



## IMPLICIT EVALUATIVE ATTITUDES TOWARD VIOLENCE: THREE RESPONSE LATENCY MEASURES

Sacha A. Maimone, Ph.D., Michael C. Seto, Ph.D.,  
A. G. Ahmed, M.D., & Kevin L. Nunes, Ph.D.

1

## EVALUATIVE ATTITUDES

- *Explicit Evaluative Attitudes*
  - Deliberative propositions about a psychological object
  - Assessed with self-report scales (e.g., semantic differential scales)
- *Implicit Evaluative Attitudes*
  - Immediately activated evaluations about a psychological object
  - Often assessed with response latency measures (e.g., Implicit Association Test)

2

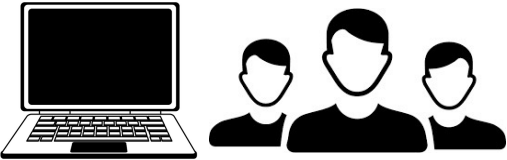
## AIM OF PROJECT

*To modify existing implicit procedures to assess implicit evaluative attitudes toward violence alongside other commonly assessed violent cognitions*

3

## PRE-TEST

- Pilot tested various categories and stimulus words to be used for the response latency measures
- Participants:
  - N = 207 adult males recruited online through Qualtrics



4

## PRE-TEST: RESULTING STIMULI

Positive	Negative	Peace	Violence
happy	evil	peaceful	murder
joy	disaster	peace	assault
good	cancer	cuddle	punch
sunshine	disease	calm	attack
beautiful	mean	love	fight

5

## STUDY OBJECTIVE

*Examine relationship between violent cognitions and violent behaviour*



6

### STUDY METHODS

- Participants
  - Recruited through Carleton and online sites and participated in-lab

N = 156 male students      N = 95 community men

7

### STUDY MEASURES

Construct	Nature	Measures
Implicit evaluative attitudes toward violence	Response latency	<b>VE-IAT:</b> Violent Evaluation-Implicit Association Test <b>P-VE-IAT:</b> Personalized-Violent Evaluation-IAT <b>VE-RRT:</b> Viol. Eval.-Relational Responding Task
Explicit evaluative attitudes toward violence	Self-report	<b>VESD:</b> Semantic Differential Scales <b>EVQ:</b> Evaluation of Violence Questionnaire
Beliefs regarding violence	Self-report	<b>MCAA-R-V:</b> Measures of Criminal Attitudes and Associates-Revised-Violence scale
Violent behaviour	Self-report	<b>VBS:</b> Violent Behaviour Scale (Prior violence) <b>EVQ-Likelihood</b> (Likelihood of violence) <b>VBVQ:</b> Violent Behavior Vignette Questionnaire (Current violent behaviour)

8

### Violent Evaluation-Implicit Association Test (VE-IAT)

9

### Personalized Violent Evaluation-Implicit Association Test (P-VE-IAT)

10

### Violent Evaluation-Relational Responding Task (VE-RRT)

11

### VE-RRT

12

### EXPLICIT EVALUATIVE ATTITUDES

- Violent-Evaluation Semantic Differential (VESD) scale

**Doing violence is...**

1	2	3	4	5	6	7
Very negative	Negative	Somewhat negative	Neutral	Somewhat positive	Positive	Very Positive

13

### EXPLICIT EVALUATIVE ATTITUDES

- Evaluation of Violence Questionnaire (EVQ)

**You hitting (for example, punching or kicking) a guy who hurts someone you care about.**

1	2	3	4
Very Negative	A bit negative	A bit positive	Very positive

14

### BELIEFS REGARDING VIOLENCE

- Measures of Criminal Attitudes and Associates-Revised-Violence (MCAA-R-V) scale

