Birds of a Feather: Applied Behavior Analysis and Quality of Life

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Abstract
Applied behavior analysts have been helping people to enhance the quality of their lives for decades. Its characteristics as described by Baer, Wolf, and Risley continue to guide efforts to help clients and their significant others. Yet, this knowledge often languishes unused and unappreciated. Distortions and misrepresentations of applied behavior analysis and radical behaviorism abound. Applied behavior analysis (ABA) is contextual and concerned with social validity—with the views of clients and significant others regarding outcomes. These characteristics make it radical in shedding light on dysfunctional contingencies some may wish to remain hidden. Given that ABA and quality of life are birds of a feather, we must become more successful in highlighting this close relationship as a route to increased dissemination of effective methods. Obstacles are suggested as well as a path for accomplishing this, including making avoidable suffering due to failure to use effective methods more visible.

Keywords
prevention, social justice, evidence-based practice, applied behavior analysis, behavioral assessment

It is an honor and opportunity to be invited to give the first Don Baer lecture at this conference. The greatest gift of this invitation is the opportunity to luxuriate in the clarity of Don’s thinking, his openness to ideas and total presence. No one has described Don better than his wife, Dr. Elsie Pinkston, Professor Emeritus, School of Social Service Administration, University of Chicago, through whom I met Don. Following Don’s untimely loss, Ivor Lovaas asked Elsie to write a book about Don. By such books, perhaps people hope to learn unknown things about a person of interest. Instead of a book, Elsie offered a poem entitled “Is It Fair?” Her last lines in this poem capture Don’s essence

There really are few unknown things to tell.
He was the man that he appeared to be;
What you saw was what you got,
And there was a lot to see.

Striking to me about Don Baer was his total presence when you were with him, whether in person or as a reader of his prose, and his intense curiosity about life, especially behavior and how to change it. Many have remarked on the clarity of Don’s prose. Indeed, in remembrances to Don, his skill with words are highlighted; he had a sign on his office door—“Wordsmith.” This clarity enabled ideas about how to explore the controlling conditions of behaviors in experiment after experiment, with students and colleagues over his long productive career. Don was a pristine wordsmith, one who avoided all kinds of distracting, misleading, confusing prose. He was exceptionally clear analytically, modeling one of the key characteristics of applied behavior analysis (ABA). Together with his colleagues Montrose Wolfe and Todd Risley, Don Baer wrote “Some current dimensions of applied behavior analysis” published in 1968 and a follow-up article in 1987. Their 1987 article “Some still-current dimensions of applied behavior analysis” is both a description of what ABA is and a discussion of its possible future.

ABA
ABA is a scientific approach to the study of behavior paying careful attention to the social validity of concerns addressed and related outcomes (Wolf, 1978). This applies to clients as well as to their significant others, those who influence clients and who may be affected by interventions. Key characteristics of ABA include attention to context (environmental) influences and constructing repertoires building on those clients and significant others already possess. ABA is based on the findings from the experimental analysis of behavior—a scientific approach to behavior in which we try to identify the variables that influence behaviors of concern (conduct a descriptive analysis) and then vary these to determine if we are correct in our guesses (conduct a functional analysis). In this way, we can

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find out which of our guesses are wrong. Consider the assumption that sensory integration therapy (brushing and joint compression) is effective in decreasing aggressive behavior of a nonverbal 8-year-old boy with autism. The occupational therapist at the child’s school recommended this intervention. Investigation within a single-case design showed that this intervention actually increased hitting episodes, a negative outcome (Kay & Vyse, 2005). Applications range from the simple (e.g., Allday, Bush, Ticknor, & Walker, 2011; Singer-Dudek, Oblak, & Greer, 2011) to the complex (e.g., Sailor, Dunlap, Sugai, & Horner, 2009).

Applied

In their article “Some still-current dimensions of applied behavior analysis,” Baer, Wolf, and Risely (1987) describe applied as referring to “at least behaviors of a person called subject or client that trouble that person; but more often, they are also behaviors of people other than the one called subject or client” (p. 314). They suggested that “Social problems are those behaviors of the subject or client that result in counterreaction, sometimes by the client, but more often by nonclients, sufficient to generate something called a solution, or at least a program” (p. 314). Thus, “social problems are essentially the behaviors of displaying or explaining problems—one’s own or someone else’s” (p. 314). Such displays may be very individual (a personal problem) or very broad (referred to as a social problem). Behavior analysts have contributed to the understanding of cultural and behavioral change, including organizational change (e.g., Biglan, 1995, 2009; Daniels, 2000; Mattaini, 2003). Malott and Glenn (2006) suggest that a cultural problem occurs when a “condition causing dissatisfaction or threat is the aggregate product of the behavior of many people.”

Behavioral is a second key dimension of ABA. Measurement of behavior involves “the direct observation and recording of a subject’s target behaviors by an observer under the stimulus control of a written behavior code” (p. 316). Baer and his coauthors (1987) note the enormous interest in behavioral theory and technology.

One mark of the success of applied behavior analysis in the last two decades is that its practitioners, researchers, and theorists have encountered so many invitations to become something other than behavioral, in the form of becoming something “more” than behavioral. In particular, their occasional mainstreaming with behavior therapy, education, developmental psychology, psycholinguistics and sociobiology has given them the chance to entertain constructs of attention, intelligence, disabilities, spontaneity, readiness, critical period, innate releasers, storage and retrieval mechanisms, schemata and the like. (p. 315)

They suggest that “the most fruitful task, however, is to recognize that each of those labels (and many others like them) often represents some behavioral reality not yet analyzed as such” (p. 315). Behavioral methods continue to be applied to many different areas including behavioral medicine, organizational change, school wide programs, behavioral sports, and treatment of depression. Baer and his colleagues (1987) suggest that “Perhaps the clearest measure of our discipline’s effectiveness is the increased number of ineffective applications that we have tried in recent years” (p. 323). As they note, “failures teach” (p. 325).

Analytic and Conceptual

Baer et al. (1987) combine analytic and conceptual in their discussion of dimensions of ABA. They describe a contextual (systemic) approach to behavior change in which “we change the much more frequent behaviors that we suppose are precursors to behaviors of interest” (p. 317). (See also Goldiamond, 1974, 1984.)

A nonlinear approach involves analysis of (a) the contingency of which the target behavior is a member (the direct or linear relations); (b) alternative sets, or matrices, of consequential contingencies, of which the target behavior and currently available alternative patterns are members; and (c) the contingencies or relations that can potentiate the matrices (the nonlinear relations). This analysis is applied to gain an understanding of the patterns of observed learner behavior, which occur as a result of the interaction of these matrices. (Twyman, Layng, Stikeleather, & Hobbins, 2005, p. 62)

Something may work even though the analysis is faulty (Morris, 1980). Many practices in medicine work but we do not know why they work; there is a failure of analysis but not a failure of effects. “Applied behavior analysis is more often considered an analytic discipline only when it demonstrates convincingly how to make specified behavior changes and when its behavior-change methods make systematic, conceptual sense” (p. 318). Baer (1991) suggested that “radical behaviorism recommends reserving merely conceptual control only for those behaviors not amenable to experimental control” (pp. 430–431).

Technological

The technological aspect of ABA refers to the fact that it can be replicated and effects consistently found. Baer and his colleagues (1987) note the need for flexibility to consider unique individual differences in preferences for certain procedures.

Capable of Appropriate Generalized Outcomes

Generalization over individuals, settings, and time (maintenance) is of key interest. It is often easy to get people to change their behavior initially such as altering eating patterns and exercising; maintaining these changes is another matter. Do desired changes occur in other settings? Do changes influence other behaviors, including those tangentially related to training settings as well as learning a problem-solving skill? In ABA, planning for the generalization and maintenance of behaviors of
value to clients and their significant others is a key component of intervention. Attention to generalization and maintenance is indeed one of the great contributions of ABA (e.g., see Gianoumis & Sturme, 2012). Many programs have a “train and hope approach”; they train someone and hope it generalizes or is maintained over time. Baer and his colleagues (1987) also discuss generalization in relation to ABA itself.

