

# Korean A-not-A Questions: Is it neutral or not?\*

Min Young Song<sup>+</sup>, Ivan Fong<sup>+</sup>, and Amanda Eliora  
University of British Columbia

**Abstract:** This present study raises a question about the universality of the statement that A-not-A questions are presuppositionally neutral, an assumption made mostly on Sino-Tibetan languages. Within the scope of Korean A-not-A questions in the past tense, there seems to be more than just neutral presuppositions at play. Through the elicitation of consultant responses to the felicitousness of A-not-A questions within contexts of exhaustive combinations of epistemic and emotive biases, limited but insightful results were found about the higher dependency of felicitousness on emotive biases and contexts with contrasting biases.

**Keywords:** Korean, A-not-A Questions, Presupposition, Epistemic, Emotive, Bias

## 1 Introduction

In this paper, we investigate the possibility of biasing A-not-A questions within Korean in the past tense when considered with emotive and epistemic biases. Section 2 defines and limits the research question within a reasonable scope. Section 3 introduces the methodology of our elicitations, and Section 4 encapsulates the findings of our research and gives detailed accounts of the elicitation while Section 5 describes any insights that we gained pertinent to the current study and any future studies.

## 2 Background

### 2.1 A-not-A Questions

A-not-A questions (ANAQs) are polar alternative questions (PAQs) in which the questions offer both the positive predicate and its negative counterpart as alternatives (Ceong 2011) while the question itself functions similarly to polar questions, now known as yes-no questions (YNQ) (Law 2001).

- (1) 你 去唔去 巴黎 呀?  
you go-not-go Paris SFP<sub>1</sub>  
'Are you going to Paris?'

As seen in the Cantonese example (1), the question presents both 'go' and 'not-go' as alternatives for an answer, and despite functioning like a YNQ, answers to PAQs cannot be a simple 'Yes' or 'No,' but must be one of the alternatives provided much like an alternative question (in (1) this would correspond to 'go' and 'not-go'). Such is the case for Mandarin (Li & Thompson 1981), Cantonese (Law 2001), and Korean (Ceong 2011).

Contact info: christine.song.101@gmail.com, ivan.tw.fong@gmail.com, amandaeliora@gmail.com

\* Acknowledgements: We would like to thank Lisa Matthewson and Daniel Reisinger for their kind words and wisdom throughout the progress of this paper.

<sup>+</sup> these authors contributed equally to this work

<sub>1</sub> Abbreviations used in the paper: LOC = location, SFP = sentence final particle, ASP = aspect, PST = past tense, Q = question marker, FUT = future tense

Regarding the YNQ element of ANAQs, Duží and Číhalová (2015) have pointed out that YNQs “present a proposition whose actual truth value the inquirer would like to know.” They have also mentioned that alternative questions “come attached with a presupposition that only one of the two alternatives are the case” (Duží & Číhalová 2015). However, Hagstrom (2005) has stated that ANAQs, alternative questions and YNQs in Mandarin all have different distributions. This provides a very interesting insight of ANAQs being a distinctive class of questions, thus we begin our questioning of the current analyses on ANAQs that are based on their similarity to YNQs and alternative questions, not their distinctions.

Law (2001) and Li and Thompson (1981) assert that ANAQs have neutral presuppositions, where the questioner does not assume the truth value of the proposition asked. The claim was made only within the scope of the two Sino-Tibetan languages, Mandarin and Cantonese.

This paper concerns itself with ANAQs in another East Asian language of a different language family, Korean within the Koreanic language family.

- (2) 너 파리에 가 안가?  
you Paris-LOC go not-go  
‘Are you going to Paris or not?’

From (2) we can see that syntactically, ANAQs in Korean are quite comparable to the ones in Cantonese, a claim also backed by Ceong (2011). However, not much literature exists on the pragmatics of Korean that can substantiate the claim regarding the neutrality of ANAQ presuppositions. In our preliminary research which relied on the native intuition of this paper’s first author and the extensive literature that exists on Cantonese and Mandarin ANAQs, we found that Korean ANAQs display interesting properties that can possibly distinguish themselves from their Sino-Tibetan counterparts.

## 2.2 The “Neutral Presupposition” in ANAQs

The potential of biasing the neutral presupposition of ANAQs was based on the claim that for an ANAQ to be felicitous, the questioner must have no predisposition towards any of the alternatives in the question asked (Law 2001, Hagstrom 2005).

At first glance, the claim that a question may constitute both a polar and alternative question stands to reason; however, with further inspection, misalignments become more prominent. For one, Han and Romero (2005) highlighted the ability to bias YNQs, a critical observation since ANAQs function as YNQs (Law 2001). Thus, we need to question the claimed “neutrality” of ANAQs in order to better define ANAQs themselves. Moreover, when discussing properties of ANAQs in Mandarin, both Wu (1997) and Hagstrom (2005) refer to the neutrality of their propositions as implicatures rather than the previously mentioned presupposition, further leading us to question the claim of the ANAQs “neutral presupposition” entirely.

As such, before moving on to gather our own data through elicitation with a native speaker, we restrict our parameters to design a more precise methodology by better defining the neutrality and presuppositionality of existing ANAQs which we hope to apply to Korean ANAQs.

### 2.2.1 Neutrality of ANAQs

Many papers including Law (2001) have suggested that, at least in the context of Cantonese and Mandarin, one must ask an ANAQ only in a neutral context. In the examples provided below in Cantonese along with (1), we can see what Law means when a question is neutral or biased.

(3) 你 去 巴黎 咩？

you go Paris SFP

‘You’re going to Paris?’ (I thought you’re not going to Paris.)

(4) 你 唔 去 巴黎 咩？

you not go Paris SFP

‘You’re not going to Paris?’ (I thought you’re going to Paris.)

