

Search and Seizure: Individual Differences in Information Search



A. Walkyria Rivadeneira, J. Isaiah Harbison, Michael Dougherty, Kent L. Norman

Personal Information Infrastructure Components:

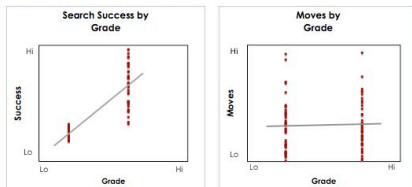
Marchionini's (1995)

- domain expertise
- system expertise
- searching expertise
- general cognitive abilities

Past research has found consistent results for expertise, but inconsistent results for cognitive abilities and personality traits.

Novices - Children in different developmental levels

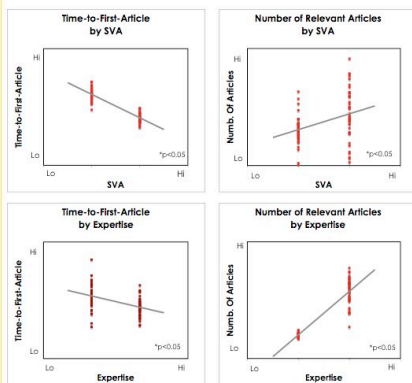
Marchionini's (1989)



Descriptive statistics.
Third and Fourth Grades vs. Fifth and Sixth Graders

Spatial Visualization Ability (SVA) and Domain Expertise

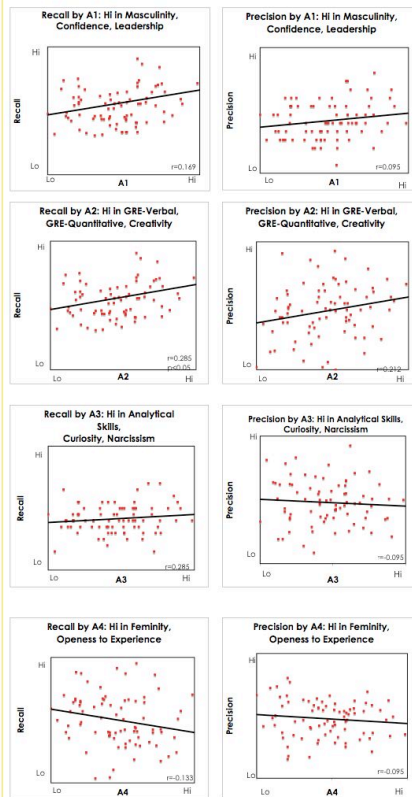
Downing, Moore, Brown (2005)



* No significant interactions.
SVA - measured with VZ-1 and VZ-2
Domain Expertise - same background as related search

Personality Traits

Bellardo (1985)



We believe certain personality traits related to an individual's relationship with knowledge will result in individual differences when searching for information.

Personality Traits considered:

Need for Closure (NFC): is a desire for definitive knowledge on some issue (Kruglanski & Webster, 1996). NFC encompasses two tendencies:

- Urgency Tendency (*Seizing Effect*): need to attain closure as soon as possible
- Permanence Tendency (*Freezing Effect*): need to maintain closure.

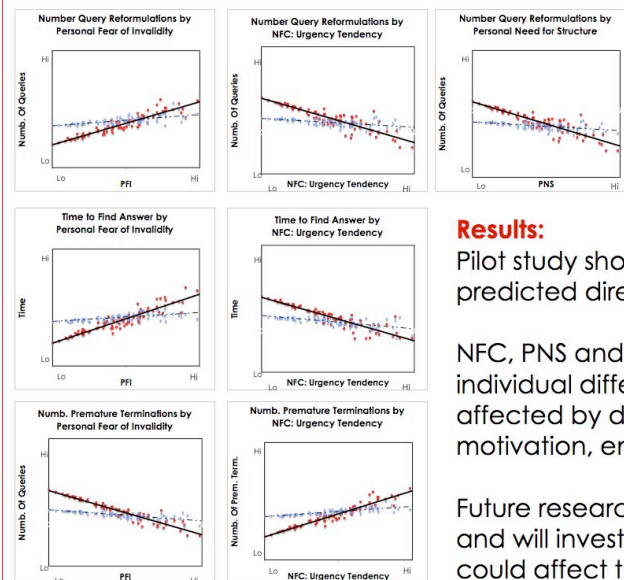
➔ **Personal Fear of Invalidity (PFI):** is a concern with with error or the consequences of error. (Thompson, Naccarato, & Parker, 1989). Inverse of the Seizing Effect.

➔ **Personal Need for Structure (PNS):** is a desire for cognitive simplicity and structure (Thompson, Naccarato, & Parker, 1989). Akin to the Freezing Effect.

Hypotheses:

$$\text{Extent of Search} = -\beta * \text{Urgency}$$

For searches with general targets, we expect differences between individuals with high and low seizing and freezing effects. We do not predict differences for searches with precise targets.



■ Information Need:
General Target
◆ Information Need:
Precise Target
Pilot Study: n.s. results

Results:

Pilot study showed tendencies in the predicted directions.

NFC, PNS and PFI constitute dimensions of individual differences. However, they can be affected by different situations, such as time, motivation, environment, etc.

Future research will manipulate such factors and will investigate design features that could affect these measures.