
PREDISPOSING AND PRECIPITATING FACTORS FOR EXPLOSIVE OUTBURSTS AMONG YOUTH WITH TOURETTE SYNDROME

Simon Morand-Beaulieu, PhD;

Méliza Gagnon, BSc; Julie B. Lecierc, PhD

Université du Québec à Montréal



PREDISPOSING AND
PRECIPITATING FACTORS
FOR EXPLOSIVE
OUTBURSTS AMONG
YOUTH WITH TOURETTE
SYNDROME
MEETING ATHENS 2025

The background of the slide features a vibrant, abstract design with swirling patterns of red, teal, and black. The text 'PREDISPOSING AND PRECIPITATING FACTORS FOR EXPLOSIVE OUTBURSTS AMONG YOUTH WITH TOURETTE SYNDROME' is overlaid in a large, light gray font, and 'MEETING ATHENS 2025' is written diagonally in a smaller, light gray font. The overall aesthetic is dynamic and modern.

INTRODUCTION

- Explosive outbursts are excessive and uncontrollable anger episodes occurring suddenly and repeatedly.
- Physical or verbal aggression towards others or objects.
- Almost total loss of control during episode.
- Out of proportion to the trigger.
- Developmentally inappropriate.
- Low frustration tolerance.
- Not goal directed/purposeful.

INTRODUCTION

- Few known predisposing factors:
 - Co-occurring ADHD and OCD.
 - Weak association with tic severity.
 - Not having one's own way, experiencing change in plans or routines: behavioral inflexibility?
 - Impulsivity associated with explosive outbursts among adults.
 - No data in children.
- Main aim of the current study:
 - Assess whether behavioral inflexibility and impulsivity are associated with explosive outbursts in children with TS.

METHODS

- Participants (parents) recruited through ads on social media.
 - Country of origin: Canada (n = 62), France (n = 50), UK (n = 16), USA (n = 10), others (n = 6)
 - Survey language: French (n = 104), English (n = 40)
- Sample characteristics (children):
 - n = 144, 43 girls (29.9%)
 - Mean age: 10.5 ± 2.4 years old (range 6 – 14)
 - Mostly (88.2%) white
 - Most had a least 1 co-occurring diagnosis (ADHD: n = 98, OCD: n = 36, developmental coordination disorder: n = 21, specific learning disorder: n = 37, sleep problems: n = 40, anxiety/depression: n = 94).

