Analytic Thinking Predicts Vaccine Endorsement: Cognitive Style as an Antecedent of Vaccine Attitudes

Daniel A. Anderson
Portland State University

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Analytic Thinking Predicts Vaccine Endorsement: Cognitive Style as an Antecedent of Vaccine Attitudes

Daniel A. Anderson
Advisor: Dr. Wayne Wakeland, Ph.D.

Abstract

Hypothesis 1: the correlation between analytic style (AS) and effective orientation toward childhood vaccination (EOC) was tested in a sample of adults comparing the stronger correlation. Findings suggest analytic cognitive style predicts greater likelihood of embracing childhood vaccination (higher AS). Results highlight the relationship between individual cognitive and cultural influences upon vaccine beliefs.

Method

Using October-November 2013, a sample of 20 adults (60-69) was assessed on “Cognitive Style” (a 5-point scale) for recruitment and compliance of participants. Questionnaires were administered that included measures for:

- Effective orientation toward childhood vaccination (Blasko, 2016)
- Analytic cognitive style (Epstein et al., 1996)
- Analytic/Affective style (Epstein et al., 1996)
- Conspicuously analytic style (Brotherton et al., 2013)

Measures for Reiss consisted of attitude toward childhood vaccination (Reiss & Rosnow, 2011). All were also administered, including:

- Political orientation (6-point scale; Conservative = 1–Liberal = 6, 2008)
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Optional analyses included:

- Census demographic level of education, age, and parental status

Central findings:

- Out of 600 participants, only 35% (n = 20) failed to meet inclusion criteria (compliance lower than 50% or non-proof of vaccination). Mean age 63 ± 10.5 in the full sample. Observations were weighted by gender according to the 2014 US census to compensate for disproportionate representation of females. 60% were similar with no significant differences.

1. Results

1.1 Analytic thinking (AS) emerged as a significant predictor of higher AS

1.2 Conspicuously analytic style (AS) emerged as a significant predictor of higher AS

1.3 Analytic/Affective style (AS) emerged as a significant predictor of higher AS

1.4 Analytic/Affective style (AS) emerged as a significant predictor of higher AS

1.5 Analytic/Affective style (AS) emerged as a significant predictor of higher AS

Table 1. Ordinal regression model predicting effective orientation toward childhood vaccination (AO)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>OR</th>
<th>95% CI</th>
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<tr>
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<tr>
<td>AS</td>
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<tr>
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<td>1.000</td>
<td>0.798</td>
</tr>
</tbody>
</table>

Discussion

Summary: The hypotheses were partly supported. Making sense of vaccineAvoidance of certain health behaviors (e.g., vaccinations) might be connected to analytic cognitive style and affective orientation toward childhood vaccination, respectively.

Interpretations:

Local variations in vaccine endorsement and/or significance may influence individual vaccine decisions.

Future directions: Future work should extend this methodology to other health behaviors (e.g., use of antidepressants) and to other cultural contexts (e.g., in countries with high vaccine coverage). Addressing potential limitations of the current study (e.g., lack of diversity in the sample) could provide valuable insights.

References


