While much more detailed data on facial movement patterns is available in the database, we wanted to show the strong effects of focal accent on basically all facial movement patterns. Modelling the timing of the facial gestures and head movements relating to differences between focal and non-focal accent and to differences between expressive modes promises to be a fruitful area of future research.

Acknowledgements
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References
Tyler, Curtis & Preece (1978) have shown that vowel masking patterns from a forward masking (FM) procedure preserves the formants better than patterns obtained using simultaneous masking (SM).

2 Method
2.1 Subject
All collected data will be from an experienced listener who will receive about 30 minutes of practice with the test procedure.

2.2 Procedure
The subject’s hearing level will be controlled and set in connection with the experiment in the phonetics laboratory at the Department of Linguistics, SU, by Philips SBC HPH90 headphones. The tone will be presented at different intensities to get a baseline point. The tests are constructed in a graphic programming language, LabView (<www.ni.com/labview/>).

The Swedish vowel /y/ is synthesized in Madde, an additive, real-time, singing synthesizer (<www.speech.kth.se/smptool/>). The vowel formant frequencies and bandwidths used in this study (Table 1) are the same as used in Tyler & Lindblom (1982), and defined in Carlson, Fant & Granström (1975) and in Carlson, Granström & Fant (1970).

Table 1. Formant frequencies (F1, F2, F3 and F4), bandwidths and Q-values in Hertz for the vowel /y/.

<table>
<thead>
<tr>
<th>/y/</th>
<th>Frequency</th>
<th>Bandwidth</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>255 Hz</td>
<td>62.75 Hz</td>
<td>4.06</td>
</tr>
<tr>
<td>F2</td>
<td>1930 Hz</td>
<td>146.5 Hz</td>
<td>13.17</td>
</tr>
<tr>
<td>F3</td>
<td>2420 Hz</td>
<td>171.0 Hz</td>
<td>14.15</td>
</tr>
<tr>
<td>F4</td>
<td>3300 Hz</td>
<td>215.0 Hz</td>
<td>13.35</td>
</tr>
</tbody>
</table>

The procedures of the two simultaneous-masking (SM) and pulsation-threshold (PT) tests are the same as in the Tyler & Lindblom (1982) study, although in this case with only one vowel instead of three.

In the SM procedure, the vowels will be presented 875 ms (between 50% points), repeated with a 125-ms silent interval. Three pulses of the pure tone will appear within each masking. These pulses start 125 ms after the vowel onset, continue for 125 ms and are separated by 125 ms. Rise/fall times (between 10% and 90% points) are 7 ms for both signal and masker.

In the PT procedure the masking vowel and the pulsating signal alternate, with duration of 125 ms each. In order to assist the subject in the task, every fourth signal (125 ms) is omitted. Rise/fall times are 7 ms and the signal and the vowel are separated by 0 ms.

The difference between the SM and PT measurements were very small at low signal frequencies and quite large at high signal frequencies (Tyler & Lindblom, 1982). One of the explanations offered were that the high-intensity F1 suppressed the activity caused by the higher formants, resulting in lower PT in the high-frequency regions.

Tyler & Lindblom (1982) also propose that the suggested suppression effects for steady-state vowels also could occur for all speech sounds, although in natural speech, the duration for which the vowel achieves its target is typically very short.

Depending on the outcome of the technology used in the PT and SM procedures, the program used in the test can be extended to further investigations of the effects of the two masking procedures on representations of dynamic stimuli, like CV-transitions and diphthongs.

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References
Youth Language in Multilingual Göteborg

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Abstract
In this paper, the results from a perception experiment about youth language in multilingual Göteborg are presented and discussed.

1 Introduction
1.1 Language and language use among young people in multilingual urban settings
The overall goal of the research project ‘Language and language use among young people in multilingual urban settings’ is to describe and analyze a Swedish variety (or set of varieties) hereafter called SMG (Lindberg, 2006). SMG stands for ‘Swedish on Multilingual Ground’ and refers to youth varieties like “Rinkeby Swedish” and “Rosengård Swedish”. In the present paper, we address two of the project’s research questions: SMG’s relation to foreign accent and how SMG is perceived by the adolescents themselves.

1.2 Purpose of the perception experiment
In the perception experiment, Göteborg students are asked to listen for examples of “gårdska” (the SMG spoken in Göteborg) in recordings from secondary schools. The purpose is to identify speakers of SMG for future studies and to test the hypotheses that 1) monolingual speakers of Swedish can speak SMG and 2) speakers of SMG can code-switch to a more standardized form of Swedish. Foreign accent, defined here as the result of negative interference from the speaker’s L1 (first language), cannot occur in the Swedish that is spoken by persons who have Swedish as their (only) L1, nor can foreign accent be switched off in certain situations.

2 Method
Stimuli were extracted from the research project’s speech database and played once (over loudspeakers) to a total of 81 listeners. The listeners were asked to answer two questions about each stimulus: Does the speaker speak what is generally called gårdste? (yes or no), and How confident are you about that? (confident, rather confident, rather uncertain or uncertain). The listeners were also asked to answer a few questions about who they believed typically speaks gårdska. The 19 stimuli used in the experiment were approximately 30 second long sections that had been extracted from spontaneous (unscripted) recordings made at secondary schools in Göteborg. The listeners in the experiment were students from the same two schools as the speakers.

After having collected the answer sheets, a general discussion on SMG was held in each class.