**It's understandable to hit someone who insults you.**

1	2	3	4
Disagree	Somewhat disagree	Somewhat agree	Agree

15

### RESULTS: STUDENTS (CORRELATIONS)

Variable	1	2	3	4	5	6	7	8	9
1. VE-IAT	--	.30**	-.03	.26**	.19*	.11	.04	.11	.15
2. P-VE-IAT	.30**	--	.10	.21*	.05	.06	.12	.17*	.11
3. VE-RRT	-.07	.06	--	.07	-.05	-.05	.10	-.09	-.04
4. MCAA-R-V	.24**	.22**	.05	--	.48***	.67***	.55***	.66***	.62***
5. VESD	.18*	-.02	-.04	.46***	--	.59***	.40***	.49***	.47***
6. EVQ	.12	.06	-.06	.64***	.57***	--	.44***	.83***	.70***
7. VBS	.08	.12	.14	.50***	.39***	.38***	--	.39***	.40***
8. EVQLike	.10	.15	-.08	.66***	.49***	.84***	.35***	--	.65***
9. VBQV	.11	.09	.01	.62***	.48***	.70***	.39***	.65***	--

\*\*p < .01, \*p < .05, \*\*\*p < .001. Pearson's r = above diagonal, Spearman's rho = below diagonal

16


### RESULTS: COMMUNITY (CORRELATIONS)

Variable	1	2	3	4	5	6	7	8	9
1. VE-IAT	--	.26*	-.14	.15	.14	.10	.15	.28**	.17
2. P-VE-IAT	.28*	--	-.12	.16	.20	.07	-.11	.11	.07
3. VE-RRT	-.16	-.19	--	.03	-.21	-.03	-.01	-.16	-.09
4. MCAA-R-V	.19	.19	.00	--	.43***	.73***	.51***	.72***	.61***
5. VESD	.10	.24*	-.19	.42***	--	.47***	.40***	.53***	.41***
6. EVQ	.14	.10	-.14	.69***	.46***	--	.45***	.78***	.66***
7. VBS	.10	-.03	.07	.50***	.36***	.50***	--	.45***	.50***
8. EVQLike	.27*	.12	-.22*	.68***	.51***	.74***	.49***	--	.63***
9. VBQV	.19	.14	-.11	.61***	.39***	.65***	.48***	.62***	--

\*\*p < .01, \*p < .05, \*\*\*p < .001. Pearson's r = above diagonal, Spearman's rho = below diagonal

17

### RESULTS: STUDENTS AND IN-LAB COMMUNITY



better together

- Overall, implicit evaluative attitudes toward violence (VE-IAT and P-VE-IAT) explained significantly more variance in likelihood of violence over and above the...
  - VESD (students and community)
  - EVQ (students and community)
  - MCAA-R-V (community)

18

**HIERARCHICAL MULTIPLE LINEAR REGRESSION:  
STUDENTS**

Variable	Model 1					Model 2				
	b	$\beta$	SE	95% CI	sr <sup>2</sup>	b	$\beta$	SE	95% CI	sr <sup>2</sup>
Constant	1.18***		.10	[0.98, 1.39]		1.37***		.14	[1.09, 1.64]	
VESD	0.27***	.48	.04	[0.18, 0.35]	.23	0.26***	.47	.04	[0.18, 0.34]	.22
P-VE-IAT						0.17*	.15	.08	[0.00, 0.33]	.02
F	41.58***					23.25***				
R <sup>2</sup>	.23					.25				
$\Delta$ R <sup>2</sup>						.02*				

N = 144, \*p < .05, \*\*p < .01, \*\*\*p < .001. Note: Outcome was EVQ-Likelihood (likelihood of violence)

19

**HIERARCHICAL MULTIPLE LINEAR REGRESSION:  
STUDENTS**

Variable	Model 1					Model 2				
	b	$\beta$	SE	95% CI	sr <sup>2</sup>	b	$\beta$	SE	95% CI	sr <sup>2</sup>
Constant	0.25***		.09	[0.74, 0.43]		0.41***		.11	[0.20, 0.63]	
EVQ	0.85***	.83	.05	[0.75, 0.94]	.69	0.84***	.82	.05	[0.75, 0.94]	.67
P-VE-IAT						0.14*	.12	.05	[0.03, 0.24]	.01
F	312.7***					166.1***				
R <sup>2</sup>	.69					.70				
$\Delta$ R <sup>2</sup>						.01*				

