Temporal Stability of Evaluative Attitudes Toward Violence

Fraser, J. M., Chan, S., & Taljit, S. , Nunes, K. L. (2022)

1

Evaluative Attitudes Toward Violence

Attitudes = Evaluations (positive or negative) of psychological objects ✓

Violent attitudes = Evaluations (positive or negative) of violence ?

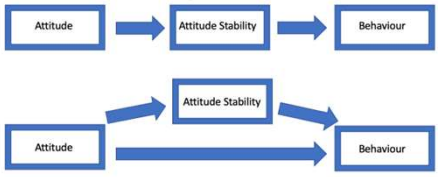
Nunes et al. (2021): **Evaluative attitudes toward violence** = Violent attitudes as evaluations of violence ✓

2

2

Temporal Stability of Attitudes: Relevance

- The attitude-behaviour relationship may be dependent on, or facilitated by, attitude stability
  - (Cooke & Sheeran, 2004; Glasman & Albarracín, 2006; Kraus, 1995)



3

3

Current Study

- Evaluative attitudes toward violence are:
  - Related to violent behaviour (Nunes et al., 2022)
  - Changeable through manipulation (Nunes et al., 2021)
  - Stable or unstable over time?
- Purpose: To determine how quickly and by how much evaluative attitudes toward violence change over time

4

4

Methods

- Three test-retest studies:
  1. Across 4 days
  2. Across 3 weeks
  3. Across 2 months
- Evaluation of Violence Questionnaire (EVQ; Nunes et al., 2021)
  - Used to assess evaluative attitudes towards violence at each assessment
  - 17 items rated on 4-point Likert scales, averaged to compute total score
  - Male on male violence

5

5

Study 1: Methods

- Temporal stability across 4 days
- Sample
  - Undergraduate men at Carleton University
  - Day 1: 139 participants
  - Day 2: 88 participants
  - Day 3: 62 participants
  - Day 4: 58 participants
  - 52 participants completed and met exclusion criteria across all four assessments

6

6

Study 1: Methods

- Procedure
  - Each survey available 24 hours after completing the previous
  - Each survey remained available for 24 hours
- Statistical analyses
  - Intraclass correlation coefficients (ICCs)
  - Pearson correlation coefficients (*r*)
  - Attitude change scores (EVQ_x – EVQ_y)

7

7

Study 1: Methods

- Statistical analyses
  - Intraclass correlation coefficients (ICCs)
    - Range from 0 to 1
    - Cicchetti (1994): ICC >= 0.75 -> excellent stability
    - Koo & Li (2016): ICC >= 0.90 -> excellent stability
  - Pearson correlation coefficients (*r*)
    - Range from -1 to 1
  - Attitude change scores (EVQ_x – EVQ_y)
    - EVQ rated on 4-point scale
    - Largest possible change across assessments is |3|

8

8

Study 1: Results

ICC across four days (*n* = 52): **.977**, with a 95% CI of [.965, .985]

Table 1

Bivariate ICCs of Total EVQ Scores Across Four Days

	Day 1[a]	Day 2[b]	Day 3[c]	Day 4
Day 1	1			
Day 2	.952 [.926, .968]	1		
Day 3	.945 [.908, .967]	.977 [.962, .986]	1	
Day 4	.922 [.866, .954]	.978 [.963, .987]	.967 [.943, .981]	1

Note. 95% CIs included in square brackets.

[a] $n_{1,2} = 86$, $n_{1,3} = 62$, $n_{1,4} = 55$. [b] $n_{2,3} = 61$, $n_{2,4} = 55$. [c] $n_{3,4} = 55$.

9

9

Study 1: Results

Pearson Correlations

Table 2

Bivariate Pearson Correlation Coefficients of Total EVQ Scores Across Four Days

	Day 1[a]	Day 2[b]	Day 3[c]	Day 4
Day 1	1			
Day 2	.914	1		
Day 3	.905	.955	1	
Day 4	.861	.958	.936	1

Note. All $p < .001$.

[a] $n_{1,2} = 86$, $n_{1,3} = 62$, $n_{1,4} = 55$. [b] $n_{2,3} = 61$, $n_{2,4} = 55$. [c] $n_{3,4} = 55$.

