

What *and* means: a study on the intersective vs. non-intersective construal of VP-*and*

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English sentences with VP-conjunctions such as “the six people are eating_P *and* reading_Q” have two construals: an *intersective* construal (IC), where it is true iff each of the six boys is both eating and reading and a *non-intersective* construal (NIC), where it is true iff some of the people are eating, some are reading and each of them is either reading or eating. The linguistic literature disagrees w.r.t. what the core semantics of *and* is: some accounts claim that it is IC ([1], [7]) whereas other accounts claim it is NIC ([3],[2]). Furthermore, it has been claimed that the IC is the basic interpretation of VP-conjunction [1], that NIC are only found if the predicates are disjoint [8] (as in “the boys are sitting_P and standing_Q”) or more frequently interpreted as disjoint [5] and that NIC are more easily accessible with in contexts where “P and Q” is followed by “but not R” [6]. If so, this represents a problem for NIC analyses. Our experiment was designed to investigate the availability of IC and NIC in adults and 6- to 10-year-old children in scenarios where P and Q are disjoint or conjoint, whether there is a preference for IC or NIC scenarios and whether a continuation “and not R” affects the interpretation. We employed the Semantic Choice Task [4], where two scenarios including six characters performing an action are presented simultaneously on the screen and participants must choose one or reject both, while listening to a sentence. (1) exemplifies an item with non-disjoint predicates, (2) one with disjoint predicates. The material in brackets was included in half of the conditions.

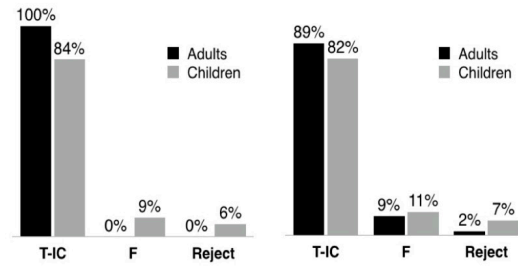
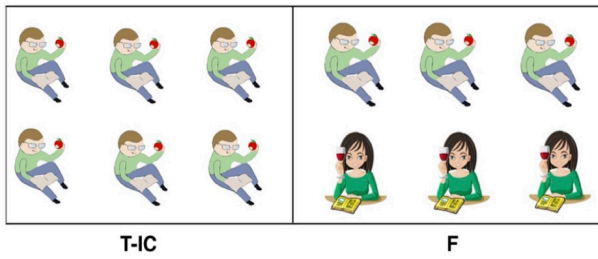
(1) The six people are eating_P and reading_Q (but none of them is [drinking wine]_R)

(2) The six children are sitting_P and standing_Q (but none of them is [lying down]_R)

Conditions involving a true scenario (T-NIC/T-IC) vs. a false scenario (F) allow us to test for the access to one construal; Conditions involving two true scenarios allow us to test for preferred construals.

Condition 1 tests the availability of IC with non-disjoint predicates (i.e. (1)): It contrasts a T-IC-scenario with an F-scenario (fig.1). Participants consistently selected the T-IC-scenario over the F-scenario and the Rejection option (R) in the items including the continuation and those excluding it (fig.1). **Condition 2** tests the availability of NIC with disjoint predicates (i.e.(2)) by contrasting a T-NIC-scenario with an F-scenario (fig.2). Both groups consistently chose the T-NIC-scenario in the items with and without the continuation (fig.2). **Condition 3** tests the accessibility of NIC with non-disjoint predicates (i.e. (1)) and the preference for either scenarios where P and Q overlap in some individuals or scenarios where they don't (fig.3). For items including the continuation, the non-overlapping scenarios are T-NIC-scenarios, the overlapping ones F-scenarios (continuation: none of them is R). Here, both children and adults selected the T-NIC-scenario (fig.3), the difference between the two groups was not significant ($p=.41$). Both groups selected the rejection option more often than in Conditions 1 ($p=.02$) and 2 ($p=.026$), but the acceptance rate was much higher than what is reported by [5] for analogous cases. For items without the continuation, both scenarios are T-NIC-scenarios. Here both adults and children preferred the non-overlapping scenario (fig.3); the difference between the groups was again not significant ($p=.17$). **Condition 4** tests the preference between the T-IC-scenario from Condition 1 with the non-overlapping T-NIC-scenario from Condition 3 (fig.4). In the items with the continuation adults displayed a strong preference for the T-IC scenario, but children only showed a mild preference for it (fig.4). In the items without the continuation, the preference for the TIC was more attenuated in both groups (fig.4). The difference between the groups preference was significant ($p<.01$) but the presence of the continuation did not have any effect ($p=.35$). **Conclusion:** The experiment shows that NIC of VP-conjunction are not exceptional/tied to particular semantic configurations: children and adults generally access NIC of VP-conjunctions in configurations where P, Q are disjoint and where they not disjoint. The semantic configuration plays only a marginal role: with non-disjoint predicates both adults and children have more rejections (27% and 18%) but still accept the NIC in the great majority of cases. The continuation plays no significant role, either. Yet the experiment also reveals two interesting facts about preference: adults strongly prefer T-IC- over T-NIC-scenarios, whereas children have a much smaller preference, suggesting again that the NIC is clearly available for children.

