

THE SOCIOLINGUISTICS OF /R/-VOCALIZATION IN SPOKEN SWISS STANDARD GERMAN

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ABSTRACT

In German-speaking Switzerland, two varieties are used in parallel: dialect (informal, everyday use) and Swiss Standard German (formal, official documents). Depending on speakers' attitudes, they may articulate certain sounds as more "Swiss-like" or more "German-like" when talking in Swiss Standard German. The present study examines this by focusing on /r/-vocalization, e.g., [d̥e̯] as opposed to [d̥er] in the German masculine article *der*. We analyzed /r/-vocalization of nearly 500 speakers across 125 localities in two contexts (word-final and preconsonantal /r/, both following a vowel). Overall, very few speakers (23/500) vocalized in both contexts. The results further revealed effects of region, age, attitudes towards Standard German, and an influence on how /r/ is realized in dialect. We discuss these findings against the backdrop of diglossia and the status attributed to the Swiss and German Standard varieties.

Keywords: Swiss Standard German, diglossia, language attitudes, accommodation

1. INTRODUCTION

German is a prototypical example of a pluricentric language with multiple codified standards, including Swiss Standard German (CHStG) and German Standard German (DStG) [1]. If we zoom into German-speaking Switzerland, we find a special diglossic situation with untypically high prestige attributed to dialects [2-5]. Against this backdrop, discussions about the use of dialects or standard, and if standard, which one, are often emotionally loaded. Some Swiss speakers feel particularly proud of their dialects and distance themselves from sounding like a German altogether [6]. Turning to the standard language, studies on the perception of both standard varieties have shown that many Swiss people do not regard CHStG as "correct German" compared to DStG [7] and some Swiss even feel inferior when speaking the standard language [6]. This situation, then, has people choose between phonetic forms that sound more dialectal or more German (meaning DStG) when speaking the standard language.

DStG and CHStG show a variety of differences in the realization of phonemes, one of which is that of /r/. In DStG, /r/ is either realized as a consonant or vocalized depending on the phonological context, while it is most commonly realized as a consonant in CHStG [8]. Hove [9] describes this typically missing vocalization of /r/ as one of the most distinct features of CHStG. If, however, a Swiss person vocalizes their /r/s in CHStG, these vocalizations are constrained by a number of linguistic and sociolinguistic factors. Hove [9], for example, found that /r/ in a word-final position is vocalized more often (in 20% of cases) than in a preconsonantal position (15% of cases). As for sociolinguistic constraints, women have been found to vocalize /r/ slightly more often than men. Christen et al. [10], examining the CHStG pronunciation in a corpus of police phone calls, noticed accommodation effects: Swiss speakers vocalized more when talking to German or Austrian speakers. Siebenhaar [11] further showed regional effects: St. Gallen – a Northeastern canton close to the German and Austrian border – featured more speakers vocalizing than for example those in Zurich and Bern, further away from the Northern border.

We identified a number of research gaps in the study of /r/-vocalization in CHStG: there are no studies contextualized with language attitudes (e.g., testing if a positive association with Standard German leads to more vocalization); further, there are also no studies that have investigated the link between age and the place of articulation (alveolar or uvular) in dialect with a potential effect on vocalization in CHStG. In the present study, we addressed these research gaps by analyzing the pronunciation of /r/ in nearly 500 Swiss German speakers talking in CHStG with a specific focus on the following potential sociodemographic and attitudinal effects: age, region, gender, education, and language attitudes. We hypothesized that younger speakers, women, and those from regions closer to Germany or Austria would vocalize more frequently. Furthermore, we expected speakers with more favorable attitudes towards Standard German as well as speakers with higher education to vocalize more frequently.

2. METHODS

2.1. Speakers

For this study, we analyzed a total of 500 speakers from the SDATS database (Swiss German Dialects Across Time and Space) [12] – an extensive database of Swiss German, representing 125 localities across German-speaking Switzerland. The sample of the current study consisted of two women and two men per locality, evenly balanced between two age cohorts: two 20–35-year-olds and two 60+ year-olds.



Figure 1: The 125 localities included in the SDATS study [12].

