**Appendix B: Supplementary tables for main paper**

Table 7: Absolute and relative frequencies of the different adverbial types (complex sentences only), for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Adults | | Children | |
| Type | N | Proportion | N | Proportion |
| after | 22 | 0.014 | 9 | 0.006 |
| before | 69 | 0.045 | 26 | 0.019 |
| because | 897 | 0.588 | 1023 | 0.731 |
| if | 537 | 0.352 | 341 | 0.244 |

Table 8: Absolute and relative frequencies (of all utterances coded as questions) for the four adverbials and their use in a syntactic question or a pragmatic question. N =187. (Missing to 1 in children is due to one case of “unclear”).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Adults | | Children | |
| Type | Question type | N | Proportion of all questions | N | Proportion of all questions |
| after | pragmatic question | 2 | 0.015 | 0 | 0 |
| after | syntactic question | 1 | 0.008 | 1 | 0.018 |
| before | pragmatic question | 3 | 0.023 | 0 | 0 |
| before | syntactic question | 12 | 0.092 | 1 | 0.018 |
| because | pragmatic question | 10 | 0.077 | 3 | 0.053 |
| because | syntactic question | 59 | 0.454 | 37 | 0.649 |
| if | pragmatic question | 7 | 0.054 | 1 | 0.018 |
| if | syntactic question | 36 | 0.277 | 13 | 0.228 |

Table 9: Absolute and relative frequencies of types of replies to questions. The relative frequencies (proportions) refer to the relative frequency of a type of reply for a given adverbial. N= 2924.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Adults** | | **Children** | |
| Type | ReplyQuestionYN | adults | Proportion (within type) | children | Proportion (within type) |
| after | no reply | N | 0.955 | 8 | 0.8 |
| after | reply | 1 | 0.045 | 2 | 0.2 |
| after | self-reply | 0 | 0 | 0 | 0 |
| before | no reply | 69 | 1 | 23 | 0.885 |
| before | reply | 0 | 0 | 2 | 0.077 |
| before | self-reply | 0 | 0 | 1 | 0.038 |
| because | no reply | 807 | 0.9 | 769 | 0.752 |
| because | reply | 85 | 0.095 | 247 | 0.242 |
| because | self-reply | 3 | 0.003 | 4 | 0.004 |
| because | unclear | 2 | 0.002 | 2 | 0.002 |
| if | no reply | 493 | 0.918 | 305 | 0.894 |
| if | reply | 44 | 0.082 | 35 | 0.103 |
| if | self-reply | 0 | 0 | 0 | 0 |
| if | unclear | 0 | 0 | 1 | 0.003 |

