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The Impact of Anglicizing Former German-Language Psychology Journals on Authorship and Citation Frequencies

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Abstract. Exemplary for other than English-language psychology journals, the impact of recent Anglicization of five former German-language psychology journals on (1) authorship (nationality, i.e., native language, and number of authors, i.e., single or multiple authorships), (2) formal characteristics of the journal (number of articles per volume and length of articles), and (3) number of citations of the articles in other journal articles, the language of the citing publications, and the impact factors (IF) is analyzed. Scientometric data on these variables are gathered for all articles published in the four years before anglicizing and in the four years after anglicizing the same journal. Results reveal rather quick changes: Citations per year since original articles' publication increase significantly, and the IF of the journals go up markedly. Frequencies of citing in German-language journals decrease, citing in English-language journals increase significantly after the Anglicization of former German-language psychology journals, and there is a general trend of increasing citations in other languages as well. Side effects of anglicizing former German-language psychology journals include the publication of shorter papers, their availability to a more international authorship, and a slight, but significant increase in multiple authorships.

Keywords: professional communication, psychology journals, language, scientometry, bibliometry, citation analysis, impact factor, internationality, research

At the very latest, in the second part of the 20th century, English has become the language of the sciences. A long time ago, and for many centuries, ancient Greek and – later on – Latin were the languages of the inception, differentiation, and progress of all sciences. Both these classical languages are very demanding and ambitious, wide and rich in linguistic variations as well as in their capacities for abstraction. Therefore, they were considered most beneficial for scientific thinking and research. However, ancient Greek and Latin were not *lingua franca* in the modern sense, because they were discriminating, *elitist* (i.e., selective), and *inaugural* (i.e., being left to initiates). Only a select few had these languages at their disposal, they were not understandable for the majority. This fact actually caused them to lose, over the course of several centuries, their connections to the reality of everyday life and the topics of science. Although this was gradual, they finally reached the status of being “dead” languages.

During the Renaissance and the Enlightenment periods – with their secularization and deconsecrate efforts, the urbanization of man, increasing division of labor, and widespread commerce, and differentiation of public finances – new challenges for culture techniques like reading, writing, and mathematics, as well as the differentiations of sciences

occurred. Considering all these various challenges together, this resulted in language diversifications that fit better to the changing and challenging reality of life. Moreover, the diverse languages were sufficiently complex for such historical developments and for the complicated topics of science as well. In succession, different European standard languages (e.g., English, French, German, Italian, and Spanish) competed with each other in the sense of a liberal pluralism in the areas of politics, culture and arts, and the sciences. *De facto*, an outstanding characteristic of all sciences, for several centuries, was the bilingual, actually more correctly, the multilingual competencies of scientists which included the classical standard languages as well. This changed, at the very latest, by the second half of the 20th century, certainly in part codetermined by the outstanding human, economic, and financial resources of the United States.

In the second half of the 20th century, Anglicization of the sciences occurred rapidly in the *natural sciences*, particularly in areas of discovering facts and natural laws, which are not or – at least – only weakly and indirectly dependent on culture and socialization, that is, language, nationality, politics, etc. The Anglicization of *the arts and humanities* occurs more gradually and less extensively because of its direct dependency on and relationships to culture and

socialization, for example, national and cultural specifics of educational systems, social norms, and traditions. Somewhat in between the faster moving natural sciences and the somewhat slower arts and sciences are the *social sciences* and, especially, *psychology*, because its research topics (i.e., behavior and experience or – more contemporary – action and cognition) must be analyzed from both a natural science and a humanities perspective. For instance, the psychobiological and neuropsychological determinants and correlates of behavior and experience are under psychological study as well as the social, cultural, and psychodynamic aspects of action and cognition. Thus, psychological research can incorporate the natural science methodology as well as the (often more qualitative) methodology of the arts and humanities which includes the social sciences methodology.

