Epistemic bias interacts with prosodic pattern in South Gyeongsang Korean

Introduction
It has been widely acknowledged that negative polar interrogatives in English can (though not always) convey the speaker’s bias toward either a positive or negative answer (Ladd 1981, Büring & Gunlogson 2000, Huddleston & Pullum 2002, Romero & Han 2004, Asher & Reese 2007, Sudo 2013). English examples taken from Sudo (2013) are given in (1). A similar bias in negative polar interrogatives is observed in Tokyo Japanese (Sudo 2013, anonymous 2014, Ito & Oshima 2016). More importantly, it is reported that speaker’s bias in a negative interrogative is correlated with a particular prosodic pattern in Tokyo Japanese (anonymous 2014, Ito & Oshima 2016).

The bias-prosody correlation in South Gyeongsang Korean
Interestingly, we observe a similar interaction between bias and prosody in South Gyeongsang Korean; negative polar interrogatives with namely “short form” negation often deliver different biases, and are correlated with prosodic patterns. One example of a “short form” negative interrogative in this variety of Korean is provided in (2). Figure 1 illustrates the schematic F0 contours of a negative polar interrogative with different biases in this language. Prosodically, the negative morpheme an forms a single prosodic phrase by making the pitch of the predicate stem high flat (Single phrasing) if the interrogative is negatively biased (Figure 1a). On the other hand, both the negative morpheme and the predicate stem retain their LH accents (Double phrasing) if the interrogative is positively biased (Figure 1b). However, no large-scaled experimental study has been performed for this interaction between bias and prosodic patterns. Thus, the goal of the current study is to examine for this correlation in a more experimental approach to provide large-scale empirical data.

Method
A naturalness rating test was conducted. 80 speakers of South Gyeongsang Korean participated in the test. They were asked to assess the naturalness of the prosodic pattern, using a five-point scale (1= very unnatural ~ 5= very natural). The bias condition (negative vs. positive) and the prosodic pattern (Single vs. Double) were manipulated in a $2 \times 2$ design. A total of 16 target stimuli together with 16 fillers were created and distributed among 4 blocks, using a Latin Square procedure. As each participant was assigned one of the 4 blocks, one did not encounter multiple target stimuli that involved the same lexical item.

Results and discussion
Figure 2 summarizes the rating scores. Overall, the “matched” conditions between bias and prosody (NEG with Single phrasing & POS with Double phrasing) are judged to be significantly more natural than the “mismatched” counterparts (NEG with Double phrasing & POS with Single phrasing), indicating that the epistemic bias is indeed correlated with prosodic patterns. Interestingly, both “matched” and “mismatched” conditions show that the Double phrasing pattern is perceived as less natural than the Single phrasing pattern regardless of the bias accompanied. This pattern can be, at least in part, attributed to the change-in-progress in this variety of Korean.

Conclusion
The results of the large-scaled quantitative study confirm the correlation between prosody and epistemic bias in negative polar interrogatives in South Gyeongsang Korean, highlighting the necessity of contrastive study between Japanese and Korean on this issue.
(1) a. Positive bias
   Context: Mary is left-handed. We are wondering who else is. I think I have seen John use a pencil with his left hand.
   Question: Isn’t John left-handed too?

   b. Negative bias
   Context: Bill is right-handed and Mary is left-handed. We’re wondering who else is a lefty. (John is using a pen with his right hand.)
   Question: Isn’t John left-handed either?

(2) an manti-na ‘(Does he) not make (it)?’
Neg make-Q

(a) Single phrasing

(b) Double phrasing

Figure 1. Schematic F0 contours of a negative interrogative with a (a) negative bias and (b) positive bias

Figure 2. Results of a naturalness rating test involving negative polar interrogatives with a negative (NEG) and positive (POS) bias.

Selected References