The sentences in both (3) and (4) display biases. Note that (3) and (4) are not ANAQs. The questions contain the speaker’s belief that the hearer is either going to Paris or not, as shown in brackets. We borrow the term biased questions from Asher and Reese (2007) who define them as questions that “convey an expectation, or bias, on the part of the speaker toward a specific answer to the question.” This provides the basic foundation on the method of differentiating whether a question is biased or not. For Cantonese, according to Law (2001), if the speaker does not have any beliefs regarding the hearer’s plan to go to Paris, they must ask the question using the A-not-A form as in (1). Such a restriction arises because of the pragmatic consequences of non-A-not-A question forms in Cantonese, which are used in contexts where the speaker does expect to hear a certain answer to the question (Law 2001). Therefore, it can be concluded that ANAQs in Cantonese must be neutral.

However, marginalized cases of biased ANAQs, called B-not-B questions (BNBQ), appeared within Mandarin literature (Hagstrom 2005). BNBQs allow for a positive bias while maintaining the A-not-A sentence structure by narrowing the scope to the focus morpheme 是 as shown in (5). Despite being a marginalized form of ANAQs, the existence of BNBQ bias shows an inconsistency in the current definition of ANAQs which alludes to the claim concerning their neutrality.

(5) Context: You are talking to your friend about your plan to go to Paris. Even though they did not look up anything on the internet, your friend immediately starts suggesting things to do and places to visit in Paris as if they are recalling it from memory. You then ask your friend:

你 是不是 去 過 巴黎？

you be-not-be go ASP Paris-LOC

‘You have been to Paris, haven’t you?’

Additionally, preliminary native intuition of the first author points to a possibly negative emotive bias when Korean ANAQs are asked in the past tense. See (6) for an example of a Korean ANAQ in the past tense. This will be further explained within Section 4 below.

(6) 너 했어 안 했어?

you do-PST not do-PST

‘Did you do it or not?’

Such mixed results regarding the neutrality of ANAQs have inspired us to investigate a possible distinction between the epistemic and emotive content in Korean ANAQs in the past tense which would explain the discrepancies. That is, perhaps ANAQs allow for biases in one aspect of ANAQs and not the other, thus allowing ANAQs to be both neutral and biased at the same time.

Looking through past literature concerning biased questions, we have found several notions regarding the distinction between epistemic and emotive bias. In their analyses of epistemically biased questions, Asher and Reese (2007) discuss how negative polar questions “convey a backgrounded attitude on the part of the speaker toward the proposition expressed by a positive answer.” To complement this claim, Ladd (1981, among others, as cited in Asher and Reese, 2007) claims that when a speaker does not have a prior belief towards the issue raised by a question, i.e., when the speaker has a neutral stance towards the focused issue, a negative polar question is inappropriate. We can then extrapolate from the above that an epistemically biased question would in turn mean a question that conveys a speaker’s current belief towards the proposition.

Regarding emotive bias, Ptaszynski et al. (2014) make the following claim: to discriminate whether a sentence is emotional or neutral is to discern whether the said sentence can be interpreted as produced in an emotional state. Correspondingly, in order to fit this definition into questions which offer polar alternatives as answers, we interpret the statement above as such: an emotively biased question would mean a question that conveys the speaker’s current emotions towards the proposition. While a given sentence may contain multiple possible emotive biases, we will narrow our focus, in our investigation of ANAQs, to the hopefulness of the speaker in receiving a certain answer from the hearer.

We hereby define the two types of biases as follows:

Epistemic bias:

The questioner is basing their bias on evidence, i.e., the questioner believes within reason for one alternative to be true.

Emotive bias:

The questioner is basing their bias on emotion, i.e., the questioner hopes/trusts one alternative to be true.

Below are examples of these biases in English. Not all the different biases are listed here nor are their intonationally discrete counterparts.

(7) Did you buy milk?

Bias: You always buy milk on Tuesdays and since today is Tuesday, I believe that you did.

(8) Did you buy milk?

Bias: I hope that you did because I need to bake a cake today.

The question from (7) provides an example of a question with an epistemic bias, with the questioner believing the positive alternative of the question to be true with the evidence they have about the addressee’s habits. Whereas (8) provides an example of a question with an emotive bias, with the questioner hoping for the positive alternative of the question.

We apply this concept to our analysis of Korean ANAQs. It is important to note that the epistemic bias in ANAQs must be non-tangible. In the case that there is direct, visible evidence for one of the alternatives, it would be redundant and infelicitous for the speaker to ask a question that presents both alternatives since the probability of the truth of one alternative is much higher. This is further exemplified in Section 2.2.2 later. If we find that Korean ANAQs are felicitous in contexts where the speaker holds a certain belief (i.e., epistemic bias) or hope (i.e., emotive bias) regarding the answer given to their question, then we have evidence to question the hypothesized neutrality of ANAQs as a whole.

### 2.2.2 Presuppositionality of ANAQs

After discussing the neutrality of ANAQs, we now move on to explore the presuppositionality of ANAQs before going further. We once again highlight the uncertainty of the term “presupposition” used in regards to ANAQs. As mentioned above, Law (2001) uses the term presupposition while Wu (1997) uses implicature. As a result, since we have hypothesized the existence of epistemic and emotive biases, we seek to determine whether those elements are presuppositions and/or implicatures. Entailments were not of our concern because ANAQs cannot contain entailments, by nature of being questions.

Levinson (1983) characterizes presuppositions to be background beliefs, relating to an utterance, that:

- (a) must be mutually known or assumed by the speaker and addressee
- (b) will generally remain a necessary assumption
- (c) can generally be associated with a specific lexical item such as a presupposition trigger

Unlike semantic presuppositions, pragmatic presuppositions can be cancelled by contexts (Duží & Číhalová 2015), or what is known as meta-linguistic negation.

In another paper, Zhang (1996) has provided an interesting analysis with Mandarin ANAQs. He claims that ANAQs contain a syntactic constraint in which the verb in an ANAQ cannot be presupposed. On top of that, the questioned part of an ANAQ must also not be presupposed. We assume that Wu is referring to the reduplicated (A-not-A) part of an ANAQ as being unable to be presupposed.

This gives us a very intriguing perspective regarding the presuppositionality of ANAQs. On one hand, it was assumed that ANAQs are constructed as being presuppositionally neutral (Law 2001). On the other hand, ANAQs are said to not allow presupposition (Zhang 1996).