Effectiveness

Social validity is of great concern. Do the consumers of an intervention like its goals, targets, effects, procedures, and personnel? Wolf (1978) suggested that social validity applies to (1) the significance of behavioral goals, (2) the appropriateness of behavioral procedures, and (3) the importance of behavioral effects. Goals, procedures, and effects should be carefully validated in terms of their acceptability to clients and significant others. Without attention to social validity of this kind, programs that can improve quality of life may not be implemented or disseminated. Scholars in the area of ABA have contributed to a valuable literature regarding acceptability of goals, procedures, and their effects. Use of social-validity measures aids in minimizing rejection of an intervention. “Giving consumers any opportunity to express complaints and discontents that otherwise would go unnoticed may save at least some programs from fatal backlashes, at least if the offended consumer is moved enough by simply the existence of the otherwise inadequate social-validity assessment form to write in its margins or talk to the authors” (Baer, Wolf, & Risley, 1987, p. 323). (See also Baer, 2004.) As Baer et al. (1987) note, “the hallmark of effectiveness may be subtle: sometimes, it seems to be simply the degree to which the target behavior has been changed; much more often, it is the degree to which something other than the target behavior has been changed and that something other almost invariably is someone’s countercontrol against the original behavior” (p. 322). “Almost every successful study of behavior change ought to routinely present two outcomes—a measure of the changed target behaviors, of course, and a measure of the problem displays and explanations that have stopped or diminished in consequence. Yet very few studies do that” (p. 322). They suggest that even though a program may not solve a problem, it may nevertheless be valuable because it may “solve the sometimes more aversive problem of doing nothing about that problem” (p. 314) or may solve an important related problem. For example, an application may allow the client or countering nonclients to discuss the problem. Indeed, they suggest that there may be no such thing as a totally ineffective program. Thus, even though problems are not solved, interventions may have some social validity. Could this be why many “ineffective” programs exist?

Effective but Underused

Thousands of studies show that people’s lives can be improved—can be more interesting, more independent, more cooperative, and inclusive—by drawing on basic behavioral principles and related theory. Dissemination and diffusion of valuable programs are of concern in all areas including ABA (e.g., Fixsen, Blase, Naom, & Wallace, 2009; Paine & Bellamy, 1982). Literature in ABA describes creative applications of findings from the experimental science of behavior including building on alternative repertoires to decrease concerns such as hallucinations and binge eating (Budd & Stokes, 2003; Goldiamond, 1984; Layng, 2009). If a child cannot speak, develop a picture book that illustrates different kinds of reinforcers and the child can point to them. If older people fall asleep during a movie and then awake when the movie is half over and are thus uninterested, set up a system whereby if a button is not pressed every few minutes, the movie stops so that if the person falls asleep, when they awake they will only have missed a few minutes and retain their interest in “what happens next” (Lindsay, 1964). If conversation is lacking around a table in a retirement home, serve food family style rather than on individual plates to increase conversation. (See also McClannahan & Risley, 1975.) If teachers are unwilling to change their behavior in order to be more positive with children in their classroom, teach children how to alter the behavior of teachers (Graubard, Rosenberg, & Miller, 1971). If learning is boring, make it game-like (e.g., see Donaldson, Vollmer, Krous, Downs, & Berard, 2011). The APA Handbook of Behavior Analysis (Madden, 2012) describes applications in environmental health, treatment of autism, attention-deficit/hyperactivity disorder (ADHD), teaching, substance abuse, industrial problems and business, and sleep problems. Behavioral principles are drawn on to address self-injurious behavior, behavior related to a wide range of health concerns (e.g., smoking, weight, and drinking), parent–child interaction, and a range of behaviors in educational settings. They are central in working with children and children and adults with developmental disabilities, in dialectical behavior therapy (Linehan, 1993) and acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 2012). They are used to improve conditions in organizations and communities (e.g., see Freeman et al., 2010).

However, ABA and related theory often remain underused or unused in areas in which they could minimize avoidable miseries and increase quality of life as many have noted (e.g., Maltby, 1996; Morris, 1985; Thyer, 2005). Consider this quote from Don Baer in 2002:

I note that behavior analysis and applied behavior analysis have been very small, heavily criticized, and despised disciplines; I expect that will continue, largely because proof-dependent natural-science views of human behavior are both threatening to their competitors and also very poor show business. I expect that the powerful techniques of applied behavior analysis will always be quickly stolen from their context and their terminology, made mentalistic, psychodynamic, or quasineurological, and used widely by practitioners who credit their effectiveness to cognition, inner motivation, or neurology. I predict that effectiveness will always be less in their hands than it would be in the hands of proof-dependent functional analysts.
but because the techniques were developed in functionally analytic, proof-dependent hands, they will maintain some effectiveness even in clumsy, nonanalytic hands. (Baer quoted in Wesolowski, 2002, p. 144)

We have a powerful technology compatible with research findings concerning human behavior, yet one that is persistently ignored in many venues where its application could help people to enhance the quality of their lives. Thyer (2005) noted that behavioral social work is misprized, misread, and misconstrued. Most texts in social work do not include terms such as “behavior analysis” or “applied behavior analysis” (let alone radical behaviorism). In most books on theory in social work, there is no mention of radical behaviorism or ABA. In Social Work Treatment: Interlocking Theoretical Approaches (Turner, 2011), behavioral theory is included as one of 38 entries, all given equal space despite unequal evidentiary status. It is almost as if related words are taboo or are a stigma.

When not ignored, ABA and radical behaviorism are often misrepresented (Thyer, 2005; Todd & Morris, 1983). Just recently at a conference on Science and Society at USC held in May 2011, one of the speakers said: “Some like behaviorists, do not acknowledge the importance or ‘reality’ of an internal mental life” (Longhofer & Floersch, 2011). This incorrect statement could have been avoided by reading any number of readily available original sources (e.g., Skinner, 1974). And, there is “pillaging,” which may be good (help clients) or bad (deprive them of greater gains by more systematic use of behavioral theory and related technology). As Don Baer suggested, “powerful techniques of applied behavior analysis will always be quickly stolen from their context and terminology” (Baer, quoted in Wesolowski, 2002, p. 144). An example in social work is the renaming of scores of behavioral techniques as “task-centered practice,” hiding their origins (Gambrill, 1994). Approaches such as motivational interviewing (Christopher & Dougher, 2009) incorporate behavioral strategies as do successful parent training programs which cite social learning theory as their guide (Triple P Parenting Program and Incredible Years Program; e.g., see de Graaff, Speetiens, Smit, de Wolff, & Tavocci, 2008). Non-take-up of effective interventions is of concern in all professions and is a common problem (Straus, Tetroe, & Graham, 2009) encouraging the creation of the process and philosophy of evidence-based practice and policy (Gambrill, 2006).

Obstacles

We can use our contingency analysis skills as well as research in a variety of other areas to understand the neglect of ABA and to identify obstacles and plan how to address them. The obstacles suggested are interrelated.

The Allure of Mentalism (Mentalistic Explanations)

Mentalism can be defined as “an orientation to the study of behavior, which holds that a unique, a necessary, and the primary contribution to the causal explanation of behavior consists in proposing various internal acts, states, mechanisms or processes, presumed to be operating in neural, conceptual, or psychic dimensions” (Moore, 1990, p. 20). Mentalistic explanations “appeal to the initiating causal efficacy of feelings, mental states, attitudes, thoughts, ideas, drives, needs, memories, images, representations, sensations, reasons, purposes, beliefs, wants, desires, attributions, the ego/superego/id, moods, brain states, expectations, etc” (p. 20). Radical behaviorism was termed radical because it is a sharp break with methodological behaviorism. Private events such as feelings and thoughts are viewed as behaviors that themselves need explanation. This seemingly simple statement is profound in its implications. This means that we cannot use feelings and thoughts as explanations for behavior as occurs in mentalistic accounts; we must examine environmental contingencies. Those who favor mentalism appeal to cognitive processes such as thoughts to explain behavior. There is a focus on interiors.

Appearance to interiors (thoughts, feelings, and brains) draws attention away from environmental contingencies that contribute to social and personal problems. If we examine what most cognitive–behavioral therapists do, I suspect that we would find that two thirds of their endeavors focus on interior events and their modification (such as changing what clients say to themselves). (This could be checked by an empirical investigation of what is focused on in published studies as well as by collecting new data describing the focus of intervention.) Factors that encourage mentalism include the vividness of thoughts and feelings, the ideology of success via “mind power,” and fragmented accounts in the media which ignore environmental causes (Gambrill, 1992). We are often aware of our thoughts and thus they are readily available to view as the cause of behaviors and events that befal us in our lives. The same can be said of our feelings. These too are readily available. (See also later discussion of cognitive biases.) This availability, combined with the tendency to think that we have discovered the cause (and thus the remedy) regarding behaviors or consequences of interest, lull us into thinking we have discovered how to change things for the better. There is an illusion of understanding. If this is not true, they are false prophets (a kind of false positive) which get in the way of further inquiry.