For the sake of optimizing the international visibility, reception, and impact of the results of psychological research in the German-speaking countries (i.e., Austria, Germany, parts of Switzerland and Luxemburg), fierce discussions in the research community took place. A conclusion was that researchers should attempt to publish their empirical findings more frequently in Anglo-American and English-language journals and less frequently – or not at all – in German journals (e.g., Becker, 1984; Keul, Gigerenzer, & Stroebe, 1993; Krampen, Montada, Müller, & Schui, 2005; Lienert, 1977; Silbereisen, 2003; Traxel, 1975, 1979). In the recent past and to date, there are very similar discussions taking place in other larger non-English psychology research communities, for instance, in France, Italy, and Spain. Some other, however smaller European research communities – such as in Scandinavia and the Netherlands – began contributing to modern psychology after World War II predominantly in the English language. Based on this heated debate in the German-speaking psychology research communities, a strong plea was issued for anglicizing the existing German-language psychology journals in a measure to force scientists from the German-speaking countries to publish in the English language; lastly, because there are not any – or at least only a few – exclusive German-language psychology journals left for the publication of basic research results (Gigerenzer et al., 1999).

Anglicizing of Former German-Language Psychology Journals: Facts

The German-language journal “Psychologische Forschung” is the groundbreaker in the Anglicization process. This very traditional journal was originally published in 1922; after 53 years of German-language publication, during which time only very few English articles were published and publication occurred nonstop (with only a brief interruption during World War II), the journal was renamed *Psychological Research* in 1974. It took more than a decade for the next journals to follow suit. Chronologically, the Anglicization process continued very slowly for the next two decades with only one journal changing per decade:

- 1986: “Zeitschrift für Tierpsychologie” (i.e., a journal dealing with animal psychology) changed its name to *Ethology* (volume 71),
- 1994: “Schweizerische Zeitschrift für Psychologie” changed its name to *Swiss Journal of Psychology* (volume 53).

However, at the turn of the century, perhaps due to the growing awareness of the importance of having research recognized and received at the international level, things began to change more quickly:

- 2002: “Zeitschrift für experimentelle Psychologie” changed its name to *Experimental Psychology* (volume 49),
- 2003: “Psychologische Beiträge” changed its name to *Psychology Science Quarterly* (volume 45),
- 2005: “Zeitschrift für Differentielle und Diagnostische Psychologie” changed its name to *Journal of Individual Differences* (volume 26),
- 2007: “Zeitschrift für Psychologie” changed its name to *Journal of Psychology* (volume 215): This journal was originally founded in 1890 and is the oldest psychology journal in Europe and the second oldest in the world,
- 2008: “Zeitschrift für Medienpsychologie” changed its name to *Journal of Media Psychology* (volume 20),
- 2008: “Zeitschrift für Sozialpsychologie” changed its name to *Social Psychology* (volume 39),
- 2010: “Zeitschrift für Personalpsychologie” changed its name to *Journal of Personnel Psychology* (volume 9),
- 2010: “Zeitschrift für Gerontopsychologie und -psychiatrie” changed its name to *GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry* (volume 23).

This trend of anglicizing psychology publications from the German-speaking and – as well – from other non-English-speaking European countries has been accompanied by a number of original English-language journal inceptions in the German-speaking region as well [e.g., *Crisis* (inception: 1980), *Journal of Psychophysiology* (1986), and *Methodology* (2005)]. Likewise, there are English-language inceptions of psychology journals at the European level resulting from an increased inter-European cooperation [e.g., *European Journal of Psychological Assessment* (inception: 1984), *Learning and Instruction* (1991), *European Psychologist* (1996), and *European Journal of Developmental Psychology* (2004)].

Research Questions

Using scientometric analyses, we were specifically interested in empirically investigating various bibliographical aspects in the first five German psychology journals that began publishing in the English language (these journals

were all anglicized before 2004). In particular, we wanted to address the impact of their Anglicization on three broad issues: (1) authorship (nationality, i.e., native language, and number of authors, i.e., single or multiple authorships), (2) formal characteristics of the journal (number of articles per volume and length of articles), and (3) number of citations of the articles in other journal articles, the language of the citing publications, and the impact factors (IF). To conduct the analyses, the scientometric data on these variables were gathered for all the articles published in the four years before Anglicization (i.e., articles written in German in the German titled psychology journal) and in the four years after anglicizing the same journal (in which the articles are written in English in the former German, English renamed psychology journal). In order to accumulate data that have had the opportunity to appear and be profiled in the international, English-language psychology publication setting, it was imported to select the first five German psychology journals that changed their publication language to English (between 1974 and 2003).

