

## Negative Concord and Double Negation in L2 acquisition of Mandarin and Spanish

Sentences with two negative elements show cross-linguistic variation in their interpretation. In Negative Concord (NC) languages like Spanish, two negative markers usually reinforce a single semantic negation. In contrast, in Double Negation (DN) languages like Mandarin, two negatives cancel each other out, producing a positive meaning. Zeijlstra (2004; 2008) proposes that, in NC languages, the negative head is located in the functional projection NegP to establish a NC relation with the n-word; while in DN languages, the negative marker is adjoined to the vP and does not trigger the functional projection. In DN languages, negation is expressed by means of semantic negation, i.e. every negative element is lexically negative. The goal of this study is to examine how L2 learners of Mandarin and Spanish interpret sentences with two negations.

A truth-value judgment task was administered to 193 participants, of which 13 were excluded for scoring below 75% on the filler items. Therefore, the analysis included 60 adult L1 Spanish L2 Mandarin learners and 60 L1 Mandarin L2 Spanish learners, along with two control groups of L1 speakers (30 per language). L2 learners self-rated their proficiency (beginner, intermediate, advanced level; 20 participants per level in each language were included). Eighteen target sentences (see (1)) and 6 fillers were included in the task. The target sentences were divided into three groups of six, corresponding to three different conditions: 1) the *NONE* condition, where no individual performed the action described by the sentence; it was expected to be judged true in the Spanish version and false in the Mandarin one; 2) the *ALL* condition, where every individual performed the action in the sentence; it was expected to be judged true in the Mandarin version and false in the Spanish one; 3) the (control) *SOME* condition, where some individuals performed the action while others did not; it was expected to be judged false in both versions. All fillers were designed to be judged true.

The results in Fig. 1 and Fig. 2 show that L1 Mandarin speakers consistently accepted the *ALL* condition while rejected the *NONE* condition, which aligns with the DN interpretation; while L1 Spanish speakers consistently accepted the *NONE* condition while rejected the *ALL* condition, that is, they exhibited the NC interpretation. There was no significant difference between L1 Spanish speakers and L2 Spanish learners in their acceptance rates in the *NONE* and *ALL* conditions, showing success in acquiring the NC system. No effect of proficiency was found; even at beginner proficiency levels, they demonstrated native-like interpretations. As for the L2 Mandarin learners, Tukey post-hoc comparisons of the Condition-by-Group interaction revealed that they had a significantly lower acceptance rate in the *ALL* condition ( $OR = 15.46$ ,  $SE = 8.07$ ,  $z = 5.24$ ,  $p < .001$ ) and a significantly higher acceptance rate in the *NONE* condition ( $OR = 0.14$ ,  $SE = 0.04$ ,  $z = -7.03$ ,  $p < .001$ ) compared to L1 Mandarin speakers, attesting to their problems in acquiring a DN reading. Tukey post-hoc comparisons of the Condition-by-Proficiency interaction revealed that advanced L2 Mandarin learners significantly accepted the *ALL* condition more often than beginners ( $OR = 4.33$ ,  $SE = 1.42$ ,  $z = 4.89$ ,  $p < .001$ ); they also significantly accepted the *NONE* condition less often than beginners ( $OR = 0.17$ ,  $SE = 0.05$ ,  $z = -6.07$ ,  $p < .001$ ) and intermediate learners ( $OR = 0.28$ ,  $SE = 0.08$ ,  $z = -4.38$ ,  $p < .001$ ). As their proficiency increased, L2 Mandarin learners gradually acquired the target reading.

The results are in line with previous claims that NC may be easier to access: evidence from L1 acquisition shows that English and German-speaking children tend to prefer the NC interpretation, unlike adults, prefer the NC interpretation (Thornton et al. 2016; Nicolae & Yatsushiro 2020); further, artificial language learning experiments suggest that learners find it easier to learn NC compared to DN languages (Maldonado & Culbertson 2021). In addition, typological studies indicate that languages exhibiting NC are more common than those with DN (van der Auwera & Van Alsenoy 2018). This pattern of performance could be tied to processing constraints: NC only involves processing one negator, without imposing extra work, which might facilitate acquisition, even for learners whose L1 follows a DN system.

(1) a. No saltó nadie. (Spanish)  
 no jump nobody  
 ‘Nobody jumped’.

b. Meiyouren<sup>1</sup> mei tiao. (Mandarin)  
 Not-have-person no jump  
 ‘Everybody jumped’.

