

## Bibliometric Analyses on the Emergence and Present Growth of Positive Psychology

Gabriel Schui\* and Günter Krampen

*University of Trier and Leibniz-Institute for Psychology Information (ZPID), Germany*

Bibliometric results on the emergence and recent developmental trends of publications on positive psychology are presented within an outline of its precursors (i.e. humanistic psychology) and its special features in reference to humanistic psychology, health psychology, and developmental psychology. Terminological confusions (e.g. positivism in differential psychology vs. in epistemology; positive psychology) in psychological databases are described and resolved in bibliometric analyses for the time period between 2000 and 2008. The present results include findings reporting the incidence of multiple authorships, authors' national institutional affiliations, the semantic network of publications on positive psychology, selected citation rates, and methodological classifications of the literature on positive psychology. With reference to PsycINFO, analyses show that publications on positive psychology increased markedly. Yet in comparison to other psychological subdisciplines and areas, literature output remains rather low. However, results on publication types and media point at a broad-range impact of positive psychology on various applied and basic psychological subdisciplines. Together with the solid empirical foundation of positive psychology's literature, this leads to a positive prognosis for the further development of positive psychology.

Keywords: bibliometrics, history of psychology, humanistic psychology, mental health, positive psychology, well-being

### INTRODUCTION

It has been a little over 10 years since a new school of thought—positive psychology—was introduced to the scientific community through the initiative of the former APA President Martin Seligman. Since its inception, the field of positive psychology has flourished and has grown into an active scientific community guided by the International Positive Psychology Association (IPPA), which was founded in 2007 to promote and facilitate research

---

\* Address for correspondence: Gabriel Schui, University of Trier, ZPID, D-54286 Trier, Germany. Email: gabriel.schui@zpid.de

and collaboration. In addition to this network, several specialised journals on the subject are now available that offer authors various venues in which to publish their research.

The time span of one decade since the inception of positive psychology is sufficient to track its progress and development using a bibliometric approach. In the current study, our goal is to quantify the increasing number of publications on positive psychology, as well as to specifically determine the type of literature and the methodology comprising these studies, the subdisciplines and research contexts of psychology in which they are found, and where they are published. To give an impression of how positive psychology has been received in the scientific community, we present an analysis of the citations of one of its most influential works, the introductory article by Seligman and Csikszentmihályi (2000). While the present paper will probably not hold any surprises for those familiar with positive psychology, it should provide the new student with a brief bibliometric overview of its publication landscape and, thus, should be regarded as complementary to a classic literature review.

The term “positive psychology”, in the strict sense of referring to positive human attributes and resources, was first used by Abraham H. Maslow in the title of the last chapter of his 1954 book *Motivation and Personality*, which is entitled “Towards a positive psychology”. From a historical perspective, this is related to the origin and development of humanistic psychology, which was founded in the late 1950s by Abraham H. Maslow (1908–70), Charlotte Bühler (1893–1974), Rollo May (1909–94), Carl R. Rogers (1902–87), and others. It was seen as a third force in psychology—along with psychoanalysis and behaviorism—and focused on self-actualisation, positive human functioning, autonomy, and individuality in the contexts of human development, personality, and psychotherapy. Although humanistic psychology became very influential in the field of psychotherapy, it has always been impeded by a lack of empirical basis for many of its theories (Seligman & Csikszentmihályi, 2000, p. 7). This has to be seen in relation to the predominant definition of psychology as a natural science and the experiment as its primary device of gaining knowledge. In contrast, research in humanistic psychology is founded for the most part on qualitative approaches that aim to understand and explain the experience of humans on a different level and are often criticised as not being scientific. Wertz (2001) illustrates the value of qualitative methodology as complementary to the experimental paradigm and describes some historical examples of concise, qualitative studies by William James (on religious experiences), Gordon Allport (on the analysis of personal documents), and Abraham Maslow (on self-actualisation).

More than four decades later, in 1998, Martin Seligman proposed a reorientation of psychological research efforts toward the study of human strengths and away from the prevalent focus on deficits and pathologies as an

initiative during his presidency of the American Psychological Association (APA; Seligman, 1999; see also Seligman, 2002). In the process, he founded the Positive Psychology Network, consisting of several groups of scientists committed to advancing this new direction of thought in psychology. Over a decade later, we present the findings of a bibliometric approach to describe how the field of positive psychology has evolved and diversified during its first decade of existence by analysing the literature published in this area.

