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Comorbidity in Clinical Psychology Research 1980-2014: Publications Trends and Topics in the Anglo-American versus the German-Speaking Countries

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Abstract

Objectives: Description of developmental trends and topics in clinical psychological research on comorbidity between 1980 and 2014. **Methods:** Scientometric analyses of the databases PsycINFO and PSYINDEX were performed to determine the publication frequency of contributions on comorbidity in the Anglo-American versus German-speaking clinical psychology research community. **Results:** It is shown that (1) in both research communities comorbidity is the focus in only 2% of the clinical psychological publications; (2) there is a modest increase of publications on comorbidity over time; (3) the frequency of publications on comorbidity in the Anglo-American countries has dropped since the millennium, while there has been a steady increase in the German-speaking countries; (4) comorbidity is most frequently studied in publications with a more basic research approach that refer to pathology, epidemiology, aetiology, and classification of disorders; (5) only one third of the comorbidity publications refer to more applied research on clinical treatment and prevention; (6) the literature on specific comorbidity diagnoses is rare in the German-speaking countries and even more rare in the Anglo-American research community. **Conclusions:** Clinical psychology publications on comorbidity are rare. The problems of comorbidity diagnoses in general and the limitations of the scientometric results presented here are discussed.

Keywords

comorbidity; mental disorders; psychotherapy research; psychopathology; history of clinical psychology

Introduction

Comorbidity of diagnoses has been recognised as a major issue since the publication of the multiaxial Diagnostic and Statistical Manual of Mental Disorders-III (DSM-III) in 1980 and the replacement of the International Classification of Diseases-9 (ICD-9) by ICD-10 in 1992. In addition, there is increasing evidence of the need to assess for a range of co-morbidities in clinical and research settings (see, e.g., Brieger & Marneros, 2000; Westen, Novotny, & Thompson-Brenner, 2004a, 2004b). However, methodological issues and constraints resulting from the necessity to standardize or ‘manualize’ clinical-psychological interventions (e.g., as required in intervention protocols) can hinder research into comorbid mental and physical disorders (Norcross, Beutler, & Levant, 2007). This trend is accentuated by the requirements of randomized controlled trials in treatment effectiveness studies with respect to the criterion of homogeneous samples in experimental and control groups.

The above methodological issues and constraints are of particular importance in clinical intervention and treatment effectiveness research, but are less important in basic research on the psychopathology, symptomatology, classification, epidemiology, and aetiology of mental, physical, and psychosomatic disorders, because these domains focus more on other, non-experimental research designs in accordance with other types of research questions. Therefore, we expect with our first hypothesis a higher prevalence of investigations and publications on comorbidity in basic clinical research (e.g., psychopathology, classification, epidemiology, and aetiology) than in the more applied clinical psychological research on the treatment and prevention of disorders.

The second hypothesis focuses on the question of differences versus similarities in clinical psychology publications on the main topic ‘comorbidity’ between the Anglo-American and the German-speaking countries. The main diagnostic orientation in the Anglo-American countries is provided with the DSM editions published by the American Psychiatric Association (including comorbidity since 1980). The ICD, in contrast, is required by the health system and health insurances in the German-speaking countries for the classification of disorders while the DSM is more commonly used in research contexts. The use of the ICD-10 (the most recent ICD edition although the ICD has been providing and demanding comorbidity diagnoses since 1992) is mandated in Germany and Luxembourg by law since 2000, in Austria since 2001, and in Switzerland and Liechtenstein since 2006. Frequently, these German-speaking nations together are called the DACHLL countries (D = Germany, A = Austria, CH = Switzerland, first L = Liechtenstein, second L = Luxembourg; note: in Switzerland and Luxembourg

German is one of each three different official languages with large dissemination and usage). In addition to the United States of America, Australia, Canada, Great Britain, Ireland, and New Zealand belong to the group of Anglo-American countries and this group may be labeled by the acronym ANGLO-AM. Thus, the second hypothesis refers to the assumption that the time lag of approximately 20 years between the introduction of the DSM-III in the ANGLO-AM countries (1980) and the obligatory usage of the ICD-10 in the DACHLL countries (about 2000) results in differences in the frequencies of publications on the main topic 'comorbidity', specifically in how the research was carried out and its historical development between 1980 and 2014.