**Appendix C: Coding scheme for additional analyses**

Note that the coding scheme below describes only variables that are *not* discussed in the main paper. For transparency and as a resource for other researchers, we provide the complete coding scheme that was used in the research project that this study is based on. The other part of the coding scheme (describing the variables that are discussed in the main paper) can be found in Appendix A. Descriptive statistics pertaining to these additional variables not discussed in the main paper can be found in Appendix D.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable number | Variable name | Description | Label | Examples |
| 10 | SubjMain | Person and number of the subject in the main clause. If the main clause contains a coordinated or disjuncted structure (…and…; …or…) use only first referent. Use “unclear” for cases in which the subject cannot be determined. For isolated subordinate clauses, use N/A. | 1SG | I told you not to get pen on your clothes, Thomas .<because it might not come out> [>] . |
|  |  |  | 2SG | you needn't wipe your face to rub my kiss off because it was foot I kissed . |
|  |  |  | 3SG | Daddy went to work <just before> [//] just after you got out of bed |
|  |  |  | 1PL | and after we've had our lunch we should go for a walk . |
|  |  |  | 2PL | and you can each have a napkin that says happy birthday (.) one today . because we're using up napkins from Thomas's first birthday [>] |
|  |  |  | 3PL | Ben and Charlotte had just come with us because that's what we were going to do . |
|  |  |  | unclear | xxx to get on <my &nau> [//] your naughty chair (be)cause live here . [+ PI] |
|  |  |  | N/A | yeah . (be)cause that's very naughty &m +//. [+ IN] |
| 11 | SubjSub | Person and number of the subject in the subordinate clause. If the subordinate clause contains a coordinated structure (…and…) use only first referent. Use “unclear” for cases in which the subject cannot be determined. Use NA for cases where there is an ellipsis of the type “No, because…”. | 1SG | I need to paint them again after I've done this and they've dried . |
|  |  |  | 2SG | well don't keep saying “what's this” because you know what it is . |
|  |  |  | 3SG | well Purdie uses her paws to wash her face (.) after she-'has had a meal. |
|  |  |  | 1PL | ah but if we turn the page he's saying “thank you everybody”. |
|  |  |  | 2PL | it's nice for you and Grandma and Granddad (.) because you always get to play in the sun while I'm stuck inside . |
|  |  |  | 3PL | what do pussy cats do after [/] after they've eaten ? |
|  |  |  | unclear |  |
|  |  |  | NA |  |
| 12 | SubjNPMain | Type of the noun phrase of the subject NP in the main clause. If the main clause contains a coordinated structure, use only the first referent. Null forms occur for instance in imperatives and in elided sentences. When the subject (SubjMain) is coded as “unclear”, also mark the NP type as “unclear. For isolated subordinate clauses, use N/A.  Something/everything/everybody coded as pronoun | pronoun or null | oh I can't see now because I'm buttering the toast .  if somebody's stuck on the road he goes beep@o [=! shouts] .  doesn't matter (be)cause he's going a different way . |
|  |  |  | definite NP | and then the children will be very happy because they all want cake |
|  |  |  | indefinite NP | <no just leave> [//] Thomas , <leave her> [/] <leave her> [/] leave her because pussy+cats like to wash after they've eaten |
|  |  |  | name | Daddy'll get cross . because he's got\_to sweep xxx . [+ PI] |
|  |  |  | bare NP | police will come if you don't come out at [//] now . |
|  |  |  | gerund | swimming is fun, because you get wet. [hypothetical example, not from the corpus] |
|  |  |  | other |  |
|  |  |  | unclear |  |
|  |  |  | N/A |  |
| 13 | SubjNPSub | Type of the noun phrase of the subject NP in the subordinate clause. If the subordinate clause contains a coordinated structure, use only the first referent. Null forms occur for instance in imperatives and elided clauses. When the subject (SubjSub) is coded as “unclear”, also mark the NP type as “unclear.  Something/everything/everybody coded as pronoun | pronoun or null | I'll just move that sharp knife before you get hold of it .  Mummy , 0i [\*] need lots\_of@p noise (be)cause everyday everybody say hurray [!] in the@p police car .  that one's not comfortable yet (be)cause everything's in the way .  xxx <Daddy said> [//] you know Daddy said that she died because somebody killed her |
|  |  |  | definite NP | and because the mouse has teased Miss\_Moppet (.) Miss Moppet thinks she will tease the mouse . [+ R]  I need a@p take one up . (be)cause this one is a big one .  I can (be)cause (.) my ears are there . |
|  |  |  | indefinite NP | you don't look like a tiger . because tigers are stripy . |
|  |  |  | name | we usually do a tape before Mummy goes to work on a Wednesday „ don't we ? |
|  |  |  | bare NP | if you have two just check he doesn't come round here (be)cause (ma)chine might pick him up and squash him . |
|  |  |  | gerund | and then you had a drink of orange juice because sometimes having a drink helps „ doesn't it ? |
|  |  |  | other |  |
| 14 | Concordance | Indicates whether the subject of the main clause and the subject of the subordinate clause are coreferential. For isolated subordinate clauses, use N/A. | same | you can watch me if you like . |
|  |  |  | different | come and sit on here [?] and start again . because it really is a <nice song> [>] . |
|  |  |  | unclear |  |
|  |  |  | N/A |  |
| 15 | RefMain | For 3SG pronouns in the main clause, indicates whether the referent is a real-world referent or an expletive. For main clauses that contain NPs other than 3SG pronouns, use N/A. For isolated subordinate clauses, use N/A. | real | she probably needs a rest after she-'has walked round all the houses . |
|  |  |  | expletive | it's obviously raining because <Percy's er> [//] Percy's fire-'has gone out . |