A focus on interiors encourages a disinterest in the behavior of clients and related environmental circumstances. An indicator of a disinterest in individual circumstances and characteristics is illustrated by use of brief (one paragraph or one page)
vague summaries describing a client assumed to offer enough
information to understand a client’s life (e.g., warranting deci-
sions about what is wrong and what should be done). Lack of
understanding of unique individual situations encourages a lack
of empathy for clients. Where is the empathy for a child when
we simply give him a label and prescribe medication, as occurs
for so many school children? Children in foster care are espe-
cially likely to be medicated (Carey, 2011; Government
Accountability Office, 2011). Professional codes of ethics call
for use of the least restrictive interventions; medication is usu-
ally not the least restrictive. Sperber (1990) argues that opinion
leaders as well as the rank and file members of the scientific
community are under relentless pressure to adhere to the latest
styles or trends considered to be in “good taste . . . ” (p. xi).
Bauer (2012) argues that research cartels censor well-argued
alternative views and promising directions of inquiry.

Related popular grand narratives and metaphors. It is widely
believed that “mental illness” is the cause of troubled, troubl-
ing, and very dependent behaviors. Indeed, to question this
belief is often viewed as heretical and deluded. The biomedical
industrial complex has had phenomenal success in framing
problems as internally caused with the aid of its best friend, the
Diagnostic and Statistical Manual of Mental Disorders (DSM;
American Psychiatric Association, 2000), soon to appear in its
fifth edition (Gambrill, 2012a). Biomedical explanations are
used to account for an ever-increasing range of behaviors,
thoughts, feelings, and bodily conditions. (Mis) behaviors,
troubled or troubling feelings and thoughts are translated into
illness such as bipolar disorder, schizophrenia, ADHD, and
hundreds of others including gambling and female sexual dis-
fuction (Moynihan & Mintzes, 2010). This category error,
assuming that behavior—what people do—equals illnesses, is
widely ignored by players in the mental health industry and
their audiences. The number of listings in the Diagnostic and
Statistical Manual of the American Psychiatric Association
continues to increase. The slogan, “And more,” truly charac-
terizes this enterprise. The boundaries around categories of
alleged disorders such as anxiety in social situations continue
to expand. The promotion of the belief that deviant or troubl-
ing behaviors are caused by an illness (a brain disease) has
spawned scores of industries and thousands of agencies, hun-
dreds of research centers, and thousands of advocacy groups
which forward this view. A disease model of alcohol abuse
rules the day. Szasz (2001) argues that we live in a therapeutic
state (a pharmacry) characterized by psychiatric control of
misbehavior by prescribed or coerced medication.

The therapeutic grand narrative of clinical psychology focuses
on the self as the prime site for management of life’s
travails. Ii1ouz (2008) argues that an ideal of social communi-
cation was created, incorporating the view that we gain self-
knowledge by introspection which can provide guidance in
understanding, controlling, and dealing with both our social
and our emotional environment. Verbal disclosure was viewed
as central in social relations. Self-observation, self-knowledge,
and the responsibility to work on and alter our relationships are
emphasized. Ilouz suggests that the language of therapy has
been responsible for a cognitive and cultural process of “verbal
overshadowing” that makes self-introspection a substitute for
nonverbal ways of acting in social exchanges. Does this focus
on interiors have a beneficial outcome? Her answer is “No.”
She contends that questions about “Why do the innocent suffer
and the wicked prosper? . . . that [have] haunted world religions
and modern social utopias, [have] been reduced to an unprece-
dented banality by a discourse that views suffering as the effect
of mismanaged emotions or a dysfunctional psyche or even as
an inevitable stage in one’s emotional development” (p. 246).

Seduction by Theory
Some professionals focus on interpreting and explaining beha-
vor. They may say they understand an event if an explanation
“makes sense to them.” Different goals (interpretation and
explanation or understanding based on successful prediction
and influence) reflect different views of understanding and
explanation. The professional literature in the interpersonal
helping professions is replete with books and articles describ-
ing different theories regarding behavior, with little attention
to practical utility in helping people to enhance the quality of
their lives. Qualifying examinations in social work in the
School of Social Welfare at UC Berkeley examine students
on their knowledge of a range of theories with seeming little
interest in their practical utility. Indeed, in a recent doctoral
qualifying examination bibliography on theories of the family
approved by a faculty member, there was no mention of social
learning theory, arguably, the most widely drawn on to design
suggests that illusions of explanations are accepted when it is
more reinforcing to select empathic (based on feelings) or ideo-
logical (based on beliefs) accounts.

The Allure of Pathology
The DSM is one of the most successful (if not the most success-
ful) technologies in the history of mental health. It provides
about 5 million dollars a year to the American Psychiatric
Association and is soon to appear in its fifth edition with even
more labels applied to even more behaviors. Such a technology
fits with a disease model of deviant behavior and a focus on
“the self.” Related discourse makes creative use of look-
alikes for science (pseudoscience and scientism; e.g., Boyle,
2002) and encourages a disregard of individual differences in
opportunities and challenges. It has become accepted (and
more reinforcing) to ferret out interesting psychopathologies
related to complaints than to discover environmental conting-
cencies that affect what people do, think, and feel and contrib-
ute to positive change. Central in applications of behavioral
analysis to clinical and social problems is the view that “beha-
vor always makes sense.” But this sense may only be revealed
via an understanding of related contingencies. This view is
quite the opposite of the grand narratives of clinical
psychology and biomedical psychiatry which emphasize
deficiencies—their identification and causes, usually in the individual, spurred on by Big Pharma, piggy backing on the ever expanding DSM. Third-party payment requires use of these diagnostic categories. Research grants must use such classifications. The field of psychopathology is enormous with subfields in child, adult psychology, and geriatric psychopathology. The prefix “psych” emphasizes the psychological—the individual—what lies within; the term pathology focus on what is wrong. We hear these words endlessly which influences how we frame problems and attempt to solve them.

Misunderstandings of Science

ABA is a scientific approach to understanding and altering behavior. Behaviorism is “a philosophy of science concerned with the subject matter and methods of psychology” (Skinner, 1988, p. 278). Many objections to ABA are related to misunderstandings of science. Philosophy of science is a neglected area in most professional schools. Science is a way of thinking about and investigating the accuracy of assumptions about the world. It is a process for solving problems in which we learn from our mistakes. Science rejects a reliance on authority (e.g., pronouncements by officials or professors) as a route to knowledge. Authority and science are clashing views of how knowledge can be gained. Surveys show that most people do not understand science (National Science Foundation, 2006). Misunderstandings about science may result in ignoring this problem-solving method and the knowledge it has generated to help clients enhance the quality of their lives. Textbooks often omit controversy giving an illusion of a logical progression of uncomplex discovery, when indeed, the process is quite different, involving chance discoveries, conjecture, and controversies. Journal articles often omit controversy about causes and evidence. Science is often misrepresented as a collection of facts or as referring only to controlled experimental studies. Many people confuse science with pseudoscience and scientism.

Scientific thinking rejects a search for final answers. It is hard to give up illusions of control that are questioned by asking for evidence. Scientific thinking may thus interfere with one of the functions of lay beliefs—making the world a stable, orderly, and predictable place (Furnham, 1988). Thinking critically about the causes of a problem such as poverty or substance abuse may call into question comfortable positions. If you can no longer blame the people who have the problems, maybe something should be done to alter environmental circumstances related to these problems. Far from reinforcing myths about reality, science is likely to question them. All sorts of questions that people may not want raised may be raised, such as: “Does this residential center really help residents? Would another method be more effective? Does what I’m doing really help clients? How accurate is my belief about —?” Misunderstanding about science may result in ignoring this problem-solving process. Some people believe that the scientific method is inappropriate to apply to human behavior. Reasons given include the assumption that behavior is variable and cannot be controlled or influenced in a systematic way. It is believed that behavior is essentially unknowable. Knowledge about behavior is indeed incomplete. This may breed a dissatisfaction and impatience with the slow pace at which a science of behavior develops or result in a belief that a science of behavior is not possible. The incompleteness of knowledge often encourages theorizing about why technology is incomplete rather than continued experimental efforts to create additional knowledge (Baer, 1991).