2.2. Material

For the current study, data from a read text in Standard German were used. The text started with the following phrase: *Die direkte Demokratie in der Schweiz fordert viel Kompromissbereitschaft.* (Eng.: ‘Direct democracy in Switzerland demands a great deal of willingness to compromise’). /r/ was examined in word-final position (as in *der* ‘the’) and preconsonantal position (as in *fordert* ‘demands’). To study whether the dialectal realization of /r/ has any effect on the CHStG vocalization of /r/, we further integrated dialectal realization as alveolar and uvular in a sentence completion task where speakers pronounced *Bernerin*, ‘Bernese woman’, in their local dialect.

2.3. Procedures

Data collection took place during the COVID-19 pandemic in 2020–2021 [13]. This read speech task was embedded in an oral interview principally geared to eliciting dialectal speech (~300 items, i.e. words and sentences, were elicited in participants’ dialectal speech). We asked participants to spontaneously read

the text in Standard German which was displayed on their smartphones, see Figure 2.

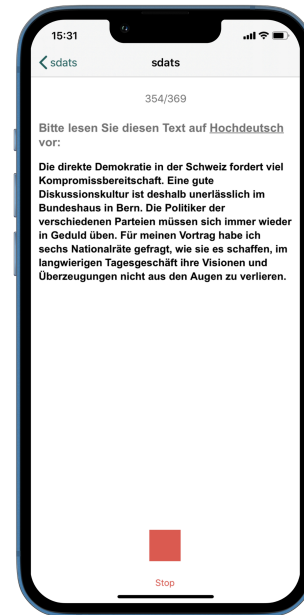


Figure 2: Elicitation prompt for the short reading passage in Standard German.

Metadata on sociodemographic variables, language use, and attitudes were obtained via an online questionnaire after the interview. Both variables – word-final and preconsonantal /r/ – were coded auditorily for the 500 speakers. Three speakers were excluded due to poor recording quality, resulting in a total of 497 analyzed cases. Vocalization was coded as 1, while consonantal realization was coded as 0. In case of doubt, the coding was checked by a second coder (N=42, 8.5%). Only a-schwa sounds ([ə]) were regarded as vocalized [8]. Some dialects of Swiss German may realize /r/ in a vocalic-like way, such as [ˈfɔ̯rdət] for *fordert* (‘demands’). For this realization, we introduced a third coding category “2”. An analysis in PRAAT [14] with randomly selected samples showed that these dialectal transfers were not specifically of [ə]-vocalized sound quality and were also difficult to attribute to a clear consonantal quality. Given this ambiguity, we decided to exclude these tokens from further analysis, which occurred 57 times in word-final and 55 times in preconsonantal position (further studies will need to be conducted on just this phenomenon).

Logistic regressions were run in JMP [15] and R [16] using region, age, dialectal /r/, and attitudes to Standard German as predictor variables. The latter variable was operationalized as a factor resulting from three statements that the participants were asked to agree or disagree with (using a seven-point Likert-scale, where 1 = strongly disagree and 7 = strongly agree; e.g., “I like speaking Standard German” etc.). Since variation in the degree of /r/-

vocalization in both contexts was small and different factors appeared to be at play for each of the two variables, the analysis was split into two separate models – one for each context.

3. RESULTS

3.1 Quantitative results

Table 1 shows the frequency of vocalization in both contexts.

Context	word-final /r/	preconsonantal /r/
Frequency	7% (N=34)	5% (N=23)

Table 1: Frequency of vocalization in the two models.

Overall, /r/ was rarely vocalized: by 34/497 speakers in word-final context and by 23 speakers in preconsonantal context. As for the word-final context, despite the small proportion of vocalization, the logistic regressions revealed some interesting effects: first, the regional origin of the participants affected vocalization of word-final /r/ ($X^2(7, N=440)=25, p=.0007$): speakers from Northwest and Northeast Switzerland vocalized word-final /r/ significantly more frequently than those from other regions. Second, language attitudes played a role ($X^2(1, N=440)=11, p=.0009$): the more positive the language attitudes, the more vocalizations occurred (Figure 2). Third, this effect of language attitudes was only true for the younger cohort (age*language attitudes, $X^2(1, N=440)=8, p=.0056$). Figure 3 shows the effect of attitudes to Standard German on vocalization in word-final position by age cohort.

