KEITH JAMES TOPPING

PEER INTERVENTIONS FOR HEALTH AND WELLBEING

Research into Practice

CRC Press
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Peer Interventions for Health and Wellbeing

This book introduces peer interventions (primarily peer education, peer counselling and peer support) for the positive promotion of health and wellbeing as alternative or parallel methods to traditional clinical processes for reaching hard-to-access populations. It is strongly evidence-based, with chapters discussing reviews of the evidence, followed by important papers with key messages for implementation. Furthermore, it describes implementation and evaluation procedures, both in resource-rich environments and in developing countries.

Key Features:

- Bridges the traditional gap between professional clinical advice and the "real world", reaching where professionals cannot go
- Brings together information about those interventions that are well evidenced
- Distils information about how to implement interventions for medical professionals and paraprofessionals and charitable agencies and researchers
- Presents a fine balance between research and implementation, with evidence-driven guidance

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About the Author

Keith James Topping is Professor of Education at the University of Dundee Scotland and at RUDN University Moscow. He researches peer tutoring and peer assessment, computer-assisted learning and assessment, and artificial intelligence. He has over 470 publications in 19 languages, including multimedia in-service training and distance learning packs. He has degrees from the Universities of Sussex, Nottingham and Sheffield, and is a Fellow of the British Psychological Society. Former US President Bill Clinton cited him as an "outstanding researcher" for his input to the "America Reads" initiative. He was awarded the "Outstanding Contribution to Cooperative Learning Award" by the American Educational Research Association. He has consulted with national government and large organizations in several countries and researches and speaks all over the world (see https://en.wikipedia.org/wiki/Keith_James_Topping and https://discovery.dundee.ac.uk/en/persons/keith-topping).

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Introduction 1

The aim of this book is to introduce peer intervention–peer education, peer counselling, and peer support–for the positive promotion of health and well-being as alternative or parallel methods to traditional professional clinical processes, especially for reaching hard-to-access populations. After defining the terms, book is intended to be strongly evidence-based, so each chapter proceeds to a discussion of reviews of the evidence on the effectiveness in that area, then often moves on to discuss key papers about particular projects that hold key messages for implementation. Each chapter then describes implementation procedures from one study in detail, to help practitioners who may well ask, “Yes, but how do we actually do it?”

Peer education, counselling, and support operate both in relatively resource-rich environments and also in developing countries. Consequently, the detailed description of the implementation of one program switches from a developed country to a less developed country by chapter, so readers can understand the problems of each. Even where resources are limited, implementation can often be improved by paying attention to simple organizational issues. The chapters are thus about half research evidence and half implementation details, but the implementation detail is directly drawn from the specific evidence given and directs readers to the original texts for more detail if they wish. The book is written in English with American spelling but is intended to have a global reach.

Arguably, peer education, peer counselling, and peer support have more chance of permeating the peer group and changing behavior than simple information-giving by professionals. A very important feature of these methods is that they can bridge the traditional gap between professional clinical advice and the “real world,” reaching where professionals cannot be or cannot go. Many programs find gains for the helpers as well as the helped; to be a helper may actually be more therapeutic than being helped. Of course, peer education and counselling are not always a stand-alone program–quite often they are an integrated part of an initiative which also includes more traditional professional services.

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Most of the literature on this subject is in peer-reviewed journal articles. This book brings together effectiveness information about those peer education, counselling, and support initiatives that are well evidenced and distils information about how to implement them. The evidence from diverse fields and the commonalities in implementation have never been brought together and explicated before.

This book is intended for relative newcomers to this field. Many medical personnel will have had training and experience that focuses on what they can do directly to help patients. This book takes a different angle–what can medical personnel do to train and support peers to work effectively with patients to support and guide them in a more informal way, often in a language they are more likely to understand, and often based on the helper's own experience of problems that is closely related to those the targeted person is suffering?

DEFINITIONS

Peer education can be defined as peers offering credible and reliable information about sensitive life issues which impact health and well-being and the opportunity to discuss them in a one-to-one or informal peer group setting.

Peer counselling can be defined as people from similar groupings who are not professionals who help to clarify life problems and identify solutions by listening; clarifying; feeding back; summarizing; questioning and being positive, supportive and reassuring and then helping plan, organize and problem-solve.