Our core questions refer to the impact of anglicizing German-language psychology journals on the three scientometric variables listed above: Are there any changes in authorship and formal journal characteristics, and – more significantly – are the original hopes underlying the Anglicization of German psychology journals fulfilled? First, we are interested in whether there are any statistically significant consequences of anglicizing the journals not only on the potential international visibility of psychology research results from the German-speaking countries (because this is given a priori by anglicizing). In addition, and for the German research community much more significant: Are there positive consequences on the reception, usage, and impact (i.e., citations by others) of English-language publications from Austria, Germany, Luxemburg, and Switzerland in the international (i.e., not only in the German-speaking) psychology research community?

Method

As mentioned previously, the scientometric analyses performed here refer to the five German-language psychology journals that first changed their publication language to English: (1) “Psychologische Forschung” changed to *Psychological Research* in 1974, (2) “Zeitschrift für Tierpsychologie” changed to *Ethology* in 1986, (3) “Schweizerische Zeitschrift für Psychologie” changed to *Swiss Journal of Psychology* in 1994, (4) “Zeitschrift für experimentelle Psychologie” changed to *Experimental Psychology* in 2002, and (5) “Psychologische Beiträge” changed to *Psychology Science Quarterly* in 2003.

Scientometric data were gathered with reference to the volumes and all articles published in these volumes in the four years before its Anglicization (i.e., everything appearing in German) and in the four years after anglicizing the same journal (everything appearing in English). For example, the four volumes published in 1970–1973 of “Psychologische Forschung” were analyzed in contrast to the four

volumes published in 1974–1977 of *Psychological Research*; volumes published in 1982–1985 of “Zeitschrift für Tierpsychologie” and volumes published in 1986–1989 of *Ethology*, and so on.

In the first step, we gathered data on (1) the absolute number of original articles published in each volume (number of articles per volume), (2) the number of pages of the original articles published in each volume (number of pages per article), (3) the number of authors per original article, and (4) the language of the original article's corresponding author with reference to his/her institutional affiliation.

Next, scientometric data (5) on the citation frequency of each article published in the journals and (6) on the publication language of the citing articles were gathered using the *Web of Science* (WoS) interdisciplinary database in March, 2010. Finally, (7) the IF was computed as the quotient of the number of citations in the two years immediately following the four years that were studied before and the four years after anglicizing the journal divided by the number of original articles published in each of the 4-year periods. This procedure doubles the usual definition and computation of the IF presented in the WoS in terms of time periods of publication and in citing considered, because standard WoS-IF is frequently criticized because of its very small time window.

To enable at least a rough examination of possible publication time effects or trends in the scientometric variables, two Anglo-American psychology journals – that have always been published in English – were bibliometrically analyzed as well. To provide an opportunity for comparison, the *American Journal of Psychology* and the *Journal of Experimental Psychology: General* were included in our analyses. The *American Journal of Psychology* was selected because its publication subjects are similarly broad for all subdisciplines of psychology in the same manner as *Psychological Research* (pre-Anglicization: “Psychologische Forschung”). The identical publication years were analyzed for both journals, that is, 1970–1973 versus 1974–1977. The *Journal of Experimental Psychology: General* corresponds in its range of topics well to *Experimental Psychology* (pre-Anglicization: “Zeitschrift für experimentelle Psychologie”). Again, the same publication years were considered in both journals, that is, 1998–2001 versus 2002–2005.

Results

The results of the comparisons of the journals' formal characteristics four years before and four years after their Anglicization are presented in Table 1. Because of small sample size and Pareto distributions of scientometric variables in some of the statistical analyses, in addition to parametric *t*-tests, nonparametric Mann-Whitney *U* tests were computed for all continuous variables under study. The Mann-Whitney test is an “excellent alternative to the *t*-test” (Siegel, 1956, p. 126) with a high power efficiency. We applied a two-step statistical analysis throughout: After an overall *t* and *U* test for all five anglicized journals, posttests for each of the journals were computed.

