Cultural fluency, mindlessness and gullibility

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Abstract

Do brides wear green? Are animals and plants patriotic holiday-themed decorations? Being part of a culture means knowing (implicitly) what to expect in everyday situations and mostly not feeling flummoxed by what actually unfolds. This experience of *cultural fluency* makes daily life feel easy to process --requiring little thought. In contrast, *cultural disfluency* arises in situations in which observation mismatches prediction. Mismatch is a problem signal that elicits more deliberate thought and systematic reasoning to figure out what went awry. Because people are sensitive to their experiences of ease but not necessarily to the source of their experiences, ease arising from cultural fluency can be misattributed to unrelated judgment tasks, increasing credulity and gullibility. Indeed, Americans', Chinese, and Israelis' mindlessness and gullibility are reduced and their reasoning improved after exposure to irrelevant cultural disfluency – e.g., photographs of brides wearing the "wrong" colored gown, plates with the "wrong" patterns.

Word count=150

Introduction

People are typically not stymied by everyday life in their own culture –their culture

provides an organizing lens so they have an implicit ('goes without saying') sense of what to

expect in an array of everyday situations. In their own culture, people have a gut sense of the

woof and weave details (Lin, Arieli, & Oyserman, 2018; Mourey, Lam, & Oyserman, 2015;

Oyserman, 2011). They have a gut feel for the 'right' food for breakfast, the 'right' color for

bridal dresses, the 'right' colors and shapes for Valentine's cards; they know the 'right' tone for

obituaries. In ambiguous situations, they know which mental procedure to use –one that focused

on connecting and relating or one that focuses on separating and distinguishing, whether to

pursue action for personally 'me'-framed or socially 'us'-framed goals (Oyserman 2017). These

often-implicit culturally rooted predictions are automatically and rapidly tested against

observation, yielding either an easy-to-process prediction-observation match or a more

difficult-to-process prediction-observation mismatch (Oyserman, 2011, 2017). The terms

cultural fluency and *cultural disfluency* were coined to highlight that the metacognitive

experience of ease (difficulty) is a result of match (mismatch) with culturally rooted expectations

(Oyserman, 2011). Cultural fluency serves three functions (Oyserman & Yan, 2018):

Cognitively, it signals 'all is well', conserving cognitive and attentional resources for the

unexpected. Interpersonally, it reduces social friction among people sharing a cultural frame – all

of whom experience a similar sense of fluency when situations unfold as expected.

Intrapsychically, it provides a sense of purpose and meaning in life – a feeling of causal certainty.

However, as I outline in this chapter, cultural fluency also encourages the kinds of social

intelligence failures that leave people credulous and gullible--willing to believe unlikely

propositions and easily tricked into ill-advised actions. In this chapter, I use culture-as-situated-cognition theory (e.g. Oyserman, 2011, 2015, 2016, 2017; Oyserman & Yan, 2018) to explain these paradoxical consequences, laying out the theory and its implications in three sections. In the first section, I briefly outline culture-as-situated-cognition theory. In the longer second section, I summarize the research examining the downstream psychological consequences of cultural fluency and disfluency, which focuses on a number of markers of gullibility and credulity (inherence, depth of processing, and mindless consumption). In the third and final section, I briefly connect research findings back to questions of credulity and gullibility and highlight questions for future research.

Culture-as-situated-cognition theory

What does 'situated' cognition mean?

Situated cognition or 'thinking in the world' focuses on the impact of social contexts on thinking and action (Meier, Schnall, Schwarz, & Bargh, 2012; Fiske & Taylor, 2013; Schwarz, 2007; Cesario, Grant, & Higgins, 2004). Situated cognition approaches suggest that 'thinking is for doing'. The implication is that people are sensitive to their immediate environment, use the subset of all their knowledge that is accessible in the moment, and interpret what comes to mind in light of contextual demands (Fiske & Taylor, 2013; Bless, Schwarz, & Wänke, 2003).

What a situation implies depends on how one thinks about it – the accessible knowledge and metacognitive experience used to make sense of it. Accessible knowledge includes accessible semantic content (Srull & Wyer, 1979), goals (Förster, Liberman, & Friedman, 2007) and mental procedures (Oyserman & Lee, 2008; Wyer & Xu, 2010; Xu & Schwarz, 2017;). Accessible metacognitive experiences of ease or difficulty while thinking about content, goals,

and procedures matter as well (Bless & Schwarz, 2010; Fisher & Oyserman, 2017). What

metacognitive experiences imply depends on the interpretive lens individuals use to make sense

of these experiences(Alter & Oppenheimer, 2009; Briñol, Petty, & Tormala, 2006; Schwarz,

2004). Thus, a metacognitive experience of fluency or disfluency can imply something about the

outside world or it can imply something about oneself (Alter & Oppenheimer, 2009; Fisher &

Oyserman, 2017; Reber & Schwarz, 1999; Schwarz et al., 1991; Schwarz, 1994; Smith &

Oyserman, 2015). Unless they have reason to exclude it, people tend to include accessible

knowledge and metacognitive experience of ease (fluency) or difficulty (disfluency) in their

judgments of the situation (Bless & Schwarz, 2010) and of themselves (Oyserman, Elmore,

Novin, Fisher, & Smith, 2018).