Peer support is more difficult to define, as it is widely used as an umbrella term with a degree of vagueness. Peer support occurs when people use their own experiences to help each other. It is intended to introduce the patient to ideas and approaches that others have found helpful and reassure the patient that they are not alone in how they are feeling. It aims to provide a space where patients feel accepted and understood and everyone's experiences are treated as being equally important, and involves both giving and receiving support. Peer support may involve meeting in person or can be accessed online–for example, through social media networks or communities, emails, phone calls, or text messages.

Occasionally, papers also refer to "peer mentoring," "peer navigation," and other terms. In all these cases, "peer" means someone of similar age and background who has no professional training in the area in question but may well have experienced the issues being discussed at firsthand. Peer educators,

counsellors, and supporters of course should have benefited from some training to ensure the facts they are transmitting are accurate.

Peer education is usually done in groups, while peer counselling may be one-to-one, group-based, or a mixture of the two. Peer support is usually one-to-one. However, many authors make no attempt to define activities as one or the other, and indeed, peer education is sometimes very difficult to distinguish from peer counselling, while other authors refer simply to "peer support." As the terms peer education, counseling, and support are used very vaguely in the literature and are often interchangeable, no effort is made in the chapters to analyze them separately. We will return to this issue in chapter 15 and beyond. The intervening chapters focus on areas of application.

THEORY

Several theories have been invoked to explain the psychosocial benefits associated with peer support. These include: *social comparison theory*, which suggests people seek out the company of similar others to compare the appropriateness of their experiences and responses when under threat, resulting in normalizing effects, and *stress and coping theory*, which positions peer support as a coping resource which may buffer stress and suggests that the act of emotional expression can itself relieve stress. Additionally, the *helper therapy principle* notes that the helper's health and well-being benefit from helping another with a shared problem, suggesting that those who provide peer support may experience benefits, or from being able to assist others.

AUDIENCE

The primary audience for this book is medical professionals (doctors and nurses) and paraprofessionals, their associated senior undergraduate students and graduate students, and researchers and academics. The book could be supplementary/recommended reading for graduate courses. It is possible that managers of medical services seeking additional or alternative methods will also be interested in the book.

However, the book is not aimed at the inexperienced professional practitioner, who will be more concerned about honing their traditional skills.

Nor is it intended for practitioners in primary care, but rather for those working in secondary care. For example, engagement with general practitioners is not anticipated, as their brief is so wide and they are so busy. Also, the book is not aimed at peers actually delivering peer education and counselling on a day-to-day basis–their interests will be much more specific and concrete.

The primary audience for this book is thus pre- and in-service clinicians in public or private health and well-being services and their leaders and managers. In addition, clinicians working for charities or NGOs with a health and well-being orientation should be interested in the book. Those responsible for delivering training to such people will also be interested. This is likely to include many specialist doctors (who are likely to form the main readership for the book) but also senior nurses. The book is not only international but interdisciplinary and so might appeal to workers outside the medical profession also working to promote positive health and well-being, e.g., social workers, community workers, and psychologists. All of these should find the book valuable as a guide on implementing peer education and counselling projects successfully. Officials at local and national governments are also likely to use the book in determining policy, as will researchers. Perhaps even some politicians will be interested.

WHY READ THIS BOOK?

The book is intended to give the evidence base for peer intervention–peer education, peer counselling, and peer support programs and methods–in an easy, accessible, and comprehensible way. This should reassure readers that their practice or intended practice is well substantiated, so they can defend it when questioned. It also gives details of how methods can be implemented and refers readers to the original texts for more detail. Thus, readers are reassured that these methods work and are also given information about how to practically implement them.

SEARCH METHODS

Four relevant research databases (ERIC, Google Scholar, Medline, and Web of Science in that order) were searched for peer-reviewed journal papers using the terms: “peer education” OR “peer counselling” OR “peer counseling”

OR "peer support" AND (the title and/or subtitles of the chapter). Hits were extracted up to the point where ten consecutive pages in each database had no relevant hits. Campos et al. (2024) found that 95% of all relevant abstracts within a given dataset could be retrieved using heuristic stopping rules such as stopping the screening process after classifying 20% of records. Duplicates were excluded as the search moved from one database to the next. The fewest hits were found in ERIC, most hits were found in Google Scholar and Medline, and given this order, Web of Science struggled to generate new hits not otherwise found. Masters and doctoral theses were excluded, as their quality was so various. Books and chapters in books were also excluded on the grounds that they had also not been peer reviewed. Papers delivered at conferences were also excluded on grounds of uncertain quality.

