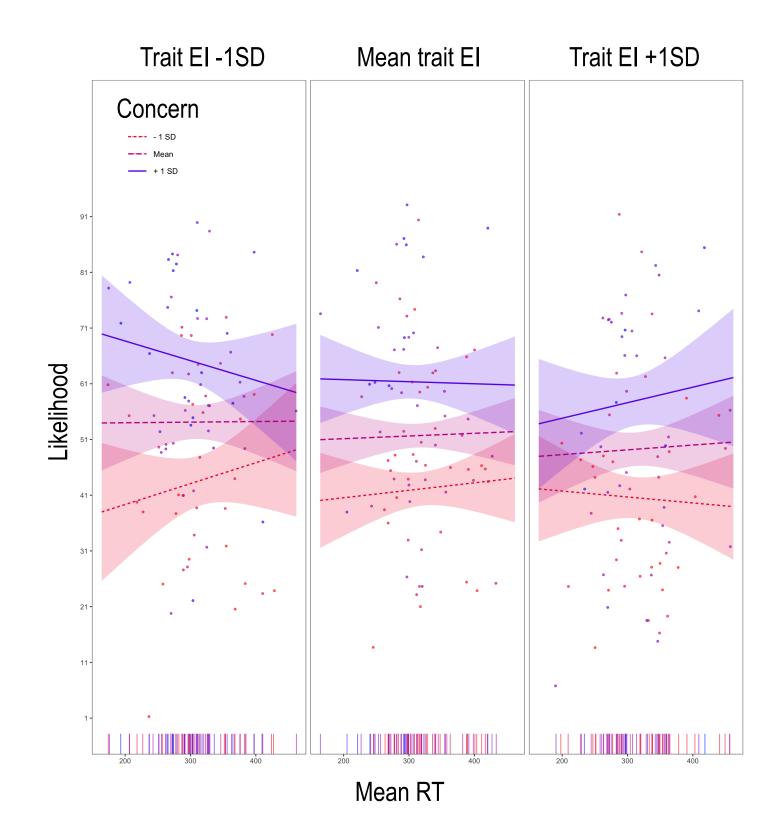
 $R^2_{adj.} = .20$ 3-way interaction: B = 0.04, S.E. = 0.01, t = 3.58, p < 0.001



Cyber attack, Nuclear war, Nuclear explosion, Political dictatorship, Third World War, Terrorist attack

Global risks

 $R_{adj.}^2 = .28$ 3-way interaction: B = 0.02, S.E. = 0.01, t = 1.84, p = 0.07

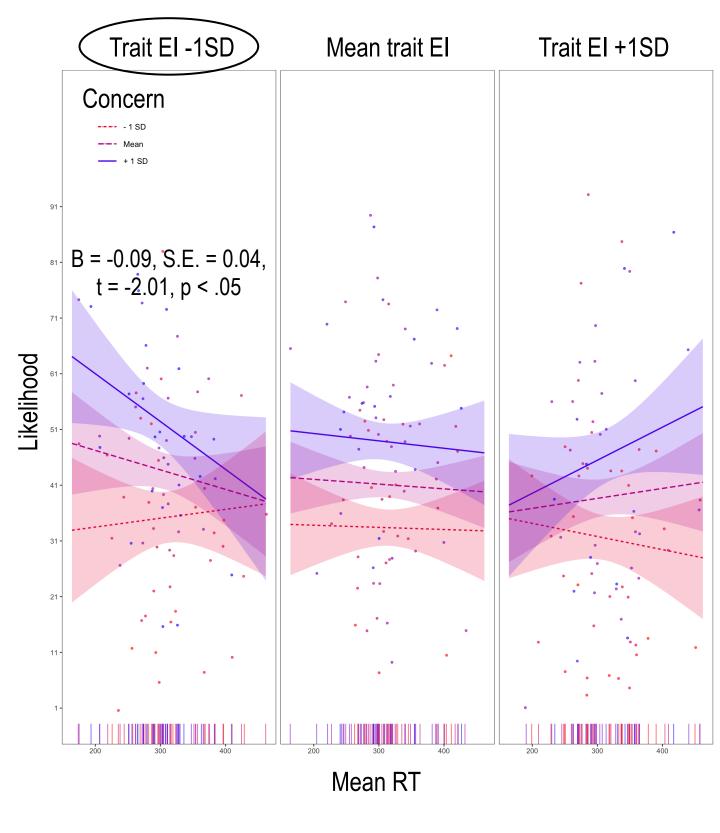


Car accident, Climate-change-caused natural disaster, Economic crisis, Flood, New pandemic in the next 10 years, Pollution-caused health issues, Unemployment