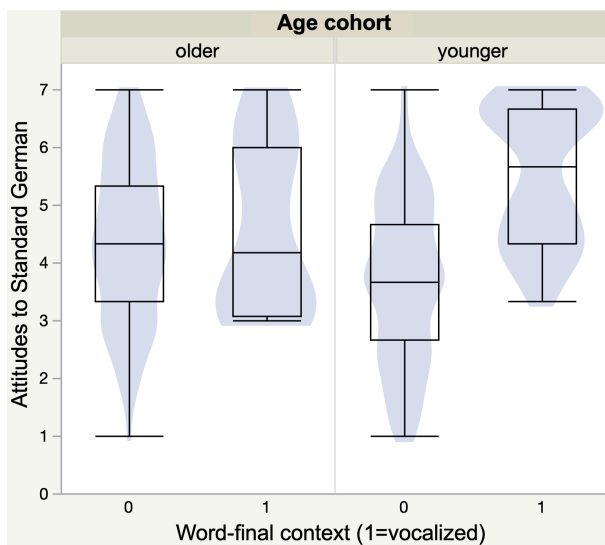


Figure 3: Attitudes towards Standard German (from 1 rather negative to 7 very positive) (y-axis) versus (non)-vocalization in word-final context by age cohort (y-axis).

Preconsonantal /r/ was vocalized 5% of the time. The same regional effect as for word-final /r/ was observed ($X^2(7, N=442)=19, p=.0091$): Northwestern and Northeastern dialects vocalized more frequently. Moreover, the age cohorts showed statistically significant differences ($X^2(1, N=442)=34, p<.0001$): none of the older 250 speakers vocalized /r/ in that position; those who did vocalize, all came from the younger cohort. Finally, the realization of dialectal /r/ factors into whether speakers vocalize preconsonantal /r/ ($X^2(1, N=440)=12, p=.0004$): speakers who used uvular /r/ in the prompt *Bernerin* vocalized in the preconsonantal position 31% of the time; those using alveolar /r/ in *Bernerin* vocalized only slightly more than 3% of the time. There is incongruity in the realization of /r/ in these two contexts: vocalization in preconsonantal position corresponded to vocalization in word-final position but not vice versa (i.e., those who vocalized in preconsonantal position also vocalized in word-final position). In what follows, we focus in a qualitative fashion on these 23 participants who vocalized in both contexts.

3.2. Qualitative analysis

The 23 speakers who vocalized /r/ have the following characteristics: 14 of them are male; 14 do not have a tertiary degree but are currently enrolled in a degree program at an institute of higher education. Interestingly, those 23 who vocalized in both instances tend to have jobs that have a communicative function, e.g., journalist, attorney, flight attendant, customer service or musical performer, or they hold a management position. Regarding language attitudes, they had much more positive attitudes towards Standard German ($M=5.6/7$) compared to those who did not vocalize ($N=474$) in either context ($M=4/7$). Further, there is a clear geographic pattern in the origins of these 23 speakers: almost all of them were socialized in the (Northern) Midlands (Figure 4).

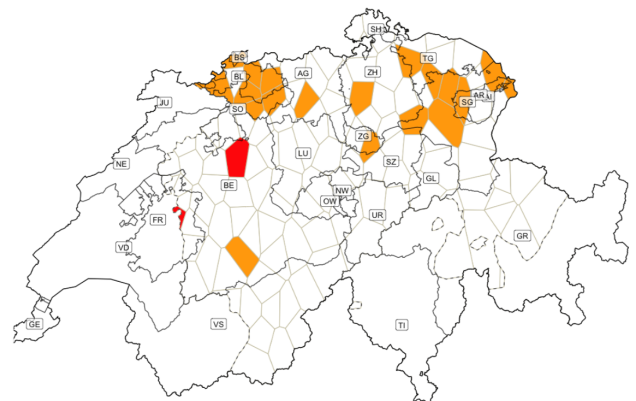


Figure 4: Regional origin of the 23 speakers who vocalized /r/ in both contexts. Orange polygons refer to one such speaker, red polygons refer to two speakers.

