# *WANNA* CONTRACTION IN INTERMEDIATE-LEVEL JAPANESE LEARNERS OF ENGLISH

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*This study investigates the use of* wanna *contraction by intermediate-level Japanese learners of English. Specifically, it examines whether these learners have access to the UG-specified constraints that restrict* wanna *contraction to certain structural contexts. In a production task (N=54), two types of* wh*-question sentences were elicited – those in which* wanna *contraction is licensed by UG-based constraints and those in which* wanna *contraction is disallowed. Although many participants (43%) overgeneralized their use of* wanna *to both question types, no participant was in complete violation of the constraints on* wanna *contraction. Furthermore,* wanna *contraction was produced more often in UG-licensed contexts than in illicit contexts. Although these findings do not clearly demonstrate access to UG-based* wanna *contraction constraints in intermediate-level Japanese learners of English, they suggest contextual differentiation that is consistent with these constraints.*

## INTRODUCTION

In English, the contraction of *want* and *to* into *wanna* is constrained by specific structural conditions that relate to abstract knowledge of movement, traces, and Case imparted to the linguistic system by virtue of Universal Grammar (UG) (see e.g., Chomsky, 1977; Chomsky & Lasnik, 1977, 1978; Jaeggli, 1980; Lightfoot, 1976). Compelling evidence for the UG basis of these restrictions on *wanna* contraction has been provided by research on the first language (L1) acquisition of English. Specifically, Crain and Thornton (1998) found that L1 acquirers of English adhere to the same constraints on *wanna* contraction that are operative in adult production. However, a different pattern of results was revealed in a similar experiment testing high-level, adult Korean learners of English (Bley-Vroman & Kweon, 2004; Kweon, 2000). Indeed, these second language (L2) learners were found to use *want to*/*wanna* rather inconsistently. These results have been taken to indicate that the interlanguage grammars of adult L2 acquirers are not constrained by the same UG-specified knowledge that guides L1 acquisition. The present study further investigates *wanna* contraction in L2 English and its implications for perspectives on UG access in adult L2 acquisition. Specifically, a modified replication of Kweon (2000) was conducted with intermediate-level Japanese learners of English.

### Wanna *Contraction: A Trace Theory Account*

In English, *want* and *to* are often contracted as *wanna*. However, *wanna* contraction cannot occur whenever *want* immediately precedes *to* in a sentence. This fact was first detailed by Lakoff (1970), who noted that *wanna* contraction is permitted in *wh*-question sentences that entail the extraction of the *object* from the infinitival complement of *want*, but not in *wh*-question sentences that entail extraction of the *subject* from the infinitival complement of *want*. Consider the following example sentences, in which *t* indicates a trace "left behind" by an extracted *wh*-constituent, and PRO indicates a null, coreferential NP element that is not created through movement:

(1a) Who do you want PRO to help *t*?
(1b) Who do you wanna help *t*?
(2a) Who do you want *t* to help Bill?
(2b) *Who do you wanna help Bill?

As illustrated by the grammaticality of (1b), a *wanna* contraction version of sentence (1a) is possible. The ungrammaticality of sentence (2b), however, demonstrates that a *wanna* contraction version of sentence (2a) is *not* possible. For ease of exposition, following Crain and Thornton (1998), Kweon (2000), and Bley-Vroman and Kweon (2004), *wh*-questions such as (1) will be called *object extraction questions* (or OEQs), while *wh*-questions such as (2) will be referred to as *subject extraction questions* (or SEQs).

Although there has been some debate concerning the source of this *wanna* contraction asymmetry, the dominant explanation for this phenomenon appeals the trace theory of movement (Chomsky, 1977; Chomsky & Lasnik, 1977, 1978; Lightfoot, 1976). Under this theory, the *wanna* contraction facts can be accounted for with the following rule (Chomsky & Lasnik's (1978: 296) (1)):

(3) want + to → wanna

This rule simply states that *want* can contract with an immediately following *to* in order to create *wanna* – an idiosyncratic property of *want* shared by a limited subset of English verbs (e.g., *going + to* → *gonna*, but **plan + to* → *planna*). Crucially, *want* and *to* must be adjacent in the linear word string as well as *structurally adjacent* in order for *wanna* contraction to occur. That is, just as *wanna* contraction is blocked when overt lexical items intervene between *want* and *to*, it is also blocked by intervening empty (i.e., unpronounced) structural elements. Therefore, with reference to the example sentences above, the contraction of *want* and *to* is prevented in SEQs because the trace of a moved *wh*-constituent intervenes between these words.

This is not to say, however, that *wanna* contraction is blocked by any empty structural element that intervenes between *want* and *to*. Indeed, as noted by Postal and Pullum (1978), a number of contraction triggers other than *want* permit contraction over the trace of a moved NP element. Consider the following sentence (4a) and its contracted counterpart (4b) (Postal and Pullum's (1978: 14) example sentences (22a) and (25)):

(4a) Some of those guys used to audit my course.
(4b) Some of those guys usta audit my course.

