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"*Attitudes Towards Languages*" (AToL) Scale: A Global Instrument

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Abstract

Language attitudes may be differentiated into attitudes towards speakers and attitudes towards languages. However, to date, no systematic and differentiated instrument exists that measures attitudes towards language. Accordingly, we developed, validated, and applied the *A*ttitudes *T*owards *L*anguages (AToL) scale in four studies. In Study 1, we selected 15 items for the AToL scale, which represented the three dimensions of value, sound, and structure. The following studies replicated and validated the three-factor structure and differential mean profiles along the three dimensions for different languages (a) in a more diverse German sample (Study 2), (b) in different countries (Study 3), and (c) when participants based their evaluations on speech samples (Study 4). Moreover, we investigated the relation between the AToL dimensions and stereotypic speaker evaluations. Results confirm the reliability, validity, and generalizability of the AToL scale and its incremental value to mere speaker evaluations.

Keywords

language attitudes, assessment, cross-linguistic, speaker evaluations, intercultural

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> A special kind of beauty exists which is born in language, of language, and for language.
>
> —Gaston Bachelard (1988/1990)

Language is ubiquitous. People use language to communicate in social interactions, to express themselves, or to explicate their thoughts. Some would even say language is the precondition of human thinking (for the Whorfian Hypothesis, see Carroll, 1962; Hunt & Agnoli, 1991). Consistently, research in linguistics, communication science, and psychology attest to the statement: Language attitudes matter (cf. Giles & Billings, 2004; Giles & Coupland, 1991). Although there is consensus regarding the importance of language attitudes, the "object" of language attitudes is less clearly defined (Cargile & Bradac, 2001).

Language attitudes have commonly been conceptualized as speaker evaluations and the terms *language attitude* and *speaker evaluation* have been used interchangeably (cf. Cargile & Bradac, 2001; Giles & Billings, 2004; Giles & Marlow, 2011). Recent models on language attitudes, however, acknowledge that the relationship between language attitudes and speaker evaluations is more complex. Cargile and Bradac (2001), for example, argued that traditional research on language attitudes implicitly assumed that a speaker's language first triggers an attitude towards this language in the perceiver, which then leads to the evaluation of the speaker. However, speaker evaluations may reflect different attitudes depending on what is accessible in a specific situation—Cargile and Bradac give the example that either the attitude towards the language itself may be salient (such as the love for foreign speech) or the attitude towards the speaker's group (such as a prejudice against minorities). We believe that it is fruitful to distinguish between these two kinds of attitudes. An example may serve to refine the idea. The question "How do you like the French language?" clearly differs from the question "How do you like this speaker [speaking French]?" While the answer to the first question derives from the perceiver's experience on how French sounds, whether it is a language difficult to speak, or on how beautiful it is, the answer to the second question may comprise the former language evaluation as well as social knowledge regarding the speaker (such as age, stereotypes about the French being romantic, etc.). Thus, whereas *attitudes towards languages* can be seen as basic attitudes in the language evaluation process, *attitudes towards speakers* are (also) informed by stereotypes and social norms (Cargile & Bradac, 2001; Giles & Coupland, 1991; Giles & Powesland, 1975).

But how to assess language attitudes? Research has largely provided an answer to this question for *attitudes towards speakers*. Three factors referring to status, attractiveness, and dynamism have been established in prominent scales (cf., the Speech Dialect Attitudinal Scale [SDAS], Mulac, 1975; Mulac, Hanley, & Prigge, 1974; and the Speech Evaluation Instrument [SEI], Zahn & Hopper, 1985). The dynamism dimension, however, has largely been neglected and studies have primarily included measures of status and attractiveness (e.g., Cargile & Giles, 1998). Along these lines, numerous studies focused on the related dimensions of status and solidarity (e.g., Carranza & Ryan, 1975; Nesdale & Rooney, 1996; Yzerbyt, Corneille, & Provost, 2005; for an overview, see Giles & Billings, 2004). In a more general approach, Fiske, Cuddy,

Glick, and Xu (2002) demonstrated that group stereotypes in general are represented along the two main dimensions of competence and warmth.

Although general aesthetic evaluations of language and language varieties have been assessed in different contexts and countries (e.g., Giles, 1970; Giles & Niedzielski, 1998; Trudgill & Giles, 1978), to our best knowledge, no systematic and differential instrument exists for the assessment of *attitudes towards languages*. Objectively, a language or language variety can be evaluated on different dimensions, such as its phonology or grammar. Also lay people may hold attitudes more differentiated than global "good-bad judgments." Therefore, the aim of the present research was to develop a differentiated, reliable, and valid scale to assess lay attitudes towards different languages. This purpose is reflected in the instrument's name: the *A*ttitudes *To*wards *L*anguages (AToL) scale.

Overview of Studies

In the following, four studies are presented. In Studies 1 and 2, we aimed at developing and validating the AToL scale. The goal of Study 3 was to demonstrate the instrument's applicability and generalizability in different languages and countries. In addition, Studies 2 and 3 provided first evidence for the relation between differentiated attitudes towards languages along the AToL dimensions and attitudes towards the group of persons speaking the respective language (regarding competence and warmth; Fiske et al., 2002). In Studies 1 to 3, we refrained from using auditive materials to avoid confounds regarding speech and speaker characteristics. This was essential to develop an instrument that more uniquely captures attitudes towards languages. After demonstrating the AToL scale's reliability and validity in the first three studies, however, we conducted a fourth study with audio excerpts of different languages to explore more specifically the relation between participants' attitudes towards a language (AToL) and their attitudes towards a speaker (SDAS; Mulac, 1975) based on actual speech examples.

Study 1

In Study 1, we wanted to explore the factor structure emerging from specific language evaluations. Based on this factor structure, we aimed at selecting representative items to establish a parsimonious instrument: the AToL scale. For this purpose, participants evaluated different languages and varieties on a range of language specific items. We selected German, English, and French, as well as the two German dialects Bavarian and Saxonian as target languages[1] to (a) assure that our German participants are familiar with the target variety and not simply rely on language stereotypes[2] and (b) to nonetheless enable the generalizability of the instrument to various languages. Furthermore, to explore convergent and discriminant validity we included several questions referring to traditional attitude components (i.e., liking of the language as a *general attitude*, and positive and negative emotions as *the affective attitude component*—cf. Eagly & Chaiken, 1993; Zanna & Rempel, 1988). To see whether the instrument

distinguishes between the languages, we finally compared the mean profiles on the scale's dimensions for all languages.