Although there are more similarities than differences between the ANGLO-AM and the DACHLL countries in the prevalence of mental disorders, epidemiological results point to some rather specific cultural features (see, e.g., Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012; Wittchen & Jacobi, 2005; Wittchen et al., 2011). This is confirmed by scientometric results on differences in the frequencies between the Anglo-American vs. German-speaking research communities, in which research results on specific mental disorders are published (Krampen & Perrez, 2015): For example, there are relatively more publications on posttraumatic stress disorder, antisocial personality disorder and intellectual developmental disorders in the ANGLO-AM than in the DACHLL countries. This may be partly explained by special societal characteristics of the United States (which markedly dominates the Anglo-American publication output) concerning military foreign assignments and liberal weapon laws, which result in an increased prevalence, at least for some of the disorders mentioned. Otherwise, there are relatively more clinical-psychological publications on neurotic disorders, borderline personality disorder, alcohol dependency, communication disorders, somatoform pain disorders, and functional vaginismus in the DACHLL countries. Altogether, these epidemiological and scientometric results lead to our third hypothesis referring to more clinical psychological research on comorbidities of these mental disorders listed above, which are typically and relatively more frequently under study in ANGLO-AM versus DACHLL countries.

The last research question is more explorative and therefore not unidirectional inquiring the foci of clinical psychological comorbidity publications with reference to the specific two or more disorders under investigation. Because the number of mental, physical, and psychosomatic disorders is very large, we concentrate on clusters of disorders with reference to the classifications delineated in the Thesaurus of Psychological Index Terms (Gallagher Tuleya, 2007) and PSYINDEX Terms (ZPID, 2011).

To sum up, our research questions focus on the absolute and relative frequencies of clinical psychology publications with the main topic ‘comorbidity’ in two research communities. Comorbidity is defined in the Thesaurus of Psychological Index Terms (Gallagher Tuleya, 2007, p. 62) as ‘the coexistence of two or more physical and/or mental disorders’ indicating the simultaneous or successive incidence of one or more additional disorders to an index (main) disorder. In contrast, multimorbidity is defined as the concurrent presence of at least two, frequently more different disorders, diseases, or health conditions in one person (for overviews on multimorbidity see, e.g., Deccache et al., 2014; Dodel, 2014).

Method

Databases

All data used in the following derive from PsycINFO and PSYINDEX, the databases for psychology and for publications with psychological significance from neighbouring disciplines. From the basic population of these databases the samples of publications were selected by means of identical search strategies, which refer to clinical psychological literature published between 1980 and 2014 (date of searches: February, 2015). The total samples include the publications with the two broad classification codes (CC; Thesaurus of Psychological Index Terms; Gallagher Tuleya, 2007, and PSYINDEX Terms; ZPID, 2011) of clinical psychology referring to ‘Psychological & Physical Disorders’ (CC = 32*) and ‘Health & Mental Health Treatment & Prevention’ (CC = 33*; Gallagher Tuleya, 2007; ZPID, 2011).

The *American Psychological Association* (APA) produces PsycINFO and features it as an international database going back to 1806. However, PsycINFO is dominated markedly by Anglo-American, English-language publications (> 90% of the documents; < 2% of the documents are English- and German-language publications from the German-speaking countries) and its coverage of psychology publications greatly improves but only after the late 1970s in the context of digitalization. At the beginning of 2015 there are about four million documents in PsycINFO (retrieval, e.g., from <http://www.apa.org/pubs/databases/psycinfo/index.aspx>).