Postal and Pullum analyze this sentence as a Raising construction with the following underlying structure (5a) and derived structure (5b) (Postal and Pullum's (1978: 14) example sentences (23) and (24))[2]:

(5a) [[$_{NP}$ ] used [$_{S}$ . [$_{NP}$ *some of those guys*] to audit my course]]

(5b) [[$_{NP}$ *some of those guys*] used [$_{S}$ . *t* to audit my course]]

As illustrated in the derived structural representation (5b), a trace intervenes between *used* and *to*; but, as example sentence (4b) demonstrates, contraction over this trace is possible. However, there is an important difference between the trace in this Raising construction and the trace in *wh*-question sentences like those in examples (1) and (2). Specifically, as pointed out by Jaeggli (1980), although the trace in *wh*-question sentences (commonly referred to as a *wh*-trace) is case-marked, the trace in a Raising construction like (5b) (commonly referred to as an NP-trace) is *not* marked for case. Therefore, it appears that whereas non-case-marked NP-traces allow elements to contract over them, case-marked *wh*-traces block contraction.

This "case-marked" trace theory account of *wanna* contraction constraints also explains the fact that *wanna* contraction applies over the empty element PRO. Under generative approaches to syntax, for reasons related to the Extended Projection Principle and Theta Criterion (for review, see Carnie, 2002; Haegeman, 1994), PRO is assumed to act as the empty subject of a non-finite embedded clause such as in (6) (where PRO is coreferential with *You)*:

(6) You$_i$ want PRO$_i$ to help Bill.

This empty category also acts as the embedded clause subject in the *wh*-question form of this sentence (sentence (2a) above; repeated here as (7)):

(7) Who do you$_i$ want PRO$_i$ to help *t*?

Again, in both of these sentences *wanna* contraction is possible. These contraction facts are predictable based on "case-marked" trace theory account of *wanna* contraction because the empty category PRO is not (in fact, cannot be) case-marked in these sentences. In other words, just as the non-case-marked NP-trace fails to block contraction, so too does the non-case-marked empty category PRO.[3]

As demonstrated above, *wanna* contraction is restricted by abstract, structurally-based constraints. Therefore, as Chomsky and Lasnik (1978) emphasize, it is unnecessary to stipulate anything more than the simple idiosyncratic rule for the contraction of *want* and *to* represented in (3). The conditions under which this rule may apply then follow directly from (presumably innate) knowledge related to movement, traces, and Case.

## Wanna *Contraction Constraints in the L1 and L2 acquisition of English*

An interesting question then is whether the abstract, structurally-based constraints on *wanna* contraction reviewed above can be considered part of the innate language faculty. Compelling evidence in support of this assertion is provided by Crain and Thornton's (1998: 177-185) investigation of *wanna* contraction in the L1 acquisition of English. In this study, it was hypothesized that if the constraints on *wanna* contraction are innately specified,

children acquiring English should prefer to contract *want* and *to* in OEQs like (1a) and avoid such contraction in SEQs like (2a). The experiment involved the elicitation of these *wh*-question sentences during a conversation between a participant (a child between the ages of 2;10 and 5;5 years of age), an experimenter, and a rat puppet. As predicted, the children exhibited an overwhelming preference for contraction on OEQs, producing *wanna* on 88% (60/68) of these *wh*-questions. On SEQs, on the other hand, these children produced *wanna* only 8% (6/74) of the time. According to Crain and Thornton, this asymmetry clearly supports the assertion that "the prohibition against contraction across *wh*-trace is an innate, universal constraint" (185).

Building on this L1 acquisition study, Kweon (2000; also reported in Bley-Vroman & Kweon, 2004) investigated whether the innately-specified constraints on *wanna* contraction are also operative in the interlanguage grammars of high-level, adult Korean learners of English. As detailed above, the dominant account of the restrictions on *wanna* contraction appeals to the trace theory of movement and, more specifically, to the blocking effects of case-marked *wh*-traces. Kweon, therefore, sought to determine whether adult learners of English from an L1 that does not have overt *wh*-movement, in this case Korean, would respect these constraints on *wanna* contraction. It was hypothesized that if UG guides the adult L2 acquisition process, then even those constraints relevant to phenomena that are not instantiated in learners' L1 should restrict the interlanguage hypothesis space.

The participants were 104 highly-proficient EFL learners from the same university in Korea (Kweon, 2000) and 39 native speakers of (American) English as control/comparison subjects (Bley-Vroman & Kweon, 2004). The study consisted of three tasks: (a) an elicited production task, (b) an oral repair task, and (c) a grammaticality judgment task. The elicited production task followed a method similar to that which was employed in Crain and Thornton (1998). That is, SEQs and OEQs were elicited during a continuous discourse. In the oral repair task, participants listened to OEQ and SEQ sentences, all of which were produced with *wanna* contraction. After listening to each sentence, participants were asked to repeat the sentence, rephrasing anything that seemed unnatural in the original utterance. In the grammaticality judgment task, participants rated declarative and interrogative sentences involving *wanna* contraction on a four-point Likert scale.