In another paper written by Romero and Han (2004), it is stated that YNQs contain conversational implicature. Despite YNQs not being a direct parallel of ANAQs, we can perhaps assume that ANAQs, being functionally similar to YNQs, may also possibly contain conversational implicatures. Hara (2014) has mentioned that there are biased conversational implicatures in questions in Cantonese but did not further elaborate whether ANAQs in particular contain conversational implicatures, despite having claimed that ANAQs have to be asked in a neutral context, similar to Law’s claim (2001). However, Wu (1996) did provide examples on B-not-B questions being able to contain cancellable conversational implicatures when given the right context.

As seen above, so far no one has definitively concluded that ANAQs contain either a presupposition or conversational implicature, on top of the types of biases that ANAQs allow. As such, we applied our own tests, relying on the judgments of our first author, in hopes of solving this conundrum. We will use the emotive and epistemic bias as defined in 2.2.1 to test whether they are a presupposition or a conversational implicature with the application of the reinforcement without redundancy test for both. It is important to recognize that failing the reinforcement without redundancy test could only prove that a proposition contains either a presupposition or entailment without definitively proving one over another. However, since questions do not contain entailments, a failure of the reinforcement without redundancy test will be understood as categorizing the tested element to be a presupposition. Additionally, the reinforcement without redundancy test was chosen over the negation test because of the impossibility to apply negation on an ANAQ which constitutes of both the positive and negative alternative as a PAQ.

Epistemic – Testing for reinforcement without redundancy:

- (9) #밥 먹었어 안 먹었어? 먹었는지 안 먹었는지 확실치 않아서 물어보는거야.  
'Did you eat your dinner or not? I don't have any evidence to prove either way so I'm asking.'

As an example of a neutral epistemic proposition, (9) sounds very redundant – noted by the #. It is almost as if the question is being repeated twice.

- (10) #밥 먹었어 안 먹었어? 싱크대 안에 안 닦인 접시를 봐서 물어보는거야.  
'Did you eat your dinner or not? I'm asking because I saw a dirty dish in the sink.'

Yet again, the restatement of the positive epistemic bias in (10) sounds redundant as well. Since the questioner saw clear evidence of the dinner being eaten, they would not ask an ANAQ in this context.

- (11) #밥 먹었어 안 먹었어? 아직 식탁에 너의 밥이 남아있네.  
'Did you eat your dinner or not? Your dinner is still there on the dining table.'

Same as the other examples above, (11), the negative epistemic bias, sounds redundant. If either physical or tangible evidence is clearly present, it would be infelicitous to ask an ANAQ.

Examples (9) to (11) all show that restating the epistemic element of the question, regardless of it being neutral or positively/negatively biased, sound very unnatural and redundant. Thus, we categorize the epistemic element contained in an ANAQ to be a presupposition.

Further, (9) to (11) also reinforce the reasoning with which we have restricted the scope of our research to non-tangible epistemic biases.

Emotive – Testing for reinforcement without redundancy:

- (12) 밥 먹었어 안 먹었어? 그냥 궁금해서.  
'Did you eat your dinner or not? I'm just curious.'

The test for the neutral emotive proposition from (12) does not sound infelicitous.

- (13) 밥 먹었어 안 먹었어? 오늘 하루 웬종일 안 먹었으니까 먹었길 바라.  
'Did you eat your dinner or not? I hope you did as you haven't eaten the whole day.'

Same as (12), the restatement of the positive emotive bias in (13) does not sound redundant.

- (14) 밥 먹었어 안 먹었어? 같이 먹기 위해 안 먹었으면 해.  
'Did you eat your dinner or not? I hope you haven't because so that we can eat together.'

Perhaps not too surprising, (14), the negative emotive bias, also sounds acceptable and not redundant.

We can see that in (12) to (14) none of the emotive biases, regardless of the neutrality, are redundant. These tests lead us to conclude that the emotive bias within Korean ANAQs is reinforceable allowing us to categorize the emotive element of a Korean ANAQ to be a conversational implicature.

### 2.3 Korean ANAQs

Unlike Cantonese and Mandarin, ANAQs are not the conventional way to ask a neutral question in Korean. Most situations normally call for the equivalent of the English general question form, a YNQ seen in (15), whilst situations where the ANAQ form reigns dominant is a rather marginalized case. However, in the case that the A-not-A form is used in a situation that calls for a YNQ, some sort of bias seems to arise which is explained further under Section 4.

(15) 밥 먹었어?  
meal eat-PST  
'Have you eaten?'

Furthermore, while Korean ANAQs, much like other ANAQs, usually elicit an echo answer from one of the alternatives given, it might be relevant to note that it is also very common to respond with 'Yes' or 'No' at the beginning of the response, as illustrated below using the same question from (6). This single feature already distinguishes Korean ANAQ from its Sino-Tibetan counterparts where 'Yes' or 'No' is simply not allowed in the answer as it will cause confusion to the hearer (Gasde 2004). This could possibly act as further evidential support to the claim that there are biases in Korean ANAQs.

(16) Q: 너 했어 안 했어?  
'Did you do it or not?'  
A: 응, 했어.  
'Yes, I did.'  
OR  
A: 아니, 안 했어.  
'No, I didn't.'

As a widely encountered phenomenon within Mandarin and Cantonese, literature on ANAQs were more abundant in those languages where research on Korean ANAQs were rare. As a result, literature handling ANAQs in Mandarin and Cantonese acted as guides and resources for the basis of much of the research.

#### 2.3.1 Types of Korean ANAQs

Ceong (2011) lists three salient types of Korean ANAQs divided into (17) pre-predicate negation, (18) inherently negative predicates, and (19) a negative modal auxiliary.

(17) 밥 먹었어 안 먹었어?  
Meal eat-PST not eat-PST  
'Have you or have you not eaten?'

(18) 집에        있었니        없었니?  
home-LOC have-PST-Q not.have-PST-Q  
'Were you home or not?'

(19) 갈까        말까?  
go-FUT-Q don't.FUT-Q  
'Should we or should we not go?'