## METHOD

The first step in our bibliometric analysis was to conceive a literature search strategy to locate all relevant publications from the PsycINFO database for subsequent analysis. The search was based on free text input, or it can utilise database fields like the title (TI), abstract (AB), key concepts (ID), or the index terms (SH) provided by the *Thesaurus of Psychological Index Terms*, 11th edition, published by the APA (Gallagher Tuleya, 2007). Since the index terms are meant to provide the most powerful way of conducting a precise search with a simple search strategy, we will discuss the problems of their application to positive psychology literature first.

When using the term “positive psychology” in literature searches—including bibliometric studies—the similarity to “positivism” in epistemology can pose a serious problem. Especially in the first half of the 20th century, psychological schools and research founded on positivism and neo-positivism in science theory (i.e. empiricism and operationalism emphasising the principle of verification; see, e.g. Bergmann & Spence, 1941) were often referred to as positive psychology. The APA *Thesaurus of Psychological Index Terms* (Gallagher Tuleya, 2007) reflects this by offering the two thesaurus terms “Positivism” (scope note, SN: “Personal quality or state of being positive or confident. Compare Optimism”; Gallagher Tuleya, 2007, p. 227) and “Positivism (Philosophy)” (SN: “Philosophical view that scientific knowledge comes from direct observation and application of empirical methods”; Gallagher Tuleya, 2007, p. 227). In addition, in June 2003 the index term “positive psychology” was introduced to the APA *Thesaurus* (SN: “Approach to psychology that emphasizes optimism and positive human functioning instead of focusing on psychopathology and dysfunction”; Gallagher Tuleya, 2007, p. 227), corresponding to Maslow’s and Seligman’s definitions of positive psychology. After this addition, 533 relevant records documented earlier in PsycINFO were re-indexed with the new term. Unfortunately, these terms have not always been assigned correctly—probably a result of using automatic indexing and re-indexing procedures that were employed for economic reasons. Such procedures suffer from the well-known semantic problems in translating natural language and scientific definitions to computer software.

The themes most relevant for positive psychology are also represented by a number of additional thesaurus terms (i.e. “quality of life”, “well-being”, “life satisfaction”, or “happiness”). These terms were all included in the APA *Thesaurus* before the inception of positive psychology in 1998. This fact led us to the question: How many publications indexed with these terms but not with the term “positive psychology” would have to be (additionally or solely) qualified as “positive psychology” following the current conception of this psychological field, and how many would not? With this question in mind, the problem of assembling a valid body of positive psychology literature could be addressed in two ways: Either by (1) including all documents indexed with the term “positive psychology” plus adding the documents indexed with the terms mentioned above *and* subsequently analysing the content of the latter group to (dis)qualify them as “positive psychology”, or (2) narrowing the search to documents that include the term “positive psychology” only as a thesaurus descriptor, or as having the term appear somewhere in the title, key phrase, or abstract. While the former approach would yield a more complete set of literature, it is a very time-consuming procedure, and the qualification of documents would still be debatable.

Therefore, in the current analysis we chose the latter approach, which has the additional advantage that it focuses on the use of the exact term “positive psychology”, either by the authors themselves or by the APA in the process of indexing publications for PsycINFO. The potential difference in the bodies of literature generated by approaches (1) and (2) indicates a more general dilemma of using descriptors in database literature searches. While they are potentially able to improve dramatically the precision of search results when compared to free text or title searches, the actual quality of the results is highly dependent on the correct and exhaustive indexing of the documents. Therefore, when reviewing the results presented below, it is necessary to keep in mind that they are valid only for a literature set that corresponds to the representation of positive psychology *through its designated thesaurus term*. It may not equate to the whole body of literature that an expert panel would theoretically associate with positive psychology.

To facilitate replication of the search results, the search syntax in Silver-Platter format (accessed through the OvidSP search interface) is described below:

Positive psychology in sh (Section Heading = APA Thesaurus Term)  
 Positive psychology in ti (Title)  
 Positive psychology in id (Key Concepts)  
 Positive psychology in ab (Abstract)  
 (#1 or #2 or #3 or #4) and yr>1999 (all of the above, published later than 1999)

The result of line 5 can then be limited to single years by combining it with “#5 and yr=yyyy”. The exact literature set of this study can be replicated with “#5 and up<20090101” to limit the database to the exact time of data collection.