PSYINDEX, developed and hosted by the *Leibniz Institute for Psychology Information* (ZPID; Trier, Germany), is the complementary, exhaustive database for German- and English-language publications in psychology and its neighbouring disciplines in the German-speaking countries, that is, DACHLL. Documentation starts with the publication year 1977 (for German psychological tests: 1945). At the beginning of 2015 there are about 300,000 documents in

PSYINDEX (retrieval, e.g., www.zpid.de, www.MEDPILOT.de, or www.pubpsych.de). Thus, in absolute numbers, PsycINFO includes 13.3 times more documents than its European counterpart, PSYINDEX.

(Re-)Search strategies

The two subsets of clinical psychology publication documents were searched by means of the Classification Codes (1) 'Psychological & Physical Disorders' (CC = 32*) and (2) 'Health & Mental Health Treatment & Prevention' (CC = 33*; see, Gallagher Tuleya, 2007; ZPID, 2011) separately at first, and—secondly—together by means of a logical operator OR. Furthermore, scientometric analyses include the search fields (Gallagher Tuleya, 2007; ZPID, 2011) 'Year of Publication' (YR), 'Subject Headings' (SH), and 'Keywords' (MP). Subsets of clinical psychology publications (1) on different clusters of disorders refer to the Subclassification Codes CC = 321*, 323*, 325*, 3260, 3270, 3280, and 329* (for an overview, see Table 4) and (2) on different clinical psychological and psychotherapeutic settings of research and practice refer to the Subclassification Codes CC = 331*, 3340, 335*, 336*, 337*, and 338* (see Table 5). All searches were operated identically for PSYINDEX (i.e., English- and German-language publications from the DACHLL countries) and PsycINFO. For the latter, however, the publications from the Anglo-American countries were selected by means of the search field 'Affiliation' (AF) with Australia, Canada, Great Britain, Ireland, New Zealand, and United States (by means of the logical operator OR) and the search field 'Language' (LA) with English (to exclude French-language publications from Canada).

Results

Publications on Clinical Psychology in the Anglo-American vs. German-Speaking Countries

The absolute and relative frequencies of clinical psychological publications issued between 1980 and 2014 in the ANGLO-AM versus DACHLL countries are presented in Table 1 in total as well as separately for the classifications of disorders (i.e., psychopathology, aetiology, epidemiology; CC = 32*) and treatment & prevention (CC = 33*). PsycINFO includes 5.7 times more documents on these topics than PSYINDEX. Therefore, absolute frequencies have to be relativized within the ANGLO-AM and within DACHLL separately (see Table 1). The results show that there are slightly more publications on psychopathology in ANGLO-AM than in DACHLL and slightly more on treatment & prevention in DACHLL than in ANGLO-AM, both relative to the frequencies of clinical psychology publications in the two countries. However, these differences are small (see Table 1). More striking is the fact that there are relati-

vely more double classifications (double CC) assigned to documents in PSYINDEX (22%) than in PsycINFO (7%).

Table 1. Absolute and Relative Frequencies of Publications on Clinical Psychology from the Anglo-American (ANGLO-AM; PsycINFO) and the German-Speaking (DACHLL; PSYINDEX) Countries, 1980-2014

Research community: Database: (CC) Classification Code ^a	ANGLO-AM		DACHLL	
	PsycINFO		PSYINDEX	
	<i>f</i>	%	<i>f</i>	%
(32*) Psychological and physical disorders	403,769	48%	74,790	45%
(33*) Health & mental health treatment/prev.	431,749	52%	91,507	55%
Σ =	835,518	100%	166,297	100%
<hr/>				
(32*) and (33*): minus double CC	- 51,636	(7%)	- 30,648	(22%)
(32*) or (33*) ^b <i>Clinical psychology</i>	783,882		135,649	

Note. *f* = frequency; % = per cent; CC = classification code; prev. = prevention.

^a *Thesaurus of Psychological Index Terms* (Gallagher Tuleya, 2007; ZPID, 2011).

^b Exclusion of double classifications (CC) by use of the logical operator OR.