We took the liberty of narrowing the focus on just (17), the pre-predicate negation, because (18) inherently restricts the verb that can be used because of its function to define non-existence and therefore requires the verb *있다* 'have' to be used as its counterpart. Lastly, (19) contains a morpheme that may only be used in correspondence with future tense which we have decided to ignore.

## 2.4 The Present Study

The present study aims to discern whether it is possible for Korean ANAQs to be biased within emotive and epistemic content, implicature and presupposition, respectively, rather than being presuppositionally neutral like their Sino-Tibetan counterparts.

The research places a constraint on the scope of the questions to the past tense which arises from native intuition that this phenomenon occurs less frequently and consistently in present and future tense. Additionally, the presence of a pause in between the A and not-A portions of the sentence seem to allow room for some unknown bias. As a result, such complications between the pragmatics of the question led to the elimination of the pauses throughout the elicitation task to focus solely upon identifiable biases.

Contexts were made within the scope of emotive biases on hopefulness or trust and epistemic biases of reliability to avoid the infelicity of using ANAQs with direct, tangible evidence towards any single alternative. The emotive bias was dependent upon the hopes of the addresser for the addressee to have acted in a certain way. For example, if someone was hopeful that it will rain tomorrow, this would be a type of emotive bias towards the weather tomorrow. The epistemic bias depended on the behavioural habits of the addressee to create a sort of reliability for the addressee to have acted a certain way. For example, it would be reasonable for someone to believe that Jane will have eaten dinner by 8:00 PM if she normally eats around 6:00 PM.

## 3 Methodology

We elicited primary data on the acceptability of specific ANAQs in contexts where the consultant/addresser (i.e., the person asking the ANAQ) held an induced combination of emotive and epistemic biases towards the expected response of the addressee (i.e., the other interlocutor within the context). A native Korean speaker fluent in both Korean and English was given judgement tasks where they were presented with a context to evoke a specific combination of emotive and epistemic biases, and an ANAQ accompanying the context for them to ask the addressee. The consultant was asked whether they judged the question to be acceptable in the given context and encouraged to explain why not if their response was negative. If the consultant requested it, contexts could be heard again so as to immerse the consultant within the given context. Two verbs, *샀어* 'bought' and *먹었어* 'ate,' were tested. These two verbs frequent Korean ANAQ



forms and to serve as a way to encompass more than a single verb type. Additionally, as regular verbs, the Korean ‘bought’ and ‘ate’ will provide universal results outside of the irregular verbs.

We tested three distinctions within each of emotive bias and epistemic bias.

1. The first distinction was denoted as positive bias, where the context would bias the consultant towards expecting an affirmative answer from the addressee about the verb in question; that is, in the case of the verb 샀어 ‘bought,’ that the addressee did indeed buy the item that the consultant is asking about. If the positive bias is emotive, the addresser is hoping to receive an affirmative answer. On the other hand, if the positive bias is epistemic, the addresser has non-tangible epistemic evidence that they will likely receive an affirmative answer.
2. The second distinction was named negative bias, where the context would bias the addresser towards expecting a non-affirmative answer from the addressee about the verb in question; in the case of the verb 샀어 ‘bought,’ this would mean that the addressee did not buy the item that the addresser is asking about. Again, if the negative bias is emotive, the addresser has a bias towards a non-affirmative answer because they are hoping to receive a non-affirmative answer. If the negative bias is epistemic, the addresser has a bias towards receiving a non-affirmative answer because they have evidence to believe that that will likely be the answer they will receive.
3. The third and final distinction was named neutral bias. In this case, the context does not set up expectations towards receiving either an affirmative or non-affirmative answer from the addressee. If the neutral bias is emotive, the addresser does not have any hope for the answer to be affirmative or non-affirmative, meaning indifferent. If the neutral bias is epistemic, the addresser does not have evidence to support an expectation that the addressee will respond either affirmatively or non-affirmatively.

Thus, there is a total of nine possible combinations of emotive and epistemic bias distinctions to test. This is illustrated in Table 1 below.

**Table 1:** Epistemic and Emotive Bias Sample Combinations

		Epistemic		
		Positive	Negative	Neutral
Emotive	Positive	Your roommate John always buys milk, and you really hope he did because you need to bake a cake.	Your roommate Evan never buys milk, but you really hope he did because you need to bake a cake.	You have a new roommate Martha, you've asked her to buy milk, and you really hope she did because you need to bake a cake.
	Negative	Your roommate John always buys milk, but you really hope he didn't because you already bought milk.	Your roommate Evan never buys milk, and you really hope he didn't because you already bought milk.	You have a new roommate Martha. You notice that you've run out of milk, but you hope Martha hasn't bought any because you've bought some yourself.
	Neutral	Your roommate John always buys milk. You've asked him to buy milk on his way home, but it doesn't really matter if he does or not because you can buy it tomorrow.	Your roommate Evan never buys milk. You've asked him to buy milk on his way home, but it doesn't really matter if he does or not because you can buy it tomorrow.	You have a new roommate Martha, you've asked her to buy milk on her way home, but it doesn't really matter because you can buy it tomorrow.

#### 4 Results and Discussion

We specifically do not include data from the first attempted elicitation due to its unorganized nature. However, valuable insights were gathered to help solidate our claims. Through the process of asking the consultant if they thought that the combination of the given ANAQ and context was felicitous, the consultant stated that she felt more comfortable asking questions using the simple YNQ form in most situations. When they were forced to pick an answer between rephrasing the question into a YNQ versus the given ANAQ, the consultant almost always picked the YNQ. This reinforces the judgment from our consultant which suggests that the YNQ form is dominant in Korean questions – an idea attested by our first author as a native speaker.

For all contexts that the ANAQ was not chosen the consultant was asked to give a judgment about why the ANAQ was not their first choice. There they communicated that the ANAQ form was too strong of a tone for the situation, giving the feeling that they were pressuring the hearer into an answer, sounding almost “rude.” Exceptions arose in cases where the consultant had a negative epistemic bias coupled with a positive emotive bias. In such contexts, the consultant chose the ANAQ form as the more natural sounding since they preferred that strong, interrogational tone.