Results

Personal uncontrollable risks

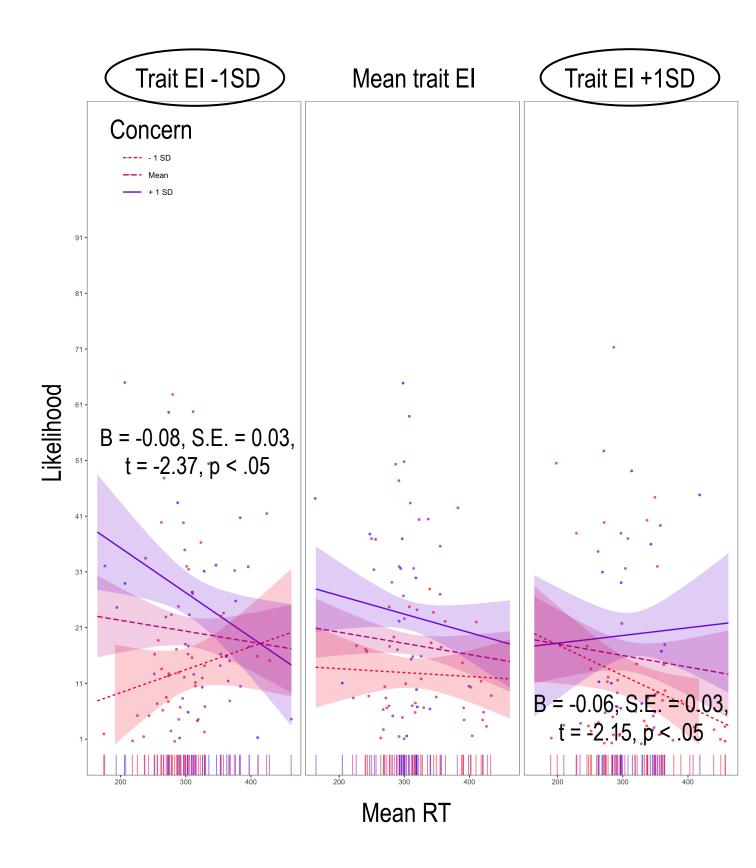
 $R^2_{adj.} = .20$ 3-way interaction: B = 0.03, S.E. = 0.01, t = 2.65, p < 0.01



Accident being run over, Cancer, Fire, Hackers' theft, Stroke

Personal controllable risks

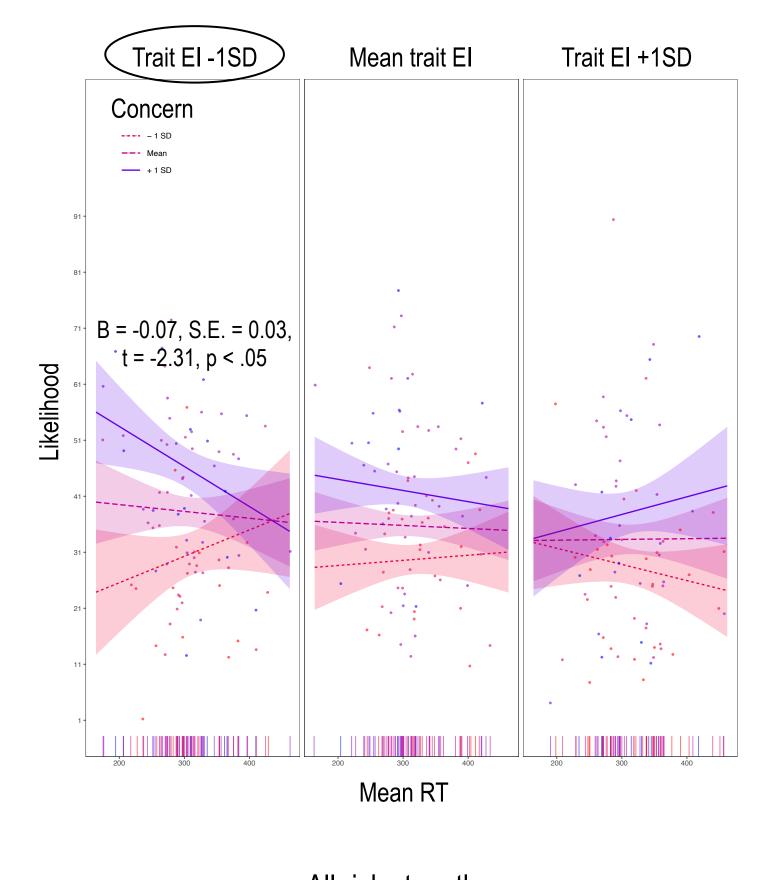
 $R^2_{adj.} = .16$ 3-way interaction: B = 0.03, S.E. = 0.01, t = 2.77, p < 0.01



Drowning, Sexually Transmitteded Desease's contraction, Starvation, Unwanted pregnancies

General result

 $R_{adj.}^2 = .20$ 3-way interaction: B = 0.03, S.E. = 0.01, t = 3.26, p < 0.01



All risks together

Discussion

- Insight into the interplay between emotional self-efficacy and inhibitory control in risk perception: for ineffective regulators, when concerned about the risks, the less they were able to inhibit responses and the more they judged high the likelihood of the risk.
- Ineffective regulators might benefit from cognitive training to avoid misperceiving the likelihood of the risk, rather than emotional regulation trainings.

Acknowledgements: This poster was possible because of the work of my colleague Noemi Orabona and because of the supervision of Sara Scrimin and Enrico Rubaltelli.

References: ¹Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological bulletin*, 127(2), 267; ²Gray, J. R. (2004). Integration of emotion and cognitive control. *Current directions in psychological science*, 13(2), 46-48.; ³Nigg, J. T. (2017). Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Journal of child psychology and psychiatry*, 58(4), 361-383.; ⁴Zimmermann, G. (2010). Risk perception, emotion regulation and impulsivity as predictors of risk behaviours among adolescents in Switzerland. *Journal of Youth Studies*, 13(1), 83-99.

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