As expected, native speakers of English consistently (and correctly) discriminated between grammatical and ungrammatical contexts for *wanna* contraction. The highly-proficient Korean learners of English, on the other hand, exhibited variability within and across tasks that is inconsistent with the hypothesis that UG constraints are operative in these learners' acquisition of L2 English. The results for these learners on the elicited production task are illustrative of this variability. In the analysis for this task, participants were grouped into four categories based on their production of *wanna* contraction:

(I) CONSERVATIVE: do not use *wanna* in either OEQs or SEQs;

(II) CORRECTLY DIFFERENTIAL: use *wanna* in OEQs, but not in SEQs;
(III) BACKWARD: use *wanna* in SEQs, but not in OEQs;
(IV) OVERGENERAL: use *wanna* in both SEQs and OEQs.

These categorizations were based on a "two productions" criterion – that is, in order for *wanna* contraction to be considered part of a participant's grammar for a given question type (OEQ or SEQ), the subject had to produce at least two contracted forms of *want to* on this question type. Table 1 presents the number of subjects grouped into each of these categories based on the elicited production task (Table 1 is based on Table 5.18 in Kweon (2000: 107) and Table 6 in Bley-Vroman & Kweon (2004: 17).).

**Table 1:** Distribution of Korean L2 learners of English (N=104) in categories I-IV for the elicited production task

| (I) CONSERVATIVE | (II) CORRECTLY DIFFERENTIAL |
|---|---|
| 43 (41.35%) | 16 (15.38%) |
| (III) BACKWARD | (IV) OVERGENERAL |
| 9 (8.65%) | 36 (34.62%) |

As evidenced by these results, the Korean learners of English in this study exhibited nothing close to the asymmetry in the production of *wanna* contraction that was shown by the adult native-speakers of English in this same study or by the L1 English-speaking children in Crain and Thornton (1998). In fact, most of these learners tended to produce *wanna* either for both question types (OVERGENERAL subjects) or for neither question type (CONSERVATIVE subjects). Furthermore, almost as many subjects seemed to have had the constraints on *wanna* contraction completely backwards (BACKWARD subjects) as were able to correctly differentiate between SEQs and OEQs in terms of whether they allow *wanna* contraction (CORRECTLY DIFFERENTIAL subjects).

Interestingly, a different pattern of results was obtained in the oral repair and grammaticality judgment tasks. Again, based on their performance on these tasks, participants were grouped into the four categories above. In both of these tasks, the overwhelming majority of subjects (70.59% in the oral repair task and 80.61% in the grammaticality judgment task) were classified as OVERGENERAL. That is, on both of these tasks, these Korean learners of English seemed to accept *wanna* contraction regardless of structural context. These results are again inconsistent with the idea that these L2 learners have access to the UG constraints on *wanna* contraction. However, it is important to note that the subjects' consistently "overgeneral" performance on these tasks raises some questions about the validity of these methodologies. For the oral repair task in particular, subjects may have been simply "parroting" sentences with little concern for structural irregularities.

Therefore, the results of this study indicate that these highly-proficient Korean learners of English do not seem to have access to the same UG-specified constraints on *wanna* contraction as L1 speakers/acquirers of English. These findings are then inconsistent with the notion that UG guides adult L2 acquisition in the same way it does L1 acquisition. In order to account for the variability in the performance of these subjects (something that a UG-based model of L2 acquisition clearly cannot), Bley-Vroman and Kweon (2004) suggest that these Korean learners of English treat *want* and *wanna* as distinct lexical items with unique subcategorization frames. Specifically, with reference to Pullum's (1997) analysis of *wanna* (and other "therapy verbs"), these researchers suggest that L2 learners of English establish separate sets of complement-selection rules for *want* and *wanna*, such that (a) *want* selects for infinitive-clause complements (e.g., *to go to the movies* or *John to go to the movies*) and (b) *wanna* selects for bare-infinitive VPs (e.g., *go to the movies*). As Bley-Vroman and Kweon (2004) point out, the learning of complement-selection specifications is essentially input-driven and, as such, is sure to exhibit variability across L2 language learners.

***Motivations for the Present Study***

In sum, Bley-Vroman and Kweon (2004) conclude (a) that highly-proficient adult Korean learners of English do not have access to the relevant constraints on *wanna* contraction and (b) that their variable control over the "verb" *wanna* can be attributed to the (imperfect) input-driven learning of its complement-selection specifications. These conclusions lead to clear predictions for L2 learners of English (a) from different L1s and (b) of different proficiency levels. Again, the L2 learners of English in Kweon (2000) and Bley-Vroman and Kweon (2004) had Korean, a *wh*-in-situ language, as their L1. Therefore, if adult L2 learners have access only to those aspects of UG that are instantiated in their L1s, the results reported above are entirely predictable. Assuming that access to UG is L1-mediated, one would expect (a) that adult L2 learners of English from "overt *wh*-movement" L1s would have access to the relevant constraints on *wanna* contraction and (b) that learners from other *wh*-in-situ languages would not have access to these constraints. It is the latter prediction that is of particular interest in the present study. Specifically, assuming L1-mediated UG access, one would expect that Japanese learners of English – again learners from a *wh*-in-situ L1 – would not have access to the relevant constraints on *wanna* contraction. Furthermore, in the absence of these constraints, if learners rely on the input-driven learning of a specific complement-selection pattern for *wanna*, then one would expect greater variability in the use of this "word" in learners of lower proficiency levels. In order to examine these hypotheses, the present study investigated the use of *want to* and its contracted form by intermediate-level Japanese learners of English in a modified replication of Kweon (2000).