Method

Pre-selection of items. Following Osgood, Suci, and Tannenbaum (1957), we decided to use the semantic differential item format for our instrument as previous research successfully applied this technique in a range of different attitude domains as well as in speaker perception and linguistics (e.g., Hopper & Williams, 1973; Imhasly, Marfurt, & Portmann-Tselikas, 1979). To create a comprehensive list of semantic differentials, items from various scales were compiled (e.g., Crites, Fabrigar, & Petty, 1994; Mulac, 1975; Osgood et al., 1957; Zahn & Hopper, 1985) and supplemented by antonyms derived from German antonyms lexica (Bulitta & Bulitta, 2004; Müller, 1998). We excluded items that were primarily descriptive of persons for the purpose of assessing unique language attitudes. This led to a final list of 51 adjective pairs.[3]

Participants and design. A 10-minute online survey on *Language Attitudes* was completed by 406 participants (261 females, M_{age} = 25.3), mainly students from German universities ($n_{non\text{-}student}$ = 65). Participants were recruited from an established online pool. As compensation, they had the chance to win 1 of 10 book coupons (worth 10 Euros each). Participants were randomly assigned to one of the five language conditions (German, English, French, Bavarian, or Saxonian).

Procedure and materials. In the online survey, participants first agreed to informed consent and provided standard demographic information. They then indicated their general attitude towards the respective language ("How do you like the German [English/French] language/Bavarian [Saxonian] dialect in general?" 1 = *very good*; 5 = *very bad*).

Next, participants were presented with the list of 51 language-specific items, from which the AToL items were to be selected. Specifically, participants read the sentence "The German [English/French] language/Bavarian [Saxonian] dialect is . . . ," followed by 5-point scales, the poles of which were labelled for each semantic differential (e.g., 1 = *beautiful*, 5 = *ugly*), and were asked to choose the point that best described each language. Thereafter, participants were asked to indicate their positive (i.e., *joy* and *love*) and negative emotions (i.e., *indifference* and *aversion*) towards the respective language on 7-point Likert-type scales with higher values indicating stronger emotions. Finally, participants provided basic demographic information.

Results

Factor analyses. The ratings of the 51 semantic differentials were first subjected to a principal components analysis with varimax rotation. Although eight factors yielded an eigenvalue greater than 1.0 (Kaiser's criterion; Kaiser, 1960), two factors clearly emerged according to the scree test (Cattell, 1966), which explained 38% of the total variance. Items that had high loadings on the first factor showed low loadings on the

Table 1. Factor Loadings for the Three-Factor Solution After Oblimin Rotation in Study 1

Item	Factor 1 (Value)	Factor 2 (Structure)	Factor 3 (Sound)
1. ugly–beautiful	*.89*	.41	.45
2. abhorrent–appealing	*.87*	.38	.50
3. unpleasant–pleasant	*.87*	.47	.46
4. inelegant–elegant	*.84*	.39	.21
5. clumsy–graceful	*.83*	.33	.42
6. unstructured–structured	.39	*.85*	.03
7. unsystematic–systematic	.35	*.83*	.10
8. illogical–logical	.33	*.82*	.13
9. vague–precise	.46	*.79*	.01
10. ambiguous–unambiguous	.31	*.72*	.03
11. angular–round	.28	.03	*.83*
12. harsh–soft	.28	–.01	*.83*
13. abrupt–flowing	.39	.07	*.81*
14. raspy–smooth	.51	.14	*.80*
15. choppy–fluent	.44	.22	*.77*
	Factor Correlations		
Factor 1	—		
Factor 2	.44	—	
Factor 3	.42	.08	—

Note. Values in italics indicate highest factor loadings.

second factor and vice versa. Marker items of the first factor were for example *choppy–fluent* (.70 and .15) and *abrupt–flowing* (.70 and .03). Marker items of the second factor were *unstructured–structured* (.00 and .76) and *illogical–logical* (.05 and .74). Based on the content of these marker items, we labelled the two factors *Sound* and *Structure*. Strikingly, items such as *abhorrent–appealing* (.66 and .49) and *ugly–beautiful* (.65 and .52) showed similarly high loadings on both factors. We interpreted this finding as evidence for an additional factor that was not independent but instead correlated with both the Sound and the Structure factors. Due to the content of these marker items, we labelled this factor *Value* and assumed a hierarchical structure with Value as the superordinate factor and Sound and Structure as the subordinate factors.

To construct manageable subscales, we reduced the number of items to 15 (five semantic differentials per subscale) with a stepwise procedure based on analyses of discriminatory power and factor loadings in the subsamples. (Details on this stepwise selection procedure are available from the authors on request.) Submitting the final items to a principal components analysis clearly yielded three factors, which explained 69% of the total variance. Table 1 shows the factor loadings after oblimin rotation.[4] As can be seen in the factor correlations, Value was related to both Structure and Sound,

Table 2. Reliabilities and Intercorrelations in Study 1

	α	2	3	4	5	6
1. Value	.92	.51**	.47**	.78**	.59**	–.61**
2. Sound	.87	—	.11*	.35**	.28**	–.22**
3. Structure	.86		—	.52**	.36**	–.44**
4. GLA	—			—	.64**	–.69**
5. Positive emotions	.65				—	–.63**
6. Negative emotions	.70					—

Note. GLA = general language attitude.
*$p < .05$. **$p < .01$.

whereas Structure and Sound seemed to be much less related. In accordance with our item selection procedure, Value seems to be a higher order factor that is related to the specific factors Structure and Sound.

Mean language profiles—AToL. To explore whether distinct patterns emerge on the three AToL dimensions across different languages, we took a closer look at the mean language profiles. We first created a value, sound, and structure scale as the mean aggregate of the respective five items per dimension (for internal consistencies, see Table 2). We included these scales in a 5 (language: German vs. English vs. French vs. Bavarian vs. Saxonian) × 3 (dimension: value vs. sound vs. structure) factorial analysis of variance (ANOVA) with repeated measures on the second factor. Significant main effects for language, $F(4, 401) = 58.18$, $p < .001$, $\eta_p^2 = .37$, and for dimension, $F(2, 802) = 5.28$, $p = .005$, $\eta_p^2 = .01$, emerged. Importantly, the Language × Dimension interaction was also significant, $F(8, 802) = 55.87$, $p < .001$, $\eta_p^2 = .36$, indicating that the mean pattern on the AToL dimensions was different across languages.

The mean profiles are displayed in Figure 1 with different indices indicating significant differences according to post hoc analyses (Bonferroni corrected criterion for significance: $p < .02$). There were no significant differences between the dimensions for the English language. On the contrary, differentiated patterns occurred for the other languages. German scored higher on structure than on value and lowest on sound. By contrast, French received similarly high ratings on value and sound, which were both rated more positively than structure. Bavarian was evaluated most positively on sound with lower means on value and structure. Saxonian received the lowest ratings on value and more positive ratings on sound and structure, which did not differ significantly. Descriptively, however, Saxonian received the highest ratings on sound, which parallels the evaluation of the Bavarian dialect.