|  |  |  | unclear | if it's nothing it might be marvelous . [+ I] |
|  |  |  | N/A |  |
| 16 | RefSub | For 3SG pronouns in the subordinate clause, indicates whether the referent is a real world referent or an expletive. For subordinate clauses that contain NPs other than 3SG pronouns, use N/A. | real | but I think she deserved it because <she erm> [//] she was running around with nothing on . |
|  |  |  | expletive | let's put your wellingtons on and go and post Mummy's letter before it gets even darker . |
|  |  |  | unclear |  |
|  |  |  | N/A |  |
| 17 | VerbMain1 | The main lexical verb of the main clause. In copula constructions (see variable VerbTypeMain), just code the copula (e.g., get/be). Note that for construction with modals and semi-modals and serial verbs, the full lexical verb or the last verb in the verbal series is coded. For isolated subordinate clauses or elided main clauses, use N/A. If there is no verb, use “unclear”. |  | and I think that might be a little girl because the bandage is pink .  I think you must have worn some of those bibs more than others because some are really faded „ aren't they ?  well [<] you should have thought about that before you threw your sock down .  after you've done your shopping in B and Q you go and look at the trains „ don't you ?  (*see below table for examples*) |
|  |  |  | unclear/missing |  |
|  |  |  | N/A | no **(be)cause** fairies don't have jumpers on . |
| 18 | Verbmain2 | The verb complement of main clauses that contain a verb complement (e.g., infinitive, that-clause etc.). If there is no complement, this field is NA. |  | and I think that might be a little girl because the bandage is pink . |
| 19 | VerbSub1 | The main lexical verb of the subordinate clause. In copula constructions (see variable VerbTypeSub), code only the copula. Note that for construction with modals, semi-modals and serial verbs, the full lexical verb or the last verb in the verbal complex is coded. If there is no verb, use “unclear”. |  | I put some slug pellets around but I didn't think to do the herbs because I didn't think they were interested in those . (*see below table for more examples*) |
|  |  |  | unclear/missing |  |
| 20 | VerbSub2 | In subordinate clauses that contain a complement-taking verb, the verb of the complement. If there is no complement, this field is NA. |  | I put some slug pellets around but I didn't think to do the herbs because I didn't think they were interested in those . |
|  |  |  | NA |  |
| 21 | VerbTypeMain | Type of the (main) verb of the main clause (VerbMain1) transitive verbs are coded as “ditransitive”, with the adverbial phrase counted as indirect object (see below table). For isolated subordinate clauses, use NA. If VerbMain1 is unclear/missing or NA, use NA. | intransitive | perhaps you'll perk up after you've had something to eat (*see below table for more examples and explanatio*ns) |
|  |  |  | transitive | but [?] she's very clean but you still need (.) to [>] wash your hands before you touch food . |
|  |  |  | ditransitive | so we'll give you your tea before go out in the car . |
|  |  |  | copula | if we wash ourselves we get wet . |
|  |  |  | existential | there's some wrapping paper still on that because you've already taken the wrapping paper off „ haven't you ? |
|  |  |  | complement-taking finite | so I think you've a little while yet before we need worry about that . |
|  |  |  | Complement-taking nonfinite | you let her have your cars because I said she could play with whatever she wanted . |
|  |  |  | N/A | you didn't **(be)cause** you wet it . |
|  |  |  | missing/unclear | I 0am [\*] not **(be)cause** this is +/. [+ IN] |
| 22 | VerbTypeSub | Type of the (main) verb of the subordinate clause (VerbSub1). . If VerbMain1 is unclear/missing or NA, use NA (*see below table for more examples and explanations*) | intransitive | if you tumble you'll go whoa ! |
|  |  |  | transitive | in fact you've always got\_to wash your hands <before you eat food> [>] . |
|  |  |  | ditransitive | Mum , come here (be)cause I need to show you a secret . |
|  |  |  | copula | you don't look like a tiger . because tigers are stripy . |
|  |  |  | existential | and because [/] because there are some pipes +/. [+ IN] YEAH we move it like this so the pipes go straight there . |
|  |  |  | complement-taking finite | and I think Jake and Georgia were here and Isabel . because they didn't want to go home without seeing you again . |
|  |  |  | complement-taking nonfinite | don't [/] don't draw near the pages . because Mummy-'has got some things written down |
|  |  |  | unclear |  |
| 23 | VoiceMain | Indicates whether the verb of the main clause is in active or in passive voice | active | but that's alright „ isn't it ? because you're more than three now „ aren't you ? |
|  |  |  | passive | it's wrapped in Tweenies paper „ isn't it ? because you've got a Tweenies party . |
|  |  |  | N/A |  |
| 24 | VoiceSub | Indicates whether the verb of the subordinate clause is in active or in passive voice | active |  |
| 30 | Tag | Indicates whether the utterance contains a tag question, and if yes, at which position. If the tag question is appended to the main clause, use “maintag”. If it is appended to the subordinate clause, use “subtag”. If there is a tag question appended to both clauses, use “bothtag”. Note that utterances with tag questions are coded as “no question” in the variable QuestionYN. | no tag |  |
|  |  |  | maintag | so after we-'had been to music lesson we went into that shop in Didsbury and bought a flag „ didn't we ? |
|  |  |  | subtag | there's some wrapping paper still on that because you've already taken the wrapping paper off „ haven't you ? |
|  |  |  | bothtag | but that's alright „ isn't it ? because you're more than three now „ aren't you ? |
| 31 | BackchannelYN | Indicates whether a backchannel from the listener occurred between the two clauses. | no backchannel |  |
|  |  |  | backchannel | after you've talked to the tape recorder . MMHM some people listen to these tapes |