Countervailing Contingencies and a Reluctance to Reveal Them

Sociologists and cultural observers such as Foucault (1973), Illouz (2008), and Szasz (2001) bring to our attention the influence of the state and related institutions such as welfare programs and prisons on what problems receive attention (and which ones do not) and remedies proposed. Health insurance companies are interested in saving money as reflected in a reluctance to pay for interventions shown to be effective for children with developmental disabilities. Managed care policies may not support effective interventions nor may policies and practices in schools and other kinds of institutions (child welfare departments). The helping professions are big business (see Stid, 2012). Consider the multibillion dollar pharmaceutical industry. Consider the huge assessment industry. Hundreds of schools graduate thousands of social workers, counselors, and psychologists each year. Most professionals are uninformed regarding ABA and related research, theory, and philosophy and its application to the pursuit of outcomes clients value. Thousands of social workers graduate each year from bachelor’s, master’s, and doctoral degree programs with a pristine ignorance of ABA and related theory. All these enterprises exist because of maintaining contingencies. Many interested parties go out of their way and devote considerable resources to hide context (what is done to what effect). Consider exposure of conflicts of interest including those of academic researchers (Lo & Field, 2009). Behaviorism is radical in closely examining context and related contingencies, taking advantage of observation when possible. Who is reinforcing whom for what behaviors with what consequences? Description of involved contingencies, some of which may facilitate and others of which may hinder change (exert counter control), are important to identify in order to select valuable entry points and behaviors and contingencies to alter. Are there entry points such as consumer groups which may encourage a positive cascade effect? How can we avoid entry points which encourage the opposite, negative cascade effects which result in development of even greater countercontrol?

The Plethora of Propaganda in the Helping Profession

Propaganda refers to encouraging actions, adherence, and participation with as little thought as possible (Ellul, 1965, p. 180). Propaganda can be contrasted to critical thinking—arriving at well-reasoned beliefs and actions (Gambrill, 2012b). Common
methods include censorship, distortion, confusion, and even fabrication. As Rank (1982, 1984) suggests, we highlight the positives of our view, hide the negatives, and highlight the negatives of competing views and hide the positives. Consider distortions and misrepresentations of behavioral methods (e.g., Thyer, 2005) and of evidence-based practice (Gambrill, 2011). ABA involves a constructional approach to change in which there is a focus on constructing repertoires including those which compete successfully with undesired behaviors (Goldiamond, 1974, 1984; Schwartz & Goldiamond, 1975). Descriptions of “strength perspectives” in social work typically ignore related literature and falsely claim that their model is unique in focusing on client assets. Related books also illustrate the “picking off” of behavioral strategies unrelated to their theoretical underpinning.

Ellul (1965) argues that propaganda is integral to the technological society in which we live. (See also Ellul, 1964.) Propaganda offers an escape from the alienating effects of such a society, such as anxiety and loneliness. We have a ready ideology that offers a reason for our miseries and an excuse for our actions. Our psychological vulnerabilities, for example, to “be right,” to be “one of the in-crowd,” contribute to the success of propaganda. Propagandists influence our choices by how they frame decisions (e.g., as losses or gains, delayed, or immediate). Revelations of conflicts of interest over the past years and related propaganda (fielding of dubious diagnoses such as “pediatric bipolar disorder” and promoting neuroleptic medication for toddlers has resulted in a vigorous backlash (e.g., Angell, 2009; Lo & Field, 2009). Self-propaganda is intimately related to propaganda from other sources; the two become closely intertwined, encouraged by years of prepropaganda in our schools (Ellul, 1965). Consider the progression of students through their education. By the time they arrive in professional degree programs, they may have had little experience and mentoring in close observation of environmental influences and a great deal of practice using mentalistic descriptions.

Hiding well-argued alternative views may result in misdirections and oversimplifications that mislead rather than inform us about what is a problem, what kind it may be, what causes it, and what can be done (if anything) about it. Consider ignoring research concerning the role of therapist alliance and allegiance in contributing to positive outcome in publications overpromoting “evidence-based” practices. (For discussion of the role of such factors see Duncan, Miller, Wampold & Hubble, 2010; Norcross & Lambert, 2011; Wampold, 2007.) We see inflated claims of accuracy and evidentiary status regarding favored views and hiding and/or distorting of well-argued alternative views and related evidence (e.g., see Gorman & Huber, 2009). This kind of deception goes hand in hand with seductive appeals to our self-interests in being healthy, popular, right-living, achieving the good life, and avoiding the bad. Ignorance of ABA enables related propaganda to be effective; propaganda flourishes where ignorance reigns. Propagandists are skilled in use of strategies such as distracting our attention from the lack of evidence for claims by name dropping (e.g., “as Freud said”), bogus citations (they contain no support for the related claim), and censorship of well-argued competing views. These skills may be polished in graduate school. Both advertisements and content in the professional literature distort reality by selective presentation of data to forward a certain view and related product and use similar techniques to do so. Similar goals and strategies are evident in both (Gambrill, 2012a). Both create an illusion of knowledge and achievement of valued goals. We see our usual propaganda ploys—bold assertions including inflated claims about “what we know,” and “what works” or what is done, hiding context such as well-argued alternative views, distorting facts and figures, and appeals to authority such as uncritical documentation (attaching citations to a claim without any description of what these citations contain). There seems to be a negative correlation between the status of a profession and the tendency to publish advertisements disguised as research articles (articles). That is, the lower the status, the more articles appear, as in social work and psychiatry compared to medicine. Altheide and Johnson (1980) argue that the greatest source of propaganda today is bureaucratic—endless agency reports designed to gain or continue funding which reveal little detail regarding what is done to what effect. The old adage “Buyer beware” can be generalized to be critical of what you read, even in professional texts and journals.

**Gullibility**

We are gullible creatures as any history of science, ideas, fashion, or just about anything else would testify (e.g., see Cialdini, 2009; Thyer & Pignotti, 2010, 2011). We are easily deceived, duped, or cheated. Some hoaxes are so successful they have been practiced for centuries. Many persuasive appeals play on our emotions as in appeals to special interests or disliked groups. The ad-like character of much material in the professional literature (articles, chapters, and texts) in tandem with common biases to which we are subject such as overconfidence and confirmation biases, increase the likelihood that we will be bamboozled. For example, our belief in a view may result in missing or dismissing methodological limitations in studies favorable to this view, especially when they are minimized or ignored by authors. This contributes to an illusion of learning—an illusion of knowledge acquisition and dissemination. We may not know that articles we read were written by ghostwriters hired by pharmaceutical companies but published under the name of a well-known academic. Gullibility has many advantages. Time is saved, sure answers are claimed, and one can belong to a subgroup of fellow believers.

**Misleading Use of Language**

Language may mislead us because of carelessness, lack of skill in writing and thinking, or deliberate intent to mislead on the part of a speaker or writer. Unless we are skilled in avoiding the misleading influence of words, our lives may be shaped by the words we use, see, and hear in ways that harm rather than help. Applied behavior analysts have devoted considerable attention to equivalence relations and their effects (e.g., Dymond, Roche,
Forsyth, Whelan, & Rhoden, 2007; Sundberg & Michael, 2001). Just as thought may corrupt language, language may corrupt thought (Orwell, 1946/1958). "Weasel worlds" provide an illusion of argument or clarity. Examples include

- "Many people say . . ." How many? Who says so? On what basis?
- "Some people argue that . . ." Who? On what basis?
- "Studies show . . ." What studies? How sound are they?
- "Experts suggest . . ." What experts? On what basis?
- "It is notable that . . ." On what basis is it notable?
- "Obviously . . ." How is it obvious? What is the evidence?

Weasel terms such as "it is well known that . . ." "It is widely accepted that . . ." (when indeed there is controversy) are used in lieu of arguments. We may believe that because a word exists, what is referred to exists (reification). The terms science and scientific are often used for persuasive rather than descriptive purposes. That is, the term scientific is often used as an adjective to enhance the credibility of a view or approach even though no scientific evidence is available that supports the view. The term science has been applied to many activities that in reality have nothing to do with science. (See also critiques of "evidence-based practice," Gorman & Huber, 2009).

Combs and Nimmo (1993) describe palaver as a kind of discourse in which truth and falsity are irrelevant. It includes rambling speech and digressive claims presented in appealing ways. Obscure writing often appears more profound than clear writing. Armstrong (1980) found that material presented in obscure wording was deemed more profound and scientific. In palaver, truth is irrelevant. There is no concern for truth, only to create credibility and for guile and charm. As Frankfurt (1986) suggests, "he does not reject the authority of truth, as the liar does, and oppose himself to it. He pays no attention to it at all" (cited in Combs & Nimmo, 1993, p. 340). Frankfurt suggests that faking is inevitable whenever circumstances require that we speak without knowing what we are talking about. In advertising and in professional publications, palaver is used to make small or no difference between products look substantial to encourage us to purchase one product rather than another. This is also the case with alleged differences among the hundreds of psychotherapies available. We are complicit in perpetrating this reign of palaver in our failure to be skeptical. Problems are viewed as solvable via discourse—expressions of concern and description of efforts. The problem actually remains but is "solved" for the politician because propaganda produces the desired effect on the public (Combs & Nimmo, 1993, p. 236). Thus, problems are viewed as "a problem of propaganda." Propaganda is the solution to political or other organizational problems because it creates a semblance of reality.