Table 1. Comparisons of journals' formal characteristics four years before (publication language: LA = German) and four years after anglicizing (publication language: LA = English)

Publication language, LA	Number of articles per volume							Number of pages per article						
	German		English		df	t-test	z(U)/U	German		English		df	t-test	z(U)
Journal	M	SD	M	SD				M	SD	M	SD			
Across all five anglicized journals	30.1	21.3	36.6	24.6	37	0.88	0.97	14.0	8.6	11.7	6.4	1,296	5.48**	5.71**
Psychologische Forschung 1974 → Psychological Res.	11.0	2.7	13.5	5.9	5	0.67	5	16.8	14.0	16.1	7.1	85	0.33	0.50
Zeitschrift für Tierpsychologie 1986 → Ethology	64.5	17.5	77.8	12.8	6	1.22	3	14.7	8.9	11.5	6.1	567	5.1**	4.66**
Schweiz. Z. f. Psychologie 1994 → Swiss J. of Psych.	17.3	3.1	19.3	1.7	6	1.31	4	10.3	3.3	10.3	3.8	144	0.04	0.15
Z. f. exp. Psychologie 2002 → Experimental Psych.	22.3	2.1	32.5	4.4	6	4.19**	0*	12.7	5.0	8.7	3.7	213	6.91**	6.02**
Psychologische Beiträge 2003 → Psych. Sc. Quarterly	30.5	11.9	40.0	14.0	6	1.04	5	14.9	9.5	14.0	8.0	279	0.85	0.79
Control journals with continuous publication language English (see text)														
American J. of Psychology	52.0	11.1	43.3	12.0	6	1.07	5.0	10.3	7.1	10.1	5.3	379	0.30	0.44
J. of Exp. Psych. General	31.8	9.0	34.5	4.8	6	0.54	6.0	17.1	8.1	16.4	6.5	263	0.88	0.99

Note. * $p < .01$. ** $p < .05$.

Number of Articles and Number of Pages per Article

Overall, for the *number of articles per volume* there is no statistically significant difference between the time periods of four years before and after anglicizing the five former German-language psychology journals (see Table 1). Single journal tests point, however, to one significant difference: After its Anglicization, *Experimental Psychology* includes significantly more – almost one-half more – original articles per volume than were published in the “*Zeitschrift für experimentelle Psychologie*.” Results of parametric and non-parametric statistical tests correspond to this result, which is observed in all of the statistical analyses presented in the following. Because there is only a slight, but nonsignificant increase in the comparable Anglo-American *Journal of Experimental Psychology: General*, this result may be actually a special feature of the anglicized *Experimental Psychology*, but it is not a general feature of the other anglicized German psychology journals.

The variable *number of pages per original contribution* decreases significantly after Anglicization (see Table 1). The overall difference is specifically proven to be statistically significant for *Experimental Psychology* and *Ethology*, but is – with the exception of the *Swiss Journal* – a relative good corresponding overall trend in the former German-language psychology journals after Anglicization. An examination of the journals for differences in layout before and after anglicizing pointed at no significant differences. In comparison, there are also neither significant time

differences in the number of articles per volume nor in the number of pages per articles in both of the Anglo-American journals. Thus, it can be concluded that the decreasing number of pages per article found here is a specific characteristic of anglicizing German journals.

Number and Language of Authors

Throughout all journals, the *number of authors per article* increases slightly, but becomes statistically significant after anglicizing (see Table 2). However, considering each journal separately, we find that an increase in multiple authorships reaches statistical significance only in *Ethology*.

Language of corresponding authors was grouped for German, English, as well as other languages that appeared rather infrequently (e.g., French, Chinese, Italian, Spanish, and Russian). The overall statistical test and the single journal tests – with the exception of *Psychological Research* – demonstrate statistically significant changes in the authorships of the journals after their Anglicization (see Table 2). The frequencies of authors with an affiliation in the German-speaking countries decrease, the frequencies of authors with an affiliation in Anglo-American countries increase, and the frequencies of authors with an affiliation in neither Anglo-American nor German-speaking countries increase as well (at least in three of the five journals studied here). These findings demonstrate that a marked change in authorship has occurred due to the Anglicization of former German-language journals.