The first substantial use of the index term “positive psychology” occurred in the year 2000. Before that, only single occurrences were found (15 in total), almost all of which (in the case of erroneous index terms) referred to positivism in epistemology. Therefore, our bibliometric analyses began with the year 2000, the time when the field of positive psychology became widely known in its present-day form. It is important to note that an underlying assumption for this analysis was that the index term had been applied correctly in the time since then.

## RESULTS

### Frequency of Publications on Positive Psychology

The literature search strategy described above yields 1,128 hits, indicating that literature on positive psychology constitutes a rather small portion (0.13%) of the total literature covered in PsycINFO since 2000. Publications on positive psychology in this time span are also less frequent compared to those from the smaller subdisciplines of psychology, for instance, sport psychology (0.68%), military psychology (0.43%), environmental psychology (1.24%), or health psychology (4.2%), but more than twice as frequent as publications on humanistic psychology (0.05%). In the psychology database for the German-speaking countries, PSYINDEX (see [www.zpid.de](http://www.zpid.de)), the percentage of literature on positive psychology is even lower (53 publications since 2000, i.e. 0.07%) than in PsycINFO. The main bibliometric analysis presented focuses on the 1,128 publications identified in PsycINFO. As shown in Figure 1, the literature output has steadily increased by 100 to 200 publications per year from 2002 to 2008.

### Publication Types and Media

A little more than half of the publications analysed are journal articles, roughly one-quarter are edited books and book chapters, and the remaining quarter is made up of dissertations (12%), authored books, and PsycCRITIQUES book reviews (both approximately 5%). See Table 1 for a comprehensive account.

The analysis of publication media points to a small number of journals and handbooks in which publications on positive psychology are strongly represented (see Table 2). Some of these journals were founded around or after the consolidation of the field of positive psychology, namely, the *Journal of*

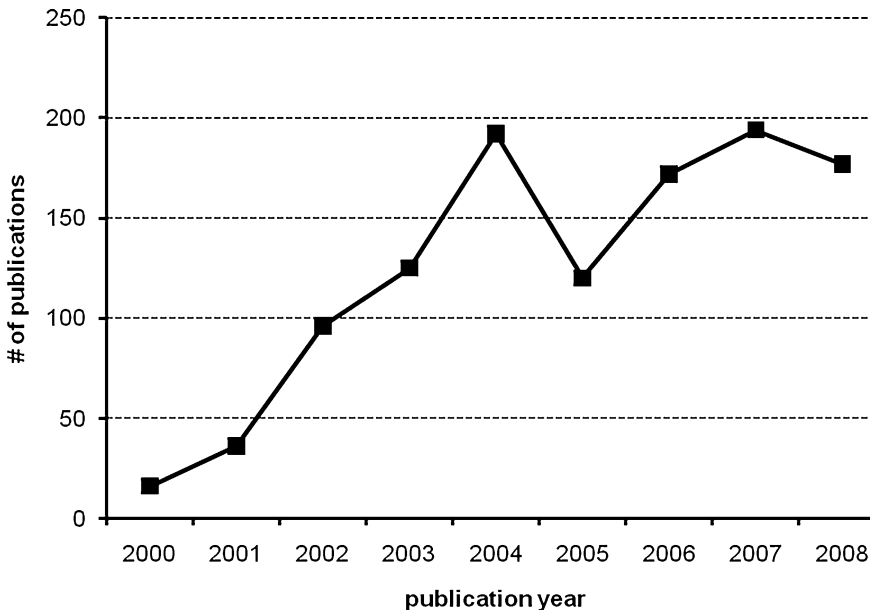


FIGURE 1. Development of the absolute numbers of publications on positive psychology (2000–08).

TABLE 1  
Frequencies of Publication and Document Types in Positive Psychology (2000–08)

<i>Publication type</i>	<i>f</i>	<i>%</i>
Authored book	62	5.5
Dissertation	132	11.7
Edited book	266	23.6
including:		
Editions	20	
Chapters	243	
Journal article (peer reviewed journals)	616	54.6
including:		
Original articles	417	
Comments/Replies	107	
Book reviews	54	
Editorials	31	
PsycCRITIQUES-Document (Book review)	52	4.6
Total	1,128	100

TABLE 2  
 Journals and Edited Books in Positive Psychology with Ten or More  
 Publications: Frequencies of Articles and Chapters (2000–08)