The hits were read at the level of title and abstract. Papers were then selected which appeared to meet the inclusion criteria: written in the English language; peer-reviewed journal article; dated 2000 to present day; focusing on peer education, counselling, or support to promote health or well-being; being a systematic analysis or meta-analysis; or being a single study including quantitative and qualitative data to support the conclusions regarding effectiveness. After reading the full text of these papers, they were either selected or deselected. Each chapter indicates how many review and single-study papers were selected for that chapter (bearing in mind the order of database access and the rolling exclusions) although only a few single-study papers will be mentioned owing to constraints of space. In chapters where there are a great many review papers, the space given to single studies is necessarily smaller due to constraints of space. In chapters where there are few review papers, more space is given to single studies.

STRUCTURE OF THE BOOK

Many books which claim to be evidence-based just give vague background research which is often not reflected in the recommendations they make, but in the case of this book, the research cited is specifically about the method which is described. All of the chapters are supported by at least one review of research as well as many single studies. So far as the research is concerned, systematic reviews and meta-analyses will be reviewed first where they exist, followed by randomized controlled trials (RCTs) and other experimental and quasi-experimental research, and these are given the most detailed analysis.

The peer education, counselling, and support research falls into 13 categories, each with its own chapter: sexual health, HIV/AIDS, cancer (breast

cancer and colorectal cancer screening), diabetes, other medical conditions (e.g., asthma, spinal cord injuries), mental health (general, depression, suicide prevention, schizophrenia), alcohol abuse, drug use, smoking, obesity and physical activity interventions, breastfeeding and nutrition, prisons, and other areas of interest.

The chapters follow a similar model: first, the area of interest is defined; then the relevant research is summarized by way of background, taking reviews first and then individual papers where space permits; then a specific program is chosen as an example, and its evidence summarized; and then its implementation is described in detail. A 13th chapter was added for a variety of other programs which were not evidenced by much literature but which might be of interest to those working in these less populated fields.

In some chapters, papers have been very approximately categorized into those reporting on developed countries and those reporting on developing countries since the contexts are often very different in different countries. However, this division is highly approximate, and the reader will sometimes find a paper reporting on a very disadvantaged group within a developed country categorized as a developing country (actually, a developing subgroup). Within the reporting here on single studies, attempts have been made to include studies from both developing and developed countries although the former are sometimes not as scientifically rigorous as the former. Additionally, regarding the specimen program selected for discussion, from one chapter to the next the focus alternates between papers from developing and developed countries.

These 13 chapters are prefaced by this Introduction which gives definitions and outlines common points of departure. They are followed by a further chapter which seeks to extract common implementation threads from the foregoing and emphasize features which are common to many programs. This should enable the reader to see the commonalities across the methods, which should help them devise their own methods and programs, and also highlight which of these features could be strengthened at little cost in developing countries. A yet further chapter addresses practical issues of evaluation, which are difficult but very necessary in this field. More than one method is of course desirable so that results can be triangulated. Finally, a discussion considers the relative strength of evidence in the preceding chapters and its implications for the future. Each chapter has its own references appended. As only a few single studies are discussed in each chapter, the references for all the other single studies that were found are in Appendix 1 (online only), but this is so long it is only available electronically on the book website: https://www.routledge.com/9781032572109.

The book is of slightly greater length than would be hoped for by most readers, but the sections most relevant to the reader can be read first (avoiding

overstressing readers is desirable). The book thus offers a summary of the independent, peer-reviewed effectiveness research evidence on the methods described. This should address many of the major concerns of readers, who will have questions like "does it work?" "how should it be implemented to make it work?" and "is it cheaper and more efficient in time than what we were doing before?" This review of evidence should reassure readers that existing or intended practice is evidence-based and well substantiated, lead professionals to improve their implementation of such programs, and enable them to state and defend their case in that regard to managers, local and national governments, the general public, and other stakeholders. It will also be of interest to researchers, especially in areas where data are sparser or more difficult to track.