In addition to the different subject population tested in this study (again, intermediate-level Japanese learners of English), several adjustments to the experimental methodology/procedure employed in Kweon (2000) are

worthy of note. First, the present experiment included only one task – an elicited production task. In light of the previously mentioned problems with the oral repair and grammaticality judgment tasks, the elicited production task seemed to be the most effective and easily interpretable way to examine the issue of interest in this study. Furthermore, although Kweon (2000) and Bley-Vroman and Kweon (2004) emphasize the necessity of limiting the influence of metalinguistic knowledge on subjects' use of *wanna* contraction in experimental tasks, in Kweon's (2000) elicited production task, subjects were forced to produce only OEQ and SEQ sentences. The task item sets did not include any production prompts that were unrelated to the hypotheses of interest. That is, no distractor items were included in the elicitation protocols in order to mask the purpose of this task and, thus, to reduce its metalinguistic demands. In the present study, this shortcoming was rectified by eliciting OEQ and SEQ sentences along with a number of other structures.

## EXPERIMENT

### *Methods*

*Participants.* The participants were 54 first-year students (majoring in engineering and the natural sciences) at a science and technology university in Tokyo. All participants had received around six and a half years of English instruction at the time of the experiment. These students were designated as "intermediate-level" learners of English by their instructor. Although no test was conducted in order to independently confirm this classification, it is certain that the participants in the present study were of a lower proficiency-level than those in Kweon (2000) and Bley-Vroman and Kweon (2004). Subjects participated in this experiment in partial fulfillment of course requirements.

*Materials and Design.* Each participant was given a handout with 30 production prompts preceded by four practice items. Each prompt related to a story that was maintained throughout the task. In the story, the narrator, Taro, is visited by an exchange student from America, Emily. Participants were asked to imagine that they were Taro's friend, and that they were helping him show Emily around Japan. The prompts involved the narrator, Taro, establishing a context and then asking the participant to give Emily certain information or to ask Emily specific questions. A sample of the handout distributed to the participants is provided in the Appendix. Participants were asked to complete the task individually and record their responses to the prompts on audiocassette, compact disc, or mini disc. Although the experiment was presented as a pronunciation practice assignment, no specific instructions were given concerning the pronunciation of *want to/wanna*.

Again, there were 30 prompts in total – 12 experimental items and 18 distractor items.[4] The 12 experimental items were prompts designed to elicit six of each type of *want to wh*-question (6 SEQs and 6 OEQs). As in Kweon (2000) and Bley-Vroman (2004), the OEQ prompts were intended to elicit *want to wh*-questions with transitive verbs in the embedded clause (a necessity

for object extraction). SEQ prompts, on the other hand, were designed to elicit *want to wh*-questions with intransitive or optionally-transitive verbs in the embedded clause. Following these earlier studies, this measure was taken in order to ensure (rough) string equivalence between elicited OEQs and SEQs. Also consistent with Crain and Thornton (1998), Kweon (2000), and Bley-Vroman and Kweon (2004), the prompts for each experimental item consisted of a statement (establishing context) and a truncated *wh*-question (see OEQ item #2 and SEQ item #8 in the Appendix for examples of these prompts). These prompts, therefore, did not provide exemplars of OEQs and/or SEQs on which participants could base their production. Finally, the 18 distractor items were designed to elicit a variety of declarative and interrogative sentence structures.

*Transcriptions and coding.* Each participant's responses to the 12 experimental items were transcribed and coded for analysis. In order to ensure accurate transcription/coding, each participant's responses were transcribed independently by a native speaker of English and a Japanese-English bilingual. These two sets of transcriptions were then compared in order to assess interrater reliability. Of the 648 independently transcribed responses, discrepancies were detected on only 41 items. That is, the interrater reliability for these transcriptions was 93.67%. Furthermore, of the 648 responses to experimental items, 438 took the form of (contextually appropriate) OEQs/SEQs containing either *want to* or *wanna*. Within these question types, discrepancies were detected on only seven transcriptions of *want to* elements. Therefore, the interrater reliability for the transcription of *want to*/*wanna* in OEQs/SEQs was 98.4%. Given the high-levels of interrater reliability for the transcriptions in general, and for the transcriptions of *want to*/*wanna* in particular, these records can be assumed to reflect accurately the performance of the participants in this study. Before submitting the data to further analyses, the researchers revisited the responses on which discrepancies were detected and established a final transcription for these items.

Each response was grouped into one of three categories: (1) *wanna wh*-questions (SEQs/OEQs with contracted forms of *want to*), (2) *want to* wh-questions (SEQs/OEQs with uncontracted forms of *want to*), and (3) other. Responses coded as "other" included (a) uninterpretably-ungrammatical and/or contextually-inappropriate utterances, (b) grammatically correct utterances without *want to/wanna*, (c) *want to/wanna* yes-no questions (d) *wh*-questions involving deviant *want to* forms (e.g. utterances containing *want* but not *to*.), and (e) OEQ questions produced in SEQ contexts.