Intercorrelations. Correlational analyses with the AToL subscales confirmed the distinguishable factor relations. While value correlated strongly with sound and structure, the latter two only showed a small correlation (see Table 2). Furthermore, a distinct pattern with the other attitude measures emerged. The general language

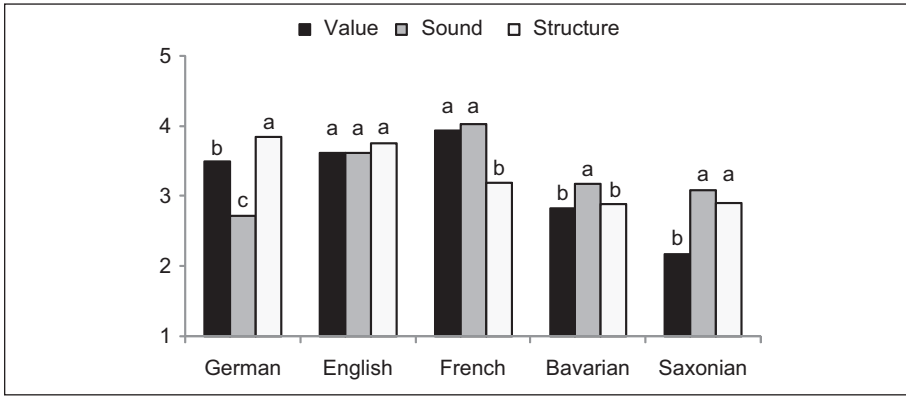

Figure 1. Mean language profiles of the AToL scale in Study 1
Note. AToL scale = Attitudes Towards Languages scale. Different indices indicate significant (Bonferroni corrected) differences between subscales per language.

evaluation and the emotions correlated strongest with the value scale. Structure and sound were less strongly related to these general and affective attitudes pointing to their uniqueness.

Discussion

Study 1 provided preliminary evidence that language attitudes can be described by the three factors of Value, Sound, and Structure. Whereas Sound and Structure seem to constitute quite independent dimensions, they both share variance with the Value factor. In addition, we found specific rating patterns on the three AToL dimensions across the five languages. Apparently, language evaluations can be more fine-grained than a general liking attitude, and the AToL dimensions may be suited to capture these differentiations. Finally, the value subscale yielded higher correlations with general attitude measures than the sound and structure subscales. These findings bolster the assumption that Value may be a more general higher order factor whereas Sound and Structure are more specific lower order factors. In Study 2, we aimed at replicating and strengthening this conclusion.

Study 2

The purpose of Study 2 was threefold. First, we aimed at validating the AToL scale with its dimensions of value, sound, and structure from Study 1 in a new and more diverse sample. Second, we wanted to test the assumption that Value is a general

higher order factor and Sound and Structure are more independent lower order factors. Third, we investigated how the AToL dimensions relate to stereotypic person characteristics of competence and warmth (Fiske et al., 2002; for analogues in speaker evaluations, cf. Giles & Billings, 2004).

Method

Participants and design. A 10-minute online survey on *Language Attitudes* was completed by 282 German participants (205 females, M_{age} = 31.9). Participants were recruited through an online pool[5] and represented a broader sample than in Study 1 ($n_{non\text{-}student}$ = 154). In return, they received the chance to win one of 20 book coupons (worth 10 Euros each). Participants were randomly assigned to one of the five language conditions (German, English, French, Bavarian, or Saxonian).

Procedure and materials. In the online survey, participants first agreed to informed consent and provided standard demographic information. Participants then indicated their general language attitude by answering the question: "How appealing do you find the German [English/French] language/Bavarian [Saxonian] dialect?" (1 = *not at all*; 5 = *very much*). Subsequently, participants rated the 15 adjective pairs derived in Study 1 regarding value, sound, and structure on 5-point semantic differentials in randomized order. Then, they were asked to indicate their overall feelings towards the respective language (1 = *very negative*; 9 = *very positive*). Finally, participants were asked to indicate on 5-point Likert-type scales the typicality of six competence items (e.g., *efficient* and *competent*) and six warmth items (e.g., *friendly* and *warm*; adopted from Fiske et al., 2002) for people with the respective native language.

Results

Factor analysis. We conducted a principal components analysis with the 15 AToL items. The Kaiser's criterion and the scree test clearly indicated three factors that explained 72% of the total variance. Table 3 shows the factor loadings after oblimin rotation. The pattern, again, reflected the semantic interpretation as Value, Sound, and Structure.

Structural equation modelling. As stated above, we assumed a hierarchical structure of the three factors. The results obtained in Study 1 and the present exploratory factor analysis both indicate that Sound and Structure are rather independent factors, whereas Value is interrelated with both of them. Thus, Value may be conceived a superordinate factor. We tested this notion with a set of structural equation models.[6] The first model tested the plausible alternative hypothesis that the three factors Value, Sound, and Structure are located at the same level of generality and are influenced by a superordinate latent factor, which we assumed to be an indicator of a more general global attitude. The Satorra–Bentler chi-square for this alternative model was significant, $\chi^2(87) = 283.53$, $p < .001$, but the model received a good descriptive fit (average off-diagonal absolute standardized residual = .06) and the other fit statistics were acceptable,

Table 3. Factor Loadings for the Three-Factor Solution After Oblimin Rotation in Study 2

Items	Factor 1 (Value)	Factor 2 (Sound)	Factor 3 (Structure)
1. ugly–beautiful	*.92*	.45	.47
2. unpleasant–pleasant	*.92*	.43	.48
3. abhorrent–appealing	*.90*	.42	.41
4. clumsy–graceful	*.85*	.47	.39
5. inelegant–elegant	*.85*	.30	.40
6. angular–round	.35	*.88*	.12
7. abrupt–flowing	.39	*.86*	.29
8. harsh–soft	.26	*.83*	−.004
9. raspy–smooth	.51	*.83*	.23
10. choppy–fluent	.45	*.81*	.22
11. unsystematic–systematic	.33	.14	*.83*
12. unstructured–structured	.45	.14	*.81*
13. illogical–logical	.28	.13	*.79*
14. vague–precise	.58	.16	*.75*
15. ambiguous–unambiguous	.49	.20	*.74*
Factor Correlations			
Factor 1	—		
Factor 2	.43	—	
Factor 3	.47	.17	—

Note. Values in italics indicate highest factor loadings.

standardized root mean square residual (SRMR) = .07, comparative fit index (CFI) = .92, nonnormed fit index (NNFI) = .90, root mean square error of approximation (RMSEA) = .09. Strikingly, however, the latent higher order factor correlated perfectly with the Value factor. Therefore, we tested the more parsimonious model with Value influencing Sound and Structure (see Figure 2). Again, the Satorra–Bentler chi-square was significant, $\chi^2(88) = 283.73$, $p < .001$. However, the model received a good descriptive fit (average off-diagonal absolute standardized residual = .06) and the other fit statistics were acceptable, SRMR = .07, CFI = .92, NNFI = .91, RMSEA = .09. The second model was preferred as it sets less assumptions and it supports our postulated hierarchical model.