Furthermore, the second consultant, whose data is included, brought up an interesting observation. The ANAQ form creates a parallel with (20) below.

- (20) 잘했어      잘못했어?  
well-do-PST   fault-do-PST  
'Were you good or bad?'

While the direct translation is inadequate to convey the sentiment, culturally in Korea, (20) functions as a way for parents to scold the mistakes of their children to get the child to admit to their fault. At first glance, (20) may seem like another well-formed Korean ANAQ; however, syntactically, this sentence does not follow the rules of the ANAQ form from (1) (seen above under Section 2.3.1). The 못 'cannot' that is present here functions as a single word, 잘못, to mean 'fault.' Although similar, this reveals that there is no negation particle within the question. Yet because of the subtle parallelism, such cultural aspects of Korea may crucially play a role in shaping the way Koreans view the ANAQ form, and why there may be judgments about its "rudeness."

#### 4.1 Positive Emotive Bias with Positive Epistemic Bias

ANAQs asked in a context where the speaker had a combination of positive emotive bias and positive epistemic bias towards the answer given by the addressee were judged to be infelicitous. Below are the results for this combination for the verb 먹었어 'ate.'

- (21) Context: You live in an apartment with a roommate named Andrew. It's around 8:00 PM and you're craving some ice cream from your favorite ice cream store. You don't feel like going alone, and Andrew happens to be in his room. You know that he likes ice cream, but you also know that he doesn't like eating dessert before dinner. You know he normally eats dinner by 7:00 PM. Hoping that Andrew's already had dinner, you find Andrew in his room and ask:

# Andrew, 저녁 먹었어 안 먹었어?

Andrew   dinner   eat-PST   not   eat-PST  
'Andrew, did you or did you not eat dinner?'

Consultant's Alternative: 혹시   저녁   먹었어?  
perhaps   dinner   eat-PST  
'By chance, have you eaten dinner?'

The consultant judged the ANAQ to be infelicitous, offering the alternative above which features a Korean YNQ form. This context combination was also judged infelicitous for the verb 샀어 'bought,' where the consultant commented that the ANAQ sounded "heavy-handed" in the context. The consultant expanded on their response that since the question and its response does not directly affect themselves, there is no reason to be so strong in the conveyance of the question. Instead, they considered adding in 'perhaps' to the positive YNQ form to show the uncertainty of the response while retaining the positive bias.

## 4.2 Positive Emotive Bias with Negative Epistemic Bias

ANAQs asked in a context where the speaker had a combination of positive emotive bias and negative epistemic bias towards the answer given by the addressee were judged to be felicitous. Below are the results for this combination for the verb 먹었어 ‘ate.’

- (22) Context: You live in an apartment with a roommate named Andrew. It’s around 8:00 PM and you’re craving some ice cream from your favorite ice cream store. You don’t feel like going alone, and Andrew happens to be in his room. You know that he likes ice cream, but you also know that he doesn’t like eating dessert before dinner. You know, however, that Andrew normally doesn’t have dinner till 9:00 PM. Regardless, you hope that Andrew’s already had dinner today. You find him in his room and ask:

Andrew, 오늘 저녁 먹었어 안 먹었어?

Andrew today dinner eat-PST not eat-PST

‘Andrew, did you or did you not eat dinner today?’

As seen above, the combination of positive emotive bias and negative epistemic bias was deemed an acceptable context for an ANAQ. It is interesting to note that for the verb 샀어 ‘bought’ while the consultant judged the ANAQ to be felicitous, he commented that the question could be rude much like the first consultant. This emerges as a result of the context provided for the judgment task with 샀어 ‘bought,’ where the speaker hopes the addressee has bought something as part of the household errand system and feels upset that the addressee never remembers to complete their errand. Thus, asking whether the addressee has bought the item could be portrayed as confrontational and thereby rude. Since the combination of positive emotive bias and negative epistemic bias itself was judged felicitous, the fact that the ANAQ sounds rude simply indicates the possibility of another emotive element at play which may be a byproduct of Korean culture that in itself is not prominent enough to affect the felicity of the ANAQ.

## 4.3 Positive Emotive Bias with Neutral Epistemic Bias

This combination of a context with positive emotive bias and neutral epistemic bias, received differing judgments for the felicity of asking an ANAQ in that context. For 샀어 ‘bought,’ the ANAQ was judged to be felicitous.

- (23) Context: You work as a manager at a coffee shop, and you have a newly hired employee named Adam. You run out of milk during the day, so you ask him to buy some before coming in tomorrow. When you see him the next day you ask:

우유 사왔어 안 사왔어?

milk buy-PST not buy-PST

‘Did you or did you not buy the milk?’

On the other hand, for the verb 먹었어 ‘ate,’ the ANAQ was judged to be infelicitous.

- (24) Context: You live in an apartment with a new roommate named Alvin. It’s around 8:00 PM and you’re craving some ice cream from your favorite ice cream store. You don’t feel like going alone and Alvin happens to be in his room. You don’t know whether Alvin has had

dinner yet. Hoping that he has so you can go get dessert together, you head to his room and ask:

#Alvin, 저녁 먹었어 안 먹었어?

Alvin dinner eat-PST not eat-PST

'Alvin, did you or did you not eat dinner?'

Consultant's Alternative: 혹시 저녁 먹었어?

perhaps dinner eat-PST

'By chance, have you eaten dinner?'

A possible explanation for the difference in judgments between the two contexts provided for the two verbs lies in the differing statuses between the interlocutors. While the consultant commented that the same "heavy-handedness" remained with the ANAQ form, since they are speaking to an employee, the consultant did not see a problem with using this form even though they had a problem with the form of the verb. As such there may have been a problem with the context for the verb 'bought.' Yet we cannot be sure if this employer-employee relationship could affect a Korean speaker's judgment on the felicity of ANAQs with other combinations of emotive and epistemic bias by possibly making the ANAQ form more acceptable in bias combinations where it is unanimously judged to be infelicitous. This context for 샀어 'bought,' featuring an employer-employee relationship, is the only one with this relationship between the interlocutors within the contexts we created.

