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Prosodic effects on articulatory coordination in initial consonant clusters in German

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This study examines how articulatory coordination in heterorganic initial consonant clusters is modulated by prosodic condition. Extending the paradigm of articulatory strengthening at domain edges to clusters, we provide EPG data of 7 speakers as well as EMA data of two speakers including domain-initial clusters (/kl/, /kn/ and /sk/) in different prosodic positions, varying the strength of the preceding boundary and the position of lexical stress. (e.g. 'Claudia vs. Klau'sur, i.e. stressed vs. unstressed target cluster). The results show that C1 was consistently lengthened at higher boundaries, but only if the cluster was preceded by a clear pause. C2 was only weakly and inconsistently affected. There were no effects on the spatial domain at all. No consistent effects of lexical stress were found for either C1 or C2. Regarding overlap of C1 and C2 there was a tendency, albeit quite weak, in the direction of more overlap at the lower boundary levels and in unstressed condition. However, differences in timing between segmentally different clusters were consistent and much larger than boundary and stress effects. Especially for /kl/ vs. /kn/ we find that the lateral's timing to /k/ is much closer than the nasal's.