As previously mentioned, 438 of the 648 coded response were either *wanna wh*-questions or *want to wh*-questions. That is, 67.59% of the responses to experimental prompts were *wh*-questions of interest in this study. This clearly indicates that the prompts were successful in eliciting the desired utterance types. The 324 SEQ prompts elicited 214 SEQs (either *wanna* or *want to wh*-questions), or SEQs on 66.04% of the responses; the 324 OEQ prompts elicited 224 OEQs (again, either *wanna* or *want to wh*-questions), or

OEQs on 69.14% of the responses. Therefore, the SEQ and OEQ prompts elicited a comparable number/percentage of *want to*/*wanna wh*-questions.

***Results***

Of the *wh*-questions produced in SEQ and OEQ contexts, 35.61% were *wanna wh*-questions and 64.38% were *want to wh*-questions. Of particular interest in this study, 40.17% of OEQs were *wanna wh*-questions; whereas 30.84% of SEQs were *wanna wh*-questions. It is important to note, however, that 19 of the 54 participants did not produce at least three *want to/wanna wh*-questions in both SEQ and OEQ contexts. Therefore, subsequent analyses were limited to the 35 participants who produced three or more (3-6) *want to/wanna wh*-questions in both contexts.

For these 35 participants, of the *wh*-questions produced in SEQ and OEQ contexts, 42.61% were *wanna wh*-questions and 57.38% were *want to wh*-questions. Of the OEQs, 50.9% were *wanna wh*-questions; of the SEQs, 35.13% were *wanna wh*-questions. Each participant's rate of *wanna wh*-question production (the percentage of *wh*-questions produced with *wanna*) per condition (SEQ and OEQ) was also calculated. The average rate of *wanna wh*-question production for OEQs was 49.14%; the average rate of *wanna wh*-question production for SEQs was 39.05%. That is, the rate of *wanna wh*-question production was significantly greater for OEQs than for SEQs ($t$ (1, 34) = 2.39, $p < .05$, one-tailed).

These 35 subjects were then grouped into four categories according to their production of *wanna* contraction: (I) CONSERVATIVE, (II) CORRECTLY DIFFERENTIAL, (III) BACKWARD, and (IV) OVERGENERAL. The criterion for inclusion in these groups differed slightly from that in Kweon (2000) and Bley-Vroman and Kweon (2004). Recall that the participants in these earlier studies were forced to produce six SEQs and six OEQs. This allowed the researchers to establish a firm criterion for determining whether *wanna* contraction was part of a given subject's grammar for the question types of interest. Specifically, if the subject produced two or more instances of a *wanna wh*-question for a given question type (SEQ or OEQ), *wanna* contraction was considered to be part of the subject's grammar for that question type. Because not all of the subjects in the present experiment produced six SEQs and six OEQs, this "2 production" criterion was deemed too conservative for the categorization analysis. For example, a subject who produced three *wh*-questions in OEQ contexts would have to use *wanna* in 66.67% these utterances in order for the contracted form to be considered part of his/her grammar for this question type. Therefore, for the present experiment, a subject had to use *wanna* for at least 33.3% his/her SEQs/OEQs in order for *wanna* contraction to be considered part of that subject's grammar for each of these question types (i.e. 1/3, 2/4, 2/5, 2/6; where the demoninator refers to the total number of *wh*-questions produced for a given question type (SEQ or OEQ) and the numerator refers to the number of *wanna wh*-questions produced for this question type). The categorization of the subjects in this study into the four groups is presented in Table 2.

**Table 2:** Distribution of Japanese L2 learners of English (N=35) in categories I-IV

| (I) CONSERVATIVE | (II) CORRECTLY DIFFERENTIAL |
|---|---|
| 16 (45.71%) | 4 (11.42%) |
| (III) BACKWARD | (IV) OVERGENERAL |
| 0 (0%) | 15 (42.85%) |

## DISCUSSION

The results of this experiment do not clearly demonstrate UG access to *wanna* contraction constraints in intermediate-level Japanese learners of English. As in Kweon (2000) and Bley-Vroman and Kweon (2004), the learners in the present study failed to exhibit the marked asymmetry in the production of *wanna* contraction that is shown by both adult native-speakers and L1 acquirers of English. Indeed, based on the subject categorization analysis, only 11.42% (4/35) of these learners were CORRECTLY DIFFERENTIAL in their use of *wanna* contraction. Furthermore, 42.85% (15/35) of the participants did not seem to distinguish between OEQs and SEQs with regard to whether they allow *wanna* contraction. These OVERGENERAL subjects tended to produce *wanna* in both question types. Because these OVERGENERAL learners applied *wanna* contraction under structural conditions that disallow this operation, these results might be taken to indicate that this group does not have access to relevant UG-specified constraints. The rest of the participants in this experiment fell into the CONSERVATIVE group. Specifically, 45.71% (16/35) did not produce *wanna* for either OEQs or SEQs. Unfortunately, it is unclear whether these CONSERVATIVE learners have access to the UG-based constraints on *wanna* contraction. One possibility is that these learners did not have the knowledge necessary to distinguish the appropriate contexts for *wanna* contraction and, thus, adopted a default strategy of conservative production. However, it is also possible that these subjects had access to the relevant constraints on *wanna* contraction, but their careful articulation simply did not allow the critical contrast between *want to* in SEQs and *wanna* in OEQs to surface. Alternatively, these learners might have had access to the relevant UG constraints, but simply had yet to learn that *want* can contract with an immediately following *to*.