Table 2. Comparisons of journals' authorship characteristics four years before (publication language: LA = German) and four years after anglicizing (publication language: LA = English)

Publication language, LA	Number of authors per article							Language of corresponding author ^a (f)						
	German		English		df	t-test	z(U)	German			English			χ^2 (df = 2)
	M	SD	M	SD				G	E	O	G	E	O	
Across all five anglicized journals	1.8	1.1	2.0	1.1	1,296	2.30*	2.53*	317	152	87	278	270	152	37.21**
Psychologische Forschung 1974 → Psychological Res.	1.5	0.6	1.6	0.8	85	0.90	0.68	17	8	8	36	6	7	4.20
Zeitschrift für Tierpsychologie 1986 → Ethology	1.6	0.8	1.8	0.9	567	2.06*	2.05*	63	127	63	54	186	68	6.68*
Schweiz. Z. f. Psychologie 1994 → Swiss J. of Psych.	1.9	1.0	2.1	1.2	144	0.96	0.57	59	3	5	46	13	17	13.89**
Z. f. exp. Psychologie 2002 → Experimental Psych.	2.2	1.3	2.3	1.1	213	0.68	0.77	86	3	0	62	28	34	53.75**
Psychologische Beiträge 2003 → Psych. Sc. Quarterly	2.0	1.3	2.1	1.2	279	0.83	1.18	92	11	11	80	37	26	17.96**

Note. ^aLanguage of corresponding authors: G = German, E = English, O = other language.

* $p < .01$. ** $p < .05$.

Citation Frequencies, Language of Citing Articles, and Impact Factor

Because of the different historical time periods enclosed in the two-decade span in which the former German-language psychology journals were anglicized and because of the same time of measurement of the citation frequencies per article published four years before *versus* after anglicizing (March, 2010), the *number of citations per year since original article's publication* is used as the core scientometric indicator of citation analyses. Results of both the parametric and nonparametric overall statistical tests point at statistically significant increases in the number of citations per year after anglicizing the journal (see Table 3). With the exception of *Ethology*, this is the general trend in the other anglicized German psychology journals.

In contrast, no significant differences are found during the same time periods in the control analyses of the exclusive English-language psychology journals – neither for the citations per year of the articles having been published in the *American Journal of Psychology* nor in the *Journal of Experimental Psychology: General*. As a matter of fact, the results point at rather low mean frequencies of citations per year since articles' publication in the *American Journal of Psychology* ($M = 0.3$) in comparison to those published in the *Journal of Experimental Psychology: General* ($M = 5.7$ and 5.4 , respectively). This corresponds rather well with the mean citations per year of the comparable *Psychological Research* ($M = 0.3$ after anglicizing) and – at a lower level – *Experimental Psychology* ($M = 1.5$ after anglicizing).

Statistically significant changes are found in the *language of the citing articles* after anglicizing as well (*Psychological Science Quarterly* was excluded from these analyses because it is not documented in the WoS up to this time; see Table 3). Results of the overall statistical test and

of the single journal tests show very consistently that, after Anglicization, citing of published articles decreases in the existing German-language journals. This partly may be due to the decreasing number of German-language journals. More important are overall and single effects of Anglicization, which point at significant increases of citing frequencies in English-language journals. The results on the impact of anglicizing on the citation of articles in other-language articles are somewhat inconsistent. There is a general increasing trend as well. However, this general trend is hindered by *Ethology*, because its English-language articles are cited less frequently in other-language (than English and German) publications in comparison to the four years before anglicizing the journal.

Language of citing articles did not change significantly in our two Anglo-American journals analyzed for the control of publication time effects (see Table 3): *American Journal of Psychology* and *Journal of Experimental Psychology: General*. In fact, articles appearing in both of these journals are most frequently cited in other English publications. German- and other-language publications are comparably rare in their citing frequencies. About 97% of the citations of articles published in the *American Journal of Psychology* come from English-language publications, 98% is the English-language citing quota of the *Journal of Experimental Psychology: General*.