<i>Journal / Book</i>	<i>f</i>
<i>Handbook of Positive Psychology</i> (2002)	51
<i>Behavioral and Brain Sciences</i>	36
<i>American Psychologist</i>	29
<i>Oxford handbook of methods in positive psychology</i> (2007)	28
<i>Character strengths and virtues: A handbook and classification</i> (2004)	27
<i>Journal of Positive Psychology</i>	23
<i>Positive psychology in practice</i> (2004)	22
<i>A psychology of human strengths: Fundamental questions and future directions for a positive psychology</i> (2003)	20
<i>Psychological Inquiry</i>	20
<i>Journal of Positive Behavior Interventions</i>	14
<i>International Coaching Psychology Review</i>	13
<i>Psychology in the Schools</i>	13
<i>Journal of Humanistic Psychology</i>	12
<i>Journal of Organizational Behavior Management</i>	12
<i>Journal of Happiness Studies</i>	10

*Happiness Studies* (founded in 2000), the *Journal of Positive Psychology* (2006), and the recently founded *Applied Psychology: Health & Well-Being* (which first appeared as a supplement to *Applied Psychology: An International Review* in 2008, and is therefore not included in Table 2). All three journals emphasise their focus on interdisciplinarity in their introductory editorials, underlining the notion that the approach of positive psychology is not a discrete, new subdiscipline within psychology, but rather an extension of existing psychology. This notion is confirmed by the rather high number of publications on positive psychology in broad-range, nonspecialised psychological journals (i.e. *American Psychologist*, *Behavioral and Brain Sciences*, *Psychological Inquiry*; see Table 2).

## Semantic Network of Index Terms

The frequency distributions of the additional APA *Thesaurus* terms used to classify the literature analysed can be used to determine the areas of psychology in which most of the research on positive psychology takes place and is published: As expected, it is a diverse picture with a total number of 894 terms used. However, almost one-third of them (31.8%) apply to only 11 descriptors listed in Table 3. These represent the main themes that positive psychology is concerned with: well-being, happiness, quality of life, satisfaction, mental health, and the disposition toward such positive views of life as a personality

TABLE 3  
The Most Frequently Used APA *Thesaurus* Index Terms (More Than 1% of Total Terms Used) within the Literature Set on Positive Psychology (2000–08)

<i>Thesaurus term</i>	<i>f</i>	<i>%</i>
Positive psychology	643	14.2
Well-being	236	5.2
Happiness	91	2.0
Quality of life	78	1.7
Life satisfaction	72	1.6
Personality traits	65	1.4
Positivism	59	1.3
Emotional states	52	1.1
Psychotherapy	51	1.1
Mental health	48	1.1
Humanistic psychology	45	1.0

trait. The cluster of psychological constructs formed by these terms is in line with the earlier work about self-actualisation and positive human functioning of the prominent historical precursors in humanistic psychology described in the Introduction. As we continue down the list we find terms associated with narrower research themes within personality psychology, social psychology, and applied psychology.

To illustrate the connections between the related index terms, publication trends and their correlations were computed for the top five terms shown in Table 3 from 2000 to 2008. Publications indexed as “well-being” and “quality of life” are found more frequently than those indexed as “positive psychology” (around 10 times more per year during the last five years). These two terms also show a sharp and comparable increase in publications since 1994 and make up over 1 per cent of the yearly total literature in PsycINFO since 2000. The upward trends of “positive psychology”, “quality of life”, and “well-being” are significantly correlated at the 5 per cent and 10 per cent levels ( $0.63^+ < r < 0.71^*$ ), while the correlation of “positive psychology” and “life satisfaction” is significantly negative ( $r = -0.82^{**}$ ), hinting at the possibility that documents formerly indexed as “life satisfaction” are now indexed as “positive psychology”. Interestingly, even though it is the second most frequent term used in conjunction with “positive psychology” (see Table 3), the publication trend of “happiness” is uncorrelated with that of “positive psychology” ( $r = 0.05$ , *ns*).

## Impact on Psychological Subdisciplines

Table 4 shows the 10 subdisciplines of psychology (classification code, CC) to which most of the literature is classified in PsycINFO. Approximately 45 per



TABLE 4  
The Ten Subdisciplines of Psychology with Most References to Positive Psychology (APA Classification Codes, 2000–08)

<i>Subdiscipline</i>	<i>f</i>	<i>%</i>
Health & mental health treatment & prevention	372	28.4
Personality psychology	257	19.6
General psychology	105	8.0
Social psychology	92	7.0
Industrial and organizational psychology	86	6.6
Developmental psychology	82	6.3
Educational psychology	76	5.8
Psychometrics and statistics and methodology	69	5.3
Psychological and physical disorders	48	3.7
Social processes and social issues	38	2.9

cent of the publications stem from applied psychology (i.e. clinical and health psychology, industrial and organisational psychology, and educational psychology, respectively), and within this group, health and mental health treatment and prevention is the most prominent subject. In basic research, by far the most publications refer to personality psychology (19.6%), followed by general psychology (8%; mainly on emotions and motivation), social psychology (7%), and developmental psychology (6.3%).