However, there is a notable disparity between the results of the present study and those of Kweon (2000) and Bley-Vroman and Kweon (2004). Recall that in this earlier work, there were almost as many BACKWARD learners as CORRECTLY DIFFERENTIAL learners. In the present experiment, on the other hand, although 11.42% (4/35) of the learners

were CORRECTLY DIFFERENTIAL, there was not a single learner in the BACKWARD category. That is, not one subject appeared to have the constraints on *wanna* contraction backwards. The fact that no subject exhibited a "wild" interlanguage grammar suggests at least some role for UG-based constraints in restricting language acquisition hypothesis space in these intermediate-level Japanese learners of English.

In light of this result, it is also interesting to reconsider the global percentages and average proportions of *wanna* contraction use in SEQ and OEQ contexts by the subjects in this study. Although these numbers again do not reflect the same glaring asymmetry found in the use of *wanna* contraction by adult native speakers and L1 acquirers of English, these statistics do indicate that the Japanese learners of English in this study contracted *want* and *to* more often in OEQs than in SEQs. In the data of all 54 participants, 40.17% of OEQs were *wanna wh*-questions, while only 30.84% of SEQs were questions of this same type. A similar pattern of results was revealed in the data of the 35 participants who produced at least three *wh*-questions in both SEQ and OEQ contexts. For these subjects, 50.9% of OEQs were *wanna wh*-questions, while only 35.13% of SEQs were questions of this type. Finally, in a more conservative analysis of the data for these 35 participants, the rate of *wanna wh*-question production was found to be significantly greater for OEQs than for SEQs. These results are difficult to explain without positing some access to the UG-specified constraints on the use of *wanna* contraction by these subjects.

An alternative interpretation of these results might invoke Bley-Vroman and Kweon's (2004) assertion that the L2 acquisition of constraints on the use of *wanna* is an essentially input-driven process of complement-selection learning. However, the results of the present experiment seem (at best) incompatible with this hypothesis. Again, if learning to use *wanna* simply entailed acquiring a specific complement-selection pattern, then one would expect greater variability in the use of this "word" in learners of lower English proficiency levels. However, the intermediate-level Japanese learners of English in the present study are at least as consistent and accurate in their use of *wanna* as the high-level Korean learners of English in Kweon (2000) and Bley-Vroman and Kweon (2004).

### *Puzzles and Future Directions*

In sum, although the results of this study are not conclusive, there is a suggestion that these intermediate-level Japanese learners' use of *wanna* is constrained by UG-specified knowledge. This tentative conclusion, however, presents several puzzles. First, it is unclear why access to these UG-based constraints would lead to a tendency toward contextual differentiation, and not to the essentially categorical asymmetry found in the production of English native speakers. Although the present study does not suggest a clear answer to this question, one possibility is that the elicited production task in this experiment was not sensitive enough to indicate the intricacies of these learners' interlanguage grammars. Specifically, this production task may have

placed undue processing demands on these intermediate-level learners of English, such that the optional *wanna* contraction operation was either not executed (as in the case of the many CONSERVATIVE learners) or not monitored with the rigor demanded by the constraints of the interlanguage grammar (as in the case of the OVERGENERAL learners). In order to address this possibility, it is necessary to use experimental methodologies that are capable of assessing underlying L2 knowledge, but that do not incur unnecessary processing costs or encourage the use of strategic approaches to the task. For example, *want to* and *wanna* versions of SEQ and OEQ sentences might be presented in an auditory moving-window paradigm (Ferreira & Anes, 1994). In this paradigm, participants listen to sentences one word at a time. After each word is presented, the participant presses a button to hear the next word of the sentence. Processing difficulty is then indicated by delayed button pressing. With respect to sentences of interest in the present study, if L2 learners of English are sensitive to the constraints *wanna* contraction, then processing difficulty should be demonstrated on SEQ/*wanna* sentences relative to SEQ/*want to* sentences at precisely the word that indicates the ungrammaticality of the former sentence type. Specifically, in the sentence pair (a) *Who do you wanna go out with **Jane** tomorrow night?* and (b) *Who do you want to go out with **Jane** tomorrow night?* there should be processing difficulty at the word *Jane* in sentence (a) relative to the same word in sentence (b). This auditory moving-window task is just one among many options, but online tasks such as this should be used to provide clearer insights into L2 performance and competence.