N = 144, \*p < .05, \*\*p < .01, \*\*\*p < .001. Note: Outcome was EVQ-Likelihood (likelihood of violence)

20

**HIERARCHICAL MULTIPLE LINEAR REGRESSION:  
COMMUNITY**

Variable	Model 1					Model 2				
	b	$\beta$	SE	95% CI	sr <sup>2</sup>	b	$\beta$	SE	95% CI	sr <sup>2</sup>
Constant	0.14		.18	[-0.22, 0.50]		0.44		.22	[0.00, 0.88]	
MCAA-R-V	0.08***	.69	.01	[0.06, 0.10]	.47	0.08***	.66	.01	[0.06, 0.09]	.43
VE-IAT						0.20*	.18	.09	[0.03, 0.38]	.03
F	78.76***					43.86***				
R <sup>2</sup>	.48					.51				
$\Delta$ R <sup>2</sup>						.03*				

N = 89, \*p < .05, \*\*p < .01, \*\*\*p < .001. Note: Outcome was EVQ-Likelihood (likelihood of violence)

21

**HIERARCHICAL MULTIPLE LINEAR REGRESSION:  
COMMUNITY**

Variable	Model 1					Model 2				
	b	$\beta$	SE	95% CI	sr <sup>2</sup>	b	$\beta$	SE	95% CI	sr <sup>2</sup>
Constant	1.03***		.13	[0.77, 1.30]		1.35***		.19	[0.97, 1.73]	
VESD	0.33***	.51	.06	[0.21, 0.45]	.26	0.31***	.49	.06	[0.20, 0.43]	.23
VE-IAT						0.24*	.21	.11	[0.03, 0.45]	.04
F	31.19***					18.97***				
R <sup>2</sup>	.26					.31				
$\Delta$ R <sup>2</sup>						.04*				

N = 89, \*p < .05, \*\*p < .01, \*\*\*p < .001. Note: Outcome was EVQ-Likelihood (likelihood of violence)

22

**HIERARCHICAL MULTIPLE LINEAR REGRESSION:  
COMMUNITY**

Variable	Model 1					Model 2				
	b	$\beta$	SE	95% CI	sr <sup>2</sup>	b	$\beta$	SE	95% CI	sr <sup>2</sup>
Constant	0.51***		.12	[0.28, 0.74]		0.82***		.15	[0.52, 1.11]	
EVQ	0.70***	.76	.06	[0.58, 0.84]	.58	0.69***	.74	.06	[0.57, 0.81]	.55
VE-IAT						0.23**	.20	.08	[0.08, 0.38]	.04
F	121.66***					70.96***				
R <sup>2</sup>	.58					.62				
$\Delta$ R <sup>2</sup>						.04**				

N = 89, \*p < .05, \*\*p < .01, \*\*\*p < .001. Note: Outcome was EVQ-Likelihood (likelihood of violence)