4. DISCUSSION

We will first discuss the general trends, followed by the effects of region, attitudes, and age, before moving on to interpret the qualitative analysis. The overall picture is clear: vocalizing /r/ in CHStG is still very rare in German-speaking Switzerland. Our findings further confirm that word-final /r/ is more often vocalized than preconsonantal /r/. We can speculate as to potential reasons for this effect: perhaps vocalizing /r/ in word-final position may be easier from an articulatory standpoint than it is to do before a consonant [17]. Another reason why word-final /r/ was vocalized more may have to do with the order in which the words with the contexts studied appeared in the text: the word-final variable (*der*) appeared before the preconsonantal one (*fordert*); we noticed how some speakers started by vocalizing the first item but switched back to the more Swiss consonantal realization by the second item. Perhaps, while reading, some speakers realized they had vocalized at first, noticed that this may sound inadequate in an interview principally geared towards elicited dialect items, and – consequently – switched back to the more expected non-vocalized realization.

As for regional and attitudinal effects, we argue as follows: the region effect for both variables can be explained to a certain degree by the geographical proximity to Germany. Speakers in Northeastern and Northwestern Switzerland experience more linguistic and personal exchange with DStG than speakers from other regions [18]. Regarding attitudes, positive attitudes towards StG seem to encourage the vocalization of /r/ among younger speakers. This finding corroborates a growing body of research which shows the importance of language attitudes and their effect on the way someone speaks [6, 19].

Regarding age, the results confirmed our expectations that younger speakers may vocalize more frequently than older speakers. In preconsonantal position, /r/ was vocalized exclusively by young speakers and, moreover, all these speakers also vocalized in word-final position. This generation grew up using social media [20], which might exert an influence on their articulation (watching – and maybe also creating – videos in DStG on TikTok, Facebook, Instagram, YouTube etc.). Muhr [21], for example, showed a similar influence of DStG on Austrian German pronunciation through television in the early 2000s. A future study exploring the influence of social media on the CHStG pronunciation should therefore be conducted.

Moving on to the qualitative findings of our study regarding detailed analysis of the 23 speakers who vocalized /r/ in both contexts, we can offer the

following explanations. About two-thirds of them are enrolled in a higher education degree. In the Swiss context, you would expect this cohort to vocalize the most [22], given, for example, their exposure to DStG in a university context (many of the lecturers are of German origin). We further found that these participants are predominantly in communication-oriented jobs, such as working as a journalist or musical performer. A musical performer, for instance, typically undergoes training in DStG for musical productions. This, in turn, may have an effect on their articulation of CHStG. Regarding attitudes towards DStG, we found that these 23 speakers, on average, had a mean of 5.6 on a seven-point Likert scale indexing attitudes towards the standard language – compared to an average of 4 for the other 474 participants who did not vocalize both items. This replicates the findings of the quantitative analyses on a micro scale. Further, the regional effects found also reproduce the empirical analyses for word-final and preconsonantal /r/, in that most of these 23 speakers come from the Northern Midlands, close to the German border (where uvular /r/s are predominant – hence the effect reported in 3.1).

While the findings reported are highly plausible, it needs to be borne in mind that the effects reported are based on a small number of total occurrences of vocalization. In the future, we hope to expand the analyses to the full 1000-speaker dataset and, potentially, collect additional data for enhanced statistical explanatory power. Further, this study should be repeated with other, typical CHStG phonetic variables which we assume have sociolinguistic constraints: for example, affrication of DStG [k^h] as in *Politiker* ('politician'), backed articulation of DStG [ç] as in *ich* ('I'), or lowered articulation of DStG [ɛ], as in *Nationalräte* ('members of parliament'). An analysis of additional variables will give us a more complete picture of the sociolinguistic factors affecting pronunciation in CHStG.