The Prevalence of Cognitive Biases

Trying to solve problems is influenced by what we observe and what we do not; what theories we prefer and which ones we are unaware of or do not like. Failure to recognize environmental influences is a key reason distortions and misrepresentations of ABA and radical behaviorism are so readily accepted. As Skinner (1971) suggests, "casual observation alone will seldom reveal the contingencies" (p. 148). Patterns of reinforcement that affect behavior are not obvious. If environmental influences were more vivid, their role would be more difficult to deny and disregard, including contingencies related to behaviors that could successfully compete with those complained of. What conditions contribute to ignoring environmental variables? Why did people not "see" the ape crossing the stage (see Ariely, 2009). We can draw on theory and research concerning decision making and related cognitive biases and illusions to help us understand why environmental variables tend to be ignored (Gambrill, 2012b; Poli, 2004). Examples of cognitive biases include confirmatory biases in which we seek only information compatible with our preferred views and wishful thinking (e.g., Taber & Lodge, 2006). We often mistake correlation for causation and causes and their effects. We underestimate the role of chance and are subject to the fundamental attribution error (attending to personality characteristics of individuals and overlooking environmental variables). We tend to ignore base rate information and are subject to hindsight bias. Either or thinking may lead us astray—considering only two alternatives when there are more. We are subject to the "validity effect." This occurs when the mere repetition of information affects the perceived truthfulness of that information (Renner, 2004).

In everyday life, we often attribute behavior to feelings and thoughts. A counselor may write in her record, "Mrs. Jones tried to kill herself because she felt lonely and believed no one cared about her." But, why did she feel lonely? Why did she believe no one cared about her? Such accounts stop too soon. They are incomplete. What is going on in her life that may be related to feelings, related thoughts, and the suicide attempt? Feelings and thoughts are vivid, thus readily available to assume as causes of behavior. Propagandists take advantage of this vividness to encourage confusion between feeling free and being free. They may pronounce: "You are free to choose," when, because key information is hidden and alternatives offered have been shaped by others, you are not free. As Skinner (1971) suggests, just because you feel free does not mean you are uninfluenced by your environments. Environmental circumstances are less vivid, and so easily overlooked, especially by professionals who rely on clients' self-report in interviews (the office-bound professional). So too is our past history (biographies that shape our behavior) typically less vivid unless focused on, as in certain kinds of therapy. The reinforcement history of complained of behaviors (or their lack) is hidden in the past. We see only its reflections in the present. Consider a child diagnosed with ADHD. Related behaviors such as shouting, hitting, and leaving the room are vivid. The related reinforcement history is hidden. Hidden in the past are thousands of reinforcement occasions for troubling or troubled behaviors and perhaps even more lost opportunities to reinforce desired alternatives. Our tendency to be influenced
by vivid events such as feelings draws attention away from the environment. If we are not trained to think about "reinforcement history" but have taken courses focused on theories of development, mentalistic concepts such as low self-esteem may leap to mind as causes of complained behavior with their implication of a focus on interiors (raising self-esteem).

Alternative repertoires related to vivid complained-of behaviors such as phobias, compulsions, hallucinations, temper tantrums, and bullying are not obvious without the conceptual orientation to seek them and the technical skills to discover them (e.g., by having clients complete daily logs regarding what they do and related circumstances; Schwartz & Goldiamond, 1975). Nor are maintaining contingencies of disliked behaviors obvious; the form of behaviors such as tantrums captures our attention. The form of a behavior may not reveal its function. Without recognizing this vital distinction, we may assume that alternative repertoires which may compete successfully with an undesired behavior must look similar when indeed, totally different forms of behavior may be maintained by the same reinforcer. What doctor would jump to a conclusion that a fever indicated a certain cause, that a rash was due to a certain cause, or that shortness of breath was caused by a particular circumstance? Yet in the interpersonal helping professions, we see such "jumping to conclusions" everyday. Consider the acceptance of "past trauma" as the cause of a wide variety of problems.

**Lack of Critical Thinking Skills and Related Dispositions**

Problems may be created or remain unsolved because we rely on questionable criteria to evaluate claims about what is accurate, such as tradition, popularity, or authority (Gambrill, 2012b). Thinking critically about claims is not valued by many groups and individuals. To the contrary, individuals and/or groups may try to hide the effects of practices and policies by relying on propaganda methods and appealing to pseudoscience as suggested earlier. Phillips (2000) argues that raising questions about "truth" has the taboo quality today that talking about sex had in Victorian times. Both critical thinking and evidence-informed practice and policy encourage asking questions designed to make the invisible visible, including uncertainties and inequities related to decisions (e.g., see Database of Uncertainties About the Effects of Treatments (DUETS) at http://www.library.nhs.uk/duets/).

**The Press for Efficiency and Standardization**

Ellul (1965) argues that "modern man is obsessed with technology" (p. 59). Technology strives for ever greater standardization and efficiency. Pains and symptoms must be classified so forms can be easily completed and resultant classifications given Latin names so they give the illusion of objectivity. Do standardized measures accurately reflect quality of life (e.g., Carlon et al., 2010; Mulkerski et al., 2007)? Does observation in real-life settings provide a corrective guide?

The push for efficiency and standardization creates an erasure of individual differences (Ilouz, 2008). Both children in foster care and the elderly are too often placed on medication rather than understanding and altering contingencies related to their behavior (e.g., Government Accountability Office, 2011; Levinson, 2011). Parent training programs that clients receive in child welfare services are not those most likely to be effective (e.g., see Barth et al., 2005). Assessment is minimal; everyone may receive the same program. Consider the example of a child welfare worker called out to a home in which there was concern about abusive parenting practices. Upon arrival of the social worker at the home, the father said, "No, wait" and rushed into another room and brought out four certificates that he had received from attending four different parenting programs. This example illustrates the ritualistic nature of a great deal of intervention and the related enormous waste of money. Also, given that such interventions are ineffective or harmful, they may create an illusion of knowledge (a parent may think they know more when they do not) or (even worse) contribute to a believe that one is ineducable. With the money saved from not offering ineffective or harmful programs, we can train staff to offer effective programs. In contrast, ABA is deeply concerned with individual differences in learning histories and current contingencies and related implications for selection of interventions. ABA requires attention to real-life worlds in which a client lives. But this takes time. It takes skill in observation. Who will pay? Who will suffer if payment is not forthcoming?

**Codes of Ethics Without Creating Related Controlling Conditions Offer an Illusion of Ethical Practices and Policies**

Every profession has a code of ethics describing obligations of practitioners. These codes call on those in a profession to help clients and avoid harming them and to involve them as informed participants. Given harming in the name of helping and the fact that most clients are not involved in helping efforts as informed participants, clearly these codes alone are not effective in influencing behavior. Indeed, it could be argued that they do more harm than good because their existence, in the absence of the necessary controlling conditions to ensure they are honored, conveys an illusion that practitioners are doing the right thing, just as a bogus certification on a food product may give an illusion of safety and/or nutritional value. Consider informed consent obligations. What controlling variables would have to be arranged to increase the probability that clients are not misinformed or uninformed, but involved as informed participants? What conditions would have to be established to ensure that practitioners accurately describe their competence to clients/patients? Should we use a form similar to one suggested by Entwistle and her colleagues which requires professionals to clearly describe to clients the evidentiary status of services offered compared to alternative methods as well as the track record of success of those who will offer them (Entwistle, Sheldon, Sowden, & Watt, 1998)?
Exactly what behaviors in what circumstances are required regarding each ethical obligation? What circumstances require deviations (alternative behaviors)? What is the range of behaviors (the operant) that results in a specific related hoped-for outcome? To what degree do those behaviors identified as “ethical” facilitate positive outcomes for clients and significant others? To what extent does a client’s view of positive outcome overlap with the views of significant others?

A Path Ahead

We can do more to encourage greater use of a science of behavior and related theory to help people to enhance the quality of their lives. And, as suggested earlier, we are ethically obligated to do more. What should this “more” consist of to maximize success in decreasing gaps between what is likely to help clients attain valued outcomes and what is done? How can we encourage clients to advocate for and professionals to take advantage of methods that improve quality of life for clients and significant others (e.g., see Risley, 1996)? How can we make theory and technology that helps clients more interesting, indeed of vital appeal? If ABA and quality of life are birds of a feather, we must raise our appeal to many different audiences. A great deal of this “more” consists of revealing avoidable ignorance as suggested in the sections that follow. We should help both professionals and clients to see what is not obvious (what is hidden) such as conflicts of interest that maintain ineffective (or harmful) service programs and consequent avoidable suffering and waste of money (e.g., see Tanne, 2012). Ignoring individual differences in unique alternative available repertoires (AARs) and life circumstances and histories decreases the likelihood of understanding clients, including their individual subjectivities. This calls for revealing avoidable ignorance. Proctor and Schiebenger (2008) suggest that the study of ignorance is as important as the study of knowledge. All professional schools should introduce students to the tapestry of ignorance that influences their work with clients and related consequences. We can help people think like Sherlock Holmes who noticed the importance of the fact that the dog did not bark. We can help parents to see that the quietness of a child should be an occasion for a loving hand or fun game rather than for continuing to Twitter or text. We can help an inattentive spouse to notice the yearning of his or her partner for attention, so removing the need to seek attention via fears and obsessions.

