
Efficacy, Effectiveness, and Expected Treatment Response in Psychotherapy

▼
Wolfgang Lutz

University of Berne

This article provides a summary of "The Evaluation of Psychotherapy: Efficacy, Effectiveness, and Patient Progress" (Howard, Moras, Brill, Martinovich, & Lutz, 1996) and an introduction to the "patient profiling" method. First, the difference between the two main approaches to treatment research in psychotherapy, efficacy research and effectiveness research, are discussed. Next, the idea is introduced that both types of treatment-focused research strategies need to be supplemented by a patient-focused research strategy. The concept of patient profiling is presented as an application of such a patient-focused research strategy. The usefulness of patient profiling for monitoring and evaluating individual patients' progress in ongoing psychotherapy as well as for clinical decision making is described. An expression of the personal and professional impact of Ken Howard on the author is provided. © 2003 Wiley Periodicals, Inc. *J Clin Psychol* 59: 745–750, 2003.

Keywords: evaluation of psychotherapy; patient-focused research; treatment-focused research; growth curve models; expected treatment response

As soon as I received the invitation letter for this special issue honoring Ken Howard's many contributions to the field of psychotherapy research and methodology, I knew I would like to write about his 1996 *American Psychologist* article, "The Evaluation of Psychotherapy: Efficacy, Effectiveness, and Patient Progress" by Howard, Moras, Brill, Martinovich, and Lutz (1996) that discussed the Seligman Consumer Reports study.

When I received the letter, I thought back to the time when I first met Ken in 1991 at a party of psychotherapy researchers in Heidelberg, Germany. I was curious to meet Ken,

This work was partially supported by grants from the Swiss National Science Foundation, Nr. 83R-062710; 1114-064884 and the German Research Foundation (DFG) LU 66011–1. I am very grateful for the helpful comments of Dr. Susan Noel.

Correspondence concerning this article should be addressed to: Wolfgang Lutz, Department of Psychology, University of Berne, Muesmattstr. 45, CH-3012 Berne 9, Switzerland.; e-mail: wolfgang.lutz@psy.unibe.ch.

a famous clinical psychologist and cofounder of the International Society for Psychotherapy Research. I also knew that he had authored and coauthored many articles, chapters, and books. I found that he started lively discussions with everyone, regardless of their formal status, and stimulated people to think about a topic and not to repeat just established ideas based on ideology. In addition, he was very entertaining with his special sense of ironic, but warm-hearted humor. Ken radiated a creative and open-minded atmosphere around him. I was drawn to collaborate, to work, and to learn from him.

Several years later, in 1997, that became possible when I received a grant from the German Research Foundation to work with Ken at Northwestern University for two years. It was a very productive experience, and we became good friends. I remember him saying once, "What do you want to learn from such an cynical old guy like me?" And I answered, "You are everything else but cynical." He looked at me, and I knew that he knew that this was right. This gave me the feeling of being in the right place, and doing research on the right thing.

The article I want to comment on was the first to present the expected treatment concept to forecast individual patient progress, and we (Ken, Zoran Martinovich, Karla Moras, and others who attended the regular Tuesday Research Group meetings) started working on this concept during my first extended stay at Northwestern during the winter of 1995/1996. During this period, I stayed at Zoran's house and every morning walked to Ken's office where I stayed until late at night. The cooperative work atmosphere at Ken's office resulted in the article under discussion and owed much to Ken's ability to integrate and implement new ideas with precise formulations. After I returned to Europe, I decided to come back to the United States to work with Ken more intensively on these issues. So, the article not only had an impact on my professional thinking but also on my professional life. First, I will summarize the article, and then I will present some reactions of the reviewers and discuss its wider impact.

The Evaluation of Psychotherapy

The first part of the article (Howard et al., 1996) discussed the difference between the two main approaches to treatment research in psychotherapy: efficacy research and effectiveness research. Further, it introduced the idea that both types of treatment-focused research strategies have to be supplemented by a patient-focused research strategy. Patient-focused psychotherapy research will become the main focus of this article. The goal is to show the possibilities of the individual patient profiling method as an example of a patient-focused research strategy.

Different research strategies are appropriate for different research questions about treatments (interventions) and different evaluative perspectives which can be illustrated by the following questions: (a) Does the treatment work under specific experimental conditions? [e.g., Does this intervention produce better outcomes than an intervention commonly in use or than a putatively inert (placebo) control intervention?] (b) Does the treatment work in practice? (e.g., Does this new treatment produce beneficial results as it is administered in actual clinical settings?) (c) Is the treatment working for a particular patient? (e.g., Is the patient's condition responding to the treatment that is being applied? Howard et al., 1996, pp. 1059–1060). The first two questions are treatment focused and can be answered by efficacy research (Question a) and effectiveness research (Question b). Efficacy research is based on randomized clinical trials with homogeneous patient groups which emphasize internal validity. Further, it is based on the comparison of the average, or mean response, of patients in different treatment (or control) groups. The

paradigm of efficacy research has been used to certify treatments as “empirically supported” and has been the main focus of clinical researchers.

