



L3 Sentence Processing: Eye Movement Evidence from The Influence of Proficiency and Focus Operator “Only” on L3 Learners’ Online Semantic Interpretation of Short Relative Clause Sentences

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Abstract: This study investigated the effect of focus operators in the online reading of third language learners of English of varying proficiency. It conceptually replicated studies by Paterson et. al (1999), who found the focus operator facilitated native English Speakers’ recovery procedures from initially syntactical misanalysis rather than initial parsing guidance when they made online semantic interpretation of reduced relative clause sentences beginning with and without only. Eye movement evidence from 37 third language learners of English recruited from a university were elicited via a full-spontaneous reading task: comprehend reduced and unreduced relative clause sentences that start with and without the focus operator only. Using eye-tracking technology, we demonstrate that there were longer first-pass reading times in the critical region of reduced sentences than in the same region of unreduced sentences, regardless of the inclusion of only. However, there was no significant difference in the total duration of fixations and regression path duration of reduced relative clause sentences with only and relative clause sentences without only. Hence the referential properties attributed to only guided the L3 English learners make the initial processing of the garden path effect, and exerted no influence on the facilitation of sentence reevaluating. Besides, the proficiency of L3 English learners demonstrated no influence of the interrelatedness between the focus operator only and disambiguating parsing. These results are in congruence with the referential theory.

Keywords: focus operator, eye movement, online processing, L3 English learners, referential theory

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I. Introduction

It would be theoretically and practically significant to investigate the sentence processing of English learners given that there’s popularity and importance of English in the world with more than 400 million students studying English in China alone (National Bureau of Statistics, 2020). In particular, from a pedagogical perspective, identifying the underlying mechanism of sentence processing of L3 English learners, ambiguity parsing particularly, has the potential to enhance foreign language education because stakeholders will be able to leverage this information to help learners improve comprehension ability across the curriculum.

The referential theory of sentence processing (Crain & Steedman, 1985; Altmann & Steedman, 1988) states that preceding referential context can influence the initial syntactic analysis that is assigned to an ambiguous sentence fragment and the sentence processing is driven by the principle of parsimony, that is, the syntactic analysis carrying supported referential presuppositions is the readers’ predisposition. Conversely, the garden path theory of language processing (Frazier & Rayner, 1982) complies with the principle of late closure and minimal attachment. Literally, the first one is the sentence is processed in a way, in which the contiguous fresh or new message or text is incorporated. And the latter could be explained as a fashion of selection of the easier analytic way or ambiguity resolution way among several possible analyses.

There’s no specific definition of focus operator. Yet focus operator (sometimes also called contrastive focus) could be characterized as contrasting the subset of a set of alternatives for which the predicate holds with the complement subset for which the predicate does not hold (Kiss, 1996). Focus operators can be divided into three types according to their meaning: exclusive (“Only John attended the meeting this morning”), inclusive (“John also attended the meeting this morning”), and scalar (“Even John attended the meeting this morning”) (König, 2002).

Using eye-tracking technology, Paterson et. al., (1999) found longer first-pass reading times in the critical region of reduced sentences than in the same region of unreduced sentences, regardless of the inclusion of the focus operator *only* and less time was spent in re-inspecting portions of text after being garden pathed when reading reduced relative clause sentences that contained the focus operator. Ni et al., (1996) present evidence to suggest that the focus operator *only* can guide how reduced relative clause sentences are initially parsed. The current study, extended from Paterson et. al (1999), is aimed at testing a transfer of the influence of the focus operator from the L1 field to the L3 field. And it also incorporates the variable of learners' proficiency. It could be the case that these three variables exert a synergistic effect on sentence processing among L3 English learners.

This extensional research, thus, can contribute to bidirectionally enriching the empirical research of the referential theory of sentence processing and a conducive complementary to the study of focus operator. It, in turn, is a kind of touchstone for the versatility of the referential theory of sentence processing in practice.

II. Method

An eye movement study is designed in which subjects read reduced and unreduced relative clause sentences that start with and without the focus operator *only*.

2.1. Research Questions

Framed by previous work demonstrating the dedicated relationship between the focus operator *only* and sentence structure, the current study examined the online processing of L3 learners of English under the guidance of the following research questions:

- (1) How do the L3 learners of English make the reduced and relative clause sentences processing? Is there any difference?
- (2) How does the focus operator *only* influence the result of question (1)?
- (3) Does proficiency play a role in the above results?

