

Introduction

Intuitive interactions allow tasks to be completed with ease and little effort. Although desirable, the underlying constructs of intuition continue to be debated. Reinhardt and Huertienne (2023) proposed that subjective fluency is one of three requirements for an intuitive interaction.

Fluency is the metacognitive feeling of ease associated with information processing. This feeling can inform a variety of evaluative processes – liking, truthfulness, familiarity, intelligence, value – and it can be manipulated many ways. It has been proposed that the metacognitive feeling of fluency exerts the same influence on evaluation regardless of how fluency is manipulated (Alter & Oppenheimer, 2009).

Jiang and Hong (2014) found that *a priori* expectations about how easy or difficult processing will be can interact with fluency processes to affect evaluations. A mismatch between the two leads to negative evaluations, while a match leads to positive evaluations.

Research Questions

- Do basic fluency effects extend to more naturalistic, multistep tasks?
- Do expectations about ease-of-use impact fluency judgements?
- Are there different outcomes depending on how fluency is manipulated?

Fluency Manipulation: Retrieval

First Search

You are visiting Balford and have heard that the Winter Market is going on. You want to ride the bus to the market. You are about to visit the Balford city tourism website. Your goal is to find out which bus stop is located near the Winter Market.



Second Search

It is your last day in Balford and you want to visit Wolf Park, a wolf sanctuary. You want to make sure you have enough money to visit the park. Your goal is to find out how much it will cost to get a ticket into Wolf Park.



Fluency Manipulation: Perceptual

		Arial	Black Adder
Expected Fluency: Language	English	<p>Winter Market</p> <p>Enjoy entertainment and vendors from across the region during this annual winter festival. See our holiday traditions come to life!</p> <p>Make your travel plans early as this is a popular tourist event.</p> <p>1325 Center Street Bus Stop D</p>	<p><i>Winter Market</i></p> <p><i>Enjoy entertainment and vendors from across the region during this annual winter festival. See our holiday traditions come to life!</i></p> <p><i>Make your travel plans early as this is a popular tourist event.</i></p> <p><i>1325 Center Street Bus Stop D</i></p>
	Dutch	<p>Winter Markt</p> <p>Geniet tijdens dit jaarlijkse winterfestival van entertainment en verkopers uit de hele regio. Zie hoe onze vakantietradities tot leven komen!</p> <p>Maak uw reisplannen vroeg, want dit is een populair toeristisch evenement.</p> <p>1325 Centrum Straat Bus Stop D</p>	<p><i>Winter Markt</i></p> <p><i>Geniet tijdens dit jaarlijkse winterfestival van entertainment en verkopers uit de hele regio. Zie hoe onze vakantietradities tot leven komen!</i></p> <p><i>Maak uw reisplannen vroeg, want dit is een populair toeristisch evenement.</i></p> <p><i>1325 Centrum Straat Bus Stop D</i></p>

Methods

Design

- Language was manipulated between subjects to establish expected fluency.
- Font style was used to manipulate perceptual fluency and website repetition was used to manipulate retrieval fluency; both were within-subject manipulations.

Procedure

Participants searched 9 simulated websites (4 critical) for a specific piece of information (e.g., ticket price). Each website consisted of 3 pages.

Participants

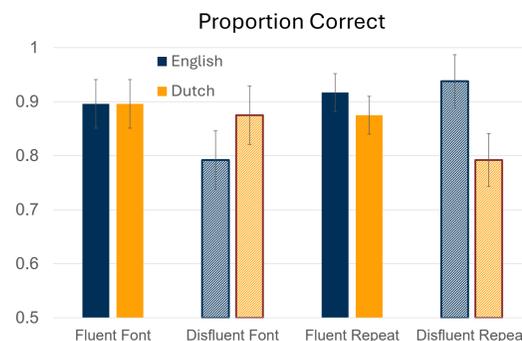
- 96 students (60 woman; mean age = 20 years)
- All native English speakers; none spoke Dutch.

Results

Accuracy

Similar error rates for English and Dutch.

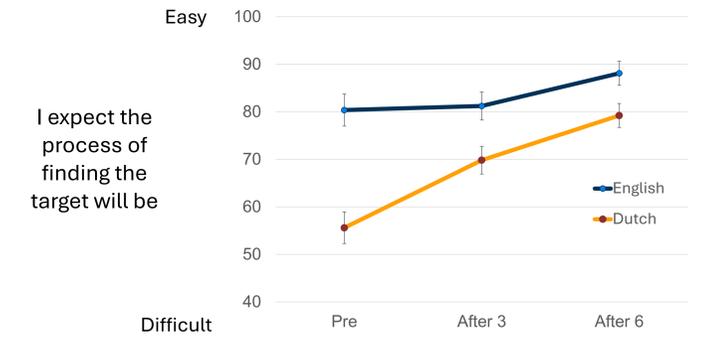
Qualified by a three-way interaction, $F(1, 94) = 4.014, p < .048, \eta^2_p = .041$.



Results

Expected Fluency

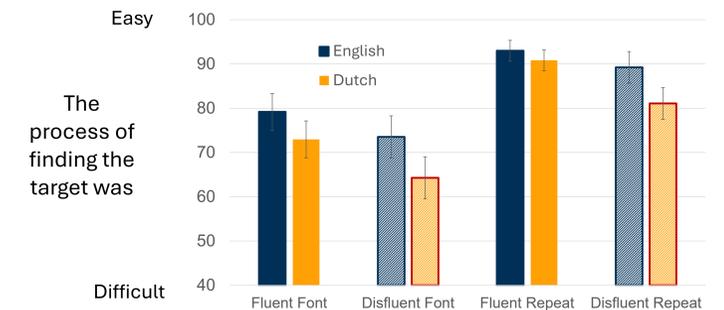
- Language was effective in establishing expectations, $t(93) = 5.388, p < .001$, Cohen's $d = 1.106$
- Expectations update quickly, Time X Language $F(2, 182) = 7.963, p < .001, \eta^2_p = .08$



Perceptual and Retrieval Fluency

Experienced Fluency

- Websites with Arial font rated more fluent, $F(1, 94) = 5.797, p = .018, \eta^2_p = .058$
- Second interaction with website rated as more fluent, $F(1, 94) = 54.157, p < .001, \eta^2_p = .366$



Subjective Ease of Use

Overall, this task was 1 - very difficult, 7 - very easy

- Nearly identical pattern of results to fluency measure
- Websites with Arial font rated easier, $F(1, 94) = 4.273, p = .041, \eta^2_p = .043$. Second interaction with website rated easier, $F(1, 94) = 33.425, p < .001, \eta^2_p = .262$

No significant subjective fluency effects when expected fluency is controlled for as a covariate

Conclusion

- Language can be used to modulate expected fluency.
- Perceptual fluency effects can be obtained in a more naturalistic task.
- Retrieval fluency effects were larger than perceptual.
- Ratings of expected fluency are not typically collected, but they can account for subjective fluency effects.