#### 4.4 Negative Emotive Bias with Positive Epistemic Bias

There were differing judgments for the felicity of an ANAQ in a context where the speaker has a combination of a negative emotive bias and positive epistemic bias. The ANAQ was judged to be felicitous in the context given for the verb 샀어 'bought.'

(25) Context: You have been roommates with John for a while, and you have a system to buy toilet paper. This week was supposed to be John's turn, but you forgot and ended up buying some when you saw them on sale. John is really good at keeping the system, but you hope that he hasn't bought any since you already have. When John comes home later that evening you ask him:

John, 혹시 오늘 나갔을때 화장지 샀어 안 샀어?

John perhaps today go.out-PST-when toilet.paper buy-PST not buy-PST?

'John, did you or did you not happen to buy toilet paper when you went out?'

In contrast, the ANAQ was judged infelicitous in the context given for the verb 먹었어 'ate.'

(26) Context: You live in an apartment with a roommate named Andrew. It's around 8:00 PM and you haven't had dinner yet. You'd like to get dinner at your favorite restaurant, and you don't really feel like going alone. Andrew happens to be in his room, but you know that

Andrew normally has already had dinner by 8:00 PM. But you hope that he hasn't so you can ask him to come with you. You find him in his room and ask:

#Andrew, 저녁 먹었어 안 먹었어?

Andrew dinner eat-PST not eat-PST?

'Andrew, did you or did you not eat dinner?'

Consultant's Alternative: 저녁 먹었어?

dinner eat-PST

'Have you eaten dinner?'

There may have possibly been another pragmatic variable operating under our radar about politeness. Regarding observations about the rudeness of the ANAQ form, (21) is acting almost as a request to the speaker perhaps influenced by the desire of the consultant to soften their speech and ask the question in a more polite manner. In this vein, the presence of *혹시* 'perhaps' in (25) might have influenced the consultant's acceptance of the ANAQ form as it may help negate any perceived rudeness the use of an ANAQ (see Section 4.2) may carry.

#### 4.5 Negative Emotive Bias with Negative Epistemic Bias

The combination of negative emotive bias with negative epistemic bias was judged to be an infelicitous context for an ANAQ. This was the case for both contexts tested for both verbs. Below is an example of one of the contexts tested.

(27) Context: You live in an apartment with a roommate named Andrew. It's around 8:00 PM and you haven't had dinner yet. You'd like to get dinner at your favorite restaurant, but you don't feel like going alone. Andrew happens to be in his room. You know that Andrew normally hasn't had dinner yet at 8:00 PM. Hoping that he hasn't so you can ask him to come with you, you find him in his room and ask:

#Andrew, 저녁 먹었어 안 먹었어?

Andrew dinner eat-PST not eat-PST?

'Andrew, did you or did you not eat dinner?'

Consultant's Alternative: 혹시 저녁 먹었어?

perhaps dinner eat-PST

'By chance, have you eaten dinner?'

For both *샀어* 'bought' and *먹었어* 'ate,' similar felicitous alternatives to the ANAQ were given. Both involve the word *혹시* 'perhaps,' and have a Korean YNQ. This provides some evidence that for this combination of biases the YNQ form is more acceptable than the ANAQ form.

#### 4.6 Negative Emotive Bias with Neutral Epistemic Bias

This combination of negative emotive and neutral epistemic biases was judged by the consultant to be a felicitous context for ANAQs.

(28) Context: You live in an apartment with a new roommate named Adam who just moved in a few days ago. This morning while you're preparing breakfast, you notice that you've run out

of milk. You haven't exchanged phone numbers, and Adam has already left the apartment. On your way home that afternoon, you walk by a grocery store and decide to buy milk. You don't know if Adam noticed that you were out of milk, but you hope he hasn't bought it as well. When Adam comes home that evening you ask him:

Adam, 오늘 우유 샀어 안 샀어?

Adam today milk buy-PST not buy-PST

'Adam, did you or did you not buy milk today?'

In the judgment task with the verb 먹었어 'ate,' the consultant further commented that they did not have a preference between the ANAQ form and the more general form of asking someone if they have done something, which features a single instance of the verb without negation.

#### 4.7 Neutral Emotive Bias with Positive Epistemic Bias

Differing judgments were given for a context with neutral emotive bias and positive epistemic bias. In the context given for the verb 샀어 'bought,' an ANAQ was judged to be felicitous.

(29) Context: You live in an apartment with a roommate named John. One day as you're eating breakfast together you run out of milk. You ask John to buy you guys some milk on his way home from school/work. You don't really care whether John ends up buying the milk or not since you can always buy some yourself when you go to get your weekly groceries. But John is pretty good at buying supplies when you ask him. When John comes home you ask him:

#John, 오늘 우유 샀어 안 샀어?

John today milk buy-PST not buy-PST

'John, did you or did you not buy milk today?'

Consultant's Alternative: 우유 사왔지?

milk buy-PST-SFP

'(You) bought milk, right?'

Consultant's Comment: Because you have reason to believe he might have.

The above context is an instance where the epistemic bias seems to have a greater role in influencing the consultant's judgment of the felicity of the ANAQ. Although the ANAQ was judged to be felicitous, the consultant still provided a comment and alternative question. He comments that the fact that the speaker has reason to believe the addressee might have bought the milk, a positive epistemic bias, makes the ANAQ infelicitous. The alternative question he provides similarly enforces that the speaker has a bias towards the positive alternative of the ANAQ, that the addressee did buy the milk. As the emotive bias is neutral in this context, we have evidence that bias towards the positive alternative is the result of the positive epistemic bias.

In contrast to the above, in the context given with the verb 먹었어 'ate,' the consultant judged the ANAQ to be infelicitous.

(30) Context: You live in an apartment with a roommate named Andrew. It's around 8:00 PM and you haven't had dinner yet. You want to eat dinner at your favorite restaurant. It doesn't matter to you whether you eat with a friend or eat alone, but Andrew happens to be in his

room. You know that Andrew normally hasn't had dinner yet at 8:00 PM. In case Andrew might want to come with you, you ask him:

#Andrew, 저녁 먹었어 안 먹었어?

