

# Agreement Attraction in Infinitival Complements\*

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## 1 INTRODUCTION: AGREEMENT ATTRACTION AND PLURAL TENDENCIES

One of the fundamental tasks which language-users face in virtually all instances of comprehension involves the computation and validation of grammatical marking between dependents in a clause. Perhaps most saliently, this involves the resolution of subject-verb agreement. Even morphologically impoverished languages such as English show some form of subject-verb agreement (*John walks two miles each day.* vs. \**John walk three miles each day.*). Psycholinguistic work on the processing and comprehension of agreement often uses careful examination of agreement errors as probes into the mechanisms involved in such computation; beginning with the seminal work of Bock and Miller (1991), many researchers have investigated agreement errors which involve erroneous agreement with a nonsubject noun (Bock and Miller, 1991; Eberhard et al., 2005; Wagers, 2008; Wagers et al., 2009; *i.a.*), as exemplified in (1–2):

- (1) The time for fun and games are over.
- (2) The ducts the scientist study have an unknown function. (Kimball and Aissen, 1971)

This phenomenon is known as AGREEMENT ATTRACTION, and has several distinguishing qualities which have been observed as early as 1883 in Victorian author Anthony Trollope’s autobiography<sup>1</sup>

Rapid writing will no doubt give rise to inaccuracy, – chiefly because the ear, quick and true as may be its operation, will occasionally break down under pressure, and, before a sentence be closed, will forget the nature of the composition with which it was commenced. *A singular nominative will be disgraced by a plural verb, because other pluralities have intervened and have tempted the ear into plural tendencies ...* Speaking of myself, I am ready to declare that, with much training, I have been unable to avoid them. (Trollope, 1883/1999)

Trollope’s quote is instructive because it is the earliest known observation of the fundamental property of these speech errors: agreement attraction only occurs when an erroneously plural-marked verb appears in a local context with a plural nonsubject noun. The plural nonsubject therefore “attracts” away agreement from the true subject singular noun (Bock and Miller, 1991; Wagers et al., 2009).

In this paper we focus on probing the empirical/constructional limitations of agreement attraction. In particular, we investigate whether agreement attraction occurs in the construction we term NOMINAL INFINITIVAL COMPLEMENTS, exemplified in (3):

- (3) The decision to fail the student was difficult for the young teacher.

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<sup>1</sup>This quote is from Wagers, 2008; ch.2, who credits Norbert Hornstein (p.c.) with the initial finding.

In order to investigate the presence or absence of attraction in constructions like (3), we furthermore focus on studying agreement attraction in comprehension. This is an important methodological move because nearly all previous studies on agreement attraction have focused solely on production (with Badecker and Kuminiak, 2007; Wagers, 2008; and Wagers et al., 2009 being the notable examples). While under the null hypothesis comprehension and production should proceed similarly, we do not want to assume that they do, and thus investigate the presence or absence of agreement attraction using a comprehension task.

This report is organized as follows: §2 outlines our experiment and its results. §3 discusses our results in the context of the broader literature on agreement attraction, and §4 concludes the work.

## 2 EXPERIMENT: DEMONSTRATING ATTRACTION IN NICs

The experiment presented here has two fundamental goals, both of which involve demonstrating the presence of agreement attraction (i) in Nominal Infinitival Compliments (NICs, henceforth) such as (3) as well as (ii) in the experimental paradigm used in this study, speeded grammaticality judgments.

We conducted an experiment which directly manipulated the number values of both subject and distracting DPs and asked participants to give grammaticality judgments under time pressure, in order to encourage the commission of agreement errors. Since the dependent measure was a binary grammaticality decision, agreement errors were defined as answering ‘yes’ to the grammaticality prompt when subject-verb agreement did not match the features of the subject or ‘no’ to the prompt when subject-verb agreement did match the features of the subject.

Since we predicted the presence of agreement attraction in NIC constructions such as (3), we expected to find increased error rates in subject-verb agreement mismatches where the verbal agreement matched the grammatical features of the distracting local DP. Moreover, we expected these errors to have the “signature of agreement attraction” (Wagers, 2008; Wagers et al., 2009) – attraction should occur asymmetrically when plural verbal agreement is involved, but not singular agreement, and only in ungrammatical sentences. We were thus looking for an increased acceptance rate (we call this ENDORSEMENT RATE) for otherwise ungrammatical sentences in attraction configurations.

### 2.1 METHODS

*Participants.* Participants were 24 native speakers of English from the University of California, Santa Cruz Community with no history of language disorders and normal or corrected-to-normal vision. The participants included 15 females and 9 males, ages 18–28. Each subject received either \$8 or credit for an introductory linguistics course, but not both, for one thirty-minute experimental visit. Finally, beyond those enrolled in introductory linguistics courses, no subject had any previous exposure to formal linguistics.

*Materials.* 48 sets of eight sentences each were constructed, all of the form *The N to Infinitive-V the N {was, were} V . . .*. The materials were arranged  $2 \times 2 \times 2$ , crossing HEAD number (singular/plural), LOCAL number (singular/plural), and GRAMMATICALITY (grammatical/ungrammatical), where grammaticality was defined as a number feature match between the head noun and the verb. The object nouns of the embedded infinitive were balanced for animacy. An example item set is given in (4), and a complete list of experimental stimuli for Experiment One appears in Appendix A:<sup>2</sup>

- (4) SG[SG]G: The request to begin the project was overwhelming because of the cost.  
 SG[SG]U: The request to begin the project were overwhelming because of the cost.  
 PL[SG]G: The requests to begin the project was overwhelming because of the cost.  
 PL[SG]U: The requests to begin the project were overwhelming because of the cost.  
 SG[PL]G: The request to begin the projects was overwhelming because of the cost.

<sup>2</sup>In here and in what follows, we notate agreement configurations on complex subjects with *Head[Local]Grammaticality*, with SG and PL, G, and U for singular, plural, grammatical, and ungrammatical, respectively.

SG[PL]U: The request to begin the projects were overwhelming because of the cost.

PL[PL]G: The requests to begin the projects was overwhelming because of the cost.

PL[PL]U: The requests to begin the projects were overwhelming because of the cost.

The individual sentences were distributed across 8 lists in a Latin Square design, and each participant thus saw six items per condition. The sentences in Experiment one had a mean length of 10.5 words per item and a standard deviation of 1.5 words, where the range was 8–14 words/item. The variance in word length is entirely due to the post-verbal material in each item, which was introduced only when not having postverbal material would lead to unnaturalness. None of the post-verbal material contained any plural-marked nouns.