Effectiveness research deals with the application of the “new” treatment to the circumstances of clinical practice. Mental health services researchers work with effectiveness issues. Quasi-experimental designs, or systematic naturalistic designs, are used to do research in a “noncontrolled” clinical setting. This type of research emphasizes the external validity of the research findings.

Since the execution of randomized clinical trials presents many problems with the results, efficacy research can have only limited external validity (Howard, Krause, & Lyons, 1993; Howard, Krause, & Orlinsky, 1986; Howard, Krause, & Vessey, 1994; Kopta, Howard, Lowry, & Beutler, 1994; Lyons, & Howard, 1991; Martinovich, Howard, & Saunders, 1996; Seligman, 1995). On the other hand, effectiveness research suffers various threats to internal validity with the result of possible multiple interpretations. Thus, both of these treatment-focused research strategies require constructive replication to test competing hypotheses.

In summary, efficacy and effectiveness research can inform the clinician that a particular treatment is likely to work for a group of patients, but not whether the selected treatment is working for any particular patient. For this, clinicians need supplemental information based on patient-focused research which can provide valid, systematic, and relevant information about the patient’s status at the beginning and during the course of treatment (Howard et al., 1996).

The Dosage and Phase Models of Psychotherapy

The dosage and the phase models of psychotherapeutic progress are a possible theoretical background for a patient-focused research. Howard, Kopta, Krause, & Orlinsky (1986) described the dosage model of psychotherapeutic effectiveness and demonstrated a lawful relationship between the log of the number of sessions (dose) and the normalized probability of patient improvement (effect). To understand this log-normal relationship, a three phase conception of the psychotherapeutic change process was defined and tested (Howard, Lueger, Maling, & Martinovich, 1993). This model proposes three probabilistically, sequentially, and causally dependent phases in the psychotherapeutic change process: (a) remoralization, the enhancement of well-being; (b) remediation, the achievement of symptomatic relief; and (c) rehabilitation, the reduction of troublesome, maladaptive behaviors that interfere with life functioning (e.g., family relationships, work). In the phase model, the decelerating curve of improvement in psychotherapy is attributed to the progression through the sequential phases and the increasing difficulty of achieving treatment goals over the course of psychotherapy. The summarized article goes on to describe the developments of outcome criteria for each of these dimensions (Howard, Brill, Lueger, O’Mahoney, & Grissom, 1995; Sperry, Brill, Howard, & Grissom, 1996; Howard, Lueger, & Kolden, 1997; Howard, Orlinsky, & Lueger, 1997).

Patient Profiling and the Evaluation of Progress

When the outcome criteria are assessed periodically during the course of treatment, it is straightforward to plot them over the course of treatment and to evaluate a patient’s progress. However, this simple method lacks a criterion to define the reasonable expected course of treatment for that patient. Not every patient has the same expected outcome or expected course of treatment. Therefore, a method of “patient profiling,” also called “expected treatment response model,” is described which can provide an individualized

profile of each patient's progress in relation to the expected course of treatment response for that patient. This can be accomplished by utilizing Hierarchical Linear Modeling (HLM) (Bryk & Raudenbush, 1992; Lutz, Martinovich, & Howard, 1999) to model a patient's change over treatment as a log-linear function of session number, and uses pre-treatment clinical characteristics to predict a patient's course of treatment. The results (the prediction weights) of such a growth curve analysis allow the prediction of a single patient's course of treatment once his or her intake information is available. Furthermore, ongoing therapeutic effectiveness can be assessed for a single patient by tracking the patient's actual progress in comparison to his or her expected progress based on pretreatment clinical characteristics. The utility of the model and the possible applications for clinical practice are discussed using case examples of successful and unsuccessful patient courses.

This profiling method is an example of a patient-focused research strategy, which provides important supplemental evidence for clinical practice in addition to evidence that the treatment is efficacious and effective on average. Additional research is needed to more fully explore the possibilities and limits of such a concept. Such patient-focused research has the potential to reduce the scientist-practitioner gap (Howard et al., 1996) and provides the following opportunities:

1. We can evaluate the expected effectiveness of treatment.
2. We can group patients on the basis of their expected response to treatment and search for clinical consistencies within these groups.
3. We can study the characteristics of patients whose response to treatment deviates from expectation (e.g., examine faster responders, slower responders, nonresponders).
4. We can compare providers or provider groups on a case-mix adjusted basis (i.e., adjusting caseloads for expected treatment responsiveness of the patients).
5. We can compare treatments in terms of dose-response relationships (the process of outcome) as well as in terms of final outcome.