Andrew dinner eat-PST not eat-PST

'Andrew, did you or did you not eat dinner?'

Consultant's Alternative: 혹시 저녁 먹었어?

perhaps dinner eat-PST

'Did you perhaps eat dinner?'

A possible explanation for this difference is that in the context for 샀어 'bought,' the speaker has made a request for the addressee to buy the milk, whereas the speaker has not made any request for the addressee to go out with him in the context for 먹었어 'ate.' This may be part of the reason the alternative question provided for the context with 먹었어 'ate' includes 혹시 'perhaps', as no prior request had been made. This is something to be further researched and is a point of feedback in refining the contexts used to test for judgments solely for emotive and epistemic biases as we have defined them.

#### 4.8 Neutral Emotive Bias with Negative Epistemic Bias

This combination of neutral emotive bias and neutral epistemic bias was judged to be infelicitous. Below is an example of a context tested with the verb 샀어 'bought.'

(31) Context: You live in an apartment with a roommate named John. One day as you're eating breakfast together you run out of milk. You ask John to buy you guys some milk on his way home from school/work. You know that John always ends up forgetting to buy the things that you ask him to buy, but you don't really care whether John ends up buying the milk or not since you can always buy some yourself when you go to get your weekly groceries.

When John comes home that evening you ask him:

John, 혹시 우유 샀어 안 샀어?

John perhaps milk buy-PST not buy-PST

'John, did you or did you not perhaps buy some milk?'

Consultant's Alternative: 혹시 우유 샀어?

perhaps milk buy-PST

Consultant's Comment: 'Because you don't really care in this situation, so asking

안 샀어 ['did not buy'] doesn't sound natural.'

The consultant's comment reveals that the neutrality of the emotive bias plays a bigger role than the negative epistemic bias in determining his judgment of the felicity of the ANAQ. This is one data point for which we have evidence that could suggest that the emotive bias, or a lack of it in the case of a neutral emotive bias, can affect a consultant's judgment of the felicity of an ANAQ more than the presence of an epistemic bias.

#### 4.9 Neutral Emotive Bias with Neutral Epistemic Bias

The combination of a neutral emotive bias and neutral epistemic bias was judged to be infelicitous. Below is an example of this combination with the verb 샀어 'bought.'



(32) Context: You live in an apartment with a new roommate named Adam who just moved in a few days ago. This morning while you're eating breakfast together, you guys run out of milk. Before Adam leaves the apartment, you ask him to buy some milk on his way home. You also don't know if Adam is the type to remember or forget to buy something on his way home, but you don't really care whether Adam ends up buying the milk or not since you can always buy some yourself when you go to get your weekly groceries. When Adam comes home that evening you ask:

#Adam, 우유 샀어 안 샀어?

Adam milk buy-PST not buy-PST?

'Adam, did you or did you not buy the milk?'

Consultant's Alternative: 혹시 우유 샀어?

perhaps milk buy-PST

'Perhaps, did you buy milk?'

As the only combination where both the emotive and epistemic biases are neutral, the infelicity of the ANAQ for this combination provides some evidence that ANAQs in Korean might not be acceptable in completely neutral contexts, at least within the scope of an emotively and epistemically neutral context as we have defined emotive and epistemic neutrality. Thus, we have some evidence that Korean ANAQs are not neutral the way Cantonese and Mandarin ANAQs are. The alternative question the consultant provides also provides evidence that the YNQ form is in fact more neutral than ANAQs and might perhaps be the true neutral way of asking a question in Korean.

#### 4.10 Summary of Results

Overall, between the two data points provided from the elicitation with the verbs 샀어 'bought' and 먹었어 'ate,' ANAQs were universally judged infelicitous in four combinations of emotive and epistemic bias contexts, while they were universally judged acceptable in two context combinations. In three context combinations, the results of the judgment task differed between the two verbs. These results are summarized in Table 2 below.

**Table 2:** Consultant judgments on the felicity of Korean ANAQs in different combinations of emotive and epistemic biases

		Epistemic		
		Positive	Negative	Neutral
Emotive	Positive	X	✓	?
	Negative	?	X	✓
	Neutral	?	X	X

Note: A question mark ‘?’ represents combinations of emotive and epistemic biases where results differed for the two contexts tested.

First, an immediate pattern can be seen that there is a non-contested dislike to using the ANAQ form when the emotive and epistemic biases are the same. Only in contexts that had differing biases were ANAQs deemed felicitous. Additionally, any combination with neutral emotive bias had the majority of contexts – 5 out of 6 – judged to be infelicitous. This may indicate that Korean ANAQs function more naturally under emotively biased situations.

The contexts constructed with a neutral epistemic bias and neutral emotive bias are important to analyze because of their parallelism with the required neutrality of Cantonese and Mandarin ANAQs. However, the consultants agreed upon the infelicity of using ANAQs in such contexts which further supports our claim that Korean ANAQs, at least in the past tense, are biased.

While only conjecture, a crucial point may be formed from the judgments between the neutral epistemic bias with the positive emotive bias and negative emotive bias, respectively. If an issue with the ‘bought’ context for the combination with the positive emotive bias was present, then that would mean that the infelicity of the ANAQ form would be dominant in such a context. On the other hand, it was concluded that the neutral epistemic and negative emotive bias is felicitous. Such a result could allude to the existence of an inherently emotive bias for past tense ANAQs in Korean, or at least point towards the prospect of the emotive bias holding more power than the epistemic bias as opposed to all cases of epistemically neutral contexts which seem to have no visible effect on the felicity of ANAQs in Korean.