In addition to the 48 experimental items, each list contained 96 fillers, for a total of 144 items all together and a filler-to-experimental item ratio of 3:1. The fillers in this experiment were drawn from the following types of constructions: object relative clauses containing more than one plural noun (*the senators congratulated the Marines who the officer wants to promote for honorable conduct*), center-embedding reduced relatives (*the host everyone I met knows had broken his wrist*), *wh*-extraction over multiple clauses (*who knew that you declared who the judges selected?*), extraction from within a nominal complement (*who doubted the possibility that you could find the clue?*), and sequence-of-tense mismatches (*the brave detective that had just been put on a new case searched for the dangerous criminals at the docks in ten hours*). The fillers were also balanced for grammaticality, meaning that each subject saw equal numbers of grammatical and ungrammatical sentences (72 of each) over the course of the experimental session.

*Procedure.* Sentences were presented on a desktop computer using the Linger software (Rhode, 2003) in a Rapid Serial Visual Presentation paradigm (RSVP henceforth; Potter, 1988). The computer began each trial automatically by displaying a fixation cross in the center of the screen for 1000 ms. After the fixation cross, sentences were presented at a rate of 350 ms/word. The last word was always marked by a period, and following it participants were asked to respond as to whether or not they found the sentence an acceptable sentence of English.<sup>3</sup> The ‘f’ key was used to log ‘yes’ responses and the ‘j’ key for ‘no’ responses. Participants were given 2000 ms to respond to the acceptability prompt. If two seconds elapsed with no response, the computer moved on to the next sentence. Subjects were not informed between trials if they had timed out on the acceptability judgment, but were told such a condition could obtain in pre-experiment discussions. Participants were instructed to pay close attention to the sentences and to read for comprehension, but to not contemplate long when considering acceptability and to respond as quickly as possible. Order of item presentation was randomized for each participant by the experimental software, and each participant saw six practice sentences before the beginning of the experiment. Finally, there were two breaks allowed during experiment, though subjects could opt not to take them.

*Analysis.* The data were analyzed by fitting a logistic mixed-effects model (for a formal introduction, see Agresti, 2002; for discussion of linguistic applicability, including advantages over traditional repeated-measures ANOVA with or without *minF'*, see Baayen, 2008; Baayen et al., 2008; Jaeger, 2008) to the fixed experimental factors of head noun number, local/tractor noun number, and grammaticality, as well as subject and item as random factors. The coefficients in a logistic model reflect the relative contributions of the predictor variables to the probability of a ‘yes’ response to the judgment prompt. This probability is expressed as a linear combination of the independent variables, as in (1):

$$(1) \quad \text{logit}(p_i) = \log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 x_{1,i} + \dots + \beta_k x_{k,i}$$

Where  $\beta_0$  is the intercept,  $\beta_1 \dots \beta_n$  are the coefficients for explanatory variables, and  $x_k$  are treatment-coded factors. One immediately appealing property of such a model is that  $e^{\beta_k}$  has a straightforward interpretation as the odds of endorsement in condition  $k$ . We report such odds in the text that follows, where relevant.

<sup>3</sup>Since the subjects had no previous exposure to theoretical linguistics, *acceptability* was defined for the subjects informally in conversation by the experimenter, as well as in the introductory computer-presented instructions. The text for the latter was: “... you should consult your intuitions about whether or not the sentence is acceptable to you as something you might hear from another native speaker of English. We are asking whether or not you COULD say the sentence in question. Do not answer the question based on whether or not you WOULD say the sentence, nor based on whether or not it would be acceptable to your high school English teacher.”

Models reported here were fit with the R Statistical Package (R Development Core Team, 2009) and the `lme4` package (Bates and Maechler, 2009), using the Laplace approximation with random intercepts for subjects and items.<sup>4</sup> Since we were interested in the differential behavior of singular and plural head nouns with respect to agreement attraction, we report two models which split the full  $2 \times 2 \times 2$  design into two  $2 \times 2$  models by head noun number (singular and plural). However, for completeness we also report the results of the full  $2 \times 2 \times 2$  model. 95% confidence intervals were calculated over the coefficients in each model based on standard errors estimated by maximum likelihood estimation, and we report  $z$  scores and  $p$  values for tests against  $\mathcal{H}_0 : \beta_k = 0$  and  $\mathcal{H}_a : \beta_k \neq 0$ . Where  $p < 0.05$  with these scores, the coefficient in question significantly accounts for a portion of the variance in endorsement rate. Finally, we report the statistic Somers'  $D_{xy}$  as a measure of goodness-of-fit of the model. This measure is a rank correlation between probabilities predicted by the model and the observed probabilities which ranges between 0 (randomness) and 1 (perfect fit). For discussion of Somers'  $D_{xy}$ , see Baayen (2008; pp.204–5; 281).

There were subjects who failed to perform above chance on average (defined as a mean less than 50% correct over all experimental stimuli), as well as items which led to disproportionately few correct responses (also defined as mean correct less than 50%). When these were excluded from analysis, resulting in the loss of three subjects and two items, respectively, the resulting models did not differ in sign or significance for any of the coefficients. These subjects were thus retained in all results reported here. Of the 1104 responses collected, 26 of those were timeouts. Those responses were excluded from analysis.

*A priori*, we expect several things from the results. First, there should be a main effect of grammaticality, with decreasing endorsement rates for ungrammatical sentences. Second, the presence or absence of an individual plural DP should not effect acceptability independent of subject-verb agreement effects, and so we expect neither head or local number to arise as a main effect. For interaction terms, the only expectation is the presence of attraction. In terms of the model, this should emerge as a significant interaction effect such that plural local nouns should increase endorsement rates in ungrammatical sentences. Finally, the three-way interaction term (in model-theoretic terms, the coefficient for plurally headed sentences with plural local nouns and singular verb agreement) should have a diminishing effect on endorsement rate.

## 2.2 EXPERIMENT 1: RESULTS

Table 1 on page gives the endorsement rate (proportion of ‘yes’ responses) for across all conditions for Experiment One.

As Table 1 shows, error rates in the plural head conditions were consistent across local noun number. Thus ungrammatical sentences are endorsed approximately 56–7% of the time compared to grammatical sentences, which were judged acceptable approximately 86–7% of the time. This situation can be seen graphically in Figure 1 on page .

In the singular head conditions, however, response rates in the Sg[Sg]U condition were considerably lower than corresponding rates in the Sg[Pl]U condition, while grammatical sentences remained somewhat constant. This situation is illustrated graphically in Figure 2 on page .