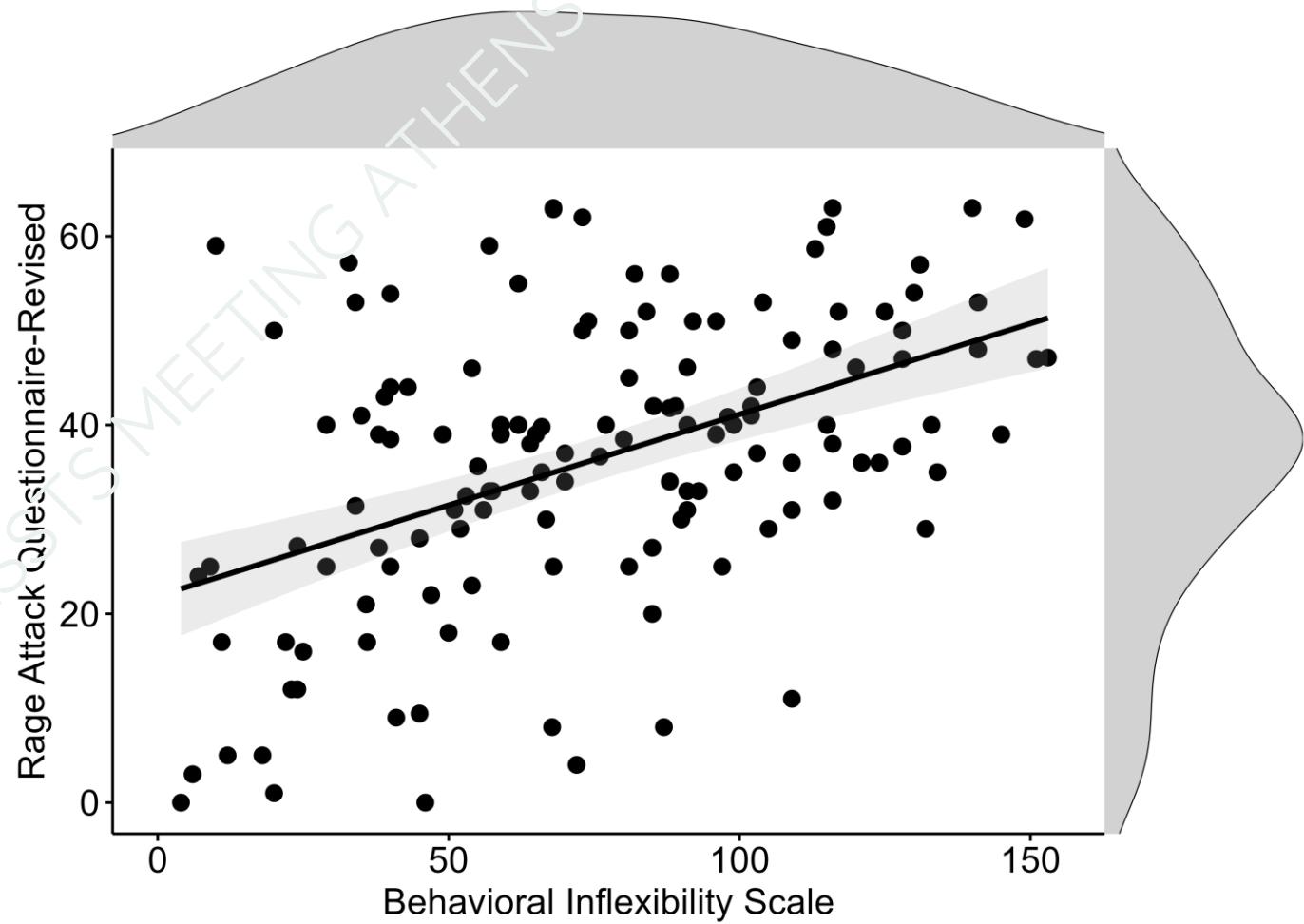
METHODS

- Procedures:
 - Qualtrics survey sociodemographic/clinical info
 - Rage Attack Questionnaire-Revised (RAQ-R) modified for parent-report
 - Behavioral Inflexibility Scale (BIS)
 - UPPS-P Impulsivity Inventory
 - Parent Tic Questionnaire (PTQ)