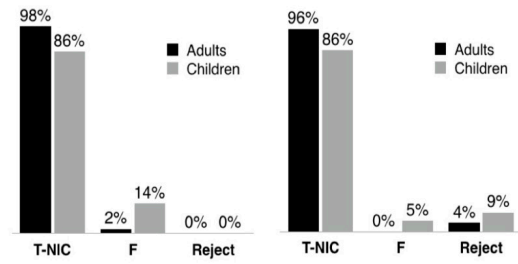
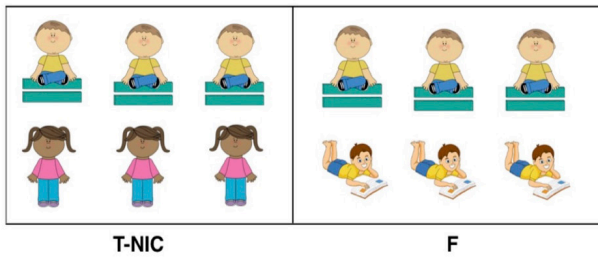
Figure 1 - Condition 1



i) The six people are eating and reading but none of them is drinking wine.

ii) The six people are eating and reading.

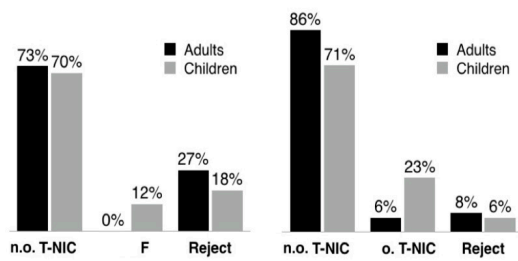
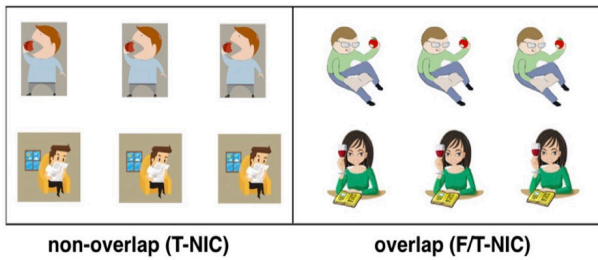
Figure 2 - Condition 2



i) The six children are sitting and standing but none of them is lying down

ii) The six children are sitting and standing.

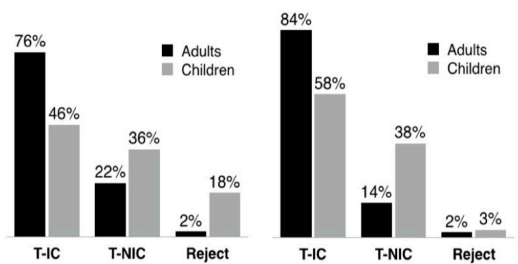
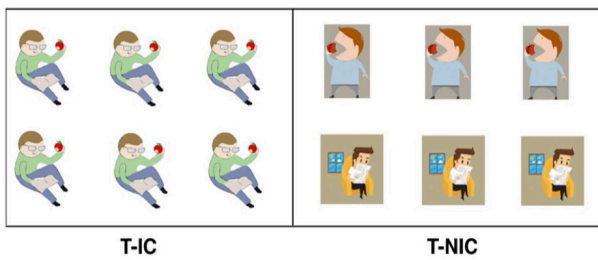
Figure 3 - Condition 3



i) The six people are eating and reading but none of them is drinking wine.

ii) The six people are eating and reading.

Figure 4 - Condition 4



i) The six people are eating and reading but none of them is drinking wine.

ii) The six people are eating and reading.

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