Table 2 on page shows the results of the LMER analysis for main effects and interactions fit to the entire  $2 \times 2 \times 2$  experimental design with subjects and items as random intercepts.

Table 2 shows that the intercept, as well as coefficients for plural heads and ungrammaticality, reached significance in the logit model. For interaction terms, all the interactions involving ungrammaticality reached significance, including the expected interaction of LOCAL=Pl  $\times$  GRAMMATICALITY=U. The results are slightly easier to interpret in exponentiated log odds (i.e., standard odds). For each coefficient  $\beta_n$ , this is  $e^{\beta_n} = \frac{p}{1-p}$ , and these can be interpreted as the odds of endorsement given the treatment value. Subjects were 1/3 as likely to accept sentences in which the head noun is plural ( $e^{-0.99} \approx 0.37$ ). Ungrammaticality alone leaves the odds

<sup>4</sup>For completeness, we did fit models with random slopes for HEAD, LOCAL, and GRAMMATICALITY, as well as their interactions. We report only models with random intercepts because such models always emerged as preferred over fully-specified models containing random slopes and intercepts when compared by means of a likelihood ratio test ( $\chi^2(18) < 6$ , all  $p$ 's  $> 0.05$ ; see Agresti, 2002; ch.12) and Jaeger, 2008; p.439 for discussion of this method of model criticism). Moreover, each of the models fit with random slopes contained at least one correlation between random effects involving interactions and the previously-added random intercepts for which Pearson's  $r = -1.0$ . Taken together, these observations mean that the models which were fit with random slopes are not substantial improvements over intercept-only models. Thus, we report only the latter in the text.

<i>Local</i>	Singular Heads		Plural Heads	
	<i>Grammatical</i>	<i>Ungrammatical</i>	<i>Grammatical</i>	<i>Ungrammatical</i>
<i>Singular</i>	0.94	0.34	0.86	0.57
<i>Plural</i>	0.88	0.60	0.87	0.56