Revealed Avoidable Suffering Due to Gaps Between What Could Be and What Is Done

Revealing avoidable suffering is a key way to gain media attention and interest of involved decision makers, to recruit consumer support and to recognize “crises” (opportunities for a positive cascade effect). Indicators of poverty, stress, and deprivation are becoming more specific. Examples include percentage of children not enrolled at appropriate educational levels, living in dwellings with no electricity, absence of safe drinking water, not having toys, and not having at least one book (Roelen & Gassman, 2012). Measures of child well-being include many of these in addition to indicators such as proportion of children who report being beaten or insulted as part of punishment/discipline and percentage of children who report having a good or very good relationship with a peer (Hoelscher, Richardson, & Bradshaw, 2012, see also Maholmes & King, 2012). We should make the avoidable suffering that results from not taking advantage of a science of behavior more visible. How many people spend their days in punishing environments with few pleasurable consequences (e.g., those with nothing to do)? Although many more children come into care because of neglect, most research attention is focused on abuse. Neglect is not as vivid because we do not make it so. Do we count the hours when a child is emotionally and cognitively neglected? In “Meaningful differences,” Hart and Risley (1995) gathered data regarding the verbal environment in 3 distinct SES (socioeconomic status) categories: professional, working, and welfare. Sizable differences were found in the frequency of words spoken by parents to their children. ABA is in part a science of minimizing avoidable suffering.

Exposing avoidable suffering on a steady basis in multiple areas would hopefully potentiate concerns about these negative consequences and generate effective countercontrol to change circumstances. This is especially needed in settings in which options for countercontrol on the part of those experiencing adverse effects are limited. As Skinner (1971) notes, “those who are concerned for the welfare of people in mental hospitals and many other institutional settings, including prisons often do not know what is happening in such settings because control and countercontrol tend to become dislocated when control is taken over by organized agencies” (p. 171). Ignorance is the controllers’ and the propagandists’ friend. Appeal to feelings, states of mind, and mental illnesses allow the former to mystify sources of avoidable suffering (place causes in the individual). Such appeals obscure alternative accounts that may reveal needed changes in environmental contingencies. As Skinner (1971) suggests, “Young people drop out of school, refuse to get jobs, and associate only with others of their own age not because they feel alienated but because of defective social environments in homes, schools, factories, and elsewhere” (p. 15). We have let clients and their significant others as well as professionals down, by not making greater efforts to make visible lost opportunities to help clients minimize avoidable suffering.

What percentage of fourth graders referred to a social worker for out-of-control behavior in the classroom are recipients of a functional assessment (see Cipani, 2012) and what percentage receive intervention based on this assessment including at least a 6-month follow-up to maintain gains? What percentage are helped by this approach at what cost? What percentage of children receive other kinds of services and what percentage are helped by these? What percentage are not and at what costs (e.g., social, emotional). This kind of data would allow us to identify and expose gaps between what is and what should be as well as their consequences such as avoidable
suffering and loss. In exposing these gaps, we should try to capture multiple kinds of costs and benefits, both current and future, including emotional, economic, and social costs of one intervention compared to another, both now and in the future. Let us say that a behavioral approach based on findings from the experimental analysis of behavior is more effective than other methods to achieve certain outcomes. We could trace possible consequences over just 1 month. How many lost opportunities for reinforcement of positive behaviors result from each day in different programs? What is the rate per day? What is the rate for the child, the teacher, other members in the class, and the child’s parents? How many avoidable instances of punishment resulted from different programs? What is the overall positive to negative ratio in terms of consequences maintaining behavior? What kind of “tipping” points occur (e.g., reinforcement patterns/schedules that tip a person into a depression state of elation)? What kind of positive or negative cascades occur and under what kinds of circumstances? Psychological distress affects mortality and enjoyment of everyday life (e.g., see Russ et al., 2012).

In modern times, it seems that journalists are most likely to blow the whistle on harmful interventions and their effects including punitive, neglectful conditions in group homes for those labeled “mentally ill,” those with developmental disabilities, and those for the elderly, many of whom spend their last days in vapid nursing homes, overmedicated and undertouched and uncared for (e.g., Levy, 2002). Popper (1994) suggests that we do not know how to make people happy but that many would agree on what is avoidable suffering. He proposed an agenda for public policy consisting of “ways and means of avoiding suffering, so far as it is avoidable” (p. 124). For complaints that reflect avoidable suffering we should do the following

1. Clearly describe it as well as common related contingencies. Who is to say what avoidable suffering is? Adaptation to low levels of positive reinforcement may result in a lack of complaints. People are remarkably adaptable and creative in responding to changing levels and kinds of reinforcement. This very adaptiveness may result in the slow withering of verbal complaints and perhaps even signs of distress as scanty reinforcement schedules result in a profound resignation reflected in silence and possible quietness as in those sitting or laying in nursing homes. In the absence of verbal complaints which such histories may reflect, we must use our eyes to see avoidable miseries. Here too, the behavioral literature suggests valid observational methods and possible interventions to entice the demoralized (such as reinforcement sampling). Our adaptiveness is shown by those whose environments encourage behavior viewed as deviant (e.g., selling drugs) as in poor neighborhoods with few opportunities for valued employment (Wacquant, 2009). Would we too come under the influence of such contingencies? Focusing on avoidable suffering highlights the importance of attending to opportunities for reinforcement. Where there are few opportunities, there will be little behavior, including perhaps, even complaints.

2. Determine its prevalence.

3. Determine if there is an effective intervention. Is there a recent Cochrane or Campbell systematic review addressing the issue? A question here is who is to say what is effective? (See prior discussion of social validity.)

4. Estimate the percentage of individuals who have the complaint (or are complained about) who receive effective intervention.

5. Conduct a cost–benefit analysis regarding the consequences of providing (or not) effective intervention in relation to prevalence drawing on our values and technology related to social validity to capture the subjective as well as objective consequences in order to accurately portray seriousness and impact (e.g., avoidable suffering and lost opportunities for reinforcement; See Table 1).

6. Conduct a contingency analysis to determine factors related to gaps discovered. Who benefits from current patterns of reinforcement? Who loses? Who makes money by providing ineffective services to clients/students?

7. Conduct an ethical audit regarding what is found in five and six highlighting kinds, frequencies, and intensities of avoidable suffering and interrelationships among them.

### Table 1. Avoidable Suffering: Children With Developmental Disabilities in Oakland California

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
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<tbody>
<tr>
<td>1</td>
<td>Description of specific problem/need.</td>
</tr>
<tr>
<td>2</td>
<td>Estimated prevalence of each.</td>
</tr>
<tr>
<td>3</td>
<td>Are there effective interventions for each: yes no?</td>
</tr>
<tr>
<td>4</td>
<td>Percentage of children who obtain effective interventions in a timely manner for each problem/need.</td>
</tr>
<tr>
<td>5</td>
<td>Cost–benefit analysis of consequences of gaps between knowledge available and what is used regarding each problem/need.</td>
</tr>
</tbody>
</table>

a. For individual children and their significant others (e.g., peers, teachers, family members):
   - Lost opportunities for positive reinforcement of different kinds (e.g., social approval, fun) and consequences.
   - Lost opportunities for acquisition of new repertoires and related effects.
   - Lost opportunities to avoid adverse consequences and related effects.

b. Benefits and costs to taxpayers both now and in the future.

c. For professionals:
   - Lost opportunities for profit from offering ineffective and/or harmful programs.
   - Lost opportunities to gain satisfaction by reducing avoidable suffering.

6. Descriptive analysis of factors related to gaps.
   - Avoidable suffering due to gaps.
   - Who gets what from current patterns of services?
   - Who would gain and lose what from decreasing gaps?

7. Ethical audit of consequences of gaps drawing on five and six based on obligations in professional codes of ethics.

8. Plan for sharing information with media and decision makers.


*If not, does prevalence warrant a high priority for research.*
8. Widely share this information with the media and decision makers in varied venues including a user-friendly website (see later discussion). Transparency International ranks all countries in terms of prevalence of corruption (www.transparencyinternational.org). We could create a list of programs ranked in terms of prevention of avoidable suffering. Exposure of avoidable suffering and other harmful effects such as waste of scarce resources resulting from continuing to provide ineffective services and the related deceit, greed, and indifference will encourage change. Indeed, the gross excesses of the biomedical industrial complex in terms of fraud and conflicts of interest have resulted in a vigorous backlash (e.g., see Pharmouth.org, healthyskepticism.org).