## Methodology of Publications

Altogether, 316 (28%) of the publications on positive psychology, mainly journal articles and dissertations, have an additional methodological classification in PsycINFO (documentation field, MD): There are 38 literature reviews (12%), summarising research on several of the typical facets of positive psychology, that is, well-being and life satisfaction, sometimes narrowed to specific contexts such as children, groups, or relationships. This is a comparatively high quota for a relatively new field of theory formation and research. However, the majority of publications with a methodological classification are empirical studies (272; 86%). Of these, quantitative research dominates (85%), but there are also some qualitative studies (34; 13%) and only a few case reports (6; 2%). Results of longitudinal studies are as yet rarely published with reference to positive psychology (21; 8%).

## Authorship

The 1,128 publications on positive psychology were written by 1,993 authors ( $M = 1.8$  authors per publication), 1,770 of which are listed with their

institutional affiliation in PsycINFO. Most of the authors have Anglo-American institutional affiliations with the vast majority (more than 70%) located in the United States, followed by the United Kingdom (7.8%), Canada (3.6%), and Australia (2.2%). The frequency of authors from Germany (2.1%) equals that from Australia, thus making German authors the most frequent contributor of positive psychology publications from the non-Anglo-American countries. From a larger geographical perspective, 74.5 per cent of the authors are affiliated institutionally in North America (US and Canada), 17.6 per cent in Europe, and 3.2 per cent Asia (most of them in China). Very small percentages come from Africa (1.4%, most of them from South Africa) and South and Central America (0.9%). Almost all of the publications (1,071; 94.5%) are written in English. Other languages with a double-digit number of publications are Spanish, Portuguese, and French.

## Citations

“Positive psychology: An introduction”, a short editorial article authored by Martin Seligman and Mihály Csikszentmihályi and published in early 2000, is the fourth most cited work of Seligman and the single most cited work of Csikszentmihályi according to the Web of Science. As of January 2009, this article has been cited in 680 other papers. Specifically, authors from 48 countries around the world have cited this paper, with by far the most citations coming from the United States (68%), followed by Canada, Great Britain, the Netherlands, and Australia (all in the range of 3–6%). The publications citing Seligman and Csikszentmihályi (2000) can be found in a total of 310 journals originating from a wide variety of psychological subdisciplines, thus underscoring the definition of positive psychology as an extension and complement to existing psychology.

## CONCLUSION

To sum up, the results of our bibliometric analyses on the emergence and present growth of positive psychology confirm that there is a new and ever-increasing school of thought within psychology. The number of publications per year containing aspects of positive psychology has progressively increased since 2000. The designated index term “positive psychology” suggests that searching for corresponding literature in the psychological databases (i.e. PsycINFO and PSYNDEX) is clear and unambiguous. Still, the possibility of not really finding all relevant publications with that index term has to be considered when using it for searching—in bibliometric contexts or otherwise.

When compared to the classical subdisciplines as well as to some of the smaller new subdisciplines and areas of psychology, the publication output of

positive psychology is up to now still rather small. However, our analysis provides indications that allow us to anticipate a bright future for the continuing development of positive psychology: As intended, contributions on positive psychology are not only published in specialised journals and handbooks on the topic, but also often in broad-range psychological journals. Moreover, these publications are frequently cited in journals from a wide variety of psychological subdisciplines. Positive psychology has succeeded in finding its place in basic as well as applied psychological research and practice, and has accomplished this feat in the rather short time of one decade. Its high percentage of empirically based publications shows that it has already produced a solid foundation of empirical results, primarily published in highly visible journal articles and dissertations. The latter—although less visible—are still an indication of new colleagues interested in furthering the advances in the field.