HOW TO READ THIS BOOK

Hopefully, the book is not too long for the busy person to find time to read at least some of it. Obviously, this Introductory chapter should be read first. After that, consider your context–are you working in a developing country or a more developed country? How restricted are you in terms of the time available and the willingness of your hierarchy to allow some innovation? If neither of these is positive, you might need to be subtle about how you introduce the peer activity. Then focus on which of chapters 2–14 is relevant to your special interest. Then you might read associated chapters which are somewhat relevant. The last chapters try to draw together the threads of commonality from all the previous sections and examine evaluation measures and may be useful for all to read after they have read the Introduction.

STATISTICAL ANALYSIS

Some (but not many) statistics are present in what follows, so here is a brief overview. The *number* of observations is usually indicated as n or N (this is important in terms of the size and consequently significance of the study). An arithmetic *mean* or *average is* the sum of all observations divided by the number of observations. The *standard deviation* (s.d.) is a measure of the amount of variance in the data. The correlation between two different variables is often expressed as a *correlation coefficient* (r), which indicates

on a scale from −1 through 0 to + 1 whether the relationship is negative or positive and its degree.

In some analyses, you will see that the difference between sets of observations is tested for statistical significance. One way of doing this is with the *t-test*, which compares the means with reference to their s.d.s and ns and sees if the value of the resulting statistic t is large enough to be statistically significant. Other ways are more complicated to explain.

Statistical significance is a quantification of whether what you see is likely just due to random chance or whether it is more probably the result of some influential factor you are studying. Usually, a criterion of probability of 0.05 or 5% is set as the limit of statistical significance, below which what you see is more likely due to your factor of interest and above which it is more likely due to random chance. Sometimes the sample size (n) for an analysis is very large, and one result of this is that even very small differences appear statistically significant, as statistical significance is strongly affected by sample size–the larger the sample size, the more likely statistical significance becomes.

An alternative way of looking at this is via *effect size* (ES) (a quantitative measure of the magnitude of an effect). ESs are also known as *standardized mean difference* (SMD). The larger the ES, the stronger the relationship between two variables. ESs are often approximately categorized according to their size: very small = 0.01, small = 0.20, medium = 0.50, large = 0.80, very large = 1.20, huge = 2.00. There is another kind of ES (eta-squared: η^2) used occasionally, which we will talk about when it occurs.

OVERVIEWS OF EFFECTIVENESS–DOES IT WORK?

Although peer education, peer counselling, and peer support have been used very widely for over 50 years, for many of these years, the background research was weak. However, now the background research is strong in a number of areas, and these are the areas that this book concentrates on. There were many strong reviews, particularly in more recent years. Some were narrative, some were systematic analyses, and a few were meta-analyses. Some reviews focused on young people, others on adults, and some on a mixture of the two. Some were about preventive interventions, while others were about corrective interventions. Later reviews were more likely to include RCTs.

Some of these reviews found peer education or counselling to be as effective as or more effective than traditional professional clinical advice, at least in the populations under investigation. Some reviews were very broad and are summarized here rather than under later chapter headings. There were 26 such reviews in all. Fourteen of these were very broad in scope, and 12 were somewhat more focused, i.e., on adolescents (five reviews), schools (four), Indigenous youth (one), refugees (one), and vaccination (one).

Very Broad Reviews

Mellanby et al. (2000) evaluated school-based health education programs which compared the effects of peers or adults delivering the same material. Peer leaders were at least as effective as or more effective than adults. A systematic review was conducted by Harden et al. (2001), who found 210 studies with 64 (49 outcome evaluations and 15 process evaluations) meeting the inclusion criteria, predominantly from the USA. However, only 12 (24%) were judged methodologically sound. Four interventions focused on sexual health, five on the prevention of smoking, one on asthma education, one on violence prevention, and one on the prevention of testicular cancer. Of these, seven found the method to be effective for at least one behavioral outcome and three effective for nonbehavioral outcomes. Five studies compared the effectiveness of peers to other providers and found mixed results. Kim (2004) analyzed the efficacy of peer counseling in Korea from 1990 to 2003 using a meta-analysis of controlled studies, calculating 157 ESs from 36 studies. The average ES was 1.18. College students had the highest effects, followed by secondary students and elementary students.