Mean language profiles—AToL. Next, we tested whether again differential profiles occurred for the different languages. Internal consistencies for the three AToL subscales were high (see Table 4). We conducted a 5 (language: German vs. English vs. French vs. Bavarian vs. Saxonian) × 3 (dimension: value vs. sound vs. structure) factorial ANOVA with repeated measures on the second factor. Significant main effects for language, $F(4, 277) = 37.90$, $p < .001$, $\eta_p^2 = .35$, as well as for dimension, $F(2, 554) = 16.75$, $p < .001$, $\eta_p^2 = .06$, emerged. Importantly, the Language ×Dimension interaction

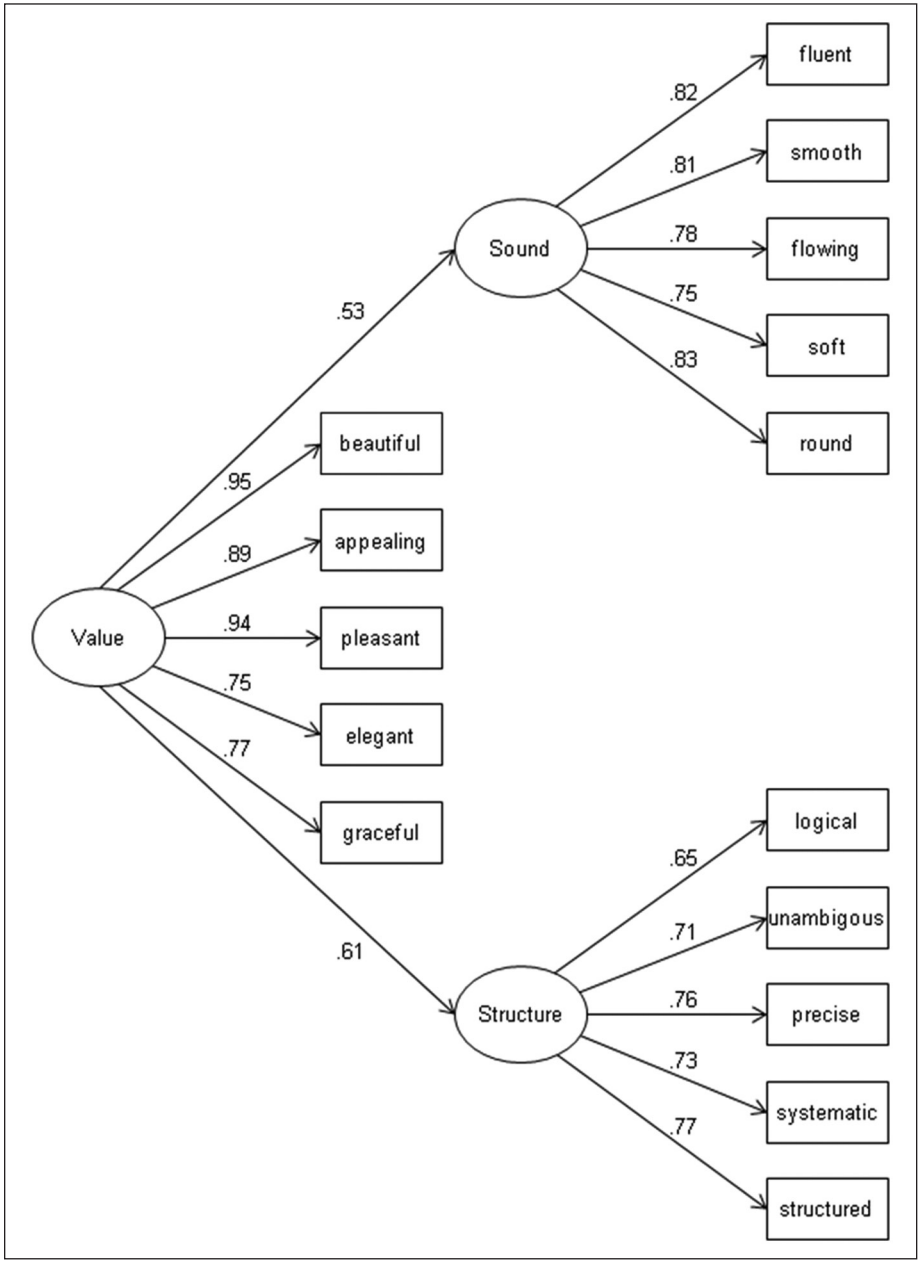

Figure 2. Standardized coefficients for the hierarchical factor structure hypothesized in Study 2

Note. Latent factors are shown in ellipses, and the observed items are shown in rectangles. All paths are significant $p < .05$.

Table 4. Reliabilities and Intercorrelations in Study 2 and Study 3

	α_2	α_3	1	2	3	4	5	6	7
1. Value	.94	.83	—	.48**	.56**	.83**	.85**	.57**	.39**
2. Sound	.90	.74	.57**	—	.22**	.31**	.33**	.19**	.38**
3. Structure	.85	.74	.30**	.11*	—	.56**	.58**	.54**	.31**
4. GLA	—	—	.53**	.40**	.21**	—	.90**	.58**	.41**
5. FL	—	—	.58**	.35**	.31**	.57**	—	.55**	.46**
6. Competence	.89	.87	.26**	.08	.24**	.20**	.34**	—	.54**
7. Warmth	.88	.86	.25**	.13*	.20**	.19**	.33**	.70**	—

Note. Reliabilities of Study 2 are in column α_2; reliabilities of Study 3 in column α_3. Intercorrelations of Study 2 are presented above the diagonal; intercorrelations of Study 3 are presented below the diagonal. GLA = general language attitude; FL = feelings towards language.
*$p < .05$. **$p < .01$.

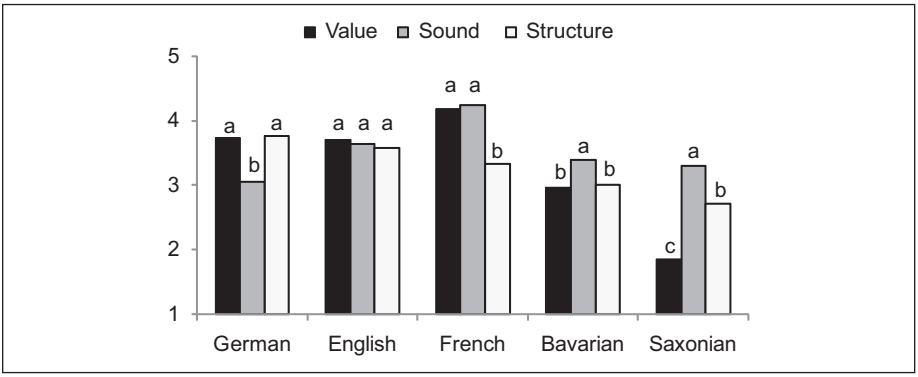

Figure 3. Mean language profiles of the AToL scale in Study 2
Note. AToL scale = Attitudes Towards Languages scale. Different indices indicate significant (Bonferroni corrected) differences between subscales per language.

was significant, $F(8, 554) = 36.86$, $p < .001$, $\eta_p^2 = .35$, indicating that the AToL profiles differed across languages.

Means are displayed in Figure 3; different indices indicate significant differences (Bonferroni adjusted significance level: $p < .02$). As in Study 1, there was no significant difference between the dimensions for English. German again received higher ratings on structure and value than on sound. Parallel to Study 1, French was rated highest on value and sound but lower on structure. The Bavarian and Saxonian dialects again obtained the highest ratings on the sound dimension followed by structure and value.