Table 1: Endorsement Rates for Experiment 1

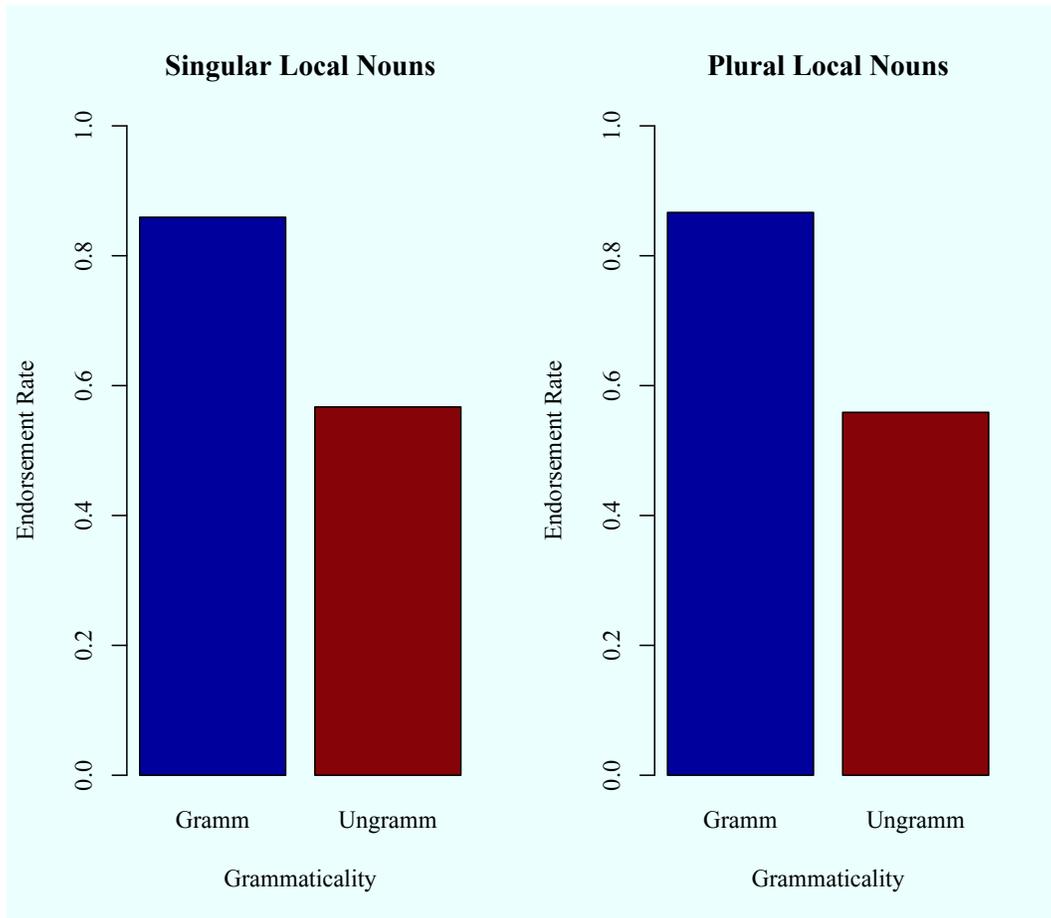


Figure 1: Experiment 1 Endorsement Rates for HEAD=PI Conditions

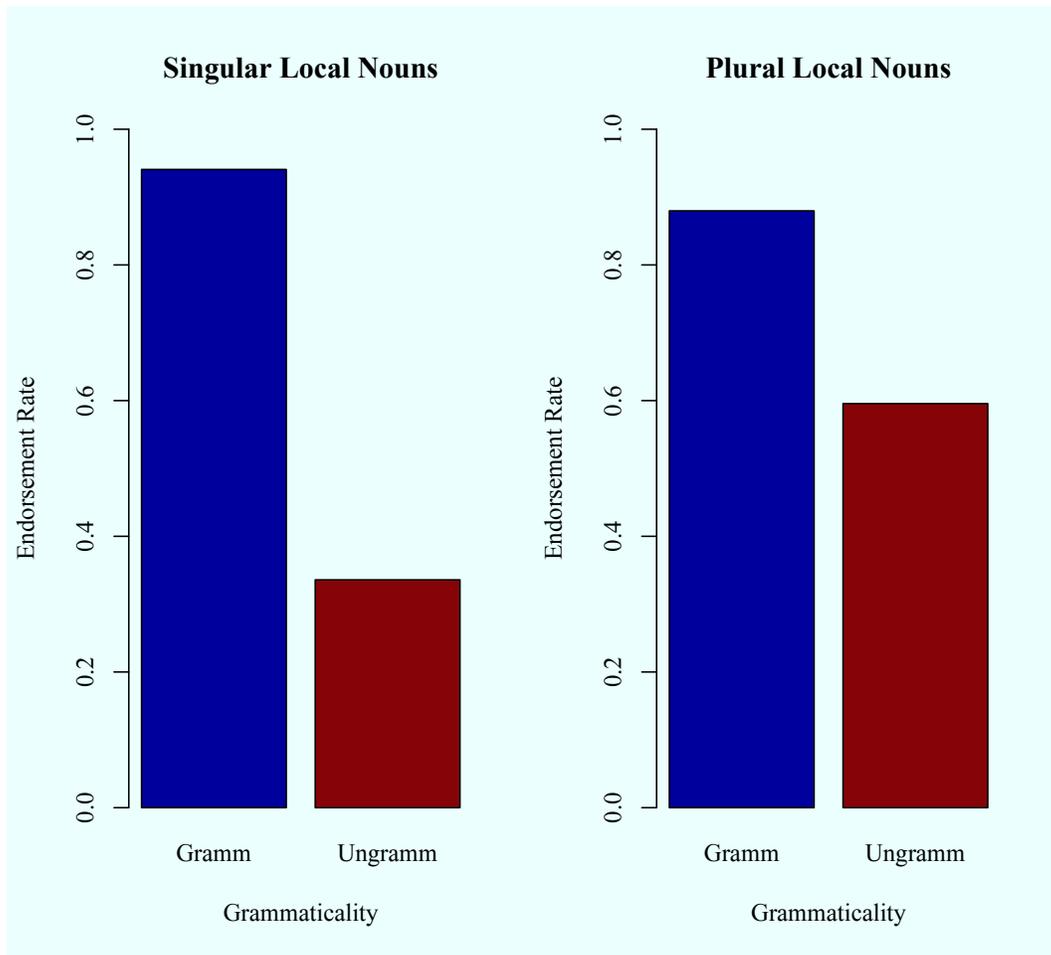


Figure 2: Experiment 1 Endorsement Rates for HEAD=Sg Conditions

<i>Predictor</i>	<i>Coefficient</i>	<i>SE</i>	<i>z</i>	<i>p</i>	
<i>Main Effects</i>					
Intercept	2.99	0.41	7.29	< 0.001	***
HEAD=PI	-0.99	0.46	-2.17	< 0.05	*
LOCAL=PI	-0.83	0.47	-1.78	> 0.05	<i>n.s.</i>
GRAMMATICALITY=U	-3.77	0.43	-8.83	< 0.001	***
<i>Interaction Effects</i>					
HEAD=PI×LOCAL=PI	0.88	0.60	1.48	> 0.05	<i>n.s.</i>
HEAD=PI×GRAMMATICALITY=U	2.07	0.53	3.91	< 0.001	***
LOCAL=PI×GRAMMATICALITY=U	2.03	0.54	3.76	< 0.001	***
HEAD=PI×LOCAL=PI×GRAMMATICALITY=U	-2.12	0.70	-3.02	< 0.05	*
<i>N</i> = 1078; model Somers' $D_{xy}$ = 0.655					

Table 2: Summary of mixed effects logit model for Experiment 1, all items

of endorsement at one-in-43 ( $e^{-3.77} \approx 0.02$ ). Where the head noun is plural and verb agreement singular, subjects are, unexpectedly, nearly 8 times more likely to endorse, which is a comparable magnitude for the odds of endorsement when the local noun is plural and verb agreement does not match (here,  $e^{2.03} \approx 7.63$ ). Finally, these agreement errors drop significantly when both nouns are plural and the verb is singular, where the odds of endorsement are 0.11.

In order to understand the unexpected main effect of local plurality and interaction of HEAD=PI  $\times$  GRAMMATICALITY=U, the results of the same LMER analysis were factored into two  $2 \times 2$  designs based on singular and plural head nouns, and these are shown in Table 3 on page and Table 4 on page , respectively.

In the singular head analysis, the intercept and main effect of grammaticality reached significance, but not the coefficient of local plurality. Moreover, the expected LOCAL=PI  $\times$  GRAMMATICALITY=U was also significant and in the expected direction. The absence of the main effect of local number coupled with the expected interaction allows the conclusion that the effect of local plurality was not localized in singular head conditions.

Confirmation of this hypothesis is given by the absence of a main effect of local plurality in the plural head analysis, as seen in Table 4. Moreover, the model does not give a significant coefficient corresponding to the interaction effect of local plurality with ungrammaticality.

### 2.3 DISCUSSION

From the perspective of paradigmatic validation, the results of Experiment One are promising. Subjects were sensitive to grammaticality – this term was significant in all analyses, and always negative – meaning that the speeded grammaticality paradigm was sensitive to measures of acceptability. Furthermore, the results of Experiment 1 largely support the notion that subjects tend to endorse more frequently in the agreement attraction configuration, as coefficients corresponding to the interaction term for Sg[PI]U conditions were significant in the positive direction. Similarly, in the singular-heads only model, a plural local noun led to significantly more agreement errors as seen through an inflated endorsement rate. We thus conclude that agreement attraction is possible from the embedded object position of a NIC, which is a novel instance of agreement attraction.

However, there were some problematic results in Experiment One. Firstly, subjects appear to simply dislike nominals which take NICs in the plural, since the main effect of head number was always significant with a negative sign. This in and of itself would not be worrisome – indeed by biasing subjects toward ungrammaticality this confound lowers the odds of seeing attraction with plural heads – but it is not the only unexpected result. The interaction term of head and grammaticality was significant, and positive. On the face of it, one might take this to mean that subjects’ strategies for the dispreferred plural NIC heads was simply to accept the sentence. However, we believe this not to be the case because of the main effect of ungrammaticality in the plural head analysis. This coefficient was still negative, reflecting the fact that subjects were capable of tending toward rejection for the highly-accepted plural heads. While we cannot explain the presence of the interaction effect of head and grammaticality in this data at present, we believe the result to be orthogonal to the agreement attraction effect.

## 3 GENERAL DISCUSSION

From the perspective of the larger literature on agreement attraction, the results in §2.2 present evidence that agreement attraction is insensitive to the presence of an infinitival clausal boundary. This is relevant because the work of Bock and Cutting (1992) showed that agreement attraction is somewhat diminished in the presence of a tensed clausal boundary. These results show that such a result may not extend to tenseless clauses in English. While we have not crossed these factors here, it is quite easy to imagine a follow-up

<i>Predictor</i>	<i>Coefficient</i>	<i>SE</i>	<i>z</i>	<i>p</i>	
<i>Main Effects</i>					
Intercept	3.06	0.43	7.14	< 0.001	***
LOCAL=Pl	-0.83	0.48	-1.72	> 0.05	<i>n.s.</i>
GRAMMATICALITY=U	-3.86	0.44	-8.77	< 0.001	***
<i>Interaction Effects</i>					
LOCAL=Pl×GRAMMATICALITY=U	2.06	0.55	3.73	< 0.001	***
<i>N</i> = 538; model Somers' $D_{xy}$ = 0.753					

Table 3: Summary of mixed effects logit model for Experiment 1, singular heads only

<i>Predictor</i>	<i>Coefficient</i>	<i>SE</i>	<i>z</i>	<i>p</i>	
<i>Main Effects</i>					
Intercept	2.02	0.31	6.56	< 0.001	***
LOCAL=Pl	0.05	0.37	0.13	> 0.05	<i>n.s.</i>
GRAMMATICALITY=U	-1.72	0.32	-5.40	< 0.001	***
<i>Interaction Effects</i>					
LOCAL=Pl×GRAMMATICALITY=U	-0.09	0.45	-0.20	> 0.05	<i>n.s.</i>
<i>N</i> = 540; model Somers' $D_{xy}$ = 0.611					

Table 4: Summary of mixed effects logit model for Experiment 1, plural heads only

experiment which directly tests these properties using an experimental item set like that in Bock and Cutting (1992), as in (5):

- (5) a. SINGULAR ATTRACTORS:
- i. PP/GRAMMATICAL The key to the cabinet is on the table.
  - ii. TP/GRAMMATICAL The key to the cabinet is on the table.
  - iii. CP/GRAMMATICAL The key that opens the cabinet is on the table.
  - iv. PP/UNGRAMMATICAL The key to the cabinet are on the table.
  - v. TP/UNGRAMMATICAL The key to the cabinet are on the table.
  - vi. CP/UNGRAMMATICAL The key that opens the cabinet are on the table.
- b. PLURAL ATTRACTORS:
- i. PP/GRAMMATICAL The key to the cabinets is on the table.
  - ii. TP/GRAMMATICAL The key to the cabinets is on the table.
  - iii. CP/GRAMMATICAL The key that opens the cabinets is on the table.
  - iv. PP/UNGRAMMATICAL The key to the cabinets are on the table.
  - v. TP/UNGRAMMATICAL The key to the cabinets are on the table.
  - vi. CP/UNGRAMMATICAL The key that opens the cabinets are on the table.

It is unclear to us whether or not such a study has been undertaken.

Moreover, the presence of agreement attraction in NICs provides us with a constructional way to test another property of agreement attraction: its interaction with case-marking. Hartsuiker and colleagues (Hartsuiker et al., 2003) have shown that in German, morphological case affects attraction insofar as attraction only occurs when the locally attracting nominal bears a case that is morphologically nondistinct from the subject case (in German and English, nominative). In English, this situation is rarely operative, as lexical DPs in English are not usually overtly marked for case. In one domain, however, this is not true, and that is with reflexive pronouns such as *himself*, *herself*, and *themselves*. Testing this issue requires a careful selection of construction, however, since one would want to avoid the confound of attraction from the antecedent of the reflexive.

NICs, however, are licit when the antecedent of the reflexive linearly follows the reflexive itself, as in

- (6) The motion argued that the obligation to record themselves was too burdensome for the congressional committees.

We are presently in the process of conducting such an experiment in our lab (Tucker and Wagers, 2010).

## 4 CONCLUSIONS

In this work we reported a speeded-grammaticality judgment which attempted to answer the question: does attraction occur across an infinitival clausal boundary in nominal infinitival complements? Our results suggest that it does, and these results provide several promising avenues along which to investigate the comprehension of one of the most constitutive processes in natural language, subject-verb agreement.

## APPENDIX A MATERIALS FOR EXPERIMENT 1

- (7) a. The decision to pass the student was difficult for the teacher.  
b. The decision to pass the student were difficult for the teacher.  
c. The decisions to pass the student was difficult for the teacher.  
d. The decisions to pass the student were difficult for the teacher.  
e. The decision to pass the students was difficult for the teacher.  
f. The decision to pass the students were difficult for the teacher.  
g. The decisions to pass the students was difficult for the teacher.  
h. The decisions to pass the students were difficult for the teacher.
- (8) a. The request to begin the project was overwhelming because of the cost.  
b. The request to begin the project were overwhelming because of the cost.  
c. The requests to begin the project was overwhelming because of the cost.  
d. The requests to begin the project were overwhelming because of the cost.  
e. The request to begin the projects was overwhelming because of the cost.  
f. The request to begin the projects were overwhelming because of the cost.  
g. The requests to begin the projects was overwhelming because of the cost.  
h. The requests to begin the projects were overwhelming because of the cost.
- (9) a. The proposal to help the refugee was honorable but misguided.  
b. The proposal to help the refugee were honorable but misguided.  
c. The proposals to help the refugee was honorable but misguided.  
d. The proposals to help the refugee were honorable but misguided.  
e. The proposal to help the refugees was honorable but misguided.  
f. The proposal to help the refugees were honorable but misguided.  
g. The proposals to help the refugees was honorable but misguided.  
h. The proposals to help the refugees were honorable but misguided.
- (10) a. The movement to subsidize the drug was impressive in size.  
b. The movement to subsidize the drug were impressive in size.  
c. The movements to subsidize the drug was impressive in size.  
d. The movements to subsidize the drug were impressive in size.  
e. The movement to subsidize the drugs was impressive in size.  
f. The movement to subsidize the drugs were impressive in size.  
g. The movements to subsidize the drugs was impressive in size.  
h. The movements to subsidize the drugs were impressive in size.
- (11) a. The attempt to rescue the soldier was successful.  
b. The attempt to rescue the soldier were successful.  
c. The attempts to rescue the soldier was successful.  
d. The attempts to rescue the soldier were successful.  
e. The attempt to rescue the soldiers was successful.  
f. The attempt to rescue the soldiers were successful.  
g. The attempts to rescue the soldiers was successful.

- h. The attempts to rescue the soldiers were successful.
- (12) a. The effort to save the tree was disappointing to the volunteer.  
b. The effort to save the tree were disappointing to the volunteer.  
c. The efforts to save the tree was disappointing to the volunteer.  
d. The efforts to save the tree were disappointing to the volunteer.  
e. The effort to save the trees was disappointing to the volunteer.  
f. The effort to save the trees were disappointing to the volunteer.  
g. The efforts to save the trees was disappointing to the volunteer.  
h. The efforts to save the trees were disappointing to the volunteer.
- (13) a. The plot to assassinate the leader was unsuccessful.  
b. The plot to assassinate the leader were unsuccessful.  
c. The plots to assassinate the leader was unsuccessful.  
d. The plots to assassinate the leader were unsuccessful.  
e. The plot to assassinate the leaders was unsuccessful.  
f. The plot to assassinate the leaders were unsuccessful.  
g. The plots to assassinate the leaders was unsuccessful.  
h. The plots to assassinate the leaders were unsuccessful.
- (14) a. The bid to acquire the company was rejected by the board.  
b. The bid to acquire the company were rejected by the board.  
c. The bids to acquire the company was rejected by the board.  
d. The bids to acquire the company were rejected by the board.  
e. The bid to acquire the companies was rejected by the board.  
f. The bid to acquire the companies were rejected by the board.  
g. The bids to acquire the companies was rejected by the board.  
h. The bids to acquire the companies were rejected by the board.
- (15) a. The plan to assist the hiker was dangerous.  
b. The plan to assist the hiker were dangerous.  
c. The plans to assist the hiker was dangerous.  
d. The plans to assist the hiker were dangerous.  
e. The plan to assist the hikers was dangerous.  
f. The plan to assist the hikers were dangerous.  
g. The plans to assist the hikers was dangerous.  
h. The plans to assist the hikers were dangerous.
- (16) a. The threat to veto the bill was serious.  
b. The threat to veto the bill were serious.  
c. The threats to veto the bill was serious.  
d. The threats to veto the bill were serious.  
e. The threat to veto the bills was serious.  
f. The threat to veto the bills were serious.  
g. The threats to veto the bills was serious.

- h. The threats to veto the bills were serious.
- (17) a. The opportunity to meet the senator was unbelievable.  
b. The opportunity to meet the senator were unbelievable.  
c. The opportunities to meet the senator was unbelievable.  
d. The opportunities to meet the senator were unbelievable.  
e. The opportunity to meet the senators was unbelievable.  
f. The opportunity to meet the senators were unbelievable.  
g. The opportunities to meet the senators was unbelievable.  
h. The opportunities to meet the senators were unbelievable.
- (18) a. The promise to fix the car was broken by the overworked mechanic.  
b. The promise to fix the car were broken by the overworked mechanic.  
c. The promises to fix the car was broken by the overworked mechanic.  
d. The promises to fix the car were broken by the overworked mechanic.  
e. The promise to fix the cars was broken by the overworked mechanic.  
f. The promise to fix the cars were broken by the overworked mechanic.  
g. The promises to fix the cars was broken by the overworked mechanic.  
h. The promises to fix the cars were broken by the overworked mechanic.
- (19) a. The mission to feed the hostage was discovered by the gang.  
b. The mission to feed the hostage were discovered by the gang.  
c. The missions to feed the hostage was discovered by the gang.  
d. The missions to feed the hostage were discovered by the gang.  
e. The mission to feed the hostages was discovered by the gang.  
f. The mission to feed the hostages were discovered by the gang.  
g. The missions to feed the hostages was discovered by the gang.  
h. The missions to feed the hostages were discovered by the gang.
- (20) a. The pledge to implement the agreement was honored by the nation.  
b. The pledge to implement the agreement were honored by the nation.  
c. The pledges to implement the agreement was honored by the nation.  
d. The pledges to implement the agreement were honored by the nation.  
e. The pledge to implement the agreements was honored by the nation.  
f. The pledge to implement the agreements were honored by the nation.  
g. The pledges to implement the agreements was honored by the nation.  
h. The pledges to implement the agreements were honored by the nation.
- (21) a. The campaign to censure the candidate was overly aggressive.  
b. The campaign to censure the candidate were overly aggressive.  
c. The campaigns to censure the candidate was overly aggressive.  
d. The campaigns to censure the candidate were overly aggressive.  
e. The campaign to censure the candidates was overly aggressive.  
f. The campaign to censure the candidates were overly aggressive.  
g. The campaigns to censure the candidates was overly aggressive.

- h. The campaigns to censure the candidates were overly aggressive.
- (22) a. The bill to outlaw the ritual was unpopular.  
b. The bill to outlaw the ritual were unpopular.  
c. The bills to outlaw the ritual was unpopular.  
d. The bills to outlaw the ritual were unpopular.  
e. The bill to outlaw the rituals was unpopular.  
f. The bill to outlaw the rituals were unpopular.  
g. The bills to outlaw the rituals was unpopular.  
h. The bills to outlaw the rituals were unpopular.
- (23) a. The agreement to house the dog was rejected by the roommate.  
b. The agreement to house the dog were rejected by the roommate.  
c. The agreements to house the dog was rejected by the roommate.  
d. The agreements to house the dog were rejected by the roommate.  
e. The agreement to house the dogs was rejected by the roommate.  
f. The agreement to house the dogs were rejected by the roommate.  
g. The agreements to house the dogs was rejected by the roommate.  
h. The agreements to house the dogs were rejected by the roommate.
- (24) a. The mandate to relinquish the claim was issued by the court.  
b. The mandate to relinquish the claim were issued by the court.  
c. The mandates to relinquish the claim was issued by the court.  
d. The mandates to relinquish the claim were issued by the court.  
e. The mandate to relinquish the claims was issued by the court.  
f. The mandate to relinquish the claims were issued by the court.  
g. The mandates to relinquish the claims was issued by the court.  
h. The mandates to relinquish the claims were issued by the court.
- (25) a. The chance to see the performer was rare.  
b. The chance to see the performer were rare.  
c. The chances to see the performer was rare.  
d. The chances to see the performer were rare.  
e. The chance to see the performers was rare.  
f. The chance to see the performers were rare.  
g. The chances to see the performers was rare.  
h. The chances to see the performers were rare.
- (26) a. The offer to carry the umbrella was gracious.  
b. The offer to carry the umbrella were gracious.  
c. The offers to carry the umbrella was gracious.  
d. The offers to carry the umbrella were gracious.  
e. The offer to carry the umbrellas was gracious.  
f. The offer to carry the umbrellas were gracious.  
g. The offers to carry the umbrellas was gracious.

- h. The offers to carry the umbrellas were gracious.
- (27) a. The commitment to teach the child was made by every teacher.  
b. The commitment to teach the child were made by every teacher.  
c. The commitments to teach the child was made by every teacher.  
d. The commitments to teach the child were made by every teacher.  
e. The commitment to teach the children was made by every teacher.  
f. The commitment to teach the children were made by every teacher.  
g. The commitments to teach the children was made by every teacher.  
h. The commitments to teach the children were made by every teacher.
- (28) a. The right to receive the answer was undeniable after the test.  
b. The right to receive the answer were undeniable after the test.  
c. The rights to receive the answer was undeniable after the test.  
d. The rights to receive the answer were undeniable after the test.  
e. The right to receive the answers was undeniable after the test.  
f. The right to receive the answers were undeniable after the test.  
g. The rights to receive the answers was undeniable after the test.  
h. The rights to receive the answers were undeniable after the test.
- (29) a. The way to enlighten the disciple was confusing to the master.  
b. The way to enlighten the disciple were confusing to the master.  
c. The ways to enlighten the disciple was confusing to the master.  
d. The ways to enlighten the disciple were confusing to the master.  
e. The way to enlighten the disciples was confusing to the master.  
f. The way to enlighten the disciples were confusing to the master.  
g. The ways to enlighten the disciples was confusing to the master.  
h. The ways to enlighten the disciples were confusing to the master.
- (30) a. The conspiracy to infiltrate the administration was well-executed by the spy.  
b. The conspiracy to infiltrate the administration were well-executed by the spy.  
c. The conspiracies to infiltrate the administration was well-executed by the spy.  
d. The conspiracies to infiltrate the administration were well-executed by the spy.  
e. The conspiracy to infiltrate the administrations was well-executed by the spy.  
f. The conspiracy to infiltrate the administrations were well-executed by the spy.  
g. The conspiracies to infiltrate the administrations was well-executed by the spy.  
h. The conspiracies to infiltrate the administrations were well-executed by the spy.
- (31) a. The appeal to cure the disease was answered by the vaccine.  
b. The appeal to cure the disease were answered by the vaccine.  
c. The appeals to cure the disease was answered by the vaccine.  
d. The appeals to cure the disease were answered by the vaccine.  
e. The appeal to cure the diseases was answered by the vaccine.  
f. The appeal to cure the diseases were answered by the vaccine.  
g. The appeals to cure the diseases was answered by the vaccine.

- h. The appeals to cure the diseases were answered by the vaccine.
- (32) a. The aspiration to entertain the king was ambitious for the jester.  
b. The aspiration to entertain the king were ambitious for the jester.  
c. The aspirations to entertain the king was ambitious for the jester.  
d. The aspirations to entertain the king were ambitious for the jester.  
e. The aspiration to entertain the kings was ambitious for the jester.  
f. The aspiration to entertain the kings were ambitious for the jester.  
g. The aspirations to entertain the kings was ambitious for the jester.  
h. The aspirations to entertain the kings were ambitious for the jester.
- (33) a. The provision to clean the hospital was acceptable to the janitor.  
b. The provision to clean the hospital were acceptable to the janitor.  
c. The provisions to clean the hospital was acceptable to the janitor.  
d. The provisions to clean the hospital were acceptable to the janitor.  
e. The provision to clean the hospitals was acceptable to the janitor.  
f. The provision to clean the hospitals were acceptable to the janitor.  
g. The provisions to clean the hospitals was acceptable to the janitor.  
h. The provisions to clean the hospitals were acceptable to the janitor.
- (34) a. The action to evict the tenant was unfair.  
b. The action to evict the tenant were unfair.  
c. The actions to evict the tenant was unfair.  
d. The actions to evict the tenant were unfair.  
e. The action to evict the tenants was unfair.  
f. The action to evict the tenants were unfair.  
g. The actions to evict the tenants was unfair.  
h. The actions to evict the tenants were unfair.
- (35) a. The law to prohibit the practice was repealed this session.  
b. The law to prohibit the practice were repealed this session.  
c. The laws to prohibit the practice was repealed this session.  
d. The laws to prohibit the practice were repealed this session.  
e. The law to prohibit the practices was repealed this session.  
f. The law to prohibit the practices were repealed this session.  
g. The laws to prohibit the practices was repealed this session.  
h. The laws to prohibit the practices were repealed this session.
- (36) a. The demand to exterminate the frog was wrong.  
b. The demand to exterminate the frog were wrong.  
c. The demands to exterminate the frog was wrong.  
d. The demands to exterminate the frog were wrong.  
e. The demand to exterminate the frogs was wrong.  
f. The demand to exterminate the frogs were wrong.  
g. The demands to exterminate the frogs was wrong.

- h. The demands to exterminate the frogs were wrong.
- (37) a. The push to monitor the government was unusual coming from the conservative.  
b. The push to monitor the government were unusual coming from the conservative.  
c. The pushes to monitor the government was unusual coming from the conservative.  
d. The pushes to monitor the government were unusual coming from the conservative.  
e. The push to monitor the governments was unusual coming from the conservative.  
f. The push to monitor the governments were unusual coming from the conservative.  
g. The pushes to monitor the governments was unusual coming from the conservative.  
h. The pushes to monitor the governments were unusual coming from the conservative.
- (38) a. The failure to feed the pet was unacceptable to the veterinarian.  
b. The failure to feed the pet were unacceptable to the veterinarian.  
c. The failures to feed the pet was unacceptable to the veterinarian.  
d. The failures to feed the pet were unacceptable to the veterinarian.  
e. The failure to feed the pets was unacceptable to the veterinarian.  
f. The failure to feed the pets were unacceptable to the veterinarian.  
g. The failures to feed the pets was unacceptable to the veterinarian.  
h. The failures to feed the pets were unacceptable to the veterinarian.
- (39) a. The desire to rebuild the bridge was admirable but doomed.  
b. The desire to rebuild the bridge were admirable but doomed.  
c. The desires to rebuild the bridge was admirable but doomed.  
d. The desires to rebuild the bridge were admirable but doomed.  
e. The desire to rebuild the bridges was admirable but doomed.  
f. The desire to rebuild the bridges were admirable but doomed.  
g. The desires to rebuild the bridges was admirable but doomed.  
h. The desires to rebuild the bridges were admirable but doomed.
- (40) a. The reminder to repair the faucet was annoying to the plumber.  
b. The reminder to repair the faucet were annoying to the plumber.  
c. The reminders to repair the faucet was annoying to the plumber.  
d. The reminders to repair the faucet were annoying to the plumber.  
e. The reminder to repair the faucets was annoying to the plumber.  
f. The reminder to repair the faucets were annoying to the plumber.  
g. The reminders to repair the faucets was annoying to the plumber.  
h. The reminders to repair the faucets were annoying to the plumber.
- (41) a. The ability to find the kid was envied by the confused babysitter.  
b. The ability to find the kid were envied by the confused babysitter.  
c. The abilities to find the kid was envied by the confused babysitter.  
d. The abilities to find the kid were envied by the confused babysitter.  
e. The ability to find the kids was envied by the confused babysitter.  
f. The ability to find the kids were envied by the confused babysitter.  
g. The abilities to find the kids was envied by the confused babysitter.

- h. The abilities to find the kids were envied by the confused babysitter.
- (42) a. The power to reject the compromise was given to the president.  
b. The power to reject the compromise were given to the president.  
c. The powers to reject the compromise was given to the president.  
d. The powers to reject the compromise were given to the president.  
e. The power to reject the compromises was given to the president.  
f. The power to reject the compromises were given to the president.  
g. The powers to reject the compromises was given to the president.  
h. The powers to reject the compromises were given to the president.
- (43) a. The refusal to reprimand the boy was understandable.  
b. The refusal to reprimand the boy were understandable.  
c. The refusals to reprimand the boy was understandable.  
d. The refusals to reprimand the boy were understandable.  
e. The refusal to reprimand the boys was understandable.  
f. The refusal to reprimand the boys were understandable.  
g. The refusals to reprimand the boys was understandable.  
h. The refusals to reprimand the boys were understandable.
- (44) a. The ambition to attain the office was unparalleled by any other candidate.  
b. The ambition to attain the office were unparalleled by any other candidate.  
c. The ambitions to attain the office was unparalleled by any other candidate.  
d. The ambitions to attain the office were unparalleled by any other candidate.  
e. The ambition to attain the offices was unparalleled by any other candidate.  
f. The ambition to attain the offices were unparalleled by any other candidate.  
g. The ambitions to attain the offices was unparalleled by any other candidate.  
h. The ambitions to attain the offices were unparalleled by any other candidate.
- (45) a. The battle to defeat the monster was exhausting for the wizard.  
b. The battle to defeat the monster were exhausting for the wizard.  
c. The battles to defeat the monster was exhausting for the wizard.  
d. The battles to defeat the monster were exhausting for the wizard.  
e. The battle to defeat the monsters was exhausting for the wizard.  
f. The battle to defeat the monsters were exhausting for the wizard.  
g. The battles to defeat the monsters was exhausting for the wizard.  
h. The battles to defeat the monsters were exhausting for the wizard.
- (46) a. The privilege to use the treadmill was taken away.  
b. The privilege to use the treadmill were taken away.  
c. The privileges to use the treadmill was taken away.  
d. The privileges to use the treadmill were taken away.  
e. The privilege to use the treadmills was taken away.  
f. The privilege to use the treadmills were taken away.  
g. The privileges to use the treadmills was taken away.

- h. The privileges to use the treadmills were taken away.
- (47) a. The intention to defend the animal was noble.  
b. The intention to defend the animal were noble.  
c. The intentions to defend the animal was noble.  
d. The intentions to defend the animal were noble.  
e. The intention to defend the animals was noble.  
f. The intention to defend the animals were noble.  
g. The intentions to defend the animals was noble.  
h. The intentions to defend the animals were noble.
- (48) a. The idea to demolish the building was resisted by the historical society.  
b. The idea to demolish the building were resisted by the historical society.  
c. The ideas to demolish the building was resisted by the historical society.  
d. The ideas to demolish the building were resisted by the historical society.  
e. The idea to demolish the buildings was resisted by the historical society.  
f. The idea to demolish the buildings were resisted by the historical society.  
g. The ideas to demolish the buildings was resisted by the historical society.  
h. The ideas to demolish the buildings were resisted by the historical society.
- (49) a. The intervention to counsel the addict was emotional for the family.  
b. The intervention to counsel the addict were emotional for the family.  
c. The interventions to counsel the addict was emotional for the family.  
d. The interventions to counsel the addict were emotional for the family.  
e. The intervention to counsel the addicts was emotional for the family.  
f. The intervention to counsel the addicts were emotional for the family.  
g. The interventions to counsel the addicts was emotional for the family.  
h. The interventions to counsel the addicts were emotional for the family.
- (50) a. The obligation to clean the apartment was enforced by the superintendent.  
b. The obligation to clean the apartment were enforced by the superintendent.  
c. The obligations to clean the apartment was enforced by the superintendent.  
d. The obligations to clean the apartment were enforced by the superintendent.  
e. The obligation to clean the apartments was enforced by the superintendent.  
f. The obligation to clean the apartments were enforced by the superintendent.  
g. The obligations to clean the apartments was enforced by the superintendent.  
h. The obligations to clean the apartments were enforced by the superintendent.
- (51) a. The program to release the prisoner was cut as part of the new budget.  
b. The program to release the prisoner were cut as part of the new budget.  
c. The programs to release the prisoner was cut as part of the new budget.  
d. The programs to release the prisoner were cut as part of the new budget.  
e. The program to release the prisoners was cut as part of the new budget.  
f. The program to release the prisoners were cut as part of the new budget.  
g. The programs to release the prisoners was cut as part of the new budget.

- h. The programs to release the prisoners were cut as part of the new budget.
- (52) a. The aspiration to climb the mountain was impressive considering the height.  
b. The aspiration to climb the mountain were impressive considering the height.  
c. The aspirations to climb the mountain was impressive considering the height.  
d. The aspirations to climb the mountain were impressive considering the height.  
e. The aspiration to climb the mountains was impressive considering the height.  
f. The aspiration to climb the mountains were impressive considering the height.  
g. The aspirations to climb the mountains was impressive considering the height.  
h. The aspirations to climb the mountains were impressive considering the height.
- (53) a. The drive to retain the worker was met with resistance.  
b. The drive to retain the worker were met with resistance.  
c. The drives to retain the worker was met with resistance.  
d. The drives to retain the worker were met with resistance.  
e. The drive to retain the workers was met with resistance.  
f. The drive to retain the workers were met with resistance.  
g. The drives to retain the workers was met with resistance.  
h. The drives to retain the workers were met with resistance.
- (54) a. The responsibility to support the union was upheld by the politician.  
b. The responsibility to support the union were upheld by the politician.  
c. The responsibilities to support the union was upheld by the politician.  
d. The responsibilities to support the union were upheld by the politician.  
e. The responsibility to support the unions was upheld by the politician.  
f. The responsibility to support the unions were upheld by the politician.  
g. The responsibilities to support the unions was upheld by the politician.  
h. The responsibilities to support the unions were upheld by the politician.

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