The World Health Organization (2005) held a workshop on peer education in 2004, attended by WHO advisers from Bahrain, Egypt, Iraq, Jordan, Lebanon, Morocco, Oman, Saudi Arabia, Tunisia, and Yemen. The objectives of the workshop were to review success stories and elaborate guidelines to promote peer education, capacity building, follow-up, and evaluation. Webel et al. (2010) reviewed 25 randomized clinical trials. ESs ranged from −0.50 to 2.86. Peer-based interventions facilitated important changes in health-related behaviors, including physical activity, smoking, and condom use, with a small- to medium-sized effect. Interventions aimed at increasing breast-feeding, medication adherence, women's health screening, and participation in general activities did not produce significant changes. A meta-analysis was performed by Kang (2015) on 64 papers plus dissertations from 2000 to 2015, and 67 ESs were calculated. The average ES was 0.89.

Sokol and Fisher (2016) noted that hard-to-reach groups could be classified according to three domains: individual (e.g., psychological factors),

demographic (e.g., socioeconomic status), and cultural–environmental (e.g., social network). They conducted three systematic searches in one database from 2000 to 2015. Forty-seven studies met the inclusion criteria and addressed eight health areas, including: maternal and child health (26%), diabetes (17%), and other chronic diseases (15%). Forty-four studies (94%) reported significant changes favoring peer support. Eleven strategies emerged for engaging and retaining participants. Programs that reported a strategy of trust and respect had a higher retention rate (83%) than programs not reporting such a strategy (48%; $p = 0.003$). Peer support benefits were greater among individuals characterized by disadvantage. A systematic review was conducted by Ramchand et al. (2017), who searched three databases for RCTs from 2005 to 2015 and found 116. In RCTs, there were more null than positive effects across peer interventions, with notable exceptions: group-based interventions that used peers as educators commonly improved knowledge, attitudes, beliefs, and perceptions and peer educators also commonly improved social health/connectedness and engagement. Dyadic peer support influenced behavior change, and peer counseling showed promising effects on physical health outcomes.

King and Simmons (2018) undertook a systematic review of randomized and non-randomized studies since 1995, including 37 studies. Outcomes that more often showed significant differences were patient activation, self-efficacy, empowerment, and hope. A scoping review was conducted by Lorthios-Guilledroit et al. (2018), who searched five databases and included 55 studies. Most studies ($n = 32$) used a qualitative research design. Health problems were mostly related to chronic diseases ($n = 19$) and HIV and sexually transmitted diseases ($n = 13$). Regarding implementation outcomes, most papers reported data on participants' responsiveness (i.e., participation rate, satisfaction, or engagement) ($n = 25$), peer leaders' responsiveness ($n = 23$), and program fidelity (mainly dose, i.e., proportion of the program that was delivered) ($n = 18$). However, the question of effectiveness was not really addressed. Haines et al. (2018) conducted a systematic search of four databases, screening 2932 studies but only including eight. The most common peer support model was an in-person, facilitated group for families that occurred during the patients' ICU admission. Peer support reduced psychological morbidity and improved social support and self-efficacy in two studies; in both, peer support was via an individual peer-to-peer model.

Madmoli et al. (2019) conducted a systematic review, searching six databases and including ten articles. Peer education led to increased self-care in diabetes and a reduction in anxiety in patients undergoing coronary artery bypass graft surgery. This type of training could be effective in many other diseases. Price et al. (2022) searched ten databases for systematic reviews, RCTs, and economic evaluations since 2015, including

91 studies: 32 systematic reviews, 52 RCTs, and seven economic evaluations. There were concentrations of evidence relating to different types of peer support, including education, psychological support, self-care/self-management, and social support. Most studies had been conducted in the USA. A rapid scoping review was conducted by Mikolajczak-Degrauwe et al. (2023), searching ten databases and including 45 studies, describing peer support initiatives among groups of young migrants and unsupervised minors, young adults with autism, people with mental health problems, foster/shelter families, vulnerable pregnant women, people outside the labor force, older adults, and homeless people. The strength of peer support was its positive effect on the quality of life among vulnerable people. Opportunities included mutual learning, anticipated long-term effects, and facilitation of social inclusion.