**Additional examples and explanations**

VerbMain, VerbSub, VerbtypeMain, VerbtypeSub, VoiceMain, VoiceSub

* In clauses that contain a complement-taking verb (CTV), the CTV is coded in VerbMain1 or VerbSub1, respectively. The verb in the (finite or non-finite) complement is coded in VerbMain2 or VerbSub2, respectively. Examples:
  1. “I want to get it all off before Daddy comes home .”
     + VerbMain1: want
     + VerbMain2: get off
     + VerbTypeMain: complement-taking non-finite
     + VoiceMain: active
     + VerbSub1: N/A
     + VerbSub2: come home
     + VerbTypeSub: intransitive
     + VoiceSub: active
  2. “come on , love , because you said yourself that if you go out in the wind your cheeks get sore .”
     + VerbMain1: N/A
     + VerbMain2: come on
     + VerbTypeMain: intransitive
     + VoiceMain: active
     + VerbSub1: say
     + VerbSub2: get sore
     + VerbTypeSub: copula
     + VoiceSub: active
  3. “tell Jeannine what we did after we'd been to Lynne's house .”
     + VerbMain1: tell
     + VerbMain2: do
     + VerbTypeMain: ditransitive
     + VoiceMain: active
     + VerbSub1: N/A
     + VerbSub2: be
     + VerbTypeSub: copula
     + VoiceSub: active
* In utterances that contain an imperative (e.g., “you've got\_to keep them away from there because look . they're getting dirty .”), the imperative part should be ignored and only the following part be annotated (i.e., “they’re getting dirty”). If there is nothing following the imperative, the utterance should be marked as an isolated subordinate sentence.
* In utterances in which one of the clauses is a coordinated structure (with “and”), the last syntactically complete clause is coded. This means that if the second (or third etc.) part in a coordinated structure is elided, the first part is used for analysis. If the second (or third etc.) part is syntactically complete, this part is analysed. Some examples:
  1. we went to the toddler group and we were there very very early because Mummy was doing the admissions roll again .
     + VerbMain2: be (very early)
     + VerbTypeMain: copula
  2. because you've got\_to crunch it and chew it before you swallow it .
     + VerbMain2: crunch
     + VerbTypeMain: monotransitive
* More examples of combinations of verbs with modals, semi-modals and other verbs and how they are coded:

1. “Mummy used to always wear contact lenses before I had you .”
   * + VerbMain2: wear
     + VerbTypeMain: monotransitive
     + VoiceMain: active
2. “he must be old bear because he-'has not got a bandage on his paw but he-'has got a patch „ hasn't he ?”
   * + VerbMain2: be
     + VerbTypeMain: copula
     + VoiceMain: active
3. “before Dimitra goes home we'll go and find Pwww [% cat] .”
   * + VerbMain2: find
     + VerbTypeMain: monotransitive
     + VoiceMain: active
4. or [/] or try and taste them because some of the leaves if you get them on your fingers it'll make your fingers itch and itch and itch .
   * + VerbMain2: taste
     + VerbTypeMain: monotransitive
     + VoiceMain: active
     + VerbSub1: make
     + VerbSub2: itch
     + VerbtypeSub: complement-taking non-finite
5. “and then after they've finished their sandwichs or whatever they're eating they'll <come &acon er> [//] come along then ?
   * + VerbMain2: come along
     + VerbTypeMain: intransitive
     + VoiceMain: active