## 5 Further Research

Future research may consider using more verbs for each context to determine if a variable may be affecting the judgments of the consultants that was overlooked here, such as politeness and speaker-hearer relationships. We see in multiple contexts that may have been affected by politeness (see Sections 4.1-4.4 for some examples) as evidenced by comments regarding “heavy-handed”-ness and the consultant often introducing *혹시* ‘perhaps’ in the alternative questions they provided for the presented ANAQ. Speaker-hearer relationships, such as the employer-employee relationship in the positive emotive bias with neutral epistemic bias context for *샀어* ‘bought’ from Section 4.3 is related to this politeness issue. This may be especially important in the context of Korean which utilizes a complex system to signal deference and politeness, including person deixis, speech levels, and indirect speech (Hwang 1990). Constructing future contexts to control for the effects of politeness and speaker-hearer relationships would allow for better individualized results. Alternatively, future research could choose to further explore how different levels of politeness and speaker-hearer relationships affect consultants’ felicity judgements. The semantics of the verbs themselves may have also contributed to the pragmatic effects observed. Thus, testing a larger repository of verbs in the future will make the findings more generalizable, and it may also help resolve the cases where there was a difference in the acceptability judgement for a given combination of epistemic and emotive biases between the two verbs tested (i.e., for negative emotive bias with positive emotive bias, neutral emotive bias with positive emotive bias, and positive emotive bias with neutral epistemic bias). A limit in the number of contexts used may have also confounded some of the results that could be found with a larger sample size to produce more generalizations.

Additionally, we attempted to control the effect of prosodic features. These efforts are demonstrated in the elimination of pauses in between the A and not-A portions of the ANAQs when presented to the consultant (see Section 2.4). However, while the presenter of the contexts remained

consistent, variations in intonation may be another factor to be aware of. Intonation has been found to play a role in disambiguating between different types of wh-phrases in Korean (Jun & Oh 1996), and intonation is known to play a role in the perceived felicity and naturalness of Mandarin negative polar questions (Hara, Kawahara, & Feng 2014); as ANAQs are another type of polar question, it is possible that slight differences in intonation may affect judgment of a given ANAQ in a specific context. The mentioned effect in Section 2.4, that a pause between the A and not-A portions of an ANAQ seems to introduce a third unknown bias, may also be interesting to further investigate. What is perceived as a pause by a listener is actually a complex phenomenon at the level of the signal, “generally extending over a number of segments or syllables, and involve the interaction between a number of physical parameters” (Zellner 1994). Investigating the nature and effects of this pause effect alone may therefore be rewarding.

Further consideration could be made in testing different tenses of the verb rather than just the past tense. Our study aimed at uncovering the different biases with just the past tense because of the higher frequency of bias occurrences in the past tense from a preliminary native intuition from the first author; however, it may be worthwhile to investigate why there may be less consistency in other tenses or discover that that is not the case.

Under the constraint of time and resources, we limited our study to just the first type of Korean ANAQ forms. The dismissal of the other forms was certainly not an effect of ANAQ properties, and any future studies may wish to investigate them. Similarly, we were only able to collect data from two elicitations and gathering data from additional consultants would make our findings more generalizable and robust. Repeat elicitation on separate occasions with a single consultant would also increase the reliability of our findings and reinforce the magnitude of felicity judgments for a given ANAQ. In a more comprehensive study with a bigger set of verbs and contexts, utilizing naturalness ratings could also be considered to arrive at more nuanced results. Were the claims made in this paper further substantiated by future research, it could possibly spearhead further investigations into previously unexplored areas of ANAQs with the application of these concepts to its larger domain.

## References

- Asher, N., and Reese, B. (2007). Intonation and Discourse: Biased Questions. *Interdisciplinary Studies on Information Structure*, 8, 1-38.
- Ceong, H. H. (2011). *The Syntax of Korean polar alternative questions: A-not-A* (Doctoral dissertation).
- Duží, M. and Číhalová, M (2015). “Questions, Answers and Presuppositions.” *Computación y Sistemas*.
- Gasde, H. (2004). Yes/no questions and A-not-A questions in Chinese revisited. *Linguistics - Interdisciplinary Journal of the Language Sciences*, 42(2), 293-326.
- Hagstrom, P. (2005). *A-not-A Questions*. *The Wiley Blackwell Companion to Syntax*, Second Edition, 1-40.
- Hara, Y. (2014). *Semantics and Pragmatics of Cantonese Polar Questions: an inquisitive*

- approach. In Proceedings of the 28th Pacific Asia Conference on Language, Information and Computing.
- Hara, Y., Kawahara, S., and Feng, Y. (2014). The prosody of enhanced bias in Mandarin and Japanese negative questions. *Lingua*, 150, 92-116.
- Hwang, J. (1990). 'Deference' versus 'politeness' in Korean speech. *International Journal of the Sociology of Language*, 1990(82), 41-55.
- Jun, S., and Oh, M. (1996). A Prosodic Analysis of Three Types of Wh-Phrases in Korean. *Language and Speech*, 39(1), 37-61
- Law, A. (2001). A-not-A questions in Cantonese. *UCL working papers in linguistics*, 13, 295-318.
- Levinson, S. C. (1983). *Pragmatics*. Cambridge textbooks in linguistics. Cambridge/New York.
- Li, Charles N. and Sandra A. Thompson (1981) *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: University of California Press.
- Ptaszynski, M., Masui, F., Rzepka, R., and Araki, K. (2014). Detecting emotive sentences with pattern-based language modelling. *Procedia Computer Science*, 35, 484-493.  
doi:10.1016/j.procs.2014.08.129
- Reese, B., and Asher, N. (2010). Biased questions, intonation and discourse. *Information Structure: Theoretical, Typological, and Experimental Perspectives*, 139-73.  
doi:10.1093/acprof:oso/9780199570959.003.0007
- Romero, M., and Han, C. H. (2001). On certain epistemic implicatures in yes/no questions. In *Proceedings of the 13th Amsterdam Colloquium*.
- Wu, J. (1997). A model-theoretic approach to A-not-A questions. *University of Pennsylvania Working Papers in Linguistics*, 4(2), 18.
- Zellner, B. (1994). Pauses and the Temporal Structure of Speech. In E. Keller (Ed.), *Fundamentals of speech synthesis and speech recognition* (pp. 41-62). Chichester: John Wiley.
- Zhang, Z. S. (1996). Focus, Presupposition, and the Formation of A-NOT-A Questions in Chinese.