Intercorrelations. The correlation patterns revealed differential relations between the AToL dimensions and external concepts (see Table 4). As in Study 1, value, compared to sound and structure, yielded the strongest correlations with general attitudes and

feelings. New to the present study, we investigated the relationship between the AToL dimensions and Fiske et al.'s (2002) competence and warmth dimensions. Competence conceptions seemed to primarily relate to structure next to value, whereas warmth related to all facets, especially though to value and sound. In sum, these results also point to value as a more general attitude factor, while sound and structure appear to have a differentiating function.

Discussion

Study 2 replicated the findings of Study 1 and validated the AToL scale more broadly. First, the factor structure of the AToL scale obtained in Study 1 with the dimensions Value, Sound, and Structure was replicated in a more diverse sample that included more than 50% non-students. In addition to the exploratory factor analysis, a structural equation model supported our hypothesis that the Value factor is superordinate to the Sound and Structure factors.

Moreover, the AToL dimensions yielded differentiated profiles across languages. Strikingly, the patterns were almost identical with the ones obtained in Study 1. The correlation patterns further paralleled Study 1 regarding relations to general attitude measures. The value dimension yielded the highest correlations with the general language attitude, feelings, and the competence and the warmth dimensions, which underlines its higher order conceptualization. Structure and sound, in contrast, reflected more differentiating patterns. Structure yielded higher correlations with the general language attitudes as well as with competence ratings whereas sound showed higher correlations with warmth.

In sum, the value dimension appears to be conceptually closest to general language attitude measures. However, the different language profiles and correlation patterns demonstrate that attitudes towards languages are more differentiated than a global like–dislike dimension. Furthermore, there seems to be a tendency for distinct relations between the language and speaker group evaluations, which are informed by the specific factors of sound and structure. The language–speaker group correlations were, however, not perfect. Thus, the assumption of different concepts underlying the evaluation of languages and the evaluation of their speakers seems reasonable.

Study 3

In Study 3, we validated the AToL scale in five different languages of countries other than Germany. Particularly, we translated the AToL scale in the respective native languages and presented it to participants in Great Britain, France, Italy, Spain, and Serbia. Besides feasibility, this sample had the advantage to represent different language families: Germanic, Romance, and Slavic. Furthermore, the studies in Great Britain and France allowed us to compare the self-ratings with the ratings of English and French by the German samples in Studies 1 and 2.

Method

Participants and design. In total, 419 participants (283 females, M_{age} = 30.7, $n_{non\text{-}student}$ = 224) completed a 10-minute online survey on *Language Attitudes*. The five subsamples from Great Britain (n_1 = 85), France (n_2 = 77), Italy (n_3 = 69), Spain (n_4 = 63), and Serbia (n_5 = 125) were asked to evaluate their native language. Subsamples were recruited through different online pools, and participants in each subsample received the chance to win one of five book coupons in return (in total 25 book coupons worth 10 Euros each).

Procedure and materials. To administer the questionnaire in different countries, a bilingual German-English speaker first translated the German questionnaire into English. A different bilingual speaker translated the English version back into German to assure comparability of meaning. Respective bilingual speakers were then asked to translate either the German or the English version into the other languages.[7] We were in close contact with the translators to assure comparability across languages. In the online survey, participants first agreed to informed consent and provided standard demographic information. The questionnaire paralleled the one in Study 2.

Results

Factor analysis. First, we conducted a principal components analysis with the 15 AToL items. The Kaiser's criterion and the scree test clearly indicated three factors that explained 56% of the total variance. Table 5 shows the factor loadings after oblimin rotation. Consistent with the previous studies, the correlation pattern reflected the semantic interpretation as Value, Sound, and Structure. Only one item—*abrupt–flowing*—loaded slightly higher on Value (.58) than on Sound (.53). Overall, the factor loadings were slightly lower than in Studies 1 and 2, which is, however, not surprising given the diversity of the samples and languages assessed.

Mean language profiles—AToL. The internal consistencies for the AToL subscales were satisfactory (see Table 4). To investigate whether the dimensions yielded distinguishable patterns between languages, we conducted a 5 (language: English vs. French vs. Italian vs. Spanish vs. Serbian) × 3 (dimension: value vs. sound vs. structure) factorial ANOVA with repeated measures on the second factor. Significant main effects for language, $F(4, 414) = 18.75$, $p < .001$, $\eta_p^2 = .15$, and for dimension, $F(2, 828) = 102.71$, $p < .001$, $\eta_p^2 = .20$, emerged. Importantly, again, the Language × Dimension interaction was significant, $F(8, 828) = 33.39$, $p < .001$, $\eta_p^2 = .24$, indicating that differentiable patterns on the AToL dimensions emerged across languages.

Mean patterns and significant differences (Bonferroni adjusted significance criterion: $p < .02$) are displayed in Figure 4. For English and French, which were also investigated in Studies 1 and 2, value was rated more positively than sound and structure, which did not differ. These patterns differed from the evaluations by the German participants in the previous studies. However, it is still apparent that differences between the AToL dimensions were less pronounced for English than for French.

Table 5. Factor Loadings for the Three-Factor Solution after Oblimin Rotation in Study 3

Items	Factor 1 (Value)	Factor 2 (Sound)	Factor 3 (Structure)
1. unpleasant–pleasant	*.79*	.25	.37
2. inelegant–elegant	*.78*	.09	.24
3. ugly–beautiful	*.78*	.39	.23
4. clumsy–graceful	*.77*	.18	.42
5. abhorrent–appealing	*.69*	.18	.27
6. illogical–logical	.15	*.78*	.09
7. unsystematic–systematic	.05	*.71*	.01
8. vague–precise	.35	*.67*	−.23
9. ambiguous–unambiguous	.25	*.64*	−.21
10. unstructured–structured	.38	*.64*	.06
11. harsh–soft	.19	−.06	*.79*
12. angular–round	.36	−.03	*.74*
13. raspy–smooth	.48	.02	*.70*
14. choppy–fluent	.43	.02	*.53*
15. abrupt–flowing	*.58*	.35	.53
	Factor Correlations		
Factor 1	—		
Factor 2	.29	—	
Factor 3	.33	−.01	—

Note. Values in italics indicate highest factor loadings.

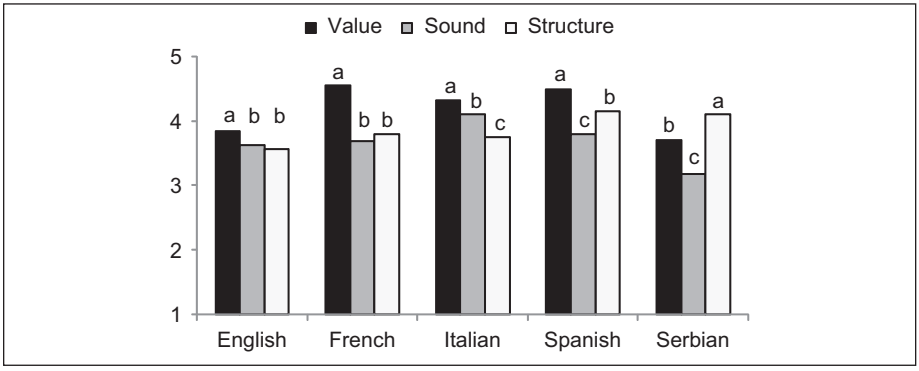

Figure 4. Mean language profiles of the AToL scale in Study 3
Note. AToL scale = Attitudes Towards Languages scale. Different indices indicate significant (Bonferroni corrected) differences between subscales per language.