In short, in contrast to information relevant to the average case that is provided through group comparisons, we can now provide information relevant to the particular case in treatment. (p. 1063)

Discussion

It is difficult, maybe impossible, to summarize just how much impact Ken's ideas had on the field of psychotherapy research, clinical psychology, and research methods. His work was cited in hundreds of articles and has and will have impact in many research ventures. The article summarized here is definitely *not* one of the articles Ken describes in one of his wonderful jokes: "How many people read the average paper in a Journal?" The answer is: "Three. Two reviewers and the spouse of the author." It (including an Italian translation) has been read by many and has had a major impact on others' thinking about psychotherapy research.

Prior to publication, an anonymous reviewer wrote the following:

Written with admirable clarity and high readability in a form and style suitable for the general APA membership, the author(s) reveals significant depths of knowledge, and methodologic sophistication pertaining to both classical psychotherapy clinical trials research as well as the rapidly developing field of applied mental health services research . . . This paper is unique

in that it represents the birth of a new paradigm of psychotherapy research which fully takes into account the key critiques of clinical trials methodology advanced in Seligman's study, while at the same time responding to the thoughtful criticisms advanced by Alan Kazdin over the years, pertaining to the misuse of ANOVA designs in the systematic assessment of treatment efficacy The author(s) advances an innovative research strategy which takes unique advantage of longitudinal data pertaining to the trajectory of course of treatment; which places considerable value upon the understanding and use of individual differences for predictive purposes; and which honestly acknowledges the import of stakeholder viewpoint when taking outcomes into account. It is difficult to imagine another psychotherapy researcher writing today who can speak more directly and eloquently to the heart of the practitioner working in the trenches, — heretofore widely disillusioned with the model of psychotherapy outcomes research which so heavily dominates psychology journals, and appears minimally relevant when applied to the individual case In summary, while written with disarming brevity and simplicity, this paper contains many pearls of wisdom of interest both to the practitioner and the researcher. Its innovative clinical and methodologic thinking constitutes an important harbinger of the psychotherapy research paradigm to come, which is newly energizing and reshaping the psychotherapy research field of today”

I continued to be stimulated by the many discussions during my first opportunity to work with Ken, and was able to return in 1997 for a longer period. During the next two years, I was able to collaborate with Ken and many of his colleagues (e.g., Merton Krause, Zoran Martinovich, Robert J. Lueger, John S. Lyons, Grant Grissom, Mark J. Kopta), and this collaboration resulted in many articles, chapters, and conference presentations (e.g., Howard, Lueger, Martinovich, & Lutz, 1999; Krause, Howard, & Lutz, 1998; Lueger et al., 2001; Lueger, Lutz, & Howard, 2000; Lutz, 2002; Lutz, Lowry, Kopta, Einstein, & Howard, 2001; Lutz et al., 1999; Lutz, Martinovich, & Howard, 2001; Lutz, Martinovich, Howard, & Leon, 2002; Lutz, Rafaeli, Howard, & Martinovich, 2002).

Ken generated a creative atmosphere around him. This atmosphere, along with his open-mindedness and high productivity, provided the integrative framework for synergistic discussions about methodology, psychotherapy, and issues in psychotherapy research. I continue to benefit today from his nonideological research approach towards the theoretical, empirical, and cultural diversity of our field.

Ken was a wonderful mentor, and always an open and warm-hearted friend. I will not forget his sense of humor, his appreciation of people, his acceptance of new ideas, and his straightforward attitude towards the world.

References

- Bryk, A.S., & Raudenbush, S.W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park: Sage.
- Howard, K.I., Brill, P.L., Lueger, R.J., O'Mahoney, M.T., & Grissom, G.R. (1995). *Integra Out-patient Tracking System*. Philadelphia: Integra Inc.
- Howard, K.I., Kopta, S.M., Krause, M.S., & Orlinsky, D.E. (1986). The dose–response relationship in psychotherapy. *American Psychologist*, 41, 159–164.
- Howard, K.I., Krause, M.S., & Lyons, J.S. (1993). When clinical trials fail: A guide to disaggregation. In L.S. Onken, J.D. Blaine, & J.J. Boren (Eds.), *Behavioral treatments for drug abuse and dependence* (NIDA Research Monograph No. 137, pp. 291–302). Washington, DC: National Institute for Drug Abuse.
- Howard, K.I., Krause, M.S., & Orlinsky, D.E. (1986). The attrition dilemma: Toward a new strategy for psychotherapy research. *Journal of Consulting and Clinical Psychology*, 54, 106–110.
- Howard, K.I., Krause, M.S., & Vessey, J. (1994). Analysis of clinical trial data: The problem of outcome overlap. *Psychotherapy*, 31, 302–307.