Impact factors (IF), computed by taking the number of citations in the two years after the four years before and the four years after anglicizing the journal and dividing this by the number of original articles published in each of the 4-year periods, are presented in Table 3. Statistical tests cannot be applied here, because IF is defined and computed as one indicator for a time period of two years. Again, *Psychological Science Quarterly* must be excluded from these analyses, because it is not documented in the WoS

Table 3. Comparisons of citations per year since articles' publication and languages of citing articles four years before (publication language: LA = German) and four years after anglicizing (publication language: LA = English) as well as journals' impact factors (IF) for the articles published two years before (LA = German) and two years after anglicizing (LA = English)

Publication language, LA	Citations per year since articles' publication						Language of citing articles ^a (f)						IF				
	German			English			German			English			German	English			
	M	SD		M	SD		G	E	O	G	E	O	IF	IF			
Overall five anglicized journals	0.2	0.7	0.5	1.2	1.2	1,296	4.06**	3.93**	164	3,417	62	98	4,156	58	32.88**	1.24	2.10
Psychologische Forschung 1974 → Psychological Res.	0.2	0.4	0.3	0.5	0.5	85	0.57	0.93	45	349	10	43	661	14	10.00**	0.92	0.79
Zeitschrift für Tierpsychol. 1986 → Ethology	0.2	0.3	0.2	0.3	0.3	567	0.45	0.96	23	2,433	37	14	2,226	16	7.80*	2.67	2.90
Schweiz. Z. f. Psychologie 1994 → Swiss J. of Psych.	0.1	0.1	0.3	0.4	0.4	144	3.37**	2.04*	47	87	8	22	223	12	36.67**	0.41	0.65
Z. f. exp. Psychologie 2002 → Experiment. Psych.	0.5	1.5	1.5	2.4	2.4	213	3.46**	6.75**	90	547	7	19	1,046	16	101.91**	0.96	4.09
Psychologische Beiträge 2003 → Psych. Sc. Quarterly	0.2	0.4	0.3	0.5	0.5	279	1.98*	1.82 [†]	-	-	-	-	-	-	-	-	-
Control journals with exclusive publication language English (see text)																	
American J. of Psychology	0.3	0.5	0.3	0.6	0.6	379	0.26	0.80	26	2,220	47	25	2,362	42	0.79	1.36	0.96
J. of Exp. Psych. General	5.7	6.6	5.4	5.6	5.6	263	0.33	0.14	41	6,982	71	22	4,191	44	0.21	10.47	14.91

Note. ^aLanguage of citing articles: G = German, E = English, O = other language.
p* < .01. *p* < .05. [†]*p* < .08.

up to the time periods under study. Overall, the IF values presented in Table 3 show a considerable increase after anglicizing the former German-language psychology journals (from IF = 1.24 to 2.10). This IF gain is most distinctive in *Experimental Psychology* (increased fourfold after its Anglicization), satisfactory in both the *Swiss Journal of Psychology* and *Ethology*, and even decreased slightly in *Psychological Research*.

Control analyses for the comparable Anglo-American *American Journal of Psychology* and *Journal of Experimental Psychology: General* reveal marked differences between both of them. While the IF of the *American Journal of Psychology* is rather low (corresponding with the IF of the comparable *Psychological Research*) and decreasing over time, the IF of the *Journal of Experimental Psychology: General* is very high and increasing over time. Again, this is in accordance with the IF of the comparable anglicized *Experimental Psychology*, however, at a lower numerical IF-level.

Discussion

Our core research question is confirmed by the scientometric results: Anglicizing former German-language psychology journals increases not only the international visibility, but also the reception, usage, and impact (i.e., citations by others) of original psychology publications from the German-speaking countries (i.e., Austria, Germany, and parts of Switzerland and Luxembourg) in the international (i.e., not only in the German-speaking) psychology research community. The hopes underlying the motivation of anglicizing German psychology journals have been fulfilled rather quickly, that is, within four years after anglicizing the journals.

After anglicizing citations per year since original articles' publication increase significantly, the IF of the journals go up markedly. Of special importance are the results on the language of the citing articles: Frequencies of citing in German-language journals decrease and citing in English-language journals increase significantly after anglicizing former German-language psychology journals. The results on the impact of anglicizing on articles' citing by other-language (non-English and non-German) articles are inconsistent. The trend is generally increasing, too. However, this general trend is broken by the journal *Ethology*, because its English-language articles are cited less frequently in other-language (than English and German) publications in comparison to the four years before its Anglicization.