The amount of theory-based empirical research in positive psychology has resulted in an overcoming of the mainly theoretical, normative, and partly narrative argumentations and research of its predecessor—humanistic psychology. This mere fact already is, and may become even more so, the most significant prerequisite for a good future of positive psychology within psychology and related human/social sciences. The advancement of positive psychology is also supported by the increasing development of the closely related field of health psychology during the last three to four decades (see, e.g. Krampen & Montada, 1998; Schwarzer, 2009). In contrast to humanistic psychology, which was primarily defined by differentiation from other psychological schools (i.e. the third force along with psychoanalysis and behavior theory/therapy), positive psychology complements (not only) health psychology with its emphasis on positive definitions of the concepts of mental health, positive human functioning, positive development, self-actualisation, autonomy, self-control, and human individuality. Therefore, it stands in the tradition of a more empirically founded humanistic psychology, which is confirmed by the semantic network of psychological index terms surrounding publications on positive psychology: Well-being, happiness, quality of life, emotional states, and the personality traits associated with them (e.g. optimism, positivism, self-actualisation, self-esteem) are relevant to basic research (e.g. on motivation and emotion, on human development and personality), as well as to applied psychology and research (e.g. in primary prevention, educational psychology, organisational psychology, psychotherapy).

Until now, most publications on positive psychology have been written by authors from the Anglo-American regions. More than 70 per cent of them are based in the United States, which is a typical finding in bibliometric analyses of contemporary psychology literature. In a contribution to the *American Psychologist*, Arnett (2008) analysed and criticised the strong US bias of the

journals of the APA, which dominate the “rest of the world” (“the neglected 95%”; Arnett, 2008, p. 602) and might bias psychological research results because of the underlying samples, value orientations, norms, methodology and so on. Due to their subject matter, publications on positive psychology are especially sensitive to such cultural influences, since the conceptions of happiness and well-being may differ largely between cultures (Ratzlaff, Matsumoto, Kouznetsova, Raroque, & Ray, 2000). Although the influence of culture on well-being is well recognised and researched, as documented, for example, in Diener’s (2009) recently published book *Culture and well-being*, there still is only a small number of publications on positive psychology from authors who are not institutionally affiliated in the English-speaking countries or Europe. Most of it comes from the US (71%), other English-speaking countries (14.1%), and the non-English-speaking European countries (9.3%), whereas literature output from South and Central America (0.9%), Africa (1.4%), and Asia (3.2%) is very low. While it may well be the case that many authors originate from other cultures and are now working in North America or other English-speaking nations, it would be a welcome addition to the positive psychology literature base to have more research emerge directly from other cultural contexts.

## REFERENCES

- Arnett, J.J. (2008). The neglected 95%: Why American psychology needs to become less American. *American Psychologist*, *63*, 602–614.
- Bergmann, G., & Spence, K. (1941). Operationalism and theory in psychology. *Psychological Review*, *48*, 1–14.
- Diener, E. (Ed.) (2009). *Culture and well-being—The collected works of Ed Diener*. New York: Springer.
- Gallagher Tuleya, L. (Ed.) (2007). *Thesaurus of psychological index terms* (11th edn.). Washington, DC: American Psychological Association.
- Krampen, G., & Montada, L. (1998). Health psychology: Bibliometrical results on the emergence and rapid consolidation of a new field of research and application. *Psychology & Health*, *13*, 1027–1036.
- Maslow, A.H. (1954). *Motivation and personality*. Oxford, MA: Harpers.
- Ratzlaff, C., Matsumoto, D., Kouznetsova, N., Raroque, J., & Ray, R. (2000). Individual psychological culture and subjective well-being. In E. Diener & E.M. Suh (Eds.), *Culture and subjective well-being* (pp. 37–59). Cambridge, MA: MIT Press.
- Schwarzer, R. (2009). Gesundheitspsychologie [Health psychology]. In G. Krampen (Ed.), *Psychologie: Experten als Zeitzeugen* [Psychology: Experts as contemporary witnesses] (pp. 240–249). Göttingen, Germany: Hogrefe.
- Seligman, M.E.P. (1999). The Presidential Address. APA Annual Report. *American Psychologist*, *54*, 559–562.
- Seligman, M.E.P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.

- Seligman, M.E.P., & Csikszentmihályi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5–14.
- Wertz, F.J. (2001). Humanistic psychology and the qualitative research tradition. In K.J. Schneider, J.F.T. Bugental, & J.F. Pierson (Eds.), *The handbook of humanistic psychology: Leading edges in theory, research, and practice* (pp. 231–245). Thousand Oaks, CA: Sage.