* In cases where it is unclear whether the construction is a passive or a copula construction, the verb is taken to be passive:

1. “it's wrapped in Tweenies paper „ isn't it ? because you've got a Tweenies party .”
   * + VerbMain2: wrap
     + VerbTypeMain: monotransitive
     + VoiceMain: passive

Concordance

* In utterances where there is a change of grammatical subject but the referent is identical, the change in form is more important than the coreferentiality; the sentence should be coded as having a change in subject role:

1. Mummy used to always wear contact lenses before I had you .

**Additional examples and explanations**

*Nominal relative clauses*

* Examples of sentences containing nominal relative clauses

1. well I've made some> [//] well not made (.) poured some Rice\_Krispies in a bowl and put milk on them . because that's what you asked for when I was having Cornflakes .
   * This should be coded as:
     + VerbSub2: “be what you asked for”
     + VerbTypeSub: copula
2. you should tidy them up afterwards (be)cause this is what happens .
   1. This should be coded as:
      * VerbSub2: be what happens
      * VerbTypeSub: copula

*Cleft- and pseudo-cleft sentences*

*Sentences that could be treated as incomplete cleft sentences*

Example:

1. “it's (be)cause I've hidden them .”
   * is treated like a complex sentence (meaning: it’s (the case) because…)
   * This should be coded as:
     + VerbMain2: be
     + VerbTypeMain: copula
     + SubjectMain: 3rd sing.
     + RefMain: expletive

*complement clauses*

* In addition to verb complementation (which is covered by the verb types “complement-taking finite” and “complement-taking non-finite”, sentences can also have noun or adjective complements.
* Examples:
  1. I'm looking at the calendar because I'm not quite sure what date it is .(adjective complement)
  2. so I was a little bit worried that if the floor was covered in letters people walking on it might slip and fall . (adjective complement)
  3. The certainty that we would lose. (noun complement)

*small clauses*

* oh I don't know (be)cause all the kid [//] kids call him names .

code as “added complexity”

**Appendix D: Tables of additional analyses**

Table 10: Absolute and relative frequencies of the subjects used in the main clause, for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Adults | | Children | |
| SubjMain | N | Proportion | N | Proportion |
| 1SG | 332 | 0.218 | 431 | 0.308 |
| 2SG | 517 | 0.339 | 396 | 0.283 |
| 3SG | 401 | 0.263 | 244 | 0.174 |
| 1PL | 164 | 0.108 | 34 | 0.024 |
| 2PL | 5 | 0.003 | 0 | 0 |
| 3PL | 78 | 0.051 | 36 | 0.026 |
| unclear | 3 | 0.002 | 29 | 0.021 |
| NA | 25 | 0.016 | 229 | 0.164 |

Table 11: Absolute and relative frequencies of the subjects used in the subordinate clause, for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Adults | | Children | |
| SubjSub | N | Proportion | N | Proportion |
| 1SG | 170 | 0.112 | 480 | 0.344 |
| 2SG | 552 | 0.362 | 276 | 0.198 |
| 3SG | 502 | 0.329 | 500 | 0.358 |
| 1PL | 148 | 0.097 | 39 | 0.028 |
| 2PL | 5 | 0.003 | 0 | 0 |
| 3PL | 147 | 0.096 | 94 | 0.067 |
| unclear | 0 | 0 | 7 | 0.005 |

Table 12: Absolute and relative frequencies of the different verb types used in the main clause, for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SubjNPMain | Adults | | Children | |
| Subject NP | N | Proportion | N | Proportion |
| pronoun/null | 1348 | 0.884 | 1106 | 0.791 |
| NA | 62 | 0.041 | 228 | 0.163 |
| name | 56 | 0.037 | 4 | 0.003 |
| definite NP | 43 | 0.028 | 24 | 0.017 |
| indefinite NP | 12 | 0.008 | 4 | 0.003 |
| unclear | 3 | 0.002 | 31 | 0.022 |
| bare NP | 1 | 0.001 | 2 | 0.001 |