Italian was rated most positively on value followed by sound and structure. Spanish received the highest ratings on value followed by structure and the lowest ratings on sound. Finally, Serbian differed markedly from the other languages that all received

the highest ratings on value. For Serbian, structure was evaluated most positively followed by value, and sound was rated most negatively.

Intercorrelations. Correlations revealed differential relations between the AToL dimensions and external concepts (see Table 4). The AToL dimensions themselves yielded the expected pattern. While value had higher correlations with sound and structure, the latter two only correlated to a small degree. Moreover, as in the previous studies, value, compared to sound and structure, yielded the highest correlations with general language evaluations and feelings. In addition, the findings regarding speaker stereotypes were parallel to Study 2. Value was related to both competence and warmth. Structure was slightly more related to competence than to warmth, whereas sound was only significantly correlated with warmth. Although these correlations are less accentuated than in Study 2, the similar pattern of correlations in this diverse sample is striking.

Discussion

In Study 3, we investigated the applicability of the AToL scale in an intercultural and interlingual setting. Participants from five different countries evaluated their own languages on value, sound, and structure. Factor analyses almost fully replicated the three-factor structure from Studies 1 and 2 in this diverse sample. Moreover, correlational patterns resembled our previous findings pointing to value as a more general attitude dimension and to the specific nature of sound and structure. We also obtained differentiated language profiles on the AToL dimensions although all participants were evaluating their own language. This close tie with the target language may, however, explain that all languages, but Serbian, yielded the highest scores on the value dimension. This was also the case for English, for which no differential evaluations between the AToL dimensions had appeared within the German samples of Studies 1 and 2. Besides, unique evaluation patterns were found for Italian, Spanish, and Serbian. Interestingly, the Serbian pattern most strongly resembled the evaluation of German in Studies 1 and 2. Indeed, the German as well as the Serbian language are thought to have a rather harsh sound but are acknowledged by their native speakers to have a complex structure, which is in line with the accentuated patterns. In sum, these findings substantiate the validity of the AToL scale. Considering attitudes towards languages along with speaker group stereotypes may further understand representations of language and its valuation as a specific form of cultural esteem.

Study 4

In Studies 1 to 3, we demonstrated the AToL scale's factor validity, reliability, and its relations to general and affective language attitudes as well as to the person perception dimensions of competence and warmth. To establish the scale, we initially wanted to avoid specific speaker confounds. Therefore, in all three studies participants did not listen to actual speech but derived their judgments from their representations in memory. One may argue, however, that by this we assessed attitudes towards the *idea*

of languages and speakers that may not be transferable to attitudes towards languages and speakers themselves. In Study 4, we therefore aimed to replicate our previous findings by presenting German participants with audio excerpts in German, English, and French. We also included Russian and Chinese because we expected the German participants to have very little pre-existing knowledge about these languages and wanted to know whether nonetheless distinguishable patterns on the AToL dimensions would emerge.

Moreover, we wanted to address the question whether attitudes towards languages relate in a specific way to attitudes towards speakers. For this purpose, we assessed the attitudes towards languages with the AToL scale and the attitudes towards speakers with the SDAS (Mulac, 1975). In addition, we manipulated the order of measures so that either the language or the speaker was rated first. Comparing the correlation coefficients of both order conditions may then indicate which evaluation has a greater impact on the other: language on speaker or speaker on language? Drawing on the implicit model of speech evaluation (Cargile & Bradac, 2001), one may assume the correlation coefficients to be higher when language evaluations precede speaker evaluations, that is, if language evaluations constitute basic attitudes, the influence of language attitudes on speaker attitudes may reasonably be thought to be stronger than vice versa.

Finally, we addressed a behavioural component besides the general, affective, and cognitive attitudes in Study 4. The respective measures were to complete the picture of language attitudes (cf. Cargile & Bradac, 2001; Eagly & Chaiken, 1993).

Method

Participants and design. The 10-minute online survey on *Language Perception* was completed by 202 German participants (142 females, 59 males, one participant did not indicate gender; M_{age} = 26.8). To obtain a different sample than in Studies 1 and 2, participants were recruited via contacts of the co-authors and by contacting mailing lists of more than 50 German universities ($n_{non\text{-}student}$ = 65). In return, they received the chance to win 1 of 10 book coupons (worth 10 Euros each). Participants were randomly assigned to one of the five language conditions. As we were interested in the relation of the AToL scale and the SDAS, we manipulated their order, resulting in a 5 (language: German vs. English vs. French vs. Russian vs. Chinese) × 2 (order: AToL-SDAS vs. SDAS-AToL) factorial between subjects design.

Procedure and materials. After signing informed consent, participants were presented with a probe tone to ensure they could clearly hear the audio material. If they did, they were randomly assigned to 1 of the 10 conditions. Then, all participants were presented with a short written text passage of Saint-Exupéry's "The little prince" in German, which they would next listen to, in order to ensure comparable knowledge about the content of the text. After reading this text passage, participants listened to one of the five audio excerpts (15-20 seconds each) recorded by female speakers in German, English, French, Russian, and Chinese (material available from the website: http://www3

.germanistik.uni-halle.de/prinz/; except for German, which was recorded by a Standard German speaker as this variety was not offered at the website). Depending on order condition, participants completed the language evaluations (a) indicating their general and affective attitudes towards the respective language (1 = *very negative*; 7 = *very positive*) and (b) working through the AToL items regarding value, sound, and structure. Parallel for the speaker evaluations, participants (a) indicated their general impression and their feelings (1 = *very negative*; 7 = *very positive*) and (b) evaluated the respective speaker on the SDAS items (Mulac, 1975) regarding socio-intellectual status (SIS, e.g., rich–poor) and aesthetic quality (AQ; e.g., nice–awful).[8] Finally, as a behavioural component of language attitudes, participants in the foreign language conditions were asked whether they wished to speak the respective language better than they did (1 = *no, not at all*; 7 = *yes, definitely*) and were presented with a decision task. Specifically, participants were instructed that they would complete a memory task and were asked to choose one of three alternatives: learning of vocabulary in the respective language, learning of word pairs such as "straw–plant," or learning of picture pairs (note that the first option was to assess preferences for the respective language). To avoid selection tendencies due to performance concerns, participants were told that their performance was not of interest but that we were interested in how they perceived the task. At the end of the study, participants completed general demographic information.