9. Identify and alter contingencies to increase effective services and decrease ineffective and harmful ones. A descriptive analysis will suggest entry points for change. Change at many levels may be required, including professional education, institutional settings, and managed care companies. See, for example, Malott and Glenn’s (2006) discussion of macro and meta-contingencies. In doing so, we can draw on the research findings from the experimental analysis of behavior, both in the laboratory and in the clinic and other sites such as schools and hospitals. Changes in dysfunctional education programs and accreditation methods may be required and/or alternatives developed (e.g., see Baker, McFall, & Stroham, 2008; McFall, 2012; Stoetz, Karger, & Carrilio, 2010). The exposure of avoidable suffering may be required to overcome countercontrol by those involved (e.g., professors in social work education departments; principals in schools, administrators in hospitals, prisons, and managed care companies).

10. Report successes and failures and “try again” in an iterative process over time.

If doing nothing about a problem is more aversive that doing something even though the something does not change complained of behaviors, perhaps, as Baer and his colleagues (1987) suggest, this is better than doing nothing because there is some social validity for some involved people. If doing something is better than doing nothing, then there are many people who can do that something such as thousands of social workers who work in schools, hospitals, child welfare departments, and many other venues. If the doing something is accompanied by a well-regarded explanation in the field such as attachment theory, life span development, ecological theory, or trauma theory, this may contribute to the view that something of value has been done and something of value has resulted. This indeed is what happens now. But different kinds of circumstances are involved in related complaints. Situations include the following

1. Situations in which nothing could be done to change circumstances related to avoidable suffering. But how would we know this without a contingency analysis by someone who knows what they are doing? Would volunteers be as effective as professionals (e.g., social workers)? Or does offering services via a trained professional contribute to the view that something useful has been done? Could we use a computer program to attain hoped-for outcomes? For example, computerized cognitive behavior therapy is used in Scotland (NHS 24). Maybe all that is needed to perk up some of the dejected is to receive a text message at unpredictable times: “How r u?” But for how many?

2. Situations in which a great deal could be done, given a well-trained behavior analyst. What are these situations? As Haynes, Leisen, and Blaine (1997) suggest, “a functional analysis is likely to be more cost-effective for some behavior problems than for others” (p. 346). How flexible can we be and attain similar outcomes? Greater attention has been given to system-wide changes needed to establish and maintain behaviors that contribute to quality of life (e.g., Freeman et al., 2001; Sailor et al., 2009). Still there is a long way to go. For example, although coaching and feedback are vital for maintaining effective teacher behaviors, in most schools these valuable interventions are not used (Keyworth, 2012).

Create a Functional Typology Revealing the Complexity of Environmental Circumstances Related to Concerns

Skinner (1974) suggested that “A science of behavior is especially vulnerable to the charge of simplification because it is hard to believe that a fairly simple principle can have vast consequences in our lives” (p. 231). The writing of many behavioralists including Don Baer and B. F. Skinner is very clear. Key points can be all too quickly read and dismissed as irrelevant, such as the statement that feelings are clues to contingencies. To dispel misrepresentations that ABA is “simple” or “simple minded,” we must do a better job of revealing the complexity of application (e.g., Kanter, Caulfili, Busch, & Baruch, 2005; Layng, 2009). The seductive allure of pathology and of mentalism may be countered by repeated illustrations of the varied kinds of environmental contingencies that influence behavior including creation of very unusual repertoires (behaviors that appear bizarre) and the difficulty in identifying influential contingencies (e.g., Goldiamond, 1974, 1984).

Apology to thoughts and feelings are incomplete accounts which, when viewed as complete, hinder change. Somehow, we must show this over and over by memorable accounts of lost opportunities to help clients by accepting incomplete accounts. Only by a contextual analysis of problems is the heroic nature of clients revealed. Behaviors that appear bizarre are usually creative (but costly) solutions to life’s challenges (Goldiamond, 1974). Only in light of scant opportunities for positive reinforcement for adaptive behaviors may the occurrence of troubling or troubled repertoires be understood. Examples could be arranged under varying kinds of controlling conditions including positive reinforcement, negative reinforcement, punishment, mixes of all three, scheduling effects, contrast effects, influence by equivalence relations, potentiating effects, stimulus control, and so on (e.g., Baer, 1982, Waltz & Follette,
We should describe memorable examples for each kind of circumstance to encourage understanding. Examples include

1. adventitious reinforcement;
2. linking a positive reinforcer with an aversive event (e.g., only if I get a shock will I get food—not starve). Only if I appear to have an immobilizing anxiety or obsession will I get attention from family members or famous therapists.
3. Only if I perform a certain response within a set time will I avoid a bad event (e.g., as in Sidman avoidance schedule).
4. variable ratio schedules and their effects (e.g., as in gambling).
5. low levels of reinforcement for any behavior.

For each, we should provide vivid case examples of topical, linear, and systemic analyses. In a topical analysis, there is a direct focus on a disturbing behavior (DB), for example, hallucinations or talking out of turn in class. Topical analyses may be linear or nonlinear. In linear analyses (“eliminative” or “pathological” approaches), there is a direct focus on the DB and eliminative methods are used such as extinction, punishment, and/or response cost to decrease the DB (Andronis, Layng, & Johnson, 1997). The effects on the DB of consequences attached to available alternative repertoires (AABs) are ignored in a linear analysis (Goldiamond, 1984, p. 535). Let us say the DB is yelling in class and the teacher makes the student stay 10 min after class each time he yells out. She is using an eliminative method focused on the DB. Topical nonlinear analyses also focus on the DB such as yelling out in class, but a desired alternative such as raising his hand or waiting to be called on is identified and reinforced; the focus is still on the DB, but a constructional approach is used.

A systemic behavior analysis broadens assessment to include identification of AABs that can be used to alter the frequency of DBs. Current available repertoires (behaviors the client already has, such as social skills) are transferred to new situations. Emotions and thoughts can be used to identify related contingencies. Both this kind of analysis and a nonlinear topical analysis are constructional approaches that require consideration of what is not occurring, such as for example positive social contacts. Both offer guidelines for decreasing the DB by improving the cost–benefit ratio of AABs. Target behaviors (those focused on to change) are selected based on a review of the costs and benefits associated with DBs and AABs. Target behaviors should “depotentiate” (decrease the likelihood of) costly DBs; they should be less costly than the DB and provide more benefits to both the client and significant others. A target behavior could be on-task behavior encouraged by providing instructional tasks that engage the student’s attention. Notice that in plans based on a systematic analysis, the conditions that “potentiate” a reinforcer, such as escape from boring or overchallenging material, are removed; there is no need to escape because the instructional material now engages the students. A constructional analysis requires information about AABs (Goldiamond, 1974, 1984; Risley, 1996). It may require observation in real-life settings.

Examples should include those that require simple interventions that are effective (e.g., use of stimulus control—creation of a “sulking stool” to decrease sulking behavior (Goldiamond, 1965) as well as those that require complex interventions (e.g., Goldiamond’s [1984] systemic analysis and intervention regarding a woman who engaged in “binge eating”). Examples will illustrate that behaviors that appear irrational are shaped by environmental contingencies and are maintained by current reinforcement patterns. No matter how bizarre or dysfunctional a disturbing behavior may seem (the DB), when the history and current environmental context are explored, including AABs, and the costs and benefits related to these different behaviors are compared, we can see that DBs have been selected by the social environment (Layng & Andronis, 1984). For example, only by acting “crazy” may a person gain access to resources provided only to those who act “crazy.” This kind of analysis that attends to function (process) rather than form (e.g., DSM, 2000), normalizes deviant behaviors by making them understandable in relation to unusual environments; behavior always “makes sense.” The stronger the belief in “mental illness” (brain disease as the cause of odd behavior), the greater the resistance to this normalizing view may be. But the key question should be: “Which view is more likely to enhance quality of life for clients and their significant others?”