Publications on Comorbidity in the Anglo-American vs. German-Speaking Countries

In the upper part of Table 2, the absolute and relative frequencies of clinical psychological publications on the main topic (subject heading; SH) ‘comorbidity’ are presented for the ANGLO-AM and DACHLL countries separately. As mentioned in the introduction, comorbidity is defined in the *Thesaurus of Psychological Index Terms* (Gallagher Tuleya, 2007, p. 62) as ‘the coexistence of two or more physical and/or mental disorders.’ First of all, it should be noted that, of all the clinical psychology publications included in the databases, only 1.90% (ANGLO-AM) of those in PsycINFO and 1.88% (DACHLL) of those in PSYINDEX pick comorbidity out as a central theme, i.e., comorbidity is used as a keyword and/or main descriptor term in the data bases. These relative frequencies are very low and very similar for the ANGLO-AM and DACHLL countries.

Table 2. Absolute and Relative Frequencies of Publications on Clinical Psychology with the Main Topic ‘Comorbidity’ from the Anglo-American (ANGLO-AM; PsycINFO) and the German-Speaking (DACHLL; PSYINDEX) Countries, 1980-2014.

(SH) Subject heading ^a	Research community: ANGLO-AM		DACHLL	
	Database: PsycINFO		PSYINDEX	
	<i>f</i>	%	<i>f</i>	%
<i>Comorbidity (SH) in PY = 1980-2014</i>				
<i>in (32*) or (33*)^b Clinical psychology</i>	$\Sigma = 14,918$	1.90%	2,560	1.88%
in (32*) Psychological and physical disorders	9,676	65%	1,544	60%
in (33*) Health & mental health treatment/prev.	3,639	24%	129	5%
in (32*) and (33*): Double classifications	1,603	11%	887	35%
<i>Comorbidity (SH) in YR = 1980-2014</i>				
	$\Sigma = 14,918$	100%	2,560	100%
YR = 1980-1984	2	0.01%	0	0.0%
YR = 1985-1989	15	0.1%	4	0.2%
YR = 1990-1994	867	5.8%	158	6.2%
YR = 1995-1999	1,696	11.4%	344	13.4%
YR = 2000-2004	2,937	19.7%	553	21.6%
YR = 2005-2009	4,776	32.0%	744	29.1%
YR = 2010-2014	4,625	31.0%	757	29.6%

Note. *f* = frequency; % = per cent; SH = subject heading; YR = year of publication.

^a *Thesaurus of Psychological Index Terms* (Gallagher Tuleya, 2007; ZPID, 2011).

^b Exclusion of double classifications (CC) by use of the logical operator OR.

The first hypothesis—referring to more investigations and publications on comorbidity in basic clinical research (e.g., psychopathology, classification, epidemiology, and aetiology, 32*) than in the more applied clinical psychological research on treatment and prevention of disorders (under consideration of the overlap of both)—are in accordance with our expectation for both research and publication communities by the within relative frequencies (see Table 2). Just under two-thirds (the inclusion of double classifications makes this number

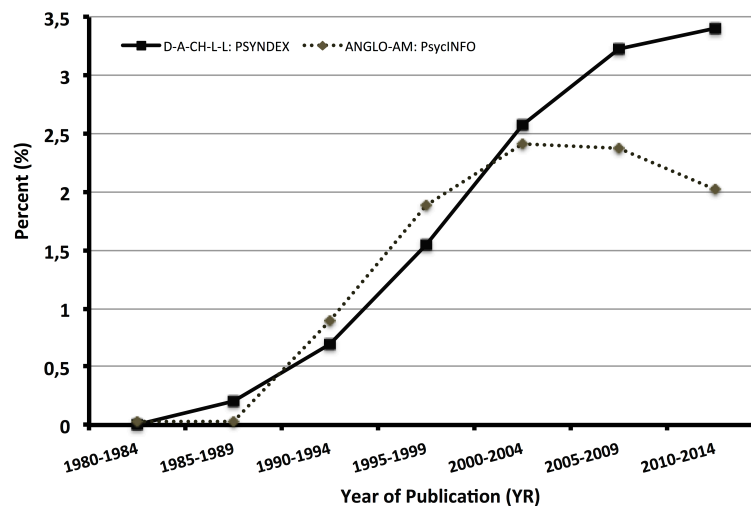
higher) of the publications on comorbidity belong to basic clinical research on psychopathology, epidemiology, and/or aetiology in both the ANGLO-AM and DACHLL, respectively. The remaining one-third relates to clinical treatment and prevention—with a greater number of double classifications in the DACHLL countries than in ANGLO-AM. Absolute frequency of clinical publications on comorbidity is 5.8 times higher in PsycINFO than in PSYINDEX. This proportion is almost equal to the percentage reported above for the absolute number of clinical psychological publications in PsycINFO versus PSYINDEX.