10

10

Study 1: Results

Attitude Change

Table 3

EVQ Change Scores Across Four Days

			Change Score[b]						
Days	*n*	M_d	0[a]	0.01-.09	.10-.20	.21-.30	.31-.40	.41-.50	> .50
1 – 2	86	.18	15.1 (13)	18.6 (16)	31.4 (27)	18.6 (16)	4.6 (4)	4.6 (4)	7 (5)
1 – 3	62	.18	12.9 (8)	22.6 (14)	29.0 (18)	24.2 (15)	3.2 (2)	4.8 (3)	3.2 (2)
1 – 4	55	.20	14.5 (8)	23.6 (13)	30.9 (17)	10.9 (6)	3.6 (2)	5.4 (3)	9.1 (5)
2 – 3	61	.14	13.1 (8)	26.2 (16)	39.3 (24)	13.1 (8)	4.9 (3)	3.3 (2)	0
2 – 4	55	.13	16.4 (9)	20.0 (11)	43.6 (24)	12.7 (7)	3.6 (2)	1.8 (1)	1.8 (1)
3 – 4	55	.13	21.8 (12)	34.5 (19)	23.6 (13)	14.5 (8)	0	1.8 (1)	3.6 (2)

Note. [a] Percentage (*n*). [b] Absolute values of differences presented.

11

11

Study 1: Recap

- Evaluative attitudes toward violence highly stable across 4 days
  - Between each assessment
  - Across all assessments
- Changes are occurring
  - But they're quite small
- Suggests: evaluative attitudes toward violence may be stable in the short-term

12

12

Study 2: Methods

- Temporal stability across 3 weeks
- Sample
  - Undergraduate men at Carleton University
  - Week 1: 161 participants
  - Week 2: 33 participants
  - Week 3: 12 participants
  - 11 participants completed and met exclusion criteria across all three assessments

13

13

Study 2: Methods

- Procedure
  - Each survey available 1 week (7 days, or exactly 168 hours) after completing the previous
  - Each survey remained available 24 hours
- Statistical analyses
  - Intraclass correlation coefficients
  - Pearson correlation coefficients
  - Attitude change scores

14

14

Study 2: Results

ICC across three weeks (n = 11): **.959**, with a 95% CI of [.890, .988]

Table 4

Bivariate ICCs of Total EVQ Scores Across Three Weeks

	Week 1[a]	Week 2[b]	Week 3
Week 1	1		
Week 2	.970 [.938, .985]	1	
Week 3	.900 [.650, .973]	.946 [.810, .984]	1

Note. 95% CIs included in square brackets.

[a] $n_{1,2}$ = 31, $n_{1,3}$ = 11. [b] $n_{2,3}$ = 12.

15

15

Study 2: Results

Pearson Correlations

Table 5

Bivariate Pearson Correlation Coefficients of Total EVQ Scores Across Three Weeks

	Week 1[a]	Week 2[b]	Week 3
Week 1	1		
Week 2	.947	1	
Week 3	.838	.899	1

Note. All p < .001.

[a] $n_{1,2}$ = 31, $n_{1,3}$ = 11. [b] $n_{2,3}$ = 12.

16

16

Study 2: Results

Attitude Change

Table 6

EVQ Change Scores Across Three Weeks

			Change Score[b]						
Weeks	n	M_d	0[a]	< .10	.10-.20	.21-.30	.31-.40	.41-.50	> .50
1 – 2	31	.18	12.9 (4)	22.7 (7)	19.5 (6)	32.3 (10)	2.1 (1)	9.6 (3)	0
1 – 3	11	.29	0	18.2 (2)	27.3 (3)	9.1 (1)	9.1 (1)	27.3 (3)	9.1 (1)
2 – 3	12	.18	16.7 (2)	33.3 (4)	8.3 (1)	24.9 (3)	8.3 (1)	0	8.3 (1)

Note. [a] Percentage (n). [b] Absolute values of differences presented.

17

17

Study 2: Recap

- Evaluative attitudes toward violence highly stable across 3 weeks
  - Between each assessment
  - Across all assessments
- Changes are occurring
  - But they're still quite small
- Suggests: evaluative attitudes toward violence may be stable in both the short-term and the long-term

18

18

Study 3: Methods

- Temporal stability across 2 months
- Sample
  - Undergraduate men at Carleton University
  - Month 1: 18 participants
  - Month 2: 8 participants
  - These 8 participants completed and met exclusion criteria across both assessments

19

19

Study 3: Methods

- Procedure
  - Second survey available 1 month (4 weeks, 672 hours) after completing the first
  - Remained available to complete for 24 hours
- Statistical analyses
  - Intraclass correlation coefficient
  - Pearson correlation coefficient
  - Attitude change scores

20

20

Study 3: Results

- ICC across 2 months (n = 8): **.777**, with a 95% CI of [.007, .954]
- Pearson r across 2 months: **.717**, p = .045

Attitude Change

Table 7

EVQ Change Scores Across Two Months

			Change Score[b]					
Months	M_d	0[a]	< .10	.10-.20	.21-.30	.31-.40	.41-.50	> .50
1 – 2	.33	0	11.1 (1)	11.1 (1)	22.2 (2)	11.1 (1)	22.2 (2)	11.1 (1)

Note. n = 8.