PRESENTED AT ESSTS MEETING ATHENS 2025

RESULTS

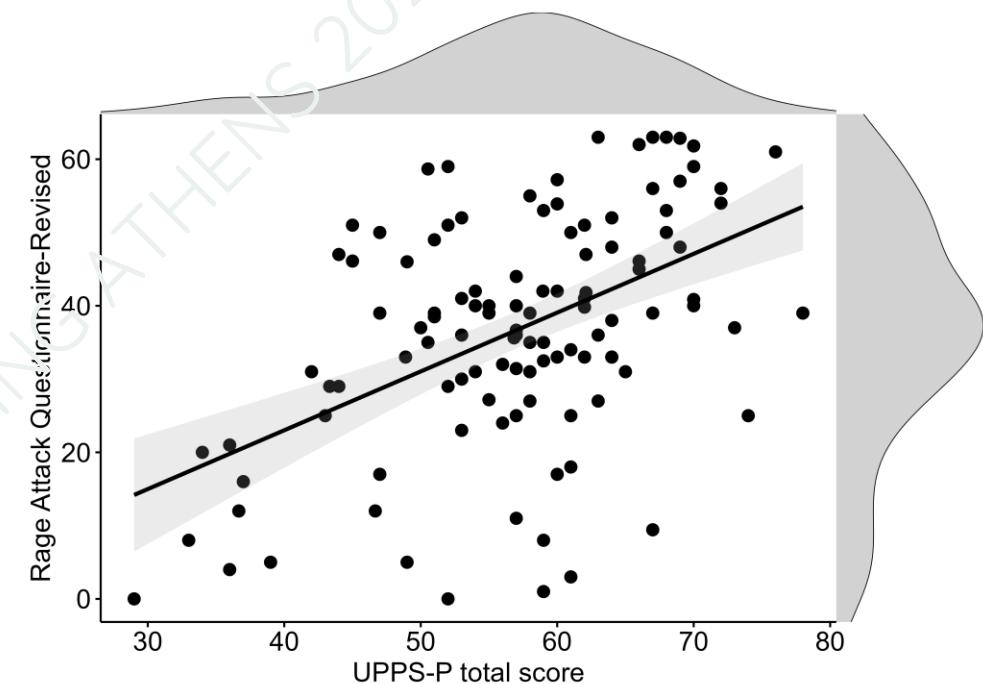
- Behavioral inflexibility is significantly associated with explosive outbursts [$r(138) = .49, p < .001$].



RESULTS

- Impulsivity is significantly associated with explosive outbursts [$r(115) = .50, p < .001$].
 - Significant associations with 4 subscales:
 - Negative urgency: $r(115) = .65, p < .001$
 - Positive urgency: $r(115) = .37, p < .001$
 - Lack of premeditation: $r(115) = .35, p < .001$
 - Sensation seeking: $r(115) = .19, p = .041$
- Among the 5 UPPS-P dimensions, negative urgency predicts explosive outbursts over and above the other dimensions.

Predictor	B	SE B	β	t	p
Intercept	-4.920	6.979	—	-0.705	.482
Negative Urgency	3.614	0.500	.696	7.232	< .001
Positive Urgency	-0.954	0.612	-.153	-1.558	.122
Lack of Premeditation	0.662	0.541	.123	1.222	.224
Lack of Perseverance	0.143	0.470	-.026	0.305	.761
Sensation Seeking	-0.098	0.355	-.020	-0.267	.790



- Negative urgency items:
 - When my child is upset, he/she often acts without thinking.
 - In the heat of an argument, my child will often say things that he/she later regrets.
 - My child often makes matters worse because he/she acts without thinking when he/she is upset.
 - When my child feels rejected, he/she will often say things that he/she later regrets.