While people are sensitive to what comes to mind and to their experience of thinking

about what is on their mind, they are not sensitive to the specific source of their information or

metacognitive experience (Schwarz, 2005, 2007). Hence, on-the-mind information or

metacognitive experience likely carries over to a subsequent task. This is the case even if it is

incidental to rather than arising from the task at hand (Bless & Schwarz, 2010; Schwarz & Clore,

1983).

How does culture become a form of situated cognition?

Culture-as-situated-cognition theory (Oyserman & Lee, 2007; Oyserman, 2011, 2017)

starts with the assumption that humans live in cultures, that cultures address universal demands

of living with others, and that people make sense of what the immediate context seems to imply

using a cultural lens. By emphasizing immediate context, culture-as-situated-cognition theory

de-emphasizes speculation about distal causation of current between-group differences and

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reconciles literature documenting what appear to be chronic cross-cultural differences with literature documenting situated flexibility (Oyserman, 2016).

The culture-as-situated-cognition approach to cultural psychology highlights two largely overlooked points: First, culture can be represented as a set of associative knowledge networks. Second, these culturally rooted associative knowledge networks provide mental models, affording people the cultural expertise to predict how situations likely will unfold.

People have access to and can use multiple culturally rooted associative knowledge networks, depending on which is cued in context. These knowledge networks include both cultural mindsets (content, procedures, and goals related to overarching themes of individualism, collectivism, and honor) and specific culturally rooted (often implicit) knowledge about how things work (e.g., what brides wear, what breakfast entails). Immediate contexts makes some subset of available cultural knowledge networks accessible in the moment. People use this subset to provide an organizing implicit frame and to make an automatic prediction about what will happen next. Thus for example, people are better at quickly naming a distinct object in a visual array after an individualistic mindset is primed (Oyserman, Sorensen, Reber & Chen, 2009). They are better at recalling where objects were in a visual array after a collectivistic mindset is primed (Oyserman, et al., 2009). The implication is that the cultural mindset accessible in the moment matters for meaning making because accessible mindsets yield culturally rooted expectations. If expectations are not met, this requires attention to understand why observation mismatches with prediction.

Defining culture within culture-as-situated-cognition theory

As a starting point, culture-as-situated cognition theory assumes that human culture developed from the survival necessity of connecting with others and adapting to group living (Boyd & Richerson, 1988; Cohen, 2001; Haidle et al., 2015; Oyserman, 2017; Schwartz, 1992). Living together requires that people coordinate and organize their relationships, clarify group boundaries and notice and reward innovation so that they can imitate or exploit innovation as it occurs and otherwise fit in and know from whom and to whom they owe allegiance (Boyd & Richerson, 2005; Kurzban & Neuberg, 2005; Oyserman, 2011; Schwartz & Bardi, 2001). Though the basic problems of group living must be addressed, human-made cultural solutions can put more emphasis on one or another aspect of these depending on ecological niche. In each society, practices evolve to create 'good enough' ways to regulate relationships, specify group boundaries and what to do about them, and spotlight when innovation is acceptable or valued (Cohen, 2001; Boyd & Richerson, 2005; Kurzban & Neuberg, 2005; Oyserman, 2011, 2017; Schwartz, 1992). Coordinating and organizing relationships and noticing and rewarding innovation requires 'social tuning' –sensitivity to others' perspectives and 'self-regulation' – the ability to control the focus of one's attention (Chiu et al., 2015; Oyserman, 2017; Shteynberg, 2015). Indeed, people are sensitive to cues about when to imitate (fit in), when to innovate (Clegg & Legare, 2015; Legare & Nielsen, 2015), and when group boundaries matter (Boyd, Richerson, & Henrich, 2011; Haidle et al., 2015).

Solutions are 'good enough', rather than optimal. However, once developed, they become 'sticky' by virtue of being the ways 'we' do things –'our' structures, practices, norms, and values (Cohen, 2001). Taken together, this set of good enough solutions forms culture, the particular set of practices people in a particular society, time and place share. Once developed, cultural

solutions permeate all aspects of behavior, constrain and enable perception and reasoning, and

provide a shared blueprint or outline for meaning making across a variety of situations (Chiu,

Gelfand, Yamagishi, Shteynberg, & Wan, 2010; Nisbett & Noranzayan, 2002; Oyserman, 2017;

Shteynberg, Gelfand, & Kim, 2009; Shweder & LeVine, 1984; Triandis, 1972, 2007). In this

way, culture is in part a set of associative knowledge networks, tacit operating codes or meaning

making frameworks through which people make sense of their world (Geertz, 1973) and

understand what they want, and how they go about getting it (Bond, 2002; Fiske, 2002;

Kitayama & Markus, 1994; Sanchez-Burks, Nisbett, & Ybarra, 2000; Swidler, 1986). As a result,

culturally appropriate situations seem intuitive, right, and obvious while culturally inappropriate

situations seem odd, off-key, or even wrong.

Cultural expertise and culture-as-situated-cognition

From a culture-as-situated-cognition perspective, cultural expertise –knowing how

things work in one's everyday life – is not reducible to whether a culture is comparatively

more or less 'individualistic', 'collectivistic', or 'honor' focused (Oyserman, 2017). Cultural

expertise provides a way of knowing what to expect in everyday situations so the world

feels sensible and orderly. Cultural expertise includes knowing which cultural mindset to

use as the situation arises (e.g., an individualistic mindset when uniqueness is good and

valued; a collectivistic mindset when connecting and relating matters; an honor mindset to

know which aspects of reputation matter). Cultural expertise is not limited to sensitivity to

cues as to which cultural mindset to use, it includes knowledge of how everyday life

unfolds, knowledge of traditions and their sources. People gain cultural expertise by being

socialized in a society; moving to or living in a society yields varying degrees of this

expertise (Morris, Chiu, & Liu, 2015). Whatever way acquired, once culturally expert,

people experience culture as the simple and obvious way things are. Imagine a beaming

bride walking down the aisle toward her soon-to-be husband. What color is her dress? For

Americans, responses to this question often take of the form: "Well, I mean, the bride does

not *have* to wear white." The implication is that the answer 'white' is so obvious that being

asked question can feel like a trick or riddle in which the questioner must mean something

other than the obvious answer that everyone knows. But note, knowing what to expect

requires American cultural expertise, which Americans in America have without noticing it.

This experience of naturalness, obviousness and ease is neither reserved for

Americans nor only applicable to these answers. Answer content – what the easy, obvious,

and natural answers are – may change across cultures as well as across time in a culture,

but the feeling of obviousness does not. Knowing the culture – the values, norms, practices

and ways of being in a particular time and place – means that the answers spring to mind

easily and feel obvious. Yet, despite this obviousness, variability exists. Consider again that

bridal dress, brides can and sometimes do marry in dresses of all colors. Cultural fluency

and disfluency, as detailed next, focuses on the implications drawn from this variability.

Cultural fluency and disfluency
What is cultural fluency and disfluency?

Cultural fluency and disfluency are the result of the interface between what observers'

cultural expertise leads them to (implicitly) expect, what they actually observe, and the meaning

they draw from their ensuing metacognitive experiences of ease or difficulty. What makes for a

metacognitive experience of ease or difficulty is not what the observation itself but the match or

mismatch between observation and culturally-rooted expectation. Experiencing match or

mismatch requires having the cultural expertise to know (implicitly) what to expect. These

expectations are rooted in one's culture – what one has learned explicitly or picked up implicitly

through observation and socialization practices. In one's own culture, cultural fluency may be the

norm –having cultural expertise means knowing what is likely to occur. Note that the experience

of cultural fluency within one's own culture may also be bolstered by the tendency of

expectations to guide perception of what is experienced (e.g., confirmation bias, Wason, 1960;

self-fulfilling prophecies; Merton, 1948; Snyder, 1984; stereotype confirmation, Hamilton &

Trolier, 1986). In spite of this confirmatory tendency, observations sometimes violate

expectations and as detailed below, cultural disfluency can arise from small differences from

expectation.

What makes cultural fluency and disfluency cultural?

The experience of cultural fluency and cultural disfluency is based in cultural knowledge.

In this way, cultural fluency and cultural disfluency differ from other sources of processing

fluency, which are separate from cultural knowledge. For example, color contrast and type font

used are perceptual. The inferences people make after experiencing ease (or difficulty) when

being asked to generate a few (or many) examples also do not appear to be culture-bound. That

is, the lay theories of what ease of generation may imply for truth, expertise, and category size do

not seem to be rooted in knowledge of a particular culture, though they may be part of human

culture.

Cultural fluency and disfluency ≠ positive and negative mood

Cultural disfluency likely is experienced as negative in the same way that other

disfluency is – at a low level or "primitive" affective response as described by Gawronski and

Bodenhausen (2007, 2011) as part of associative processing of propositions. Getting a measure

of this kind of mood effect may require using either basic physiological measures or indirect

measures such as liking or consumption (Winkielman, Berridge, & Wilbarger, 2005). While

negative mood does influence cognitive processing, research to date has not found a connection

between self-reported mood (obtained by the Positive and Negative Affect Scale; Thompson,

2007) and cultural fluency and disfluency. Thus, Mourey and colleagues (2015) found no effects

of cultural fluency and disfluency on mood whether they focused on positive (e.g., weddings,

holidays) or negative (e.g., funerals, obituaries) cultural events in three experiments in the U.S.

and Hong Kong. Lin and colleagues (2018) replicated this pattern of null effects in two

experiments with participants from the U.S. and Israel using different cultural events, Valentine's

Day and breakfast. The implication is that cultural fluency and disfluency effects are not simply

mood effects.

What are the consequences of cultural fluency and disfluency?

When things unfold as expected (culturally-rooted expectation matches observed reality)

the metacognitive experience is of ease. Ease implies that there is no problem signal, no need to

think more. In contrast, when things have not unfolded as implicitly expected (culturally-rooted

expectation mismatches observed reality) the metacognitive experience is of difficulty. Difficulty

implies a possible problem, requiring consideration of why expectations were off the mark.

Downstream consequences of cultural fluency and disfluency depend on whether people infer

that the source of their experienced ease or difficulty is external to them (something is wrong in

the situation) or due to something about themselves (something is wrong with me). As depicted

graphically in the Figure and detailed in the next three sections, the meaning people draw from

ease can be that 'all's right with the world' or 'no need to think' that and the meaning people

draw from difficulty can be 'all might not be as it should be' 'something went awry here.

Figure 1: How cultural fluency and disfluency affects likely gullibility and credulousness via inherence, depth of processing and cognitive style
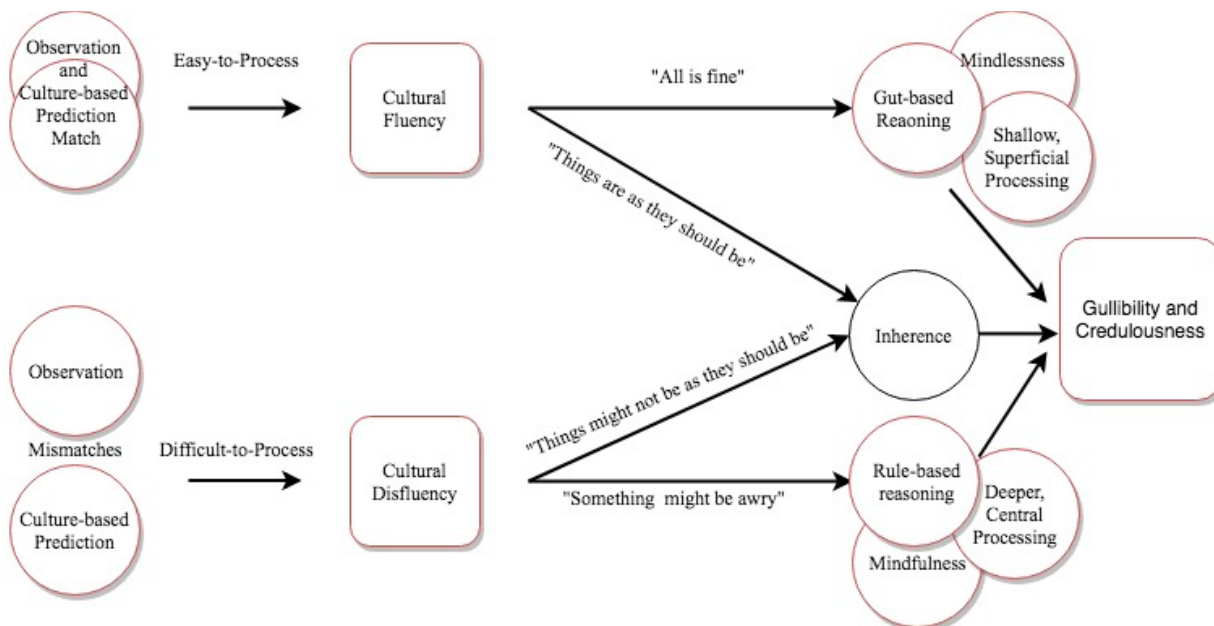
Cultural fluency matters for gullibility: Inherence
Defining inherence

Psychological inherence is the sense that existing patterns in the world are the natural

order of things --the way things *ought to be* (Cimpian, 2015; Salomon & Cimpian, 2014).

Inherence is an important cognitive precursor of category learning via its connection to

psychological essentialism, the belief that categories are stable, inevitable, and immutable

facilitates category learning. Cimpian and Salomon developed a measure of inherence using

items such as "It seems right that pink is the color typically associated with girls." "It seems ideal

that toothpaste is typically flavored with mint." "There are good reasons why dollar bills are green." "It seems natural to use red in a traffic light to mean 'stop'." And, "It seems ideal that weekends consist of Saturday and Sunday." Higher agreement implies that people assume that current social norms are natural and ideal rather than one possibility of many. Higher scores on inherence imply that the alternatives are not on the mind. People fail to consider that the link between color and gender is arbitrary though culturally-rooted, that toothpaste can have various flavors or none at all, that currencies can be many colors, that weekend days are linked to societal customs and religions.

Given the items used to assess inherence, it may seem that psychological inherence is being operationalized as a cognitive limitation, a form of credulousness. It is. People who score higher in inherence are more likely to essentialize the world around them (Salomon & Cimpian, 2014). People who essentialize are more likely to experience differences as immutable. This undermines willingness to engage, trust, and cooperate with people from categories outside one's own (Bastian & Haslam, 2006; Chiu, Dweck, Tong, & Fu, 1997) and increases acceptance of stereotypes (Bastian & Haslam, 2006) and race-based inequality (Morton, Postmes, Haslam, & Hornsey, 2009; Williams & Eberhardt, 2008).

The evidence.

Lin, Arieli, and Oyserman (2018) conducted five experiments to test the prediction that cultural fluency and cultural disfluency affect inherence. To trigger a cultural fluency or cultural disfluency experience, they showed randomized participants into one of two groups. Each group saw versions of a cultural product. One group saw 'right' (likely expected) versions and the other group saw 'wrong' likely unexpected versions of the product. As a cover story, participants were

told that their task was to rate the products for quality (or quality and attractiveness). After the

product-rating task, participants read and rated their agreement or disagreement with the 15

inherence scale items and then rated the traditionality and similarity to expectation of the

products that they had seen earlier. These ratings served as manipulation checks. Indeed, across

studies, participants in the 'right' condition rated the products as higher in quality, attractiveness,

traditionality, and similarity to expectation than participants in the 'wrong' condition. The

specific product differed in each experiment to test the stability of the effect of cultural fluency

and disfluency on inherence.

In the first experiment, Americans saw four Valentine's Day cards and were asked to rate

the quality and attractiveness of each card. Half of participants saw versions of the 'right' (likely

expected) Valentine – cards that were decorated in hearts in pink and red and filled with warm

sentiments. The other half of participants saw versions of the 'wrong' (likely unexpected)

Valentine – cards were neutral colored, not pink, were decorated with skulls, and the warm

sentiments had a spooky undertone. The researchers conducted the experiment on Valentine's

Day and again a month later. Inherence was lower for the group that had just seen the 'wrong'

Valentines compared to the 'right' ones, whether on Valentine's Day or a month later. Results

support the prediction that cultural fluency enhances and cultural disfluency undermines

inherence. Participants made (implicit) predictions based on their Valentine's Day associative

knowledge network, match and mismatch of observation to prediction mattered for their

momentary sense that the way things are is the way that they ought to be. Seeing the 'right'

rather than the 'wrong' Valentine's Day card cued inherence. People rated the 'wrong' cards as

less attractive, lower in quality and less traditional, but none of these ratings mattered, fitting the

prediction that people are sensitive to their experiences of cultural fluency and disfluency but not

to the source of these experiences.

In the second experiment, Israelis saw eight photographs of plated breakfasts and were

asked to rate the quality and attractiveness of each. Those randomized to the 'right' (likely

expected) breakfast group saw breakfast plates with raw vegetables, yogurt and fresh rolls. In

contrast, Israelis randomized to the 'wrong' (likely unexpected) breakfast group saw breakfast

plates with meats, cheeses, and pastries. Inherence was lower for the group that had just seen the

'wrong' breakfasts compared to the 'right' ones. People rated the 'wrong' breakfasts as less

attractive, lower in quality and less traditional, but none of these ratings mattered, fitting the

prediction that people are sensitive to their experiences of cultural fluency and disfluency but not

to the source of these experiences.

In the third experiment European Americans saw four photographs from a wedding of a

European American bride and groom and were asked to rate the quality of each photograph.

Those randomized to the 'right' (likely expected) wedding group saw wedding photographs of a

bride in a white gown, a groom in a black tuxedo, a white-fondant-iced-tiered wedding cake, and

a formal but homelike wedding setting. In contrast, those randomized to the wrong' (likely

unexpected) wedding group saw wedding photographs of a European American couple, the bride

in a black gown and the groom in a white tuxedo, a black-fondant-iced-tiered wedding cake, and

a beautiful but industrial setting. Inherence was lower for the group that had just seen the

'wrong' wedding scenes compared to the 'right' ones. People rated the photographs with the

'wrong' wedding scenes as lower in quality. They rated them as less traditional. These ratings

did not affect inherence, fitting the prediction that people are sensitive to their experiences of cultural fluency and disfluency but not to the source of these experiences.

In the fourth experiment, Han Chinese saw five photographs from a wedding of a Han Chinese bride and groom and rated the quality of each photograph. Those randomized to the 'right' (likely expected) wedding group saw wedding photographs of a Han Chinese couple, the bride in a white gown and the groom in a dark suit, guests in various outfits and a car decorated with flowers. In contrast, those randomized to the wrong' (likely unexpected) wedding group saw wedding photographs of a Han Chinese couple, the bride in a black gown and the groom in a dark suit, guests in various outfits and a car decorated with fruits. Inherence was lower for the group that had just seen the 'wrong' wedding scenes compared to the 'right' ones; as before, quality and traditionality ratings did not affect the relationship between the kind of wedding viewed and inherence.

The fifth experiment involved American participants and took place just before Labor Day. Researchers randomized participants to one of three groups, adding a neutral control group, as detailed next. Each group saw four Labor Day shopping bags and was asked to rate the quality and attractiveness of the shopping bag designs. In the 'right' (likely expected) group, the shopping bags had a 'Happy Labor Day' logo with a red white and blue and patriotic-themed design of a flag or fireworks. In contrast, in the 'wrong' (likely unexpected) group, the logo read 'Shopping Bag' (no reference to Labor Day), with a vaguely environmentally friendly color scheme (brown and green) and environmental designs (animals, trees). The control group saw four photographs of shopping bags with a 'Happy Labor Day' but with an environmentally friendly color scheme and animal or plant designs rather than a patriotic-themed color and

design. Inherence was lower for the group that had just seen the 'wrong' Labor Day designs

compared to the 'right' ones or the 'control' ones. People rated the photographs with the 'wrong'

Labor Day bags as less attractive, lower in quality and less traditional. These ratings did not

affect inherence, fitting the prediction that people are sensitive to their experiences of cultural

fluency and disfluency but not to the source of these experiences.

A meta-analyses across the studies showed that the mean effect of viewing culturally

fluent vs. diffluent products was small-to-moderate ($d = .38$). The 95% Confidence Interval (.24

to .53) suggested that the true effect of cultural fluency and disfluency on inherence ranges from

small to moderate-to-large. Across studies, effects of condition were direct, not mediated or

moderated by ratings of quality, attractiveness, or traditionality and the test of heterogeneity was

not significant. Taken together, results fit the culture-as-situated-cognition theory prediction that

people are sensitive to their experiences of cultural fluency and disfluency but not to the source

of these experiences. Experiences of cultural fluency or disfluency carry over to subsequent

judgments even when the cultural experience is irrelevant to the judgment task.

Cultural fluency matters for gullibility: Reasoning
Defining reasoning.

To form judgments, assess the quality of persuasive arguments and make sense of their

experiences, people can use gist-based, associative reasoning and rule-based, systematic

reasoning. That is, they can process information in terms of their gut 'feel' using peripheral cues

such as whether the information seems familiar or in terms of rules, using central cues such as

the quality of the arguments and whether the source of the information is credible. The

culture-as-situated-cognition prediction is that in culturally fluent situations in which

observation seems to match implicit expectations, processing can remain gist-based and shallow. In contrast, since experienced cultural disfluency is a problem signal, it should increase scrutiny of arguments, focusing attention on their quality and decreasing reliance on peripheral cues. The question relevant to gullibility and credulousness is whether cultural fluency results in sticking with gist-based reasoning in contexts requiring systematic reasoning and whether it bolsters shallow processing of persuasive arguments. In this section, I focus on evidence related to systematic reasoning. In the next section, on mindlessness, I focus on evidence related to reliance on peripheral cues.

The evidence

Mourey, Lam and Oyserman (2015) addressed the question of whether the predicted effect of cultural fluency and cultural disfluency on reasoning styles is found by testing participants on a task specifically devised to have a gut-based and a rule-based answer (a version of the 3-item Cognitive Reflection Task (CRT), Frederick, 2005). Here is an example from the original CRT task: "A fishing rod and fishing bait cost $11 in total. The fishing rod costs $10 more than the bait. How much does the bait cost?" The gut-based (wrong) response is $1 based on the gist focus on the "$10" piece of information resulting in simply subtracting $10 from $11 ($11-$10= $1). The rule-based (correct) response is $.50 based on the rule-based focus on the "$10 more" as a piece of information resulting in the equation: $11= n + (n+$10). People give the gut-based or the rule-based response -- with only a few people giving un-codeable answers (in the above example, answers other than $1.00 or $.50).

As detailed next, Mourey and colleagues conducted four relevant experiments. One experiment involved having or not having the color pink as a border on Valentine's Day or after

Valentine's Day. Two experiments involved photographs of weddings. A final experiment

involved reading obituaries. In each experiment the researchers randomized participants into two

groups. One group saw versions of a cultural product that met likely expectation (they looked

'right'). In contrast, the other group saw versions of the same product that likely mismatched

with their culture-based expectations (they looked somehow 'wrong') or were irrelevant to their

culture-based expectations (control groups). After the rating task, all participants were asked to

"Click the arrow to proceed to the next task" (the cognitive task).

The first experiment took place in both Ann Arbor, Michigan (U.S.) and Hong Kong,

S.A.R. China. In each country, participants were randomized to see either a pink border or not

while working on the cognitive task. In each country, participants were either given the task on

Valentine's Day or a week after Valentine's Day. The four-condition between subjects design

included one cultural fluency group – in this condition, participants saw pink on Valentine's Day[1]

. Pink is the 'right' color for Valentine's Day but only on Valentine's Day, otherwise it is just a

color. The other three groups were control groups, testing the prediction that the group

experiencing cultural fluency would reason less systematically than the group that participated

on Valentine's Day without the pink border, the group that experienced a pink border but not on

Valentine's Day, and the group that experienced neither a pink border nor Valentine's Day. The

pink alone and Valentine's Day alone cues were assumed not to be sufficient to activate the

Valentine's Day associative knowledge network. Fitting the prediction that people are sensitive

to their experiences of cultural fluency and disfluency, systematic-reasoning was lower for the

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[1] Note that pink is part of the associative knowledge network for Valentine's Day but unlike the
Valentine's Day Card itself, the color pink is not exclusive to Valentine's Day.

group that had just seen the 'right' color at the 'right' time (pink on Valentine's Day). The systematic reasoning scores in these three groups did not differ from each other.

The second and third experiments took place in the U.S. American participants rated the quality of a wedding photographer's photographs. American participants randomized to the 'right' condition saw eight photographs of a bride in white, a groom in black, their white fondant iced tiered wedding cake, and their wedding party with bride's maids and groom's men. The eight photographs American participants randomized to the 'wrong' condition saw were from the same wedding photographer's website but showed a bride in a dress with some green and purple and a groom whose tuxedo also had some purple. Their tiered wedding cake was decorated with colorful cogs, and there was no wedding party. Participants rated the quality of each photograph. Then they were given the cognitive task and rated the traditionality of the photographs that they had seen overall. Systematic-reasoning was lower for the group that had just seen the 'right' wedding photographs compared to the 'wrong' ones. Effects were not due to photograph quality ratings or wedding traditionality, fitting the prediction that people are sensitive to their experiences of cultural fluency and disfluency but not to the source of these experiences.

In a fourth experiment, American participants read two versions of the same obituary and made a choice as to which version the family should use[2]. American participants randomized to the 'right' condition read two versions of an obituary in which the diseased was praised and her loss mourned by her children. Americans randomized to the 'wrong' condition read two versions

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[2] To create the two versions, the researchers rearranged the order of the sentences but kept the content exactly the same. The 'wrong' obituary was found in an on-line edition of a local newspaper and was lightly edited to create the 'right' version. For example "had no hobbies….will not be missed" in the original was edited to "had numerous hobbies….will be missed."

of an obituary in which the deceased was not praised and her loss not mourned by her children. After making their choice, participants were given the cognitive task and rated the traditionality of the obituaries that they had seen overall. Systematic-reasoning was lower for the group that had just seen the 'right' obituaries compared to the 'wrong' ones. Effects were not due to traditionality, fitting the prediction that people are sensitive to their experiences of cultural fluency and disfluency but not to the source of these experiences.

In sum, all four experiments supported the prediction that culture-based metacognitive experience of ease (fluency) and difficulty (disfluency) influences cognitive style. Each study showed that fluent and disfluent conditions differed. The pink on Valentine's Day study suggested that the difference was due to the undermining effect of cultural fluency – systematic reasoning was less likely in the cultural fluency condition than in control conditions. Cultural fluency preserved gut-based associative processing. Cultural disfluency shifts processing to rule-based systematic processing. These studies document that processing ease when likely expectations matched observation and processing difficulty when likely expectations mismatched observation carried over to the next judgment task. A single study meta-analyses across the experiments yielded a moderate-to-large effect size ($d = .46$) and 95% Confidence Interval [.26 to .65] and the test of heterogeneity was not significant. The implication is that the true effect of cultural fluency and disfluency on processing style is in the moderate-to-large range and that results are not dependent on the particular samples or cultural situations used. Across studies, cultural fluency effects were direct, not mediated or moderated by ratings of quality or traditionality. Taken together, results fit the culture-as-situated-cognition theory prediction that people are sensitive to their experiences of cultural fluency and disfluency but not to the source

of these experiences. Experiences of cultural fluency or disfluency carry over to subsequent

judgments even when the cultural experience is irrelevant to the judgment task.

Cultural fluency matters for gullibility: Mindless consumption.

Defining mindless consumption.

Mindless consumption occurs when people choose, buy, consume, or take, as if without

thinking, on impulse. I use the term mindless consumption whether what is being consumed is a

food, a consumer good, or a persuasive argument. I do so to highlight that the underlying process

of "mindlessness" entails shallow processing based on superficial cues and reliance on gut-based

rather than rule-based processing. The literature on the relationship between cultural fluency and

disfluency and mindless consumption whether of food, consumer goods, or persuasive arguments

is just emerging.

Culture-as-situated-cognition theory predicts that culturally fluent situations, ones that

unfold as likely expected, will increase propensity toward mindless consumption and credulity –

easy persuasion with superficial cues that fit culture-based associative knowledge networks.

People should be more likely to go with the flow—approach when contexts cue approach and

avoid when contexts cue avoidance— and to be persuaded by peripheral cues under conditions of

cultural fluency. Note that this effect should be limited to situations in which experienced fluency

(ease) and disfluency (difficulty) are interpreted as being about the context itself rather than as

being about the self. If experienced cultural fluency and disfluency are taken to imply something

about the self, then cultural disfluency is depleting, yielding a sense of "Perhaps I am not

competent." In this section, I provide the emerging evidence on mindless consumption.

The evidence.

Mourey, Lam and Oyserman (2015) addressed the question of mindless consumption in four experiments. In one experiment, the dependent variable was the weight of food American participants put on their plates, in a second experiment it was the size of the portion American and Hong Kong Chinese participants chose in a virtual buffet, in the third and fourth experiments, the dependent variable was likelihood of buying a consumer product.

In one naturalistic field experiment, American participants attending actual 4th of July or Labor Day picnics were randomized to receive one of two different plates as they waited to choose their picnic. After putting their food on their plates, plate weight was unobtrusively obtained. On the 4th of July, participants were given either a patriotic themed plate or a non-decorated control plate. On Labor Day, participants were given either a non-decorated control place or a plate with animals and plants. Participants provided a culturally fluent plate put significantly more (by weight) food on their plates than those provided a control plate (25% more). Participants provided a culturally disfluency plate put significantly less food on their plate (18% less) than those provided a control plate. The field study method only allowed for a simple debrief. Participants reported not noticing the plate decorations.

In a second more controlled experiment, college student participants in Ann Arbor Michigan (U.S.) and Hong Kong S.A.R. China were asked to go online to rate the quality of a local Chinese buffet. Half of participants were invited to participate during Chinese New Year and half a month after Chinese New Year. When students went online, they were given a plate, shown prepared dishes and asked what size portion they would like to try. The plates were randomly assigned to have either a red or black border. This two (during Chinese New Year or not) by two (red or not) by two (American, Chinese) design yielded a cultural fluency group

(Chinese New Year and red and Chinese) and seven control conditions. Participants in the cultural fluency group chose more food than other participants. Red is a color associated with Chinese New Year for Chinese, after Chinese New Year it is just a color. Mindless consumption was higher in the cultural fluency group than in the Chinese comparison groups and the American groups. Indeed, our American participants were unaware of the timing of Chinese New Year and did not associate red with this holiday.

In a third experiment, participants were exposed to the wedding photographs described in the prior section asked to rate the quality of the photographs and then offered a wedding irrelevant consumer product (a shovel) and asked about their likelihood of purchasing it. Likelihood to purchase was higher in the cultural fluency condition in which participants saw the "right" wedding compared to the "wrong" wedding and effects were not mediated by participant-reported quality or traditionality ratings.

In a fourth experiment, participants were exposed to the obituaries described in the prior section and then offered a funeral irrelevant consumer product (a key fob charger, a key fob phone finder) and asked about their likelihood of purchasing it. Likelihood to purchase was higher in the cultural fluency condition in which participants saw the "right" obituary compared to the "wrong" obituary and effects were not mediated by participant-reported traditionality ratings

All four experiments supported the prediction that culture-based metacognitive experience of ease (fluency) and difficulty (disfluency) influences mindless consumption. Each study showed that fluent and disfluent conditions differed. Patriotic holiday picnic study suggested that the difference was due both to the mindlessness boosting effect of cultural fluency

and to the mindfulness boosting effect of cultural disfluency. More food was put on the plate when the plate had patriotic theme decorations rather than being plain and less food was put on the plate when the decorations of plants and animals did not fit the patriotic theme. The cues were cultural -- people who did not know the culture were unaware of and not influenced by what would have been a match to expectation -- they had nothing to expect. Mindlessness did not require that the cultural event be positive, mindless choice was higher for culturally fluent funeral and wedding cues. Cultural fluency preserves or even boosts mindless "go with the flow" use of superficial cues. Cultural disfluency shifts to mindful processing and use of more central cues. These studies document that processing ease when likely expectations matched observation and processing difficulty when likely expectations mismatched observation carried over to the next judgment task.

A single study meta-analyses across the experiments yielded a small-to-moderate effect size ($d = .28$) and 95% Confidence Interval [.12 to .44] and the test of heterogeneity was not significant. The implication is that the true effect of cultural fluency and disfluency on mindlessness is in the small-to-moderate range and that results are not dependent on the particular samples or cultural situations used. Across studies, cultural fluency effects were direct, not mediated or moderated by ratings of quality or traditionality. Taken together, results fit the culture-as-situated-cognition theory prediction that people are sensitive to their experiences of cultural fluency and disfluency but not to the source of these experiences. Experiences of cultural fluency or disfluency carry over to subsequent judgments even when the cultural experience is irrelevant to the judgment task.

Future Directions: Cultural Fluency, Gullibility and Credulity

Taking a culture-as-situated-cognition approach to culture spotlights an underappreciated aspect of culture, which is that culture allows people to get through their days without much thought, while also alerting them when attention might be warranted. In their own culture, people mostly experience situations that match their (implicit) expectations. The ensuing metacognitive experience of ease implies that not much thought is needed; however, situations vary, and sometimes these (implicit) expectations are violated. When that happens, the ensuing metacognitive experience is one of difficulty. Something feels awry, and closer consideration is warranted. The terms "cultural fluency" and "cultural disfluency" capture both the cultural and the metacognitive (thinking about thinking) aspects of this process. Cultural fluency and disfluency are the result of the interface between what observers' cultural expertise leads them to (implicitly) expect, what they actually observe, and the meaning they draw from their ensuing metacognitive experience of ease when observation and expectation match or difficulty when observations violate expectations. Interpretation is the result of drawing meaning from the metacognitive experience of *ease* when culturally-rooted implicit expectations match observations and from the metacognitive experience of *difficulty* when culturally-rooted implicit expectations are violated (or do not match observations). Downstream consequences for thinking, feeling, and doing depend on whether people infer that the source of experienced ease or difficulty is external (in the situation) or internal (themselves). Interpretation does not require explicit self-reportable thoughts or emotions such as "This is not traditional!" or "This is not similar to what I do!" or "I don't feel happy!" or "I feel anxious!" or "I feel angry!"

Culture-as-situated cognition theory predicts that accessible culturally-rooted associative knowledge networks focus attention on some cues and not others. People automatically make predictions as to what will happen next and experience cultural fluency when observation matches expectation. As summarized in this chapter, an emerging body of evidence supports the culture-as-situated-cognition theory prediction that one function of cultural expertise is to provide predictions as to how life will unfold. When these predictions seem to be supported, yielding a good enough match with unfolding reality, people experience cultural fluency. Cultural fluency is associated with higher inherence -- the feeling that the way things are now is the way they ideally ought to be, more gut-based, associative reasoning and more mindlessness. In contrast, when observation does not support prediction, people experience cultural disfluency. Cultural disfluency is associated with lower inherence, more systematic reasoning and more mindfulness. The implication of these results is that cultural fluency should be associated with higher willingness to accept and even act on claims or persuasive arguments that provide poor quality arguments but do not disrupt or even themselves trigger cultural fluency -- they are framed to fit culturally-rooted expectations.

Culture-as-situated cognition theory also predicts that culturally relevant cues require attention and care; hence, the quality of persuasive argument matters. There are two as yet not fully explored implications of this formulations: Effects on willingness to accept shallow arguments and effects on willingness to justify the current state of affairs. Consider first shallow arguments. A cultural fluency perspective implies that culturally irrelevant cues are either unnoticed or are noticed but processed shallowly. In order for people to be motivated to centrally process an argument in the first place, the topic must feel relevant to them. Which

culturally-rooted associative knowledge networks are accessible in the moment should affect

what is experienced as relevant. Once a cue is experienced as relevant, it will be processed and

may or may not yield the intended persuasive effect.

Consider next the link between a cultural fluency perspective and system justification.

Through affecting inherence, cultural fluency and disfluency are likely to have implications for

people's perception of whether social system is fair and just with culturally fluency carrying over

to a more general sense that the current state of affairs is ideal (Hussak & Cimpian, 2015; Jost &

Hunyady, 2005; Kay et al., 2009). Because the link between gullibility, credulousness and

cultural fluency is just beginning to be explored, future research is needed to test the prediction

that people are more willing to act on information provided in a culturally fluent context.

Research to date has shown willingness to consume but has not directly tested acceptance of

persuasive arguments. Future research testing responsivity to weak arguments, truth judgments

given culturally fluent vs. disfluent cues is sorely needed.

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