[a] Percentage (n). [b] Absolute values of differences presented.

21

21

Study 3: Recap

- Evaluative attitudes toward violence may be highly stable across 2 months
  - BUT: 95% CIs getting very wide
- Changes are occurring
  - But they're still quite small
- Suggests: evaluative attitudes toward violence may be stable in the long-term

22

22

Discussion

- Overall: high degree of stability and correlation across all time points
- ICCs
  - 4 days: .977, ranging from .922 to .978 between pairs
  - 3 weeks: .959, ranging from .900 to .970 between pairs
  - 2 months: .777
- *r*s
  - 4 days: ranging from .861 to .958
  - 3 weeks: ranging from .838 to .947
  - 2 months: .717

23

23

Discussion

- Changes that do occur are small (Note: EVQ rated on 4-point Likert scale)
- Study 1: across 4 days, highest change score = 1.06
  - Majority of change scores less than .21 across all pairs
- Study 2: across 3 weeks, highest change score = .59
  - Majority of change scores less than .31 across all pairs
- Study 3: across 2 months, highest change score = .59
  - Majority of change scores less than .41

24

24

Discussion

- 4 discrete theoretical EVQ categories:
  - Very negative (1)
  - Negative (2)
  - Positive (3)
  - Very positive (4)
- Almost all participants remained in same attitude "category" across all time periods
- Changes in EVQ scores might indicate changes within a "category"

25

25

Limitations

- Small samples = lack of power
  - Participant retention
    - Study 1 – Day 1: 139 participants, Day 4: 58 participants
    - Study 2 – Week 1: 161 participants, Week 3: 12 participants
    - Study 3 – Month 1: 18 participants, Month 2: 8 participants

26

26

Limitations

- Generalizability
  - Undergraduate men: floor effects?
    - Nunes et al. (2021): mean total EVQ scores range from 1.75 – 2.06
    - Nunes et al. (2022): mean total EVQ score of 1.89
    - Current study: mean total EVQ scores range from 1.41 – 2.17
    - Majority of participants actually had ***decreases*** in their scores across time periods

27

27

Limitations

- Generalizability
  - Only examined non-sexual violence committed by men against men
    - Most non-sexual violence is committed by and against men (e.g., Stanford et al., 2003)
    - Men and women may differ in their cognitive structures (e.g., Chess & Thomas, 1984)
    - Men and women may differ in their strength and prevalence of criminal attitudes (Blanchette, 2002)

28

28

Future Directions

- Replications and extensions
  - Different populations
  - Larger sample sizes
  - Longer time periods
- Rank order/category as an additional measure of stability
- Stability of attitude change
  - Nunes et al., 2021: evaluative attitudes towards violence can change through manipulation
  - For how long does the attitude remain changed?

29

29

Conclusion

- OVERALL
  - Evaluative attitudes may be highly stable; appear to be more stable than unstable
  - Future research is needed, BUT current study lays a solid foundation to build upon

30

30

Thank you!

Questions?

juliafraser@cmail.carleton.ca
https://carleton.ca/acbrlab/

31

References

Blanchette, K. (2002). Classifying female offenders for effective intervention: Application of the case-based principles of risk and need. In *Forum on Corrections Research* (Vol. 14, No. 1, pp. 31-35). CORRECTIONAL SERVICE OF CANADA.

Chess, S., & Thomas, A. (1987). Origins and evolution of behavior disorders: From infancy to early adult life. Harvard University Press.

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment, 6*(4), 284–290. https://doi.org/10.1037/1040-3590.6.4.284

Cooke, R., & Sheeran, P. (2004). Moderation of cognition-intention and cognition-behaviour relations: A meta-analysis of properties of variables from the theory of planned behaviour. *British Journal of Social Psychology, 43*(2), 159-186.

Glasman, L. R., & Albarracín, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological Bulletin, 132*, 778-822. doi:10.1037/0033-2909.132.5.778

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine, 15*(2), 155-163.

Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin, 21*, 58-75. doi:10.1177/0146167295211007

Nunes, K. L., Pedneault, C. I., & Hermann, C. A. (2021). The Evaluation of Violence Questionnaire (EVQ): Development and validity of a self-report measure of evaluative attitudes toward violence. *Psychology of Violence, 11*, 591-600. http://dx.doi.org/10.1037/vio0000388

Nunes, K. L., Pedneault, C. I., Hermann, C. A., & Fraser, J. (2022). Do violent attitude measures assess evaluative attitudes toward violence? Submitted for publication.