Time Trends of Publication Frequencies on Comorbidity

To describe the time trends in the frequencies by which comorbidity appears as a central theme in clinical psychology publications, time intervals of five years (which will be referred to in the following as quintiles) were generated for the time under analysis. Absolute and within-countries relative frequencies are presented for the resulting seven quintiles between 1980 and 2014 in the lower part of Table 2. Absolute frequencies of publications on comorbidity increase markedly in the late 1990s in both research communities: The number of publications during the 2005-2009 and 2010-2014 quintiles are five times higher than during the 1990-1994 quintile; the 1995-1999 quintile is double that of 1990-1994, and the 2000-2004 quintile is 1.6 times higher than that of 1995-1999, which is, however, very similar to the increase from the 2000-2004 quintile to 2005-2009, after which (2010-2014) the data provide hints of a possible plateau (see Table 2) in absolute frequencies.

The relative increase of publications including comorbidity aspects with regard to the total increase of all clinical-psychological publications is given (see Table 2 and Figure 1 in addition), but it is numerically modest. In both the ANGLO-AM and the DACHLL countries the increase is significantly and numerically highly correlated to the increase in all clinical psychology publications (PsycINFO: $r = .99$; $p < .01$; PSYINDEX: $r = .75$; $p < .01$) during the time frame under consideration. Very similar are the correlations between PsycINFO and PSYINDEX frequencies over 30 years for the increase in the number of all clinical psychology publications ($r = .78$; $p < .01$) and in the number of publications on comorbidity ($r = .99$; $p < .01$). These findings can be considered a first hint that the second hypothesis expecting a time lag of increasing frequencies in publications on comorbidity in the DACHLL in comparison with the ANGLO-AM countries is not confirmed.

Figure 1. Relative Frequencies (%) of Clinical Psychology Publications on Comorbidity with Reference to All Clinical Psychology Publications in Anglo-American vs. German-Speaking Countries 1980-2014



The relative within-countries proportions of the subset of publications on comorbidity from all clinical psychology publications are in accordance with this result and is presented graphically in Figure 1. Between 1980 and 2004 there is no time lag of relative publication frequencies of the DACHLL in comparison with the ANGLO-AM countries. Rather, there are hints—firstly—at a plateau (2000-2009), then—secondly—at a relative drop (2009-2014) of such publications in the ANGLO-AM, while there is a steady increase in the DACHLL countries. Thus, the second (historiographical) hypothesis cannot be empirically confirmed.

Differential Foci of Comorbidity Research on Selected Mental Disorders between ANGLO-AM vs. DACHLL countries?

Results on our third hypothesis which postulates more clinical psychological research and publications on comorbidities of mental disorders that are typically more frequently under study in ANGLO-AM versus DACHLL countries (see above), are summarized in Table 3. For both country groups, the expectation is in accordance with the descriptive results: In the ANGLO-AM countries, posttraumatic stress and antisocial personality disorders are more frequently a main topic of study, and moreover, are more frequently analysed and discussed with respect to comorbid disorders than in the DACHLL countries.

Table 3. Absolute and Relative Frequencies of Comorbidity Diagnoses for Selected Mental Disorders in Clinical Psychological Publications from the Anglo-American (ANGLO-AM: PsycINFO) vs. the German-Speaking Countries (DACHLL: PSYINDEX) between 1980 and 2014.