2.2. Subjects

The subjects this study recruited are 37 L1 Uyghur/L2 Chinese/L3 English (UCE) English learners from Beijing Jiaotong university in Beijing, including 13 boys and 24 girls. All of them are divided into 2 groups. The average age at which the high-proficiency group began to learn English was 11.6 years old, and they had received an average of 6.3 years of formal English instruction before entering university. Hence, their foreign language level is above medium level according to Ortega & Byrnes (2008). In the same way, the low-proficiency group was divided. However, the analysis in this paper only included the data of 36 students since a student's data was not complete because of her personal illness. All participants were compensated with 20-30 yuan according to the experiment effect. Some had previous experience of eye-tracking experiments.

2.3. Materials and Design

Eighteen sets of target sentence stimuli, adapted from Paterson et. al (1999), were constructed (see Appendix 1). The adaptation took into account the L3 learner's vocabulary level and their general world knowledge in China's context. The target sentences began with *the* or the focus operator *only* and were either reduced or unreduced. And they were temporarily ambiguous reduced relatives or unambiguous counterparts. Thus, the experiment employed a 2 particle (*only* vs. *the*) \times 2 relative clause (reduced vs. unreduced) \times 2 proficiency (high vs. low) design.

The whole list also contained 21 additional filler items (see Appendix 2), none of which contain *only*, including 5 proverbs and 16 that were materials from an unrelated experiment concerning the processing of the reference of *it*. Item forms were rotated, with two fillers preceding the first experimental sentence, according to a Latin Square design and no item in the whole list.

A total of 93 materials were double spaced across two lines of text, with two blank lines between each line of text and without the critical region (e.g., *suffered*) (mentioned in 4.1) falling at the beginning or end of a line. The critical region (Region 4) and Region 3 always comprised one word and were respectively from 3 to 11 characters long (M 6, SD 2.2) and from 3 to 10 characters long (M 6, SD 1.7). Region 2 and 5 were always two words and were respectively from 5 to 9 characters long (M 7, SD 1.4) and from 4 to 11 characters long (M 8, SD 2.1). Comprehension questions followed 50% of the experimental and filler items.

2.4. Apparatus and Procedure

Eye movements were recorded using a Tobii Pro Spectrum Generation 6 eye-tracker at Beijing Jiaotong University, employing standard stimulus presentation and data acquisition procedures with the help of Tobii Pro Lab Full edition version 1.194.

Each subject was run individually. Before the experiment began, each subject was explained the

eye-tracking procedure and instructed to read at their normal rate and to try to comprehend to the best of their ability. Subjects were calibrated later. Next, the participant completed a calibration procedure. After a successful calibration, the texts were presented in two blocks. The experiment took about 30 minutes.

Once a participant finished reading each sentence, they pressed the space key. And comprehension questions of the very previous sentence such as *Did the soldiers win the war?* were randomly displayed, which were designed to wipe out subjects' deviation. *Yes* and *no* answers are counterbalanced for the questions. Participants responded by pressing the space key, without feedback on their responses.

III. Results

The eye movement study results are reported below. In this study, subjects read reduced and unreduced relative clause sentences that start with and without the focus operator *only*.

3.1. Regions

The experimental materials were divided into 6 analysis regions, indicated by vertical lines (See Table 1). Of the 6 regions, Region 4 was the critical region contained the main verb (e.g., *ate*) where it made the reduced sentences disambiguated. Region 1 always contained the first-mentioned NP (e.g., *The children* or *Only children*). And it also contained the disambiguating phrase *who were* in the unreduced conditions.

Region 2 contained the first verb and the following article (e.g. *passed a*). Region 3 contained the following noun (e.g. *spoon*). Region 5 contained the following NP (e.g. *an egg*), and the final region (6), the remainder of the sentence, contained the final adverbial clause (e.g. *straightaway*).

Table 1. Example Materials With Analysis Regions

[Only/The] children (who were) ₁ passed a ₂ spoon ₃ ate ₄ an egg ₅ straightaway ₆ .]
[Only/The] soldiers (who were) ₁ lost a ₂ war ₃ suffered ₄ a trauma ₅ later that century ₆ .]
[Only/The] builders (who were) ₁ paid a ₂ deposit ₃ fitted ₄ a kitchen ₅ within the month ₆ .]
[Only/The] gamblers (who were) ₁ lent a ₂ war ₃ placed ₄ a bet ₅ the next day ₆ .]
[Only/The] journalists (who were) ₁ asked a ₂ favour ₃ wrote ₄ a novel ₅ that year ₆ .]