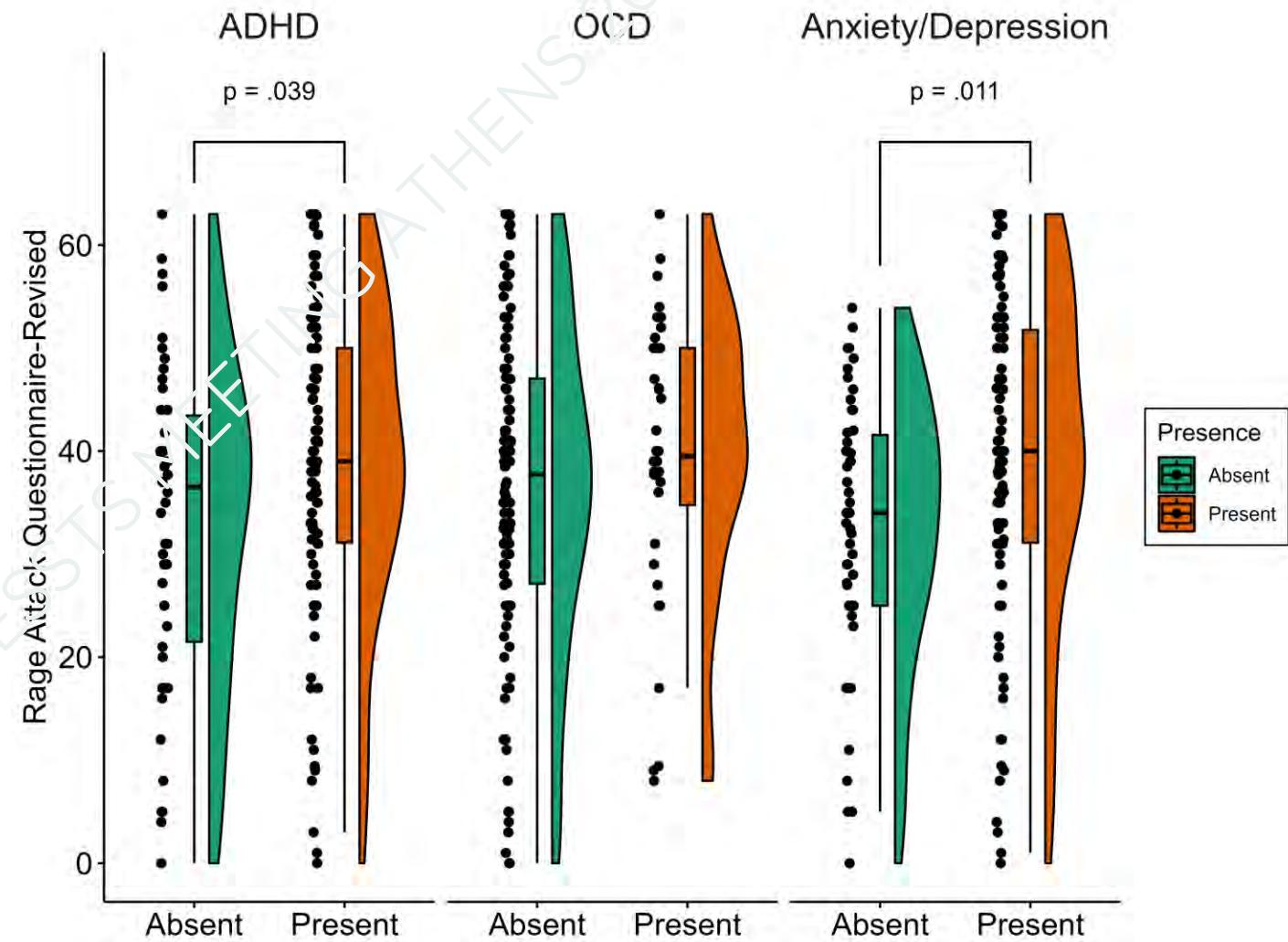
RESULTS

- Demographics
 - No significant association between age and explosive outbursts [$r(142) = .02, p = .80$].
 - No significant sex difference on explosive outbursts [$t(142) = .25, p = .80, d = .05$].