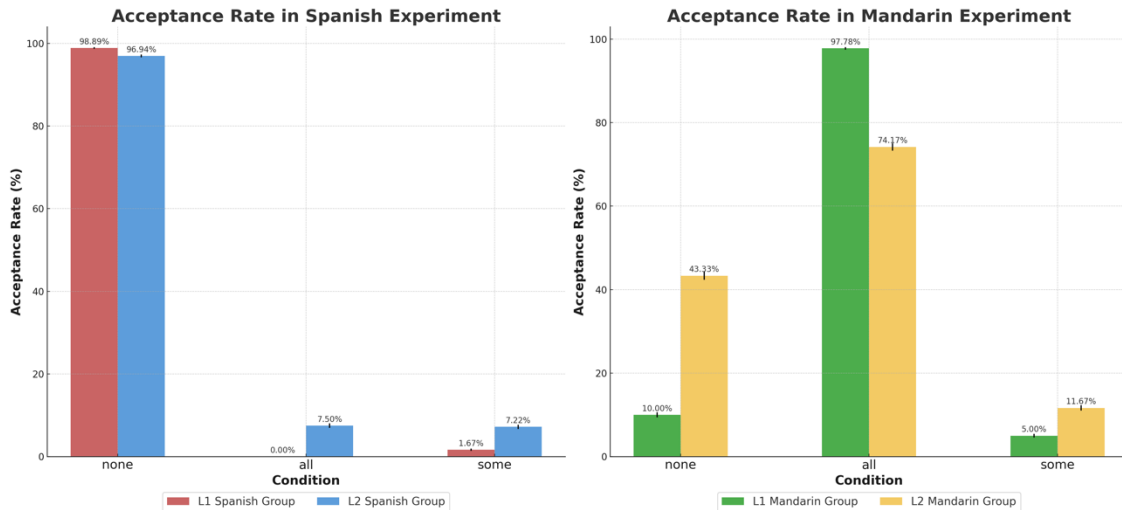


Figure 1. Results of the two experiments with four populations. Error bars indicate SD of the means.

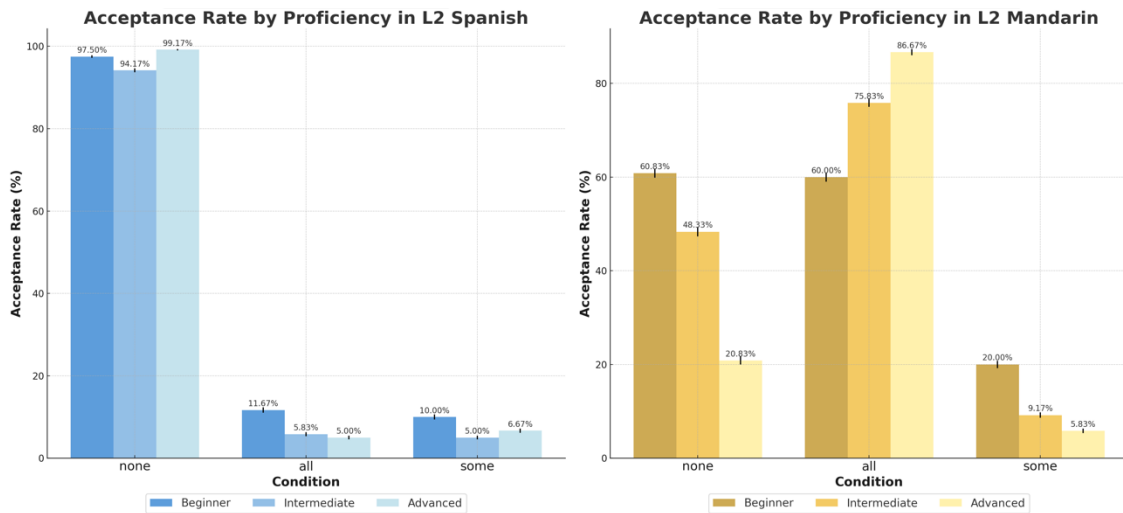


Figure 2. Results of the two experiments in L2 by proficiency. Error bars indicate SD of the means.

### Selected references

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<sup>1</sup> In Mandarin, there is no lexical equivalent for *nobody*, which is expressed through the phrase *mei(you)ren* ('not-have-person'), but the morpheme *-you* in the negation marker *mei(you)* is omissible (Zhou et al. 2014). Thus, in (1b), *meiyouren* does not stand for a clause but rather as an NP + negation marker *meiyou* ('not') and *ren* ('person').