Mental disorder ^a	DACHLL (PSYINDEX)			ANGLO-AM (PsycINFO)		
	<i>f</i> (comorb.)	<i>f</i> (total)	%	<i>f</i> (comorb.)	<i>f</i> (total)	%
<i>Disorders with relative higher frequency in ANGLO-AM publications ^b</i>						
Posttraumatic stress disorder	175	2,982	5.9%	1,046	15,353	6.8%
Antisocial personality disorder	24	330	7.3%	187	2,319	8.1%
Intellectual development disorder	30	2,413	1.2%	344	29,301	1.2%
Functional sleep apnoea	3	63	4.8%	55	1,208	4.6%
<i>Disorders with relative higher frequency in DACHLL publications ^b</i>						
Neurotic disorders	13	1,310	1.0%	9	588	1.5%
Borderline personality disorder	94	1,062	8.9%	234	2,515	9.3%
Alcohol dependency	178	3,499	5.1%	597	23,174	2.6%
Communication disorder	37	3,964	0.9%	193	19,821	1.0%
Somatoform pain disorder	21	389	5.4%	23	271	8.5%
Functional vaginismus	1	32	3.1%	0	64	0.0%

Note. *f* = frequency; % = per cent; comorb. = comorbidity.

^a *Subject Headings (SH)/Index Terms (ID)* in the *Thesaurus of Psychological Index Terms* (Gallagher Tuleya, 2007; ZPID, 2011).

^b Mental disorders that are relatively (not absolutely) more often a main topic in clinical psychological publications from the ANGLO-AM vs. the DACHLL countries (see, Krampen & Perrez, 2015).

In contrast, the relative frequencies for publications focusing on alcohol dependency and functional vaginismus more often published in the DACHLL countries in general are also a focus of research investigating their comorbidities as indicated by their higher relative frequencies. However, the differences of the percentages between ANGLO-AM and DACHLL are very low (MDifference = 1.8%; in addition, there are very low frequencies for at least two of the mental disorders, which leads to percentage overestimations) and even obsolete for inference statistics. Even more, the results for three other mental disorders (neurotic disorders, borderline personality disorder, and somatoform pain disorder) contradict our third

hypothesis. For three other disorders (i.e., intellectual development disorder, functional sleep apnoea, and communication disorders) the percentage of comorbidity research is almost or just equal (see Table 3). Therefore, the third historiographical hypothesis must be rejected.

Relative Frequency of Comorbidity Research on Different Disorder Clusters

On the background of the final group of results presented above, more general analyses of the frequencies of publications with the main topic comorbidity were implemented, and these refer to clusters of disorders according to the subclassifications of the Classification Code (CC = 32*) 'Psychological & Physical Disorders' in the Thesaurus of Psychological Index Terms (Gallagher Tuleya, 2007; ZPID, 2011). The scientometric results are presented in Table 4. Relative frequencies show that most published comorbidity research focuses on (in descending order) eating disorders, developmental disorders, mental (psychological) disorders, and behaviour disorders, with even less focus on physical and somatoform disorders as well on speech and language disorders. Almost all relative frequencies are higher for the DACHLL than ANGLO-AM, which confirms the results presented above. This finding is also valid for the subclassifications of the disorder clusters (see Table 4): Comorbidities of (in descending order) substance abuse and addiction, personality disorders, neurotic and anxiety disorders, affective disorders, and eating disorders are the topics most frequently taken into consideration in clinical psychological study.

Discussion and Conclusions

First, it should be noted that the historiographical results presented here suggest that not much attention is given to comorbidity diagnosis and treatment in clinical psychological publications, although it is provided and required at least since the publication of the DSM-III (1980) and the ICD-10 (1992), respectively, and although it is a hot topic in applied clinical psychological settings (see, e.g., Brieger & Marneros, 2000; Westen et al., 2004a, 2004b; Morrison, Bradley & Westen, 2003). Comorbidity is a main topic in just 2% of the clinical psychological publications from the Anglo-American and the German-speaking countries in the period from 1980 to 2014. In accordance with our first expectation, comorbidity is most frequently under study in publications of more basic research on the pathology, epidemiology, aetiology, and classification of disorders; only one third of the comorbidity publications refers to more applied research in clinical treatment and prevention.