Results

Mean language profiles—AToL. Having demonstrated the AToL scale's reliability and validity in the preceding three studies, our first aim in Study 4 was to see (a) whether the language profiles found in Studies 1 and 2 would replicate when participants were presented with audio materials and (b) whether the dimensions would also show differentiating profiles with less known languages. As in the previous studies, we conducted a 5 (language: German vs. English vs. French vs. Russian vs. Chinese) × 3 (dimension: value vs. sound vs. structure) factorial ANOVA with repeated measures on the second factor. A significant main effect for language, $F(4, 197) = 5.58$, $p < .001$, $\eta_p^2 = .10$, and a marginally significant main effect for dimension, $F(2, 394) = 2.78$, $p = .06$, $\eta_p^2 = .01$, emerged. More important, the Language × Dimension interaction was significant, $F(8, 394) = 14.17$, $p < .001$, $\eta_p^2 = .22$, indicating differentiating patterns on the AToL dimensions across languages.

Means and significant differences are displayed in Figure 5 (Bonferroni adjusted significance level: $p < .02$). The similarities to our findings from Studies 1 to 3 were striking: English yielded no significant differences between dimensions, German showed the highest score for structure followed by value and lowest ratings on sound, and French received similarly high ratings on value and sound, but significantly lower ratings on structure. Regarding the less known languages, Russian was similarly evaluated on value and structure but lower on sound. For Chinese, no significant differences emerged between dimensions. There was only a descriptive tendency for higher sound and lower structure evaluations relative to the value scores.

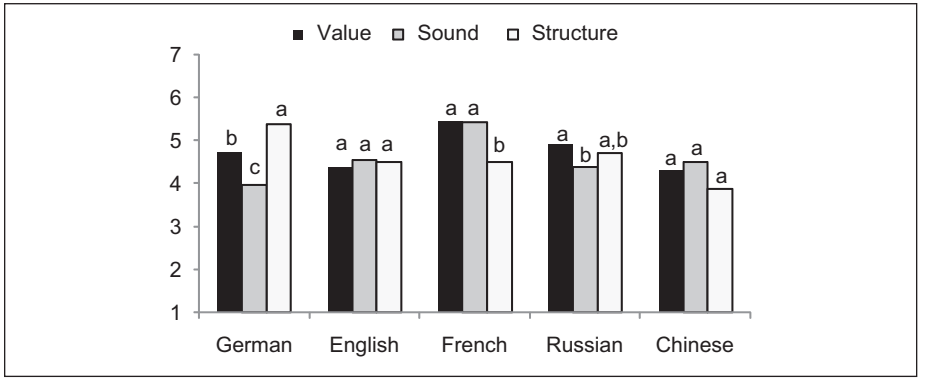

Figure 5. Mean language profiles of the AToL scale in Study 4
Note. AToL scale = Attitudes Towards Languages scale. Different indices indicate significant (Bonferroni corrected) differences between subscales per language.

Table 6. Reliabilities and Intercorrelations in Study 4

	α	1	2	3	4	5	6	7	8	9	10	11
1. Value	.89	—	.70**	.38**	.29**	.39**	.73**	.69**	.38**	.44**	.29**	.21**
2. Sound	.91		—	.12	.16*	.33**	.44**	.43**	.26**	.25**	.27**	.12
3. Structure	.86			—	.19*	.09	.36**	.31**	.09	.18*	.12	.06
4. SIS	.82				—	.32**	.30**	.24**	.20**	.17**	.001	–.14
5. AQ	.83					—	.60**	.52**	.24**	.30**	–.03	–.05
6. GLA	—						—	.75**	.35**	.45**	.36**	.19*
7. FL	—							—	.43**	.52**	.18*	.14
8. GSA	—								—	.78**	–.06	–.002
9. FS	—									—	–.04	.06
10. Better Speaking	—										—	.33**
11. Decision Task	—											—

Note. SIS = socio-intellectual status; AQ = aesthetic quality; GLA/GSA = general language/speaker attitude; FL/FS = feelings towards language/speaker.

Intercorrelations. Before turning to our second question regarding the mutual influence of language and speaker attitudes by order condition, we investigated the overall correlational patterns. Internal consistencies for the three AToL subscales and the SIS and AQ scales were high (see Table 6). Regarding the AToL dimensions, value again had a moderate to high correlation with sound and structure, whereas the latter two were not significantly correlated. Furthermore, value had the highest correlations with the general attitude and feelings as well as with both SDAS subscales. Sound generally yielded higher correlations with these measures than structure. Only for SIS, structure had a descriptively higher correlation than sound. Note that the higher correlations of

Table 7. Intercorrelations of Language and Speaker Attitudes Separated for Order Conditions in Study 4

	GSA		FS		SIS		AQ	
	AToL-SDAS	SDAS-AToL	AToL-SDAS	SDAS-AToL	AToL-SDAS	SDAS-AToL	AToL-SDAS	SDAS-AToL
GLA	**.42****	.25*	**.56****	.34**	**.22***	.18	**.35****	.13
FL	**.45****	.40**	**.57****	.45**	**.19**	.13	**.28****	.33**
Value	**.47****	.27**	**.55****	.33**	**.35****	.22*	**.43****	.34**
Sound	**.38****	.25	**.30****	.19	**.19**	.13	**.38****	.27**
Structure	.02	**.15**	.10	**.26****	.08	**.30****	.12	.08

Note. AToL scale = Attitudes Towards Languages scale; SDAS = Speech Dialect Attitudinal Scale; SIS = socio-intellectual status; AQ = aesthetic quality; GLA/GSA = general language/speaker attitude; FL/FS = feelings towards language/speaker. Values in boldface indicate the higher correlation for the respective order condition AToL-SDAS versus SDAS-AToL.

sound with AQ and of structure with SIS parallel the patterns obtained with warmth and competence in Studies 2 and 3.

The speaker evaluations on SIS and AQ were moderately interrelated and AQ yielded higher correlations with the general attitudes and feelings than SIS. Interestingly, AQ, however, yielded lower correlations with the general attitudes and feelings measures than did value and SIS yielded lower correlations with these measures than did structure (except for general speaker attitude).

Our two measures regarding the behavioural attitude component were moderately interrelated. The continuous behavioural attitude (better speaking) had moderate positive relations with the general language attitude and the AToL dimensions value and sound next to a smaller correlation with feelings towards language. The decision task (dichotomous variable with 1 = *learning vocabulary in the language* vs. 0 = *other choice*) showed positive relations with value and general language attitude. Importantly, none of the speaker evaluations—neither the general ones nor the SDAS subscales—were related to the behavioural language attitude.

Order manipulation. To shed some light on the question whether language attitudes had a greater impact on speaker attitudes than vice versa, we conducted separate correlation analyses for both order conditions: language-speaker versus speaker-language (Table 7). Overall, correlations between *language evaluations* (general language attitude, feelings towards language, value, sound) and *speaker evaluations* (general speaker attitude, feelings towards speakers, SIS, AQ) were higher, when language ratings preceded speaker ratings. Only the structure scale revealed an opposite pattern with a tendency for higher correlations when speaker evaluations were given first (the only correlations deviating from the two patterns were AQ and feelings towards language and AQ and Structure). These findings imply that the influence of language

attitudes on speaker attitudes is stronger than vice versa except for structure where speaker attitudes seem to have a stronger impact on language attitudes.