The results of the present study also require further explanation of performance of the high-level Korean learners in Kweon (2000) and Bley-Vroman and Kweon (2004). Indeed, it is unclear why the intermediate-level Japanese learners in this study would show some access to the UG-based constraints on *wanna* contraction, while the high-level Korean learners from this previous research would not. However, as detailed above, certain methodological characteristics of this previous study call into question the extent to which its tasks were able to tap into these Korean learners' interlanguage grammars. In particular, the lack of distractor items in its elicited production task may have allowed or even encouraged participants to develop a strategic approach to this task. Given this limitation and the apparent insensitivity of the oral repair and grammaticality judgment tasks to any contextual differentiation vis-à-vis *wanna* contraction, it is perhaps necessary to conduct further experiments on similar Korean learners, using online L2 processing tasks like the one mentioned above. In fact, in order to arrive at a precise idea of the mechanism underlying access to UG-based *wanna* contraction constraints, it would be necessary to run various experimental tasks with learners from various language backgrounds and at various L2 proficiency levels.

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## Appendix: Task Worksheet

**The Story**

Hi, my name is Taro. We are friends. We go to UEC together. Let me tell you about another one of my friends, Emily. She is a visiting student to UEC from California. She will study here for one year. Emily is now staying with my family. She is a very shy girl, and she doesn't like to talk to strangers. But I think she will like you very much, and she won't mind talking to you. So, you can talk to Emily about many things and ask her some questions for me. Don't worry – I will tell you what to say and what to ask. Anyway, I am planning to do a lot of things with Emily, and it would be great if you could help me out. We are going to go out to eat, sing *karaoke* together, have a party at my house, and go on a trip. Why don't you help me show Emily a good time?

**Practice Sentences**

a. We haven't heard Emily speak Japanese. I wonder if she can. **Can you ask Emily if she can?**
   **You:**
   Emily: I know a few words. I can say '*konnichiwa*' and '*arigato*'.
b. You and I take Emily to the department store. Emily likes to buy earrings. She finds two pairs of earrings that she likes, but she cannot afford both of them. I wonder which one she wants to buy. **Can you ask Emily which one?**
   **You:**
   Emily: I want to buy the ones with the hearts.
c. Emily likes to read books. I think Emily wants to know about what kind of books you like. **Tell Emily about your favorite book.**
   **You:**
   Emily: That sounds interesting. I wonder if I can get a translation.
d. Emily is having difficulty with her homework. I think she needs help. She probably wants one of us to help her. **Can you ask Emily who?**
   **You:**
   Emily: I want you to help me.

**Homework Sentences**

1) You meet Emily and me for dinner in Shinjuku. This is a first time you have met Emily. **Introduce yourself.**
   **You:**
   Emily: I'm Emily. It's nice to meet you, too.
2) Emily likes Japanese food. We are in a Japanese restaurant for dinner now. I think she wants to eat something new tonight. **Can you ask Emily what?**
   **You:**
   Emily: Well, how about something raw?
3) Emily likes many different kinds of Japanese food. But I'm not sure what her favorite Japanese food is. **Can you ask Emily what it is?**
   **You:**

Emily: My favorite Japanese food is *okonomiyaki*.

4) Emily is eating sushi with *wasabi*. It is very hot (spicy) for her. I think she wants to drink something. **Can you ask Emily what?**
   **You:**
   Emily: Oh, a glass of water. My mouth is burning.
5) Emily has many interesting hobbies. I think she wants to hear about some of your hobbies. **Tell Emily about your hobbies.**
   **You:**
   Emily: That's interesting. I have a few hobbies, too. I like to go snowboarding in the winter and surfing in the summer. California is a great place for both.
6) Emily also loves to travel. She has been to many different countries. **Can you ask Emily which countries?**
   **You:**
   Emily: I have been to many countries in Europe – for instance, Italy, France, Switzerland, and England – and to Australia, but I haven't traveled much in Asia – just Japan so far.
7) Emily has been to many places in Japan as well. In fact, she went to many interesting places during last summer vacation. **Can you ask Emily where?**
   **You:**
   Emily: I went to the Kansai region of Japan – Kyoto, Nara, and Osaka. I really enjoyed visiting the many beautiful temples and shrines there.
8) After dinner, you say you would like to pay for our meal. But I think this is my turn to pay because you always treat me to lunch at UEC. I think Emily forgot her wallet, and she wants one of us to pay. **Can you ask Emily who?**
   **You:**
   Emily: I want Taro to pay.
9) We are at *karaoke* with Emily now. Emily is really interested in music. I think she wants to hear about your tastes in music. **Tell Emily what kind of music you listen to.**
   **You:**
   Emily: That's cool. I like just about everything, rock'n'roll, jazz, and even classical.
10) Emily likes *karaoke* very much, and she likes to listen to us sing J-Pop songs. We ask Emily to sing first, but she says she will go later. I think Emily wants someone else to start. **Can you ask Emily who?**
    **You:**
    Emily: I want you to start.
11) Emily majors in psychology at her university in California. I think she wants to know about your major. **Tell Emily about what you study at UEC.**
    **You:**
    Emily: That sounds interesting. I might want to take classes like that some day.

