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Narrow and broad functions of negation in a miniature artificial language

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Negated forms have been shown to cause a higher processing cost for language comprehension in the form of higher error rates and longer processing times. Studies that tested prefixal negation (e.g. unhappy) found conflicting results as to whether these forms are processed as negated forms or as single lexical items without any processing cost (Hoosain, 1973; Sherman, 1976, 1973). The present study set out to challenge the findings on prefixal negation using an artificial language learning task. The experiment comprised a learning phase and a testing phase. In the learning phase, participants learned three artificial prefixes corresponding to two negation forms and one no-negation form: 1. ka: narrow negation (kareft=unhappy), 2. va: wide negation (vareft=not happy), 3. sa: empty prefix with no meaning (sareft=happy). Next, participants memorized 8 artificial adjectives that were later used in the testing phase. The testing phase comprised a verification task in which participants were tested on the combination of the artificial prefixes and words previously memorized. Longer response times were found for ka (corresponding to a negative prefix) and va (corresponding to 'not'), compared to sa (empty prefix). Moreover, a lower accuracy rate was observed for the two negative prefixes compared to the empty prefix.