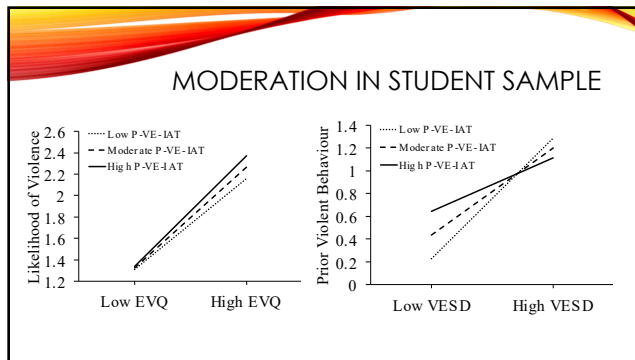
23

**RESULTS:  
STUDENTS AND IN-LAB COMMUNITY SAMPLES**

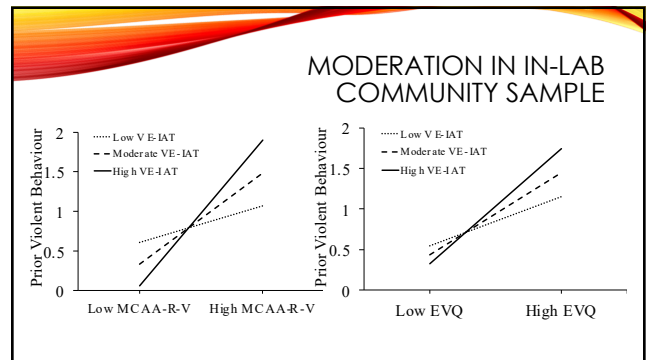


- Overall, implicit evaluative attitudes toward violence significantly moderated the relationships between explicit evaluative attitudes toward violence/beliefs regarding violence and violent behaviour

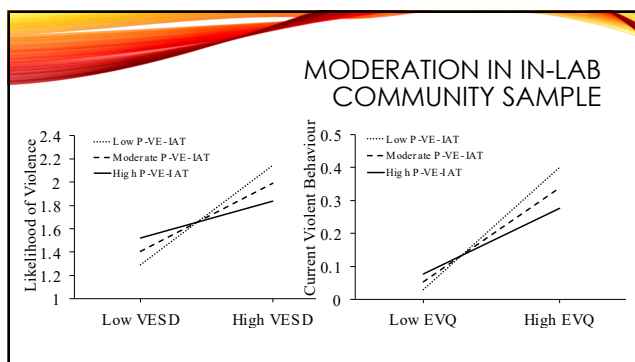
24



25



26



27

- ### STUDY EXTENSIONS
- Examine relationship between violent cognitions and violent behaviour in a more violent sample
  - Examine relationship between violent cognitions and violent behaviour in a larger sample of men
  - Examine the underlying factor structure of the violent cognition measures

28

## SUMMARY

Implicit evaluative attitudes toward violence were more strongly related to self-report beliefs regarding violence than explicit evaluative attitudes toward violence

Implicit evaluative attitudes toward violence were most consistently associated with likelihood of violence

Explicit evaluative attitudes and beliefs regarding violence were associated

Explicit evaluative attitudes and beliefs regarding violence were consistently associated with violent behaviour on several outcomes

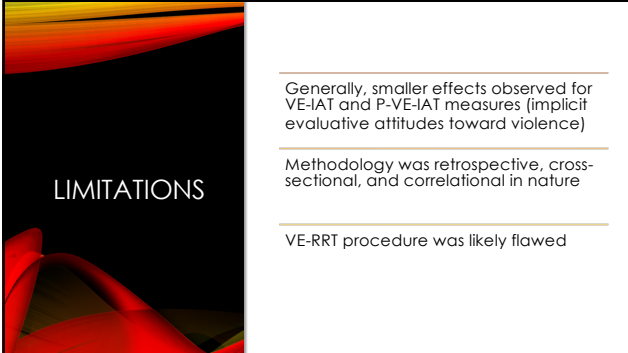
29

## SUMMARY

Implicit evaluative attitudes explained additional variance in likelihood of violence over and above explicit/self-report violent cognitions

Implicit evaluative attitudes moderated many of the relationships between explicit/self-report violent cognitions and violent outcomes

30



## LIMITATIONS

Generally, smaller effects observed for VE-IAT and P-VE-IAT measures (implicit evaluative attitudes toward violence)

Methodology was retrospective, cross-sectional, and correlational in nature

VE-RRT procedure was likely flawed

31



## FUTURE DIRECTIONS

- Administer a hybrid implicit measure to assess implicit evaluative attitudes toward violence
- Assess the longitudinal relationship between implicit evaluative attitudes toward violence and future instances of violent behaviour (e.g., violent re-offending)
- Experimentally assess whether changes in implicit evaluative attitudes toward violence (and other violent cognitions) correspond to changes in violent outcomes
- Examine the impact of simulated provocation on the relationship between implicit evaluative attitudes toward violence and violent behaviour

32



Thank you!

Questions?

Email: [Sacha.Maimone@theroyal.ca](mailto:Sacha.Maimone@theroyal.ca)




33