- Howard, K.I., Lueger, R.J., & Kolden, G.G. (1997). Measuring progress and outcome in the treatment of affective disorders. In L.M. Horowitz, M.J. Lambert, & H.H. Strupp (Eds.), *Measuring patient change after treatment for mood, anxiety, and personality disorders: Toward a core battery* (pp. 263–281). Washington, DC: American Psychological Association.
- Howard, K.I., Lueger, R.J., Maling, M.S., & Martinovich, Z. (1993). A phase model of psychotherapy: Causal mediation of outcome. *Journal of Consulting and Clinical Psychology*, 61, 678–685.
- Howard, K.I., Lueger, R.J., Martinovich, Z., & Lutz, W. (1999). The cost-effectiveness of psychotherapy: Theory and modeling. In N. Miller & K. Margruder (Eds.), *Psychotherapy: Costs and benefits* (pp. 143–152). New York: Oxford University Press.
- Howard, K.I., Moras, K., Brill, P.L., Martinovich, Z., & Lutz, W. (1996). The evaluation of psychotherapy: Efficacy, effectiveness, and patient progress. *American Psychologist*, 51, 1059–1064.
- Howard, K.I., Orlinsky, D., & Lueger, R.J. (1997). The design of clinically relevant outcome research: Some considerations and an example. In M. Aveline & D.A. Shapiro (Eds.), *Research foundations for psychotherapy practice* (pp. 3–47). Sussex, England: Wiley.
- Kopta, S.M., Howard, K.I., Lowry, J.L., & Beutler, L.E. (1994). Patterns of symptomatic recovery in time-unlimited psychotherapy. *Journal of Clinical and Consulting Psychology*, 62, 1009–1016.
- Krause, M.S., Howard, K.I., & Lutz, W. (1998). Exploring individual change. *Journal of Consulting and Clinical Psychology*, 66, 838–845.
- Lueger, R.J., Howard, K.I., Martinovich, Z., Lutz, W., Anderson, E., & Grissom, G. (2001). Assessing treatment progress with individualized models of predicted response. *Journal of Consulting and Clinical Psychology*, 69, 150–158.
- Lueger, R.J., Lutz, W., & Howard, K.I. (2000). The predicted and observed course of psychotherapy for anxiety and mood disorders. *Journal of Nervous and Mental Disease*, 188, 127–134.
- Lutz, W. (2002). Patient-focused psychotherapy research and individual treatment progress as scientific groundwork for an empirical based clinical practice. *Psychotherapy Research*, 12, 251–272.
- Lutz, W., Lowry, J., Kopta, M., Einstein, A.D., & Howard, K.I. (2001). Prediction of dose–response relations based on patient characteristics. *Journal of Clinical Psychology*, 57, 889–900.
- Lutz, W., Martinovich, Z., & Howard, K.I. (1999). Patient profiling: An application of random coefficient regression models to depicting the response of a patient to outpatient psychotherapy. *Journal of Consulting and Clinical Psychology*, 67, 571–577.
- Lutz, W., Martinovich, Z., & Howard, K.I. (2001). Vorhersage individueller Psychotherapieverläufe [Prediction of individual courses in psychotherapy]. *Zeitschrift für Klinische Psychologie und Psychotherapie*, 30, 104–113.
- Lutz, W., Martinovich, Z., Howard, K.I., & Leon, S.C. (2002). Outcomes management, expected treatment response and severity adjusted provider profiling in outpatient psychotherapy. *Journal of Clinical Psychology*, 58, 1291–1304.
- Lutz, W., Rafaeli, E., Howard, K.I., & Martinovich, Z. (2002). Adaptive modeling of progress in outpatient psychotherapy. *Psychotherapy Research*, 12, 427–443.
- Lyons, J.S., & Howard, K.I. (1991). Main effects analysis in clinical research: Statistical guidelines for disaggregating treatment groups. *Journal of Consulting and Clinical Psychology*, 59, 745–758.
- Martinovich, Z., Howard, K.I., & Saunders, S. (1996). Some comments on “Assessing Clinical Significance.” *Psychotherapy Research*, 6, 124–132.
- Seligman, M.E.P. (1995). The effectiveness of psychotherapy: The Consumer Report Study. *American Psychologist*, 50, 965–974.
- Sperry, L., Brill, P., Howard, K.I., & Grissom, G. (1996). *Treatment outcomes in psychotherapy and psychiatric interventions*. New York: Brunner/Mazel.