5. ACKNOWLEDGMENTS

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5. REFERENCES

- [1] Ammon, U., Bickel, H., Lenz, A. N. (eds) 2004. *Variantenwörterbuch des Deutschen: Die Standardsprache in Österreich, der Schweiz und Deutschland sowie in Liechtenstein, Luxemburg, Ostbelgien und Südtirol*. de Gruyter.
- [2] Ferguson, C. 1959. Diglossia. *Word* 15, 325–340.
- [3] Haas, W. 2004. Die Sprachsituation der deutschen Schweiz und das Konzept der Diglossie. In: Christen, H. (ed.), *Dialekt, Regiolekt und Standardsprache im sozialen und zeitlichen Raum. Beiträge zum 1. Kongress der Internationalen Gesellschaft für Dialektologie des Deutschen*. Edition Praesens, 81–110.
- [4] Berthele, R. 2004. Vor lauter Linguisten die Sprache nicht mehr sehen – Diglossie und Ideologie in der deutschsprachigen Schweiz. In Christen, H. (ed.), *Dialekt, Regiolekt und Standardsprache im sozialen und zeitlichen Raum. Beiträge zum 1. Kongress der Internationalen Gesellschaft für Dialektologie des Deutschen*. Edition Praesens, 111–136.
- [5] Petkova, M. 2012. Die Deutschschweizer Diglossie: eine Kategorie mit fuzzy boundaries. *Zeitschrift für Literaturwissenschaft und Linguistik* 42(4), 126–154.
- [6] Bickel, H., Hofer, L. 2013. Gutes und angemessenes Standarddeutsch in der Schweiz. In: Schneider-Wiejowski, K., Kellermeier-Rehbein, B., Haselhuber, J. (eds), *Vielfalt, Variation und Stellung der deutschen Sprache*. De Gruyter, 79–100.
- [7] Scharloth, J. 2006. Schweizer Hochdeutsch – schlechtes Hochdeutsch? In: Dürscheid, C., Businger, M. (eds.), *Schweizer Standarddeutsch: Beiträge zur Varietätenlinguistik*. Narr Francke Attempto, 81–96.
- [8] Krech, E.-M., Stock, E., Hirschfeld, U., Anders, L. C. (eds) 2009. *Deutsches Aussprachewörterbuch*. De Gruyter.
- [9] Hove, I. 2002, *Die Aussprache der Standardsprache in der deutschen Schweiz (= Phonai Bd. 47)*. Niemeyer.
- [10] Christen, H., Guntern, M., Hove, I., Petkova, M. 2010. *Hochdeutsch in aller Munde: Eine empirische Untersuchung zur gesprochenen Standardsprache in der Deutschschweiz*. Steiner.
- [11] Siebenhaar, B. 1994. Regionale Varianten des Schweizerhochdeutschen: Zur Aussprache des Schweizerhochdeutschen in Bern, Zürich und St. Gallen. *Zeitschrift für Dialektologie und Linguistik* 61(1), 31–65.
- [12] Leemann, A., Jeszenszky, P., Steiner, C., Messerli, J., Studerus, M. 2020. SDATS Corpus – Swiss German dialects across time and space. [Online]. Available: osf.io/s9z4q.
- [13] Leemann, A., Jeszenszky, P., Steiner, C., Studerus, M., Messerli, J. 2020. Linguistic fieldwork in a pandemic: Supervised data collection combining smartphone recordings and videoconferencing. *Linguistics Vanguard* (6.3).
- [14] Boersma, P., Weenink, D. 2022. Praat: doing phonetics by computer [Computer program]. Version 6.3.02, retrieved 29 November 2022 from <http://www.praat.org/>.
- [15] JMP®, Version <15>. SAS Institute Inc., Cary, NC, 1989–2021.
- [16] R Core Team (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>.
- [17] Martinet, A. 1981. *Sprachökonomie und Lautwandel. Eine Abwandlung über die diachronische Phonologie*. Klett-Cotta.
- [18] Bundesamt für Statistik BFS. 2021. Grenzgängerinnen und Grenzgänger in der Schweiz 1996–2020. <https://www.bfs.admin.ch/bfs/de/home/statistiken/kata-loge-datenbanken/publikationen.assetdetail.17205597.html>
- [19] Beaman, K. V., Tomaschek, F. 2021. Loss of historical phonetic contrast across the lifespan: Articulatory, lexical, and social effects on sound change in Swabian 1. In *Language Variation and Language Change Across the Lifespan*. Routledge, 209–234.
- [20] Morning Consult. 2022. Gen Z is extremely online. <https://morningconsult.com/2022/12/12/gen-z-social-media-usage/>
- [21] Muhr, R. 2003. Language change via satellite: The influence of German television broadcasting on Austrian German. *J. Hist. Pragmat.* 4(1), 103–127.
- [22] Guntern, M. 2012. Dialekt und gesprochene Standardsprache: Wie Laien gesprochenes Schweizerhochdeutsch beurteilen. *Sociolinguistica* 26.