Discussion

The aim of Study 4 was to replicate our previous findings with the evaluation of actual speech samples and to investigate the relationship between language and speaker attitudes. Strikingly, we obtained the same mean profiles along the AToL dimensions value, sound, and structure for German, English, and French as in Studies 1 and 2. Moreover, the correlation analyses revealed patterns comparable to the previous studies. Value emerged as a global attitude dimension, whereas sound and structure showed more differentiating patterns. For instance, sound was more strongly related to AQ, whereas structure yielded a stronger correlation with SIS, which is comparable to the findings with competence and warmth ratings in Studies 2 and 3. To compare the impact of language on speaker attitudes with the impact of speaker on language attitudes, we manipulated the order of measures. In line with the implicit model of speech evaluation (Cargile & Bradac, 2001), higher correlation coefficients in the language-speaker than in the speaker-language order suggested a stronger influence of language on speaker attitudes than vice versa. The only exception was structure, which seemed to be especially influenced by the SIS ratings of the speaker, that is, the higher the status of the speaker, the higher the structure of the language was perceived. This may be reconciled with the observation that usually higher status people dictate the standard language, which in turn is formalized (and may be perceived as better structured, cf. Fishman, 1972; Ryan, Giles, & Sebastian, 1982). Such a mechanism may be learned to associate higher status with higher structure (rather than vice versa).

Finally, we tried to address the behavioural component of language attitudes. This behavioural component had no relations with speaker attitudes but showed correlations with language attitudes, especially with the general language attitude and the AToL dimensions of value and sound. Thus, specific language attitudes seem to influence the wish to learn and speak a language. These findings point to one field, where we clearly need to distinguish between language and speaker attitudes to make meaningful predictions in an applied setting.

General Discussion

The aim of the present research was to develop a new instrument to assess language attitudes in a systematic and comprehensive way. The AToL scale was constructed to address attitudes towards languages beyond attitudes towards speakers. In a set of four studies, we replicated the instrument's three-factor structure reflecting the dimensions of Value, Sound, and Structure and validated the instrument in relation to other attitude measures with diverse samples. These studies converged in demonstrating (a) that language attitudes are more differentiated than a global liking statement and

(b) that language attitudes bear differential relations to speaker attitudes, and may be conceived as more basic attitudes.

To establish the AToL scale, we first conducted the item selection with the aim to construct a parsimonious instrument of language-specific items. The emerging three-factor structure reflecting the dimensions of value, sound, and structure was stable and replicable. Based on the data, we assumed a hierarchical factor structure such that Value is a superordinate factor to Sound and Structure. Evidence for this assumption was provided by a structural equation model in Study 2 next to the correlation patterns in Studies 1 to 4. Here, value always appeared to be a general attitude with rather strong relations to all attitude components. Contrarily, sound and structure emerged as specific factors that bore differentiated relations to language and speaker evaluations.

To ensure the instrument's generalizability, we not only applied the AToL scale *to* different languages and language varieties (namely, German, English, French, Bavarian, and Saxonian) in the same survey language (i.e., German) but also *in* different languages (namely, English, French, Italian, Spanish, and Serbian) of different countries. Note, however, that the AToL scale was first developed in Germany and then translated and applied in other countries. It is therefore possible that specific characteristics of these other languages were neglected. However, we conceive the applicability of the AToL scale in the different settings of our research as a strength to capture common dimensions, along which different language evaluations can be depicted. Indeed, we found differential profiles along the AToL dimensions in all four studies. Strikingly, the pattern on the AToL dimensions for the languages we assessed in several studies (i.e., German, English, and French) was very similar when evaluations were made by native versus non-native speakers and when evaluations based on the concepts of language versus actual speech samples.

Besides language attitudes we also assessed person evaluations regarding competence and warmth (Studies 2 and 3) and socio-intellectual status and aesthetic quality (SIS, AQ; Study 4). The AToL dimensions showed a specific correlational pattern with the person evaluation scales across studies. Sound was more strongly related to warmth and AQ, whereas structure showed a stronger relation to competence and SIS.

In Study 4, we finally addressed the question how the attitude towards a language relates to the attitude towards a speaker of that language. Our preliminary results from comparing correlation coefficients of two order conditions corroborate the implicit model of speech evaluation (Cargile & Bradac, 2001): Overall, language attitudes seemed to have a stronger impact on speaker attitudes than vice versa. The only exception from this pattern was the AToL dimension of structure, which was rather influenced by speaker evaluations. As a language's structure is related to its degree of formalization and thus to its standardness, we assume that people derived information for their subjective structure evaluations from the speaker's perceived SIS. In general, however, language attitudes appeared to be the more basic attitudes.

In sum, these four studies attest to the reliability and validity of the AToL scale. The consistency of findings regarding the factor structure, differentiating mean profiles, and correlational patterns with and without audio material is striking. The

successful application of the AToL scale in different countries further supports the generalizability of the three dimensions of value, sound, and structure. Besides establishing the AToL scale, the findings also speak to the added value of investigating attitudes towards languages. We may gain important insights in the representation and esteem of different language facets across countries. Such attitudes may influence self-perceptions, speaker evaluations, and behavioural components that may go beyond the wish to learn a language or not. To conclude, the AToL scale is a validated global and intercultural measure of attitudes towards languages, which calls for further application.

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Authors' Note

Authors 1 and 2 contributed equally as first authors of this article. Authors 3 to 8 are listed in alphabetical order.

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Notes

1. Note that in Studies 1 and 2, we assessed the attitudes towards different languages and two German dialects. For the purpose of brevity, however, we will refer to all of them as languages throughout the article.
2. Note that most people in Germany learn English and many learn also French at school.
3. A comprehensive list with the original German items and their English translations can be provided by the corresponding author on request.
4. For the purpose of clear interpretation, we report the data based on the recoded items (i.e., higher values indicate a more positive evaluation) for all studies.
5. We cannot completely rule out that few of the participants took part in both Studies 1 and 2. However, the respective online pool has more than 2,000 members, so the probability of

repeated participation is relatively low. In addition, it is quite unlikely that participants rated the same language twice as they were assigned randomly to one of the five different language conditions.

6. The data did not satisfy requirements of a multivariate normal distribution (normalized estimate for multivariate kurtosis = 18.24). Therefore, we ran analyses with the robust Maximum Likelihood estimation provided by EQS. The robust statistics are presented for the structural equation models.
7. The translations are available on request from the corresponding author.
8. Participants also completed the items of the dynamism subscale. However, this scale had an unsatisfactory internal consistency (Cronbach's $\alpha = .41$). We assume that the item referring to aggressiveness was most likely not applicable to the female speakers and the item regarding loudness rather assessed the audio quality than speaker characteristics. Therefore, results regarding dynamism could not be interpreted unambiguously.

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