Stanford, M. S., Houston, R. J., Mathias, C. W., Villemarette-Pittman, N. R., Helfritz, L. E., & Conklin, S. M. (2003). Characterizing aggressive behavior. *Assessment, 10*(2), 183–190. https://doi.org/10.1177/1073191103010002009

32

Appendix A – Study 1

Table A1

Bivariate ICCs of Total EVQ Scores Across Four Days

	Day 1	Day 2	Day 3	Day 4
Day 1	1			
Day 2	.949 [.926, .968]	1		
Day 3	.944 [.908, .967]	.974 [.962, .986]	1	
Day 4	**.920** [.866, .954]	**.977** [.963, .987]	.962 [.943, .981]	1

Note. Calculated using data from participants who completed and met the exclusion criteria across all four assessments; 95% CIs included in square brackets, $n = 52$.

33

Appendix A – Study 1

Table A2

Bivariate Pearson Correlation Coefficients of Total EVQ Scores Across Four Days

	Day 1	Day 2	Day 3	Day 4
Day 1	1			
Day 2	.912	1		
Day 3	.905	.948	1	
Day 4	**.859**	**.955**	.928	1

Note. Calculated using data from participants who completed and met the exclusion criteria across all four assessments. All $p < .001$, $n = 52$.

34

Appendix A – Study 1

Table A3

EVQ Change Scores Across Four Days

		Change Score[b]						
Days	M_d	0	<.1	.10-.20	.21-.30	.31-.40	.41-.50	> .50
1 – 2[a]	.18	**15.4 (8)**	**19.2 (10)**	**28.8 (15)**	21.2 (11)	3.8 (2)	3.8 (2)	7.7 (4)
2 – 3	.18	**11.5 (6)**	**26.9 (14)**	**26.9 (14)**	21.2 (11)	3.8 (2)	5.8 (3)	3.8 (2)
1 – 4	.20	**15.4 (8)**	**23.1 (12)**	**28.8 (15)**	11.5 (6)	3.8 (2)	5.8 (3)	9.6 (5)
2 – 3	.15	**11.5 (6)**	**26.9 (14)**	**38.5 (20)**	13.5 (7)	5.8 (3)	3.8 (2)	0
2 – 4	.13	**17.3 (9)**	**19.2 (10)**	**46.2 (24)**	9.6 (5)	3.8 (2)	1.9 (1)	1.9 (1)
3 – 4	.13	**21.2 (11)**	**36.5 (19)**	23.1 (12)	13.5 (7)	0	1.9 (1)	3.8 (2)

Note. Calculated using data from participants who completed and met the exclusion criteria across all four assessments, $n = 52$.
[a] Percentage (n). [b] Absolute values of differences presented.

35

Appendix B – Study 2

Table B1

Bivariate ICCs of Total EVQ Scores Across Three Weeks

	Week 1	Week 2	Week 3
Week 1	1		
Week 2	**.970** [.842, .993]	1	
Week 3	**.900** [.650, .973]	.947 [.802, .986]	1

Note. Calculated using data from participants who completed and met the exclusion criteria across all three assessments; 95% CIs included in square brackets, $n = 11$.

36

Appendix B – Study 2

Table B2

Bivariate Pearson Correlation Coefficients of Total EVQ Scores Across Three Weeks

	Week 1	Week 2	Week 3
Week 1	1		
Week 2	**.967**	1	
Week 3	**.838**	.891	1

Note. Calculated using data from participants who completed and met the exclusion criteria across all three assessments. All $p < .001$, $n = 11$.

37

37

Appendix B – Study 2

Table B3

EVQ Change Scores Across Three Weeks

		Change Score[b]						
Weeks	M_d	0	< .10	.10-.20	.21-.30	.31-.40	.41-.50	> .50
1 – 2[a]	.16	**9.1 (1)**	**18.2 (2)**	**36.4 (4)**	27.3 (3)	9.1 (1)	0	0
1 – 3	.23	0	**18.2 (2)**	**27.3 (3)**	**9.1 (1)**	9.1 (1)	27.3 (3)	9.1 (1)
2 – 3	.09	**18.2 (2)**	**36.4 (4)**	0	18.2 (2)	9.1 (1)	0	9.1 (1)

Note. Calculated using data from participants who completed and met the exclusion criteria across all three assessments, $n = 11$.

[a] Percentage (n). [b] Absolute values of differences presented.

38

38