More Focused Reviews

Five papers concerned adolescents. Abdi and Simbar (2013) searched three databases from 1999 to 2013. Peer education seemed effective in promoting healthy behaviors among adolescents although not all programs were successful. A narrative review was offered by Azizi et al. (2017), who searched six databases from 1991 to 2016 and included 53 articles but described characteristics of programs rather than outcomes. Araujo (2018) reported on Youth Health Champions across Europe, a role which harnessed young people's inclination to seek and use peer support to address issues, concerns, and general decisions. A literature review included training manuals published by a number of organizations including the United Nations Population Fund (UNFPA), the Guide Association, Lund University in Sweden, the European Commission and also 15 case studies of projects from across Europe. Peer education was a widely used approach. There was strong evidence that peer education increased healthier lifestyles. Iranian adolescents were the focus of Ghasemi et al. (2019), who searched eight databases from 2000 to 2018 and included 20 articles on the effects in the prevention of disease, mental health, nutritional behaviors, and prevention of high-risk behaviors. In all categories, the results showed an equal or greater effect of peer education on knowledge, attitude, practice, self-efficacy, and health behavior of adolescents compared to other methods such as education by teacher, health personnel, lecture, pamphlet, and booklet. Rose-Clarke et al. (2019) specifically focused on adolescents in low- and middle-income countries, searching for RCTs across infectious and vaccine preventable diseases, undernutrition, HIV/AIDS, sexual and reproductive health, unintentional injuries, violence, physical disorders, mental disorders, and substance use in a narrative review of 20 studies.

Fourteen studies were linked to schools or colleges. Eleven studies reported positive outcomes. Four studies reported initiatives in a school base, which would have different organizational features from a community-based project and might include primary as well as secondary pupils.

Petosa and Smith (2014) conducted a systematic review and found "peer mentoring" effective for promoting health behavior change. It allowed for the incorporation of skill-building activities, reinforcement of self-regulation activities, engagement in individual and group activities, and receiving social support to meet personal health goals. Twelve databases were searched by Shackleton et al. (2016) after 1980, who included 22 reviews. Multicomponent interventions (including school policy changes, parent involvement, and work with local communities) were effective for promoting sexual health and preventing bullying and smoking. There was less evidence that such intervention could reduce alcohol and drug use. King and Fazel (2021) searched 11 databases for a systematic review, including 11 studies, showing that peer-led interventions had been used to address a range of mental health and well-being issues. Two studies out of seven that investigated peer leaders showed significant improvements in self-esteem and social stress. Two studies out of five that investigated recipient outcomes showed significant improvements in self-confidence and quality of life measure, with one study showing a decrease in mental health scores. Five databases were searched by Dodd et al. (2022) to 2020, and 73 articles were included. The majority of papers focused on sex education/HIV prevention ($n = 23$), promoting healthy lifestyles ($n = 17$), and alcohol, smoking, and substance use ($n = 16$). Of 67 papers reporting recipient outcomes, 52% showed evidence of effectiveness, 12% (8 out of 67) showed mixed findings, and 36% found limited or no evidence of effectiveness. Improvement in health-related knowledge was most common with less evidence for positive health behavior change.

One paper on Indigenous youth was offered by Vujcich et al. (2018), who searched three databases and included 24 studies (all Australian or North American). Only one was an RCT. Outcomes included improved knowledge, attitude, and behaviors. The literature was dominated by Australian sexual health interventions. Salem-Pickartz (2007) focused on refugees, having trained 49 peer counsellors in two refugee camps, and gave an overview of the training content and strategies. The main components of a culturally sensitive, client-centered empowerment approach to psychosocial intervention in a situation of continuous deprivation and insecurity were outlined. Gobbo et al. (2023) focused on vaccination, conducting a systematic search of two databases up to 2022 and including 16 articles. Half of the studies had students as their population. The human papillomavirus vaccine was the most common

vaccine assessed, followed by COVID-19 and influenza vaccines. Eleven out of 16 articles reported a positive impact, and two studies had mixed results.

WHAT THE BOOK IS NOT

The approaches mentioned in the chapters that follow have been found to be effective, and the research on them is briefly summarized. However, there are many other programs and methods which have not been widely evaluated or not evaluated at all. We do not mention these approaches further in this book.

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