12) Emily seems to like UEC. But I have never asked her why she chose to come to our university. **Can you ask Emily why?**
**You:**
Emily: I came to UEC because my uncle has many friends here. In fact, he taught English at UEC for many years.
13) Oh, I almost forgot. I remember Emily said she wanted to go to a movie this weekend. I found out that there are many good movies out now. She probably wants to see something in particular. **Can you ask Emily what?**
**You:**
Emily: I want to see 'Howl's Moving Castle'.
14) We are having a party tomorrow. I am sure Emily will have fun, but it will probably be different from parties in California. **Can you ask Emily about parties in California?**
**You:**
Emily: Parties in California are great. My favorite type of party is a beach party. We play volleyball, have a barbecue, and drink a lot of beer.
15) Today we are having a party. Emily is very popular among my friends. Actually, five of my friends asked me if they could come to my house. But I think five is too many. I think Emily wants only two people to come. **Can you ask Emily who?**
**You:**
Emily: I want Natsuko and Takashi to come.
16) We know how Emily spends time with her friends. **Tell Emily how you like to spend time with your friends.**
**You:**
Emily: Wow, that sounds like a lot of fun.
17) You and I are thinking about making *okonomiyaki* for today's party. I think I am a better cook than you, so I should make *okonomiyaki*. I think Emily wants just one of us to make it. **Can you ask Emily who?**
**You:**
Emily: I want Taro to make it.
18) We know a little about how Emily spends time with her friends. But I haven't asked about her family. **Can you ask how many brothers and sisters Emily has?**
**You:**
Emily: I have an older brother, Richard, and a younger sister, Margo.
19) Now we know a little bit about Emily's family. I think Emily wants to know about your family. **Tell Emily a few things about your family.**
**You:**
Emily: It sounds like a nice family!
20) We are cooking in the kitchen now. I am making *okonomiyaki*, and you are making *gyoza*. I bet Emily wants to help one of us. **Can you ask Emily who?**
**You:**
Emily: I want to help you. Making *gyoza* looks like fun.
21) Emily seems interested in how well we cook. I wonder if she can cook.

**Can you ask Emily if she can?**
**You:**
Emily: Sure I can. I cook everyday when I'm at home.

22) After helping you with the *gyoza*, Emily seems interested in making some food by herself. She gets some vegetables out of the fridge. She probably wants to make something. **Can you ask Emily what?**
**You:**
Emily: I want to make vegetable soup.

23) Emily is impressed by our cooking. I think she wants to know about other food that we can make. **Tell Emily what kinds of food you can make.**
**You:**
Emily: That sounds delicious! You'll have to cook again for me some time.

24) After the meal, Emily looks happy. But I wonder if she really enjoyed the food and the party. **Can you ask Emily if she did?**
**You:**
Emily: Of course! The food was great and the company was excellent.

25) Tomorrow is a holiday. I am thinking about taking Emily on a trip for a change. I think Emily wants to go some place in the mountains. I'm not sure where she wants to go. **Can you ask Emily where?**
**You:**
Emily: I want to go to *Naeba* Ski Resort.

26) Emily seems excited about tomorrow's trip. I think Emily wants to know about your travel experiences. **Tell Emily about your most recent trip.**
**You:**
Emily: It sounds like you had a lot of fun.

27) We are on the ski slope, and we find a big jump. I think Emily wants to try the jump. But she wants one of us to go first. **Can you ask Emily who?**
**You:**
Emily: I want you to go first.

28) Emily likes snowboarding. She has been to many ski resorts in California and in Japan. I wonder which ski resorts she likes better. **Can you ask Emily which she prefers?**
**You:**
Emily: To tell you the truth, I prefer ski resorts in California. They are much bigger than Japanese ski resorts.

29) We are leaving *Naeba* Ski Resort. We skied all day long, so we are very tired. But we have to drive home. Emily is the most tired. She probably wants either you or me to drive. **Can you ask Emily who?**
**You:**
Emily: I want you to drive.

30) It is the end of the ski trip. **Tell Emily how good she is at skiing.**
**You:**
Emily: Thank you! You're pretty good yourself.

[1]This research was conducted in January 2005, at which time the first author was affiliated with Sophia University (Tokyo, Japan) and the second author was affiliated with the University of Electro-Communications (Tokyo, Japan).

[2]The structural notation in these representations is somewhat dated. However, these representations should suffice in order to illustrate the larger point being made here – that sentences involving *used to* are Raising constructions that allow contraction across traces.

[3] In Minimalist Program analyses of PRO, this element often receives Null-Case (see Hornstein, Nunes, & Grohmann, 2005 for review). The influence of Null-Case-marking on contraction operations is certainly an issue worthy of further investigation. However, examination of this issue is beyond the scope of the present study.

[4] With reference to the sample handout in Appendix A, the distribution of experimental and distractor items was as follows: For the experimental item prompts, #2, #4, #13, #20, #22, and #25 were OEQ item prompts; whereas #8, #10, #15, #17, #27, and #29 were SEQ item prompts. The remaining item prompts, #1, #3, #5, #6, #7, #9, #11, #12, #14, #16, #18, #19, #21, #23, #24, #26, #28, and #30, were distractors.