Help All Involved Parties to Detect and Avoid Influence by Propaganda

Getting the straight scoop about what is true and what is not is not an easy task. The essence of propaganda (encouraging beliefs and actions with the least thought possible, Ellul, 1965) is to distort or hide realities. For example, mentalistic explanations hide controlling conditions (Skinner, 1971). Often, ignorance is intentionally promoted. Hucksters take advantage of hope, fear, and suffering to lure us to buy services and products that not only may be worthless, but may harm us. Pharmaceutical companies hire public relations firms (or use their own) to plan how to market a drug. For example, Glaxo-SmithKline hired the public relations firm Cohn and Wolfe to lay the groundwork for the introduction of Paxil which became a blockbuster drug (Moynhan & Cassels, 2005). First on the plan was to create and position the diagnosis of “social anxiety disorder” (formerly known by the more benign term as social phobia) as of great prevalence and concern. Fines against pharmaceutical companies for illegal promotion of products, “sham advisory boards,” and misleading journal articles, are in the billions as illustrated by the $3 billion fine against GlaxoSmithKline for unlawful practices (Roehr, 2012). Professionals are supposed to help; they want to help. This alone may result in use of interventions that are harmful or unnecessary. The first conference on avoidable use of unnecessary interventions was held in April 2012.

We should help both clients and professionals to detect misleading claims which contribute to avoidable suffering. These include bogus claims of knowledge (and ignorance),
about risks, effectiveness of interventions, prevention, and accuracy of diagnostic instruments (Gambrill, 2012a). Accurate understanding of the scientific method is needed to distinguish between helpful and trivializing or bogus uses of this approach. Bogus uses include reliance on scientific ideology to reaffirm and maintain current definitions or problems and service delivery systems that may, in reality, hinder rather than enhance the quality of life for clients. Classification of clients into psychiatric categories lends an aura of scientific credibility to this practice, whether or not there is any evidence that this is warranted or that it is helpful to clients in meeting their needs. There has been a rush to premature dubbing of interventions as “evidence-based” which do not warrant this term (e.g., see Gorman & Huber, 2009).

We should help all involved parties to become aware of the flawed nature of peer review and related consequences including wasting money on ineffective programs. Ioannidis (2005) argues that most biomedical research findings are false (see also Ioannidis, 2008). Seventy percent of cancer studies cannot be replicated (Begley & Ellis, 2012). Retractionwatch.org posts retractions of research reports because of misconduct including fraud (See also Fang, Steen, & Casadevall, 2012). I find that few of my colleagues are aware of the International Congress on Peer Review and Biomedical Research that has been meeting for years to discuss and address problems of peer review. Being on the lookout for propaganda in the professional literature is especially important since our guard may be down, perhaps because a journal uses peer review; readers may not be aware of problems with peer review. When people discover they have been fooled they do not like this, especially when being fooled has been costly in terms of money or other kinds of harm, including lost opportunities to help clients. So we should devote great attention to revealing harming in the name of helping as a result of propaganda and other kinds of misleading activities including misdirected education. We should blow the whistle on endless marker variable research in place of progressing on to experimental methods.

Use Our Conceptual Analysis and Related Technology to Enhance Use of Effective Methods

If behavior always makes sense, rather than complain about countervailing contingencies, we should take advantage of conceptual knowledge and related technology to understand and alter countervailing contingencies. Obstacles and failures provide a guide for planning. Baer and his coauthors (1987) suggest that the decades between 1967 and 1987 “have not yielded a better public analysis of effective problem display and explanation…At best, they have shown us that we need analyses of (a) displaying and explaining problems so as to gain effective use of the media, (b) controlling the behavior of those other people who can function as decision makers’ constituencies (i.e., lobbying), (c) having or being able to recruit campaign support, and (d) recognizing events called crises as the setting events when those repertoires will be most effective…those analyses are necessary to understand fully what we most often mean by applied. We mean every form of countercontrol typically under the stimulus control of problem displays and explanations” (p. 315).

As suggested earlier, many parties hide what is done to what effect at what cost and related controlling contingencies (e.g., who makes money by providing ineffective or harmful services (products) to clients/students). We should identify these parties and use a contingency analysis to plan how to alter programs so that more clients and students receive more effective programs. This will be a complex analysis at many levels including professional education, institutional settings, and managed care policies. This descriptive analysis will suggest entry points for change. In the face of overwhelming countercontrol by those involved, we must look elsewhere to encourage change such as exposure of the harmful effects and waste of continuing to provide ineffective education and clinical services and related deceit, greed, and indifference. (See section on revealing avoidable suffering.) A programmatic approach (as illustrated in some school and community-wide positive behavior support (PBS) systems and their dissemination) provides a guide (e.g., Sailor et al., 2009; See also Biglan, 1995).

Use More User-Friendly Language

Baer and his colleagues (1987) emphasize the role of language as an impediment to the wide dissemination of behavioral methods. “The past 20 years have shown us again and again that our audiences respond very negatively to our systematic explanations of our programs and their underlying assumptions, yet very positively to the total spectacle of our programs—their procedures and their results—as long as they are left ‘unexplained’ by us” (pp. 315–316). They suggest language options to maximize our effectiveness (See also Bailey, 1991; Lindsley, 1991). Clear writing and engaging, detailed descriptions of the use of effective methods to resolve real-life concerns will encourage dissemination (e.g., Pinkston & Linsk, 1984). We could pass all discourse through a special “wordsmith program” guided by Don Baer’s crystalline prose style. This alone may double our readers.

Draw on Research Regarding Dissemination

Many fields, including public policy and social psychology (e.g., research on persuasion and conformity) and the experimental analysis of behavior, contribute to exploring the question: “Under what circumstances does behavior change?” Including. Gaps between knowledge available and what is used to enhance quality of life has been of key interest in health care (e.g., Kitson & Straus, 2009). For example, the time between symptoms of a heart attack and arrival at the emergency room (ER) is important. Thus, we can ask what percentage of patients arrive at the ER within a certain time. If this is not optimal (which it is not), we can then identify controlling conditions of timely arrival. We can use this information to arrange for a higher percentage of timely arrivals. Consider also what happens when patients arrive at the ER. If timely use of a certain
treatment improves chances of living, we can ask: What percentage of patients at what different hospitals receive this treatment in a timely manner? We can then identify the controlling conditions for disseminating and maintaining “best practices.” If half of all doctors are below average, what is the case for social workers (Polaniecki, 1998)? If half of patients in intensive care receive suboptimal care, what would we find in social work agencies (Kniefowicz, 2005)? There is an extensive literature describing gaps in use of knowledge and efforts to make use of available knowledge (e.g., Straus, Tetroe, & Graham, 2009). This literature describes obstacles and suggests opportunities. Obstacles include those discussed earlier in this article.

Organizational cultures and climates may discourage change including a preference for authority-based decision making—what an administrator dictates. Practitioners may lack access to important resources such as databases needed to make informed decisions (e.g., Gray, 2001; Palinkas & Sodayan, 2012). We should draw on related literature to discover options (see also Atkins, Siegel, & Slutsy, 2005; Bambara, Goh, Kern, & Caske, 2012). Under what circumstances will behavioral accounts replace mentalistic approaches that are not effective? We can seek information about why ABA has been successful in some contexts and not in others. For example, use of ABA with children with developmental disabilities has been encouraged by lobbying efforts of their parents. Parents discovered important knowledge and advocated for its use. An educational approach for communicating with policy makers is advocated by Bogenschneider and Corbett (2010) in which the aim is to inform policy makers rather than to influence them, including informing involved parties about what is “known” and what is not and separating fact and opinion. Fairness of presentation is emphasized.

**Involve Consumers/ Clients**

Engaging consumers in closing knowledge gaps is a key route to taking advantage of ABA to enhance quality of life. Use of ABA has increased in some areas due to advocacy efforts of clients and significant others as suggested earlier. There is a rich literature in evidence-informed practice describing ways to involve consumers (e.g., Coulter & Collins, 2011). We can refer clients to Cochraneconsumers.org and include clients in conference presentations. Clients’ views of the outcome differ from clinicians’, thus it is vital to gather these views (Basch et al., 2009).

**Combine Efforts: Birds of a Feather Flock Together**

Fragmentation of efforts across many different associations may dilute effective dissemination (e.g., see Critchfield, 2011). Becoming insular is always a danger in terms of lost opportunities to enhance the quality of clients’ lives. In addition to separate associations and other kinds of groups, efforts should be combined in effective dissemination (e.g., see PBS—Kansas Logic model, Freeman et al., 2010).

**Create and Maintain an Engaging Website Showcasing a Science of Behavior**

Compare the current website of the Association of Applied Behavior Analysis International with what could be on this site in terms of encouraging use of effective methods. Possible (currently missing) components include the following:

A “Have You Been Fooled/Bamboozled?” Section. The goal of this section would be to enhance people’s skills in detecting common ways in which they are fooled and to enhance skills, including contingency analysis skills, to decrease their odds of being “taken-in.”

A “What’s Missing?” Section. Propaganda in the helping professions appeals to oversimplified views of life experiences; