Can Motivated Cognition Exacerbate a Bias?

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Abstract

This study examined the relationship between the need for cognition and impression formation, particularly with common biases. Upon listening to a speaker with either a heavy Japanese or Los Angeles accent, participants rated the speaker on how well-informed they believed she appeared to be on the subject she spoke about and on intelligence. Despite the need for cognition, speakers with a Los Angeles accent were rated less favorably on intelligence, compared to Japanese accented speakers. However, the high need for cognition participants utilized a stereotype in impression formation, as their ratings for both speakers resonated with the speaker's respective stereotype. Contrary to previous research findings, this study suggests that high need for cognition individuals are actually not protected from common biases, and these biases affect people of varying levels of need for cognition in different ways.

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The Need For Cognition

Social cognition research has shed light onto the notion that individuals differ in their tendency to engage in and enjoy effortful thinking, a construct coined as *need for cognition* by Cohen, Stotland, and Wolfe (1955). It is widely believed that this phenomenon serves as the underlying mechanism that dictates peoples' acquisition and use of information. Need for cognition (NFC) is believed to be a measurable characteristic, as NFC scales are commonly used for assessment. Individuals classified as "high NFC" are those who derive enjoyment from cognitively effortful tasks. Consequently, these people not only exert more effort onto these cognitively effortful tasks, but are more likely to engage in them as well (Petty, DeMarree, Briñol Horcajo, & Strathman, 2008). On the other hand, those who fall into the "low NFC" criteria exhibit opposite tendencies.

The Need For Cognition on Impression Formation Theories

As theories of judgment in social psychology gained acknowledgement, NFC began to be utilized as a means to assess how people develop judgments based on impressions. In the context of theories of impression formation, a significant amount of research has led to the implication that individuals who are low in NFC are more likely to rely on stereotypes to form impressions on people—and even groups (Petty, Briñol, Loersch, & McCaslin, 2009). In fact, it has been noted that total scores on the NFC Scale are negatively correlated with those on the Modern Racism Scale (Crawford & Skowronski, 1998). This is thought to be due to low-NFC peoples' tendency to not engage in effortful thinking of the individual, which ultimately leads to a failure to

individuate the person(s) in light of the lack of detail cognitively acquired. On the contrary, research has also supported that high-NFC people are often times "protected" from typical impression formation biases, seeing that they are readily able to retain and utilize more cognitive information, instead of merely relying on common biases (Petty, et al., 2009). These two notions resonate well with each other, as their logic is consistent with one another.

However, in contrast to much of the research supporting that high-NFC individuals are protected from common biases, another line of research has suggested that their motivated thought can actually exacerbate a bias (Crawford & Skowronski, 1998). Though this seemingly contradicts former research, it actually signifies that common biases (i.e., stereotypes) affect people with different levels of NFC in different ways. Petty et al. (2008) attributed these findings to the following:

1. Constructs are readily activated in high-NFC people, as opposed to low-NFC people.
2. Seeing that high-NFC individuals engage in more thought, there are simply more available thoughts to be biased (i.e., more opportunities are present)
3. High-NFC people tend to be more susceptible to priming effects, compared to their counterparts.

Thus, the purpose of this study was to assess how individuals, of varying levels of need for cognition, would rate a female speaker, who spoke with either a heavy Los Angeles or heavy Japanese accent, on both how well-informed she was on the subject she spoke about and intelligence. Due to the abundance of research supporting this notion, I predicted that if subjects were to score lower on a NFC test, then they would rate the

woman with a heavy Japanese accent as more intelligent and more well-informed, compared to subjects who scored higher on a NFC test. As investigated by Maykovich (1971), common stereotypes of Japanese people include the view that they are very intelligent and industrious. Therefore, I hypothesized that low-NFC individuals would fall victim to the utilization of this bias when rating the speaker.

Participants

Participants in this study consisted of 42 University of San Francisco (USF) students in an introductory psychology course. Due to the gender-ratio of psychology students at USF, it is important to note there were only three male participants (Table 1). The majority of the subjects were between the ages of 18 and 21, with the exception of two whom were 22 and 30 years of age (Table 2). The participants in this study received partial credit towards the fulfillment of their introductory psychology course requirement. Seeing that this was designed as a 2 (accent: Japanese vs. Los Angeles) x 2 (need for cognition: low vs. high) experiment, subjects were randomly assigned to the accent condition. Upon completing the need for cognition test, subjects were also assigned to their adequate NFC condition based on their scores.

Materials and Procedure

The survey administered to the participants was comprised of many questions regarding different elements about the speaker they had heard. Only elements relevant to my hypothesis were assessed. First, subjects completed a nine-point scale, 18-question need for cognition scale (α = .83); the scale administered to subjects was a slightly amended version of the scale Petty and Cacioppo (1982) used in their study. Following the experiment, items on the scale were recoded so that higher scores on the scale

correspond to high NFC and vice versa. Fourteen participants were determined to be high NFC, while 13 were low NFC. These were the result of a median split completed on these scores.

After completion of the NFC scale, participants were purposefully misled to believe they would each be assigned a random audio clip to listen to, which ranged a variety of topics. In reality, there were only two audio clips and one topic discussed: a description of a student's favorite city. The aspect that did vary between the participants, though, was whether the speaker spoke with a heavy Japanese or Los Angeles accent. Even so, the speaker for both audio clips was the same person and the passages recited were identical. Sixteen participants were randomly assigned to the Los Angeles accent condition, while 11 were assigned to the Japanese accent condition.

Following the audio clip, subjects answered a variety of questions regarding the speaker; most importantly, they judged how intelligent the speaker seemed to them, and how well-informed the speaker seemed about the subject she spoke. The response scale for both items ranged from zero to nine, with nine reflecting that participants felt either the speaker was very intelligent or very well-informed on the subject spoken about, and zero reflecting the opposite. It is important to note that several manipulation checks were present in order to ensure that the participants were fully attentive throughout the study. Ratings of the speaker's intelligence and how well-informed she seemed on the subject she spoke about were assessed in a two-way analysis of variance (ANOVA) with the two levels of the accent condition (Los Angeles vs. Japanese) and two levels of NFC condition (low-NFC vs. high-NFC)

Results for Ratings of Intelligence

Accent type. A significant main effect was found for ratings of intelligence on type of accent, F (1,27) = 13.55, p = .001. Regardless of NFC, the speaker with a Los Angeles accent was rated much lower (m = 3.47; se = .48) in contrast to the speaker with a Japanese accent (m = 6.38; se = .63) on intelligence.

Need for cognition. Results demonstrated a non-significant main effect for intelligence ratings on NFC, F (1,27) = 2.47, p = .13. Excluding accent type, low-NFC subjects rated the speaker on the basis of intelligence similarly to their counterparts (m = 4.30, 5.54; se = .61, .50)

Need for cognition x Accent type. The two-way ANOVA yielded a marginally significant main effect for the intelligence ratings interaction between NFC by accent type, F (1,27) = 3.64, p = .07. Interestingly, the average rating for the Japanese speaker was significantly higher for high-NFC individuals (m = 7.75; se = .66) compared to low-NFC individuals (m = 5.00; se = 1.07). On the other hand, both low- and high-NFC participants rated the Los Angeles accented speaker similarly (m = 3.60, 3.33; se = .59, .76). Figure one, located in the appendix, exhibits these findings.

Results for Ratings of Well-informed

Accent type. A main effect for participants' ratings of how well informed the speaker appeared on accent type yielded an F ratio of F (1,27) = .648, p = .429, proving to be non-significant.

Need for cognition. As with ratings of intelligence, a non-significant main effect occurred for well-informed ratings on NFC, F (1,27) = 1.10, p = .31. Omitting type of

accent condition, low-NFC subjects did not differ significantly on their ratings (m = 5.80; se = .53) in comparison to high-NFC subjects (m = 6.52; se = .44).

Need for cognition x Accent type. A significant two-way interaction between NFC by accent type for well-informed ratings was present, F (1,27) = 9.80, p = .005. Following suit to the previous two-way interaction, high-NFC individuals evaluated the Japanese accented speaker more favorably on how well-informed she seemed regarding the subject she spoke (m = 7.88; se = .57) as opposed to low-NFC individuals' ratings (m = 5.00; se = .93). Upon assessing the Los Angeles accented speaker on how well-informed she seemed, however, low- and high-NFC subjects rated her analogously (m = 6.60, 5.17; se = .51, .66). Figure two demonstrates these results.

Discussion

Although the results did not provide support for my initial hypothesis, they were nonetheless sound and consistent with former empirical findings. First, a discrepancy was noted in the speakers' intelligence ratings between accent type conditions, without considering NFC. The Japanese accented speaker was rated significantly higher on intelligence (m = 6.38; se = .63) when compared the Los Angeles accented speaker (m = 3.47; se = .48). This implies that subjects fell victim to utilizing the common stereotype when judging the speaker that Japanese people are very intelligent. It could also infer that subjects fell victim to the contrary common stereotype that people with a heavy Los Angeles accent are generally "stupid" (Goodine and Johns, 2014).

However, when evaluating the Japanese speaker, high-NFC subjects rated the speaker much more favorably on intelligence (m = 7.75) and how well-informed she appeared to be (m = 7.88) compared to low-NFC subjects' ratings of intelligence (m =

5.00) and well-informed (*m* = 5.00). The Los Angeles accented speaker's ratings exhibited no major difference by NFC. Though these findings are directly opposite to what I hypothesized, the implications are clear: for both Los Angeles and Japanese accented speakers, high-NFC individuals are relying on the respective stereotype when forming judgments.

The (little) research supporting my findings attributes high-NFC individuals' susceptibility to *and* protection from common biases to priming effects. It is believed that high-NFC individuals have a lower threshold for the activation of primes due to their tendency to engage in effortful thinking (Petty, et al., 2008). Therefore, high-NFC individuals respond more readily to priming effects. Without initially realizing it, the subjects were all subjected to a biasing agent. Subjects in the Los Angeles accent condition were primed to consider the speakers' identity by listening to a heavy Los Angeles accent. This priming induction serves as a biasing agent which predisposes subjects to think about the speaker in relation to her Los Angeles identity, seeing that the accented speech was hyperbolic. Likewise, subjects in the Japanese accent condition encountered a similar biasing agent; however, it related to the Japanese accented speaker's identity instead. It could very well be the case that high-NFC people simply had a greater cognitive capacity and greater tendency to engage in cognition, which enabled them to simply remember the speaker's accent in relation to her identity more so than low-NFC subjects. Thus, explaining why high-NFC subjects utilized the respective stereotype more than low-NFC subjects.

In general, if a biasing agent is blatant, people are likely to correct for it; that is, if people are primed with a biasing agent that is very apparent, they are more likely to

realize that the source of their judgment of the construct is due to the priming induction rather than their personal reaction (Petty, et al., 2008). On the other hand, people have a harder time correcting for biasing agents that are subtle. Given this logic, it would be sound to assume that high-NFC people would be able to correct the biasing agent in the study, especially since it was very hyperbolic (i.e., blatant). However, they failed to correct the bias. Nonetheless, this does explain why previous research has supported the notion that high-NFC people are protected from common biases.

I believe the failure to correct the bias occurred because the subjects were given a plethora of seemingly random questions to answer about the speaker. The questions varied in nature, making it hard to connect them all to one construct. Ergo, the participants were greatly distracted to the point that I believe they overlooked the blatant priming biases. If they were merely given my two questions to answer on speaker intelligence and how well-informed she seemed, I believe high-NFC individuals would have been more likely to correct for the bias since answering only two questions is a lot less distracting.

In line with this, research findings have also suggested correction effects for biasing agents and primes are most likely to occur when the content is clear and unambiguous (Petty, et al., 2008). Though the passage recited by the speaker was descriptive, the information given was still vague and ambiguous. The speaker could have virtually been describing any major city in the world because the passage never once mentioned anything to denote the specific city. Thus, I also believe that due to the lack of detailed information given by the speaker, high-NFC subjects were able to more readily use the given biasing agent (i.e., speaker's accent) to form an impression about

the speaker. Low-NFC subjects, on the other hand, failed to do this because this connection takes cognitive effort. High-NFC subjects' motivated thought led them to form a biased judgment of the speaker. If the content of the passage recited gave more specific information as to the speaker's identity, I believe high-NFC subjects would not have needed to rely on the bias to judge the speaker.

This study demonstrates that high-NFC individuals are susceptible to biased judgments, much like their counterparts. Different contributing factors, however, determine this effect. One factor noted is the saliency of a priming effect (e.g., biasing agent). Though this correctional effect was not exhibited in this study, blatant priming effects are more likely to be corrected, especially by high-NFC individuals. A further study could perhaps examine saliency of the priming effect as a separate independent variable, and see how directly manipulating its saliency may affect judgment ratings. Another factor noted is the ambiguity of the target. Targets that are unambiguous and clear leave less room for biased cues to be needed in impression formation. The reason being that if information is clearer, then fewer assumptions have to be made. Another further study could also include ambiguity of the target as an independent variable to assess the extent of this effect. As this study demonstrated, thoughtfully motivated people ironically exhibit a bias in their impression formation, just as much (if not more) than their counterparts.

Appendix

Table 1. Participant Gender

	Frequency	Percent	Cumulative Percent
Male	3	7.1	7.1
Female	39	92.9	100.0
Total	42	100.0	100.0

Table 2. Participant Age

	Frequency	Percent	Cumulative Percent
18	13	31.0	31.0
19	20	47.6	78.6
20	3	7.1	85.7
21	4	9.5	95.2
22	1	2.4	97.6
30	1	2.4	100.0
Total	42	100.0	100.0

Table 3. Between-Subjects Factors

Condition:	N
Los Angeles Accent	16
Japanese Accent	11
Low-NFC	13
High-NFC	14

Table 3. Two-way Interaction Results

Dependent Variable	Accent Type	NFC	Mean	Std. Error
How intelligent does the speaker seem to you?	Los Angeles	Low-NFC	3.60	.587
		High-NFC	3.33	.758
	Japanese	Low-NFC	5.00	1.072
		High-NFC	7.75	.656
How well-informed does the speaker seem on the subject she has spoke about?	Los Angeles	Low-NFC	6.60	.511
		High-NFC	5.167	.660
	Japanese	Low-NFC	5.00	.933
		High-NFC	7.875	.572