Table 13: Absolute and relative frequencies of the different subject NP types used in the subordinate clause, for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SubjNPSub | Adults | | Children | |
| Subject NP | N | Proportion | N | Proportion |
| pronoun/null | 1317 | 0.864 | 1291 | 0.923 |
| definite NP | 99 | 0.065 | 61 | 0.044 |
| name | 79 | 0.052 | 11 | 0.008 |
| indefinite NP | 25 | 0.016 | 19 | 0.014 |
| unclear | 3 | 0.002 | 9 | 0.006 |
| bare NP | 2 | 0.001 | 5 | 0.004 |
| missing | 0 | 0 | 2 | 0.001 |

Table 14: Absolute and relative frequencies of the different verb types used in the main clause, for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Adults | | Children | |
| VerbtypeMain | N | Proportion | N | Proportion |
| transitive | 616 | 0.404 | 554 | 0.396 |
| copula | 258 | 0.169 | 185 | 0.132 |
| intransitive | 229 | 0.15 | 244 | 0.174 |
| complement-taking finite | 174 | 0.114 | 14 | 0.01 |
| complement-taking non-finite | 107 | 0.07 | 52 | 0.037 |
| ditransitive | 66 | 0.043 | 9 | 0.006 |
| NA | 48 | 0.031 | 326 | 0.233 |
| existential | 27 | 0.018 | 6 | 0.004 |
| missing/elided | 0 | 0 | 9 | 0.006 |

Table 15: Absolute and relative frequencies of the different verb types used in the subordinate clause, for adults and children. N= 2924.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ADULTS** | | **CHILDREN** | |
| VerbTypeSub | N | Proportion | children | Proportion |
| transitive | 576 | 0.378 | 536 | 0.383 |
| copula | 384 | 0.252 | 381 | 0.272 |
| intransitive | 310 | 0.203 | 313 | 0.224 |
| complement-taking non-finite | 121 | 0.079 | 54 | 0.039 |
| complement-taking finite | 82 | 0.054 | 25 | 0.018 |
| ditransitive | 32 | 0.021 | 8 | 0.006 |
| existential | 19 | 0.012 | 37 | 0.026 |
| NA | 1 | 0.001 | 39 | 0.028 |
| missing/elided | 0 | 0 | 6 | 0.004 |