Table 4. Absolute and Relative Within Frequencies of Comorbidity Diagnoses for Clusters of Disorders in Clinical Psychological Publications from the Anglo-American (ANGLO-AM: PsycINFO) vs. the German-Speaking Countries (DACHLL: PSYINDEX) between 1980 and 2014.

(CC) Psychological & Physical Disorders ^a	PsycINFO: ANGLO-AM			PSYINDEX: DACHLL		
	<i>f</i> (total)	<i>f</i> (comorb.)	%	<i>f</i> (total)	<i>f</i> (comorb.)	%
(321*) <i>Psychological disorders</i> ^b	$\Sigma = 69,394$	2,132	3.1%	21,673	921	4.2%
(3211) Affective disorders	25,211	796	3.2%	5,495	345	6.3%
(3213) Schizophrenia & states	20,312	294	1.0%	5,894	161	2.7%
(3215) Neurosis & anxiety dis.	17,450	811	4.6%	7,342	490	6.7%
(3217) Personality disorders	6,421	231	3.6%	2,942	225	7.6%
(323*) <i>Behaviour disorders & antisocial behaviour</i> ^b	$\Sigma = 88,126$	1,149	1.3%	16,865	537	3.2%
(3230) Behaviour disorders	42,867	430	1.0%	5,741	125	2.2%
(3233) Substance abuse & addic.	31,384	664	2.1%	6,341	487	7.7%
(3236) Criminal & juv. delinquency	13,875	55	0.4%	4,783	38	0.8%
(325*) <i>Developmental disorders & autism</i> ^b	$\Sigma = 32,336$	903	2.8%	5,871	270	4.6%
(3250) Communication, ADHS	20,687	728	3.5%	2,890	222	7.7%
(3253) Learning disorders	5,472	59	1.1%	1,418	24	1.7%
(3256) Intellectual dev. dis.	6,177	116	1.9%	1,563	24	1.5%
(3260) <i>Eating disorders</i>	11,733	306	2.6%	2,970	164	5.5%
(3270) <i>Speech & language disorders</i>	5,014	31	0.3%	1,686	7	0.4%
(3280) <i>Environmental toxins & health</i>	546	0	0.0%	129	2	1.6%
(329*) <i>Physical & somatoform & psychogenic disorders</i> ^b	$\Sigma = 95,752$	893	0.9%	11,897	215	1.8%
(3291) Immunological disorders	11,805	115	1.0%	1,314	13	1.0%
(3293) Cancer	10,355	72	0.7%	2,056	40	1.9%
(3295) Cardiovascular disorders	7,364	71	1.0%	1,487	37	2.5%
(3297) Neurological & brain	58,617	606	1.0%	5,955	117	2.0%
(3299) Sensory disorders	7,611	29	0.4%	1,085	8	0.7%

Note. *f* = frequency; % = per cent; comorb. = comorbidity

^a Classification Codes (CC) in the *Thesaurus of Psychological Index Terms* (Gallagher Tuleya, 2007; ZPID, 2011).

^b Including double classifications ($\leq 11\%$; see Table 1).

However, comorbidity has been implemented as a central theme with increasing frequency at least since the late 1990s (from nearly 0% in the 1980s up to a maximum of 2.5% of the clinical psychological publications in ANGLO-AM and 3.4% in DACHLL after the millennium). The increasing publication trends are—at first—similar in the ANGLO-AM and the DACHLL countries.