PRESENTED AT ESSTS MEETING ATHENS 2025

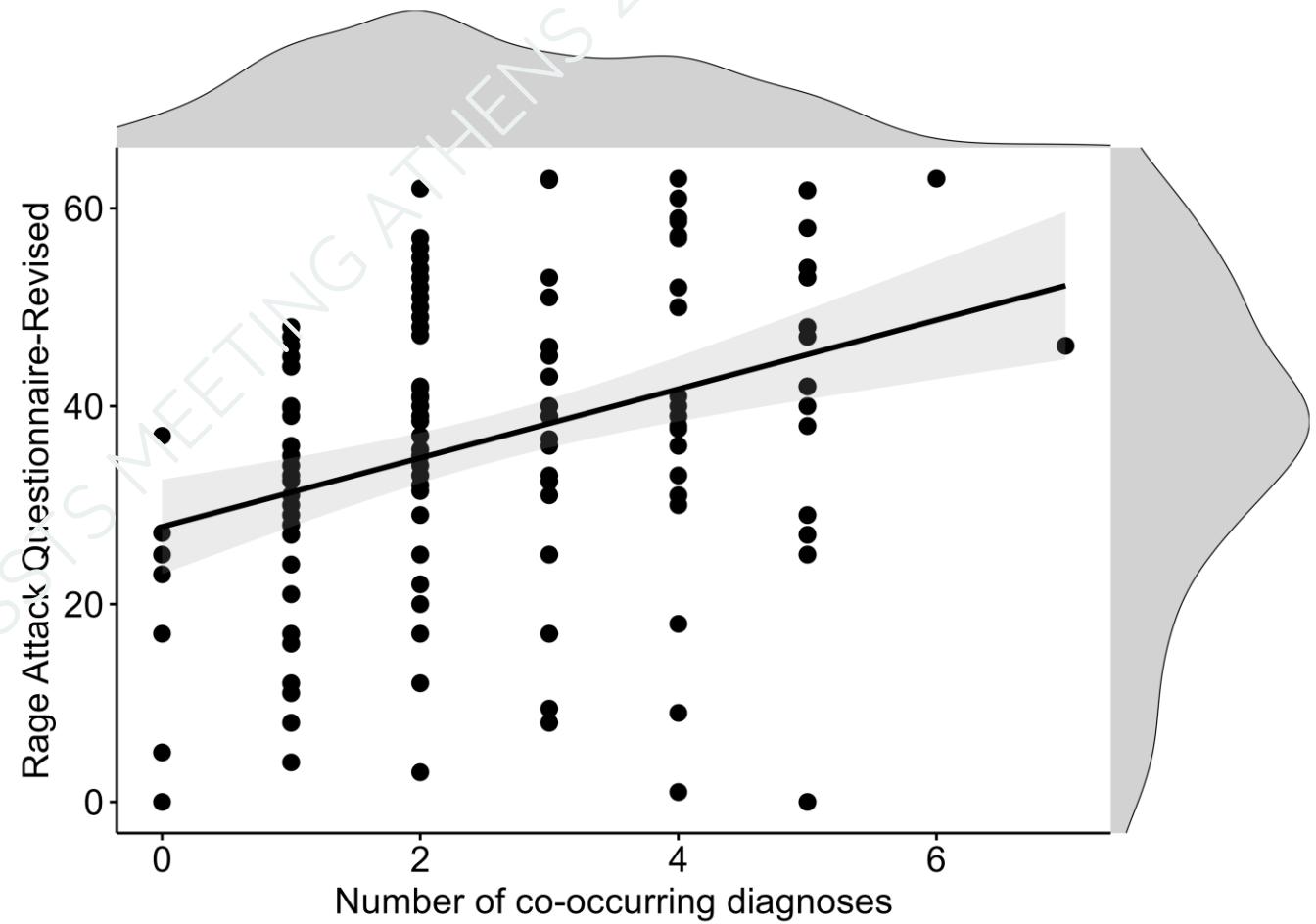
RESULTS

- More severe explosive outbursts if co-occurring ADHD or affective problems (anxiety/depression) are present, but not OCD.
- No significant association with tic severity [$r(142) = .11, p = .21$]



RESULTS

- Significant association between RAQ-R and number of co-occurring diagnoses [$r(142) = .34, p < .001$].



DISCUSSION

- Behavioral inflexibility is a significant predictor of explosive outbursts.
 - Transdiagnostic trait shared with autism and OCD.
- Impulsivity is also associated with explosive outbursts.
 - Negative urgency is the main aspect of impulsivity driving explosive outbursts, over and above the other dimensions of impulsivity.
- Co-occurring diagnoses, but not tic severity, plays a role in explosive outbursts.
- No association with age and no sex difference.
 - Possible changes later in adolescence/early adulthood?

ACKNOWLEDGEMENTS

- We wish to thank:
 - All participants;
 - Fondation les petits trésors for financial support;
 - Organizations who helped with recruitment:
 - Association québécoise du syndrome de la Tourette, Association français du syndrome de Gilles de la Tourette, ESSTS, Finnish Tourette and OCD Association (STOy), Tourettes Action, TTAG.

