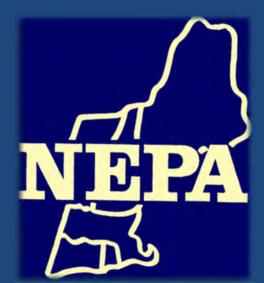# False Memory-Prone Personality:
A Study on the Big Five Personality Traits Associated with Susceptibility to False Memory

Roland Denomme and Michael Adie

Sponsor: Peter Frost

Southern New Hampshire University

NEPA

Introduction

- Research over the last two decades has increasingly addressed *who* might be susceptible to false memories during biased therapeutic or forensic interviews (Hyman & Billings, 1998).

- If false memory is more trait than state, what personality traits underlie a false-memory prone personality?

- Personality was assessed using the NEO-PI-R. It measures the "Big 5" personality traits—the overarching domains that encompass many other, more specific traits, called *facets*.

- We predicted that the following facets would be positively correlated with false recognition based on past research (Clancy, Schacter, McNally, & Pitman, 2002; Hyman & Billings, 1998): fantasy (O1), feelings (O3), trust (A1), compliance (A4), anxiety (N1), vulnerability (N6), and depression (N3). We expected the domain of conscientiousness to be negatively correlated with false-event recognition. We did not expect extraversion to be correlated with false-even recognition.

Introduction

Table 1

The Domains and Facets Assessed by the NEO-PI

Neuroticism (N)	Extraversion (E)	Openness (O)	Agreeableness (A)	Conscientiousness (C)
N1: Anxiety	E1: Warmth	O1: Fantasy	A1: Trust	C1: Competence
N2: Angry Hostility	E2: Gregariousness	O2: Aesthetics	A2: Straightforwardness	C2: Order
N3: Depression	E3: Assertiveness	O3: Feelings	A3: Altruism	C3: Dutifulness
N4: Self-Consciousness	E4: Activity	O4: Actions	A4: Compliance	C4: Achievement Striving
N5: Impulsiveness	E5: Excitement-Seeking	O5: Ideas	A5: Modesty	C5: Self-Discipline
N6: Vulnerability	E6: Positive Emotions	O6: Values	A6: Tender-Mindedness	C6: Deliberation

Note: In addition to the Big 5 domains, the NEO-PI assesses 6 facets for each domain shown below the line.

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Method

Participants.
The experiment included 55 undergraduate students from Southern New Hampshire University.

Materials.

· *Neuroticism Extroversion Openness Personality Inventory-Revised (NEO PI-R).* The NEO PI-R is the only personality inventory specifically constructed to assess the "Big 5" personality traits.

· *The Simulated Eyewitness Event.* Participants viewed a 15-min excerpt in which people are approached about committing a crime.

· *A Recall Test.* This test included three true-event questions and three false-event questions. The false-event questions included misinformation embedded within the question.

· *The Yes/No Recognition Test.* Recognition questions assessed true-event and false-event details. Some questions, we refer to as false-event base rate questions, assessed false-event details that were not associated with confabulation.

Method (Continued)

Procedure.

Participants viewed the movie excerpt and completed the recall test. The NEO-PI-R was then administered. During a second session (one week later), participants completed the yes/no test.

Results

Table 2

Percentage of Yes Responses as a Function of Question Type

Question Type	Percentage of Yes Responses
False-Event	78%
False-Event, Base Rate	28%
True-Event	93%

Results

Table 3

Spearman *r* Correlations Between Scores on the NEO-PI and the Number of Yes Responses to False-Event and True-Event Questions

Personality Domain/Facet	False-Event	True-Event
Neuroticism	.16	-.37*
N1: Anxiety	.32*	-.23*
N2: Angry Hostility	-.35*	.21
N3: Depression	.21	-.46*
N4: Self-Consciousness	-.15	-.32*
N5: Impulsiveness	.05	-.16
N6: Vulnerability	.31*	-.33

Note. * indicates $p < .05$

Results

Table 4

<u>Spearman *r* Correlations Between Scores on the NEO-PI and the Number of Yes Responses to False-Event and True-Event Questions</u>

Personality Domain/Facet	False-Event	True-Event
Extraversion	.09	.21
E1: Warmth	-.15	-.02
E2: Gregariousness	.00	.23*
E3: Assertiveness	-.10	.20
E4: Activity	.01	.21
E5: Excitement-Seeking	.29*	-.03
E6: Positive Emotions	.23*	.04

Note. * indicates $p < .05$

Results

Table 5

<u>Spearman *r* Correlations Between Scores on the NEO-PI and the
Number of Yes Responses to False-Event and True-Event Questions</u>

Personality Domain/Facet	False-Event	True-Event
Openness	.34*	.04
O1: Fantasy	.55*	-.14
O2: Aesthetics	.17	-.04
O3: Feelings	.07	-.05
O4: Actions	.18	.10
O5: Ideas	-.11	.22
O6: Values	-.12	.20

Note. * indicates $p < .05$

Results

Table 6

Spearman *r* Correlations Between Scores on the NEO-PI and the
Number of Yes Responses to False-Event and True-Event Questions

Personality Domain/Facet	False-Event	True-Event
Agreeableness	-.06	-.14
A1: Trust	.45*	-.26*
A2: Straightforwardness	.33*	.07
A3: Altruism	.02	.04
A4: Compliance	.52*	-.42*
A5: Modesty	.06	-.21
A6: Tender-Mindedness	-.06	-.14

Note. * indicates $p < .05$

Results

Table 7

<u>Spearman *r* Correlations Between Scores on the NEO-PI and the
Number of Yes Responses to False-Event and True-Event Questions</u>

Personality Domain/Facet	False-Event	True-Event
Conscientiousness	.21	-.03
C1: Competence	.06	.36*
C2: Order	.14	-.18
C3: Dutifulness	.46*	-.07
C4: Achievement Striving	-.09	.12
C5: Self-Discipline	.14	-.14
C6: Deliberation	.03	-.10

Note. * indicates $p < .05$

Table 8

<u>Personality Traits Associated with the Profile of a False Memory-Prone
Personality Type</u>

Results

Personality Trait	Associated Facet in the NEO-PI
1. Fantasy-Prone	O1
2. Compliant	A4
3. Dutiful	C3
4. Trusting	A1
5. Easy-Going	Opposite of N2
6. Straightforward	A2
7. Anxious	N1
8. Vulnerable	N6
9. Excitement-Seeking	E5
10. Positive Emotion	E6

Note. From top to bottom, traits are listed from the traits that were most strongly correlated with affirmative responses to false-event questions to the traits least strongly correlated with affirmative responses to false-event questions.

Discussion

•Although the correlations are small to modest, these traits could account for a much larger proportion of variation if taken together as parts of a profile we refer to as a false-memory prone personality type.

•Understanding what individual differences are linked with false memory, could inform the mechanisms behind it. For example, among the most highly correlated traits are being trusting and compliant. These traits might both relate to the tendencies people have in being willing to accept false information.

•Research on false memory has long focused on group differences. Our findings suggest that a more complete understanding of the false memory phenomenon will need to include the role of individual differences.

References

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