Of special importance are the scientometric results gained for the two Anglo-American psychology journals, which we chose to analyze for the same publication years as the anglicized former German-language journals to control publication time effects. No changes in the scientometric variables were observed for both journals, neither significant time differences in the citations per year since articles' publication nor significant time differences in the languages of citing articles. Impact factors changed; decreasing in one

journal, increasing in the other. However, there are no significant time differences, thus, disproving publication time effects in the results on the impact of anglicizing former German-language psychology journals on (increasing) citation statistics.

Publication time effects can also be excluded for the number of articles per volume and the number of pages per original article because there are no significant time differences in the two comparable Anglo-American control journals. In the anglicized former German-language journals there is a trend toward publishing more articles per volume. This trend is accompanied by a statistically significant decrease in the number of pages per article. Taking both findings together, this points at a strategy of publication of some more, but significant shorter papers after the anglicizing of former German-language psychology journals than before anglicizing. This can be considered the first side effect of anglicizing.

A second side effect of anglicizing is the opening of the former German-language psychology journals for a more international authorship: The frequencies of authors with an affiliation in the German-speaking countries drop, the frequencies of authors with an affiliation in Anglo-American countries increase, and the frequencies of authors with an affiliation in neither Anglo-American nor German-speaking countries increase as well, the latter in at least three of the five journals studied here. In other words, journal anglicizing is associated with a marked change in authorship. In addition, multiple authorship increases slightly, albeit significantly as well.

It can be hypothesized that the significant decrease of authors from the German-speaking countries after Anglicization of former German-language psychology journals may be compensated for by their stronger involvement in more publications in other Anglo-American, international psychology journals. Systematic bibliometric analyses on the development of the internationality of psychology publications from the German-speaking countries since the 1980s confirm this hypothesis: The relative proportion of English-language publications in the total psychology publications deriving from the German-speaking countries increased from 6% in 1980 up to 27% in 2007 (Krampen et al., 2005; Krampen & Schui, 2009a, 2009b). Most of these English-language articles from the German-speaking countries are published in "European ..." and other "International ..." psychology journals and rather rarely in the high impact journals of, for example, the *American Psychological Association* (APA; see Krampen & Schui, 2009b).

Recently in the *American Psychologist*, Arnett (2008) sharply criticized the gatekeepers of the APA journals and the narrowness of American psychology research in their neglect of 95% of the world's population as well as almost 90% of the world's psychology researchers and their research results. This criticism was accompanied by a strong plea for broadening the scope of American psychology by including more research in non-US samples and more publications in APA journals of non-US researchers. Professional comments to this paper (LoSchiavo & Shatz, 2009; Webster, Nichols, & Orozco Schember, 2009) were in agreement, and more and some different suggestions were made

for the internationalization of US-American psychology. Webster et al. (2009) presented a plea for a bottom-up process of increasing the number of first and other authors in APA journals, for which they see already some positive trends. This corresponds to the observation that (multiple) authorships of English-language publications from the German-speaking countries (and, perhaps, from other non-German- and non-English-language countries, too) often include a native English speaker coauthor to bridge the linguistic gap and – perhaps – the gap to the dominant philosophy and methodology of science as well, which Arnett (2008, 2009) is referring to.

Dominance of Anglo-American psychology is demonstrated exemplarily by our results on the citations of articles published in the *American Journal of Psychology* and in the *Journal of Experimental Psychology: General*. Likewise, both of these journals are frequently cited in other English publications. German- and other-language publications are, comparatively speaking, rare in citing them. About 97% of the citations of articles published in the *American Journal of Psychology* come from English-language publications, while 98% is the English-language citing quota of the *Journal of Experimental Psychology: General*. This confirms strong intra-American and intra-English citation and reception habits and circles, which – indeed – may not be broken solely by the opening of US journals for international authors and international research (in the sense of Arnett, 2008, 2009). What is necessary for crossing this bridge are English-language journals from outside the US, either anglicized former other-language psychology journals, inceptions of English-language journals in other-language psychology research communities, or English-language inceptions of psychology journals at the European or worldwide international level resulting from European or international cooperation and psychology associations (see Introduction). Modern publication technologies and paradigms such as online journals, open access, etc., may promote and actually speed up this development.

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