**Appendix E: Overview of tasks, noun phrase and verb types used in experimental studies.**

| **Study** | **Adverbial** | **Ages (years)** | **Task(s)** | **Subject/Object** | **Verbs** |
| --- | --- | --- | --- | --- | --- |
| Amidon, 1976 | *after, before, if* | 5-9 | 1 Act-out Command task  (“*Before you move* *the plane, move* …”  *“If the light comes on, you move the car*”)  2. Q&A task after listening to sentence: *When* (probing subordinate)/ *What* (probing main) | 1. Pronoun (*you*), concordant; Definite NPs, S-pronoun (*you*), non-concordant  2. Definite NPs; non-concordant | 1.Transitive-intransitive; different verbs in main and subordinate clause  2. Transitive; different verbs |
| Amidon & Carey, 1972 | *after, before* | 5-6 | Command task  (“*Before you move the plane, move*…”) | Pronoun (*you*); concordant | transitive; same verb |
| Blything & Cain, 2016 | *after, before* | 3-7 | Forced-choice  “*what happened last?*” (animations) | Pronoun (*he* or *she*); concordant | transitive; different verbs |
| Blything, Davies, & Cain, 2015 | *after, before* | 3-7 | Forced-choice  “*what happened first?*” (animations) | Pronoun (*he* or *she*); concordant | transitive; different verbs |
| Carni & French, 1984 | *after, before* | 3,4 | Answering questions by pointing to correct picture (or answering verbally) after listening to stories:  *What happened before/after/*  *when?* | Definite NPs and pronouns; non-concordant (little detail on methods provided) | transitive? (little detail on methods provided); different verbs |
| Clark, 1971 | *after, before* | 3-5 | Act-out | Pronoun (*he)*, concordant | Transitives; different verbs |
| Corrigan, 1975 | *because* | 3-7 | Sentence-completion, truth-value judgment for sentences expressing affective, physical and concrete logical causality | Mixture of proper nouns, definite NPs and pronouns; both concordant and non-concordant | Mixed transitive and intransitive in main and subordinate clause;  different verbs |
| Emerson, 1979 | *because* | 5-8 | Forced-choice  1.Select between two picture sequences)  2.Sequence the two pictures  Production and judgment on logical/illogical sentences | Mixture of definite NPs and pronouns; non-concordant | Mixture of transitives and intransitives; different verbs |
| Emerson, 1980 | *if* | 5-8 | Acceptability judgment  Logical/illogical: *if* clause first or second | Mixture of definite NPs and pronouns; non-concordant | Mainly intransitives; different verbs |
| Emerson & Gekoski, 1980 | *because, if* | 3-12 | Imitation, forced-choice (picture sequences), recognition, synonymy judgment | Mixture of proper nouns, definite NPs, coordinated NPs and pronouns; both concordant and non-concordant | Mixture of transitives and intransitives; different verbs |
| Feagans, 1980 | *after, before* | 3, 5, 7 | Act-out | Definite NPs (*the girl* and *the boy*); non-concordant | Transitives; different verbs |
| French, 1988 | *because* | 5-8 | 1. Act-out  2.Completing sentences | 1. Definite NPs, non-concordant;  2. Mixture of proper nouns and definite NPs, non-concordant | 1. Intransitive, same verb  2. Mixture of transitive and intransitive; different verbs |
| French & Brown, 1977 | *after, before* | 3-5 | Act-out  Logical/arbitrary sentences preserving or violating order | Proper names, pronouns; non-concordant | Transitives; different verbs |
| Gorrell, Crain, & Fodor, 1989 | *after, before* | 3-6 | Command task: context given in either main or sub clause | Pronoun (*you*); concordant | Transitives; same verb in main and subordinate clause |
| Hatch, 1971 | *after, before, and, but* | 5, 7 | Command task | Pronoun (*you*); concordant | Transitives; same verb in main and subordinate clause |
| Johnson, 1975 | *after, before* | 4-5 | Act-out, command task | Definite NPs (*the girl* and *the* boy), non-concordant; pronoun (*you*); concordant | Transitives; different verbs |
| Johnson & Chapman, 1980 | *because* | 6, 9, 11 | Acceptability judgments, recall Judgment: silly/ sensible  Psychological causality  Probable/ improbable orders, *because* either initial or medial. Recall>acceptability | Pronouns (*he* and *she*); concordant | Intransitive psychological verb and transitive verb |
| De Ruiter et al., 2018 | *after, before, because, if* | 4, 5, adults | Act-out  Logical and Reverse logical order | Pronouns (*he* and *she*); concordant | Transitives and intransitives; different verbs |
| Keller-Cohen, 1987 | *after, before* | 3-5 | Forced choice (picture sequences)  *Because* clause first or second; sentences logical/not logical | Definite NPs (*the girl* and *the boy*); non-concordant | Transitives; different verbs |
| Kuhn & Phelps, 1976 | *because* | 5-8 | Act-out but unlike Clark and Crain, only one action needed | Definite NPs; non-concordant | Mixture of transitive and intransitive verbs; different verbs |
| Kun, 1978 | *because* | 2-8 | Answering questions by pointing to correct picture | Definite NPs, proper nouns; concordant? (little detail given about design) | Transitive? |
| Peterson & McCabe, 1985 | *because* | 4, 6, 8 | Silly/sensible judgment task  Responses to questions about cause/effect  Psychological causality  Memory load | Definite NPs, pronouns (*he/she);* mix of concordant and non-concordant | Mixture of transitive and intransitive verbs; different verbs |
| Stevenson & Pollitt, 1987 | *after, before* | 3-4 | 1. Answering questions: which event happened first?  2. Act-out | Pronoun (*you*); concordant  Pronoun (*he)*, concordant | 1. Transitives; same verb  2. Transitives; different verbs |
| Trosborg, 1982 | *after, before (Danish)* | 3-7 | 1. Answering questions: which event happened first?  2. Act-out | 1.Proper nouns, pronouns; concordant  2. Pronoun (*you*); concordant | 1. Mainly transitives; different verbs  2. Transitives, same verb |