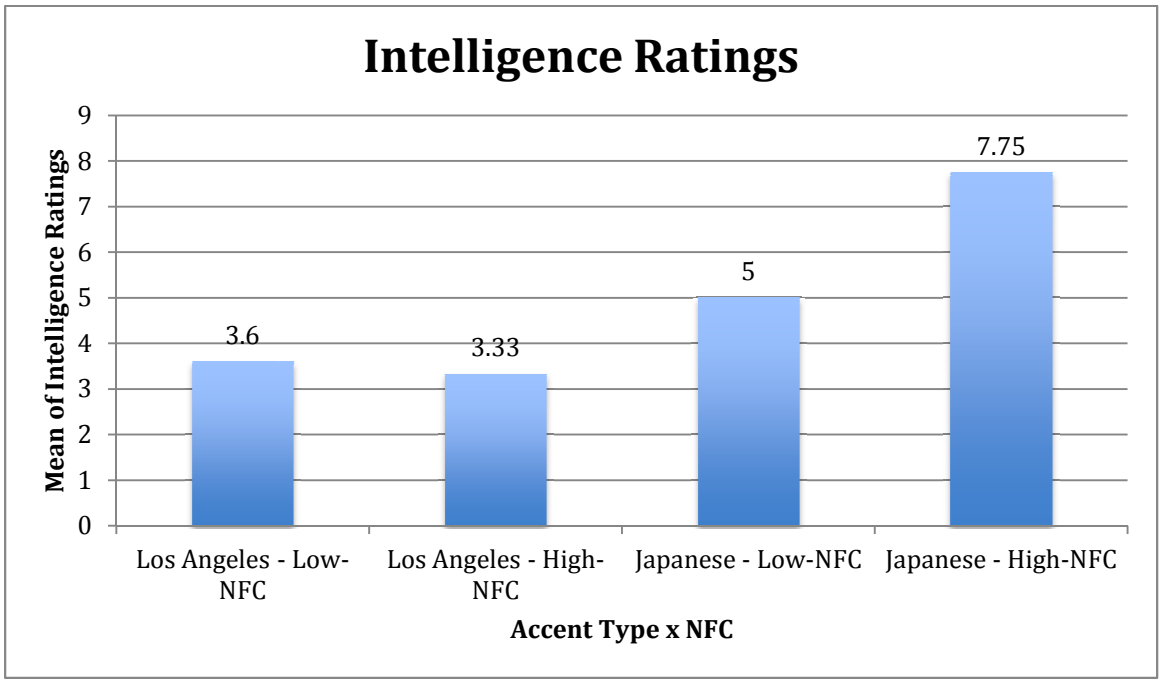

Figure 1. Average intelligence ratings by accent type and NFC

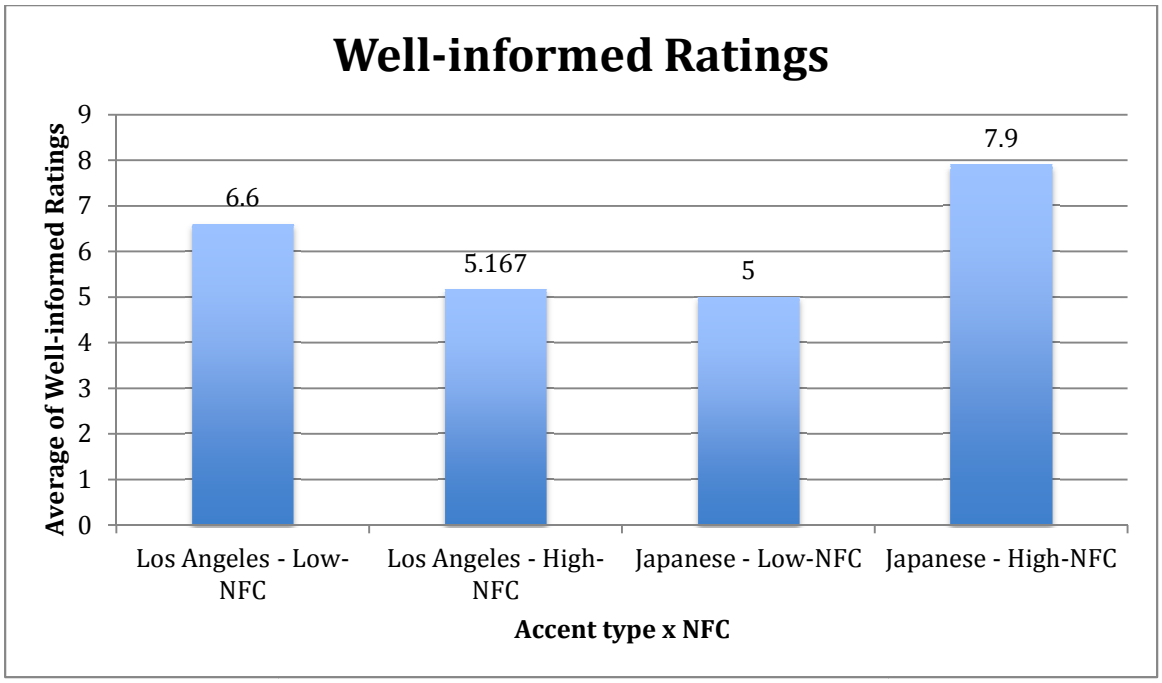

Figure 2. Average well-informed ratings by accent type and NFC

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