As there is no time lag of the DACHLL publications on comorbidity (due to the rather late required disorder classification following ICD-10 since the 2000s), our second hypothesis could not be histiographically confirmed. The similarity of publication trends on comorbidity in the 1980s and 1990s in ANGLO-AM and DACHLL may be explained by the principal orientation of the clinical psychological research community in the DACHLL countries on the DSM since the 1980s (as in ANGLO-AM) for the sake of the internationality and of English-language publication of research results from the German-speaking countries (see, e.g., Krampen, Huckert, & Schui, 2012; Krampen, Montada, Müller, & Schui, 2005). At the same time, applied clinical psychologists and psychotherapists are obligated to use the ICD-10 classifications in the DACHLL countries since the 2000s. Thus, there is a gap and some considerable distance between clinical psychological research and practice. This may be associated with the somewhat persistent adherence of assigning only one disorder diagnosis per patient and the—perhaps artificial—use of discrete diagnostic labels in (randomized) treatment effectiveness evaluation research (see, e.g., Weisz, Weersing, & Henggeler, 2005). This contradicts the principles of the DSM (in the IIIth, IVth, and 5th editions) and the ICD-10 as well as the reality of clinical practice in treatment and prevention. In addition, it favours the internal validity to the detriment of the external validity—both of which have to be considered in research on empirically supported treatment useful for practice to bridge the ‘(real) hiatus between clinical research and practice’ (Kazdin, 2008, p. 146 and p. 156). Different studies focused on this hiatus between the knowledge offered by research and the knowledge needed by the practitioners in psychotherapy (see, e.g., Morrison, Bradley & Westen, 2003; Westen et al., 2004a, 2004b) and in psychiatry (see, e.g., Brieger & Marneros, 2000).

In any case, we are in need of more data on the prevalence of comorbid disorders in different clinical psychological and psychotherapeutic settings as well as—if samples sizes of comorbid patients are too small—of clinical case studies and case histories to explore more extensively its phenomenology, aetiology, and implications for treatment. There are many questions with theoretical and practical significance, which refer—for example—to either simultaneous versus successive treatment of the comorbid disorders, of primary versus secondary comorbidity, of causal versus reciprocal comorbidity, of the extents of symptom overlap versus

symptom distinctiveness, etc. Last but not least, there remains the perhaps most significant question on the validity and necessity of comorbidity diagnoses (see, e.g., Ciccone & Natelson, 2003; Lieb, 2009; Young, 2013). For some types of comorbidity it must be asked if the DSM or ICD categories inappropriately divide complex disorders into different disorder units 'which share the same underlying psychological mechanisms' (Borkovec, Abel, & Newman, 1995, p. 482). These authors found already 20 years ago that 'future therapy developments might best be based on growing basic knowledge about fundamental, shared mechanism' (p. 482). Nolen-Hoeksema and Watkins (2011) advocate in accordance with trans-diagnostic principles (Harvey, Watkins, Mansell & Shafran, 2004) not to focus on observed symptom clusters, but on fundamental underlying mechanisms explaining comorbidity. Or Gilbert (2015) shows the problem of non-correspondence of symptoms to the underlying processes using the example of the role of different disturbed underlying affect systems leading to similar phenotypic emotional disorders but asking for different treatments.

These questions can only be answered by more research—studies with patient samples as well as single case studies—on comorbidity and underlying processes. The additional analysis of absolute frequencies of within disorder cluster interdependences shows that there is enough primary empirical research for meta-analyses or literature reviews only for very few special comorbid disorder combinations up to now. This less than a handful refers to the comorbidity diagnoses of (1) affective disorder with neurotic and/or anxiety disorder and (2) personality disorder with neurotic and/or anxiety disorder.

The above presented and discussed results are limited on clinical psychology research documented in the databases PsycINFO and PSYINDEX, representative for the two research communities. Another limitation of our scientometric results refers to the necessary orientation on the system of psychological index terms, topics (e.g., clusters and notation of disorders), and subdisciplines in the Thesaurus of Psychological Index Terms (Gallagher Tuleya, 2007) and PSYINDEX Terms (ZPID, 2011), respectively. Just as the clinical classification systems DSM and ICD, the Thesaurus and PSYINDEX Terms are revised and adapted continuously - albeit in a more conservative manner and with some time lag - to enhancements and research progress in the systematics and terminology of psychological research as well. Therefore, our scientometric and historiographical results allow an explorative perspective on clinical psychology publications on comorbidity in the last three and a half decades.

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