Table 2. Mean First-pass First Fixation Duration, Regression Path Duration for Regions 4 and Mean First Pass Duration, Total Duration of Fixations for Regions 2-5 of the Reduced and Unreduced Relative Clause Sentences Beginning with Either *the* or *only*.

Regions	Measure(msec)	The								Only							
		Reduced				Unreduced				Reduced				Unreduced			
		high proficiency		low proficiency		High proficiency		low proficiency		high proficiency		low proficiency		high proficiency		low proficiency	
		M	SE	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
2	First pass duration	140	10.2	170	11.7	148	11.9	175	10.6	135	9.8	175	11.6	131	10.4	141	10.0
	Total duration of fixations	682	64.6	753	55.2	519	44.0	581	39.9	666	52.2	978	83.6	539	54.1	568	42.5
3	First pass duration	342	24.0	377	18.1	329	20.0	395	19.3	330	17.9	377	21.8	265	20.0	292	17.1
	Total duration of fixations	1137	104.7	1300	86.6	885	77.3	1022	61.0	1190	105.3	1466	107.4	758	52.4	886	50.1
4	First-pass first fixation duration	256	14.2	248	10.6	225	11.6	232	8.6	225	11.0	245	11.0	167	10.6	123	2.5
	First pass duration	393	25.9	419	27.2	346	26.5	352	18.7	358	21.5	400	23.4	270	22.2	181	4.9
	Total duration of fixations	1201	95.1	1256	82.4	753	54.5	922	59.6	1190	91.4	1384	119.2	698	51.4	645	16.9
	Regression path duration	622	53.8	765	67.7	718	90.3	647	64.4	690	64.8	843	85.4	577	64.1	653	37.6
5	First pass duration	185	14.1	219	14.3	172	14.7	211	14.4	179	14.2	222	16.1	132	11.7	151	11.4
	Total duration of fixations	491	39.8	656	46.3	337	31.9	520	40.0	493	38.5	706	50.9	294	22.8	446	32.3

3.2. Analysis

Prior to the analysis of eye movement data, trials were first truncated where participants failed to read the sentence or where there had been tracker loss (i.e., trials in which zero first-pass fixations fell into two or more adjacent regions) (accounting for 10% of the trials) under the guidance of previous standard procedures (Filik et. al., 2005, 2009; Liversedge et. al., 2002, 2003; Paterson et. al., 1999). Subjects responded correctly to

94.6% of the comprehension questions, without significant differences across conditions ($F < 1$).

The following eye movement measures were computed when making data analysis: (1) First pass duration, defined as the total duration of the fixations during first-pass inside a region is usually interpreted as providing an indication of initial processing; (2) Total duration of fixations, which was the sum of all fixations made within a region and provided a measure of overall comprehension difficulty at this region. In addition to these standard measures, the next three measures were examined for the critical region: (3) First-pass first fixation duration, which was the duration of the first fixation during first-pass inside a region; (4) Re-reading duration, the sum of fixations following a first pass regression from a region until a fixation is made to the right of that region (Liversedge et. al., 2002). Regression path duration is equal to the regression path duration plus first pass duration and is usually interpreted as providing an indication of early processing difficulty along with time spent re-inspecting the sentence in order to recover from such difficulty (Filik et. al., 2005).

Data for each region were subjected to three 2 (determiner) \times 2 (sentence structure) \times 2 (subject proficiency) ANOVAs. The mean first-pass first fixation duration, re-reading duration, and regression path duration for the critical disambiguating region and the mean first pass duration and total duration of fixations for Regions 2-5 are shown in Table 2.

3.2.1. First Pass Duration

At Region 2, there was no effect of determiner ($F=2.530$, $p=0.112>0.05$) and sentence structure ($F=0.539$, $p=0.463>0.05$), but there was a significant main effect of proficiency ($F=11.167$, $p=0.001<0.05$), with a longer reading time for the low-proficiency L3 learners than high low-proficiency L3 learners. There was no interaction between determiner, sentence structure and proficiency.

At Region 3, significant main effects were found in determiner ($F=9.665$, $p=0.002<0.05$), sentence structure ($F=6.182$, $p=0.013<0.05$), and proficiency ($F=9.168$, $p=0.003<0.05$), with a longer reading time for sentences beginning with *the* than *only*, for reduced sentences than unreduced sentences, and for the low-proficiency L3 learners than high low-proficiency L3 learners. There was also an interaction between determiner and sentence structure. Means comparisons showed that there was no difference in first-pass duration for reduced sentences containing *the* and reduced sentences containing *only* ($F=0.053$, $p=0.817>0.05$) and for determiner *the* in reduced sentences or unreduced sentences ($F=0.067$, $p=0.796>0.05$). There was, however, an effect of sentence structure with longer reading times for reduced sentences beginning with *only* than unreduced sentences beginning with *only* ($F=16.444$, $p=0.000<0.05$) and an effect of determiner with longer reading times for unreduced sentences beginning with *the* rather than *only* ($F=20.904$, $p=0.000<0.05$).

At Region 4, the critical disambiguating region, there was a significant main effect of determiner ($F=6.652$, $p=0.010<0.05$), with a longer reading time for the sentences beginning with *the* than sentences beginning with *only* and sentence structure ($F=18.876$, $p=0.000<0.05$), with a longer reading time for reduced sentences rather than unreduced sentences. There was no interaction between determiner, sentence structure and proficiency.

At Region 5, a significant main effect was found in determiner ($F=6.487$, $p=0.011<0.05$), sentence structure ($F=11.506$, $p=0.001<0.05$), and proficiency ($F=10.911$, $p=0.001<0.05$), with a longer reading time for sentences beginning with *the* than *only*, for reduced sentences than unreduced sentences, and for the low-proficiency L3 learners than high low-proficiency L3 learners. There was also an interaction between determiner and sentence structure. Means comparisons showed that there was no difference in first-pass duration for reduced sentences containing *the* and reduced sentences containing *only* ($F=0.006$, $p=0.938>0.05$) and for determiner *the* in reduced sentences or unreduced sentences ($F=0.440$, $p=0.507>0.05$). There was, however, an effect of sentence structure with longer reading times for reduced sentences beginning with *only* than unreduced sentences beginning with *only* ($F=14.957$, $p=0.000<0.05$) and an effect of determiner with longer reading times for unreduced sentences beginning with *the* rather than *only* ($F=20.628$, $p=0.000<0.05$). Hence, these results of Region 3 and Region 5, in terms of the index of first pass duration, were exactly the same.

3.2.2. First-pass First Fixation Duration

At Region 4, the critical disambiguating region, a main effect was found in determiner ($F=21.979$, $p=0.000<0.05$), and sentence structure ($F=29.206$, $p=0.000<0.05$), with longer first fixations in the disambiguating region of sentences containing *the* than in the same region of sentences beginning with *only* and with longer initial fixations in the disambiguating region of reduced than unreduced relative clause sentences. There was also an interaction between determiner and sentence structure. Means comparisons showed that an effect of sentence structure with longer initial fixations in the disambiguating region of reduced sentences beginning with *only* than unreduced sentences beginning with *only* ($F=37.152$, $p=0.000<0.05$) and an effect of determiner with longer reading times for unreduced sentence beginning with *the* rather than *only* ($F=30.092$,

$p=0.000<0.05$). These results are in line with the first-pass reading time results for Region 4.

3.2.3. Regression Path Duration

The time subjects spent re-reading the sentence after first encountering the disambiguating region demonstrated a main effect of sentence structure ($F=6.497$, $p=0.011<0.05$) with a longer re-reading time for reduced sentences than unreduced sentences. Importantly, the interaction between determiner and sentence structure ($F=3.459$, $p=0.032<0.05$) and proficiency and sentence structure ($F=3.024$, $p=0.049<0.05$) were found. Means comparisons showed that more time was spent re-reading early portions of unreduced sentences beginning with *the* than unreduced sentences beginning with *only*. ($F=5.857$, $p=0.016<0.05$). Means comparisons showed that low-proficiency L3 subjects, compared with high-proficiency L3 subjects, spent more time re-reading early portions of reduced sentences ($F=4.270$, $p=0.039<0.05$). Means comparisons showed that more time was spent re-reading early portions of reduced sentences beginning with *only* than unreduced sentences beginning with *only*. ($F=13.794$, $p=0.000<0.05$). Means comparisons showed that low-proficiency L3 learners spent more time re-reading early portions of reduced sentences than unreduced sentences ($F=14.626$, $p=0.000<0.05$).

3.2.4. Total Duration of Fixations

At Region2, there was a significant main effect of proficiency ($F=8.355$, $p=0.004<0.05$) and sentence structure ($F=27.712$, $p=0.000<0.05$), with short total reading times for high-proficiency L3 learners than low-proficiency L3 learners and for unreduced sentences than reduced sentences.

The total reading times for Region 3 showed a main effect of proficiency ($F=9.341$, $p=0.002<0.05$) and sentence structure ($F=44.977$, $p=0.000<0.05$), with short total reading times for high-proficiency L3 learners than low-proficiency L3 learners and for unreduced sentences than reduced sentences.

In Region 4, the critical disambiguating region, there was a significant main effect of proficiency ($F=7.256$, $p=0.007<0.05$) and sentence structure ($F=51.664$, $p=0.000<0.05$), with short total reading times for high-proficiency L3 learners than low-proficiency L3 learners and for unreduced sentences than reduced sentences.

In Region 5, there was a significant main effect of proficiency ($F=39.383$, $p=0.000<0.05$) and sentence structure ($F=43.292$, $p=0.000<0.05$), with short total reading times for high-proficiency L3 learners than low-proficiency L3 learners and for unreduced sentences than reduced sentences.

The total reading times for Region 2-5 respectively showed a main effect of proficiency ($F=8.355$, $p=0.004<0.05$), ($F=9.341$, $p=0.002<0.05$), ($F=7.256$, $p=0.007<0.05$), ($F=39.383$, $p=0.000<0.05$), and sentence structure ($F=27.712$, $p=0.000<0.05$), ($F=44.977$, $p=0.000<0.05$), ($F=51.664$, $p=0.000<0.05$), ($F=43.292$, $p=0.000<0.05$), with short total reading times for high-proficiency L3 learners than low-proficiency L3 learners and for unreduced sentences than reduced sentences.

IV. Discussion

For Paterson et. al (1999), In terms of the measure of first-pass duration, no significant effect of determiner was found at Region 2, Region 3, and Region 5, except for Region 4, the critical region. And a significant effect of determiner was found at Region4. Furthermore, the re-reading time index provided an effect of determiner at Region5. Combined with the results of the measure of total reading time, the conclusion, consequently and comprehensively, he drew was that the referential properties attributed to *only* exerted no influence of the initial processing guidance of the garden path effect, but facilitate the re-analysis procedure at the critical verb, which ran counter to the finding of Ni (1996) and were in line with the predictions of the referential theory, as outlined by Ni et al. (1996). The re-analysis procedure is in which readers or L3 English learners detect the situation of getting garden-pathed and get rid of the suffering.

If *only* guides how reduced relative clause sentences are initially parsed, then the processing difficulty on the disambiguating verb of reduced relative clause sentences beginning with *the* should be detected during the earlier processing time. The current experimental results, generally and clearly, showed four signs. First, the reduced sentences were spent more time than unreduced sentences in terms of all four regions and all four measures. Second, a garden path effect influencing the indices of both first-pass duration and first-pass first fixation duration for the disambiguating word (Region 4) in reduced sentences with *the* and reduced sentences with *only* was found, suggesting that readers initially tend to simply comprehend the reduced relative clause sentences in an active manner whatever the inclusion of the focus operator. Third, the initial processing of reduced and unreduced sentences containing *only* were both easier and faster compared with those containing *the*, which could be concluded from the index of first-pass duration for Region3-5 and first-pass first fixation duration for Region4. While, there was no significant difference for the total time processing sentences contain

only and sentences contain *the*. The final one was summarized from the first pass duration for Region3-5 and the total duration of fixations for all four regions. Specifically, the high-proficiency participants spent less time than low-proficiency participants when reading the same sentence, no matter whether the sentence was reduced or unreduced or contained only or not. Hence the referential properties attributed to *only* guided the learners make the initial processing of the garden path effect, and exerted no influence on the facilitation of sentence reevaluating. It is not in line with previous findings upon referential properties of text (Britt et al., 1992; Ferreira & Clinton, 1986; Murray & Liversedge, 1994). The underlying logic could be like this: the predisposition to represent a focus set and a contrast set that contain the same type of entity (i.e. two sets of children) and the following anticipation of modifying information that specifies the nature of the set in focus to infer the nature of the complementary contrast set, and consequently the referential context help subjects quickly get out of the dilemma of being garden pathed. The reason is an instantiation of the principle of parsimony as well as a bolster of the referential theory. Besides, the proficiency of L3 English learners demonstrated no influence of the interrelatedness between the focus operator *only* and disambiguating parsing.

Therefore, an infallible indication shown in the current study is that the inclusion of the focus operator exerts the influence of initial processing guidance rather than the facilitation of re-analysis procedures.

V. Conclusion

From the above analysis, we may arrive at the conclusion that contrast information associated with *only* is rapidly processed online due to *only's* more complex semantic function, which is in line with the referential theory. There was the guidance of referential properties attributed to *only* on the initial processing of the garden path effect. However, it exerted no effect on the facilitation of sentence reevaluating. Besides, the proficiency of L3 English learners demonstrated no influence of the interrelatedness between the focus operator *only* and disambiguating parsing.

The focus operator does affect initial syntactic processing. The focus operator could be considered as a cue to the occurrence of guidance of sentence processing, which could be a trigger for L3 English learners to adopt appropriate strategies to make faster and more economical online comprehension of sentences.

Further research could be longitudinal and could be conducted during a longer period on L3 English learners' development process with more intensive data collection. Moreover, it would be meaningful to clarify whether the above findings can be extended to an L3 other than English or participants from the different L1 backgrounds.

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Appendix 1

18 sets of experimental sentences are listed as below. Sentences were disambiguated as unreduced relative clause sentences by the inclusion of a relative pronoun and auxiliary verb (i.e. who were).

1. [Only/The] children (who were)₁ passed a₂ spoon₃ ate₄ an egg₅ straightaway.₆
2. [Only/The] students (who were)₁ sold a₂ calculator₃ solved₄ an equation₅ the same afternoon.₆
3. [Only/The] artists (who were)₁ passed a₂ bouquet₃ gave₄ a curtsy₅ immediately.₆
4. [Only/The] builders (who were)₁ paid a₂ deposit₃ fitted₄ a kitchen₅ within the month.₆
5. [Only/The] directors (who were)₁ faxed a₂ message₃ sent₄ a reply₅ the next day.₆
6. [Only/The] footballers (who were)₁ offered a₂ orange₃ scored₄ a goal₅ straightaway.₆
7. [Only/The] gamblers (who were)₁ lent a₂ dollar₃ placed₄ a bet₅ the next day.₆
8. [Only/The] inspectors (who were)₁ assigned a₂ case₃ wore₄ a disguise₅ the next day.₆
9. [Only/The] journalists (who were)₁ asked a₂ favour₃ wrote₄ a novel₅ that year.₆
10. [Only/The] farmers (who were)₁ asked a₂ question₃ ploughed₄ a field₅ that afternoon.₆
11. [Only/The] (who were)₁ knitted a₂ scarf₃ cultivated₄ a teenager₅ within the decade.₆
12. [Only/The] politicians (who were)₁ posted a₂ document₃ manipulated₄ a crowd₅ later that month.₆
13. [Only/The] spectators (who were)₁ told a₂ joke₃ made₄ a complaint₅ that evening.₆
14. [Only/The] suspects (who were)₁ refused a₂ lawyer₃ signed₄ a confession₅ within the hour.₆
15. [Only/The] visitors (who were)₁ taught a₂ class₃ admired₄ a landscape₅ that weekend.₆
16. [Only/The] workers (who were)₁ allowed a₂ tea-break₃ smoked₄ a cigarette₅ that morning.₆
17. [Only/The] soldiers (who were)₁ lost a₂ war₃ suffered₄ a trauma₅ later that century.₆
18. [Only/The] toddlers (who were)₁ peeled a₂ banana₃ lost₄ a rattle₅ under the sofa.₆

Appendix 2

21 additional filler items, none of which contain *only*, including 5 proverbs and 16 that were materials from an unrelated experiment concerning the processing of the reference of it.

1. A friend in need is a friend indeed.
2. A hedge between keeps friendship green.
3. A fall into the pit, a gain in your wit.
4. All work and no play make Jack a dull boy.
5. A young idler, an old beggar.
6. The librarian wore the musk in the dust and flicked it off.

7. The cousin piled the sand on the floor and scrubbed it.
8. The grandfather recited the book in the library and shut it.
9. The villager fed the chicken in the pen and caught it.
10. The grandmother sew a button under the lamp and switched it.
11. The sister wiped the nose with the tissue and threw it.
12. The brother flew the kite in the lawn and mowed it.
13. The surgeon set the broken leg in the hospital and examined it.
14. The repairman tightened the screw on the bike and rode it.
15. The monitor called the roll in the earthquake-stricken area and reconstruct it.
16. The editor criticized the report in the meeting and revised it.
17. The cook wiped the floury on the apron and cleaned it.
18. The patient swallowed the water on the sickbed and vomited it.
19. The volunteer cut the hair in the charity center and donated it.
20. The chimpanzee unscrewed the cap in the forest and bit it.
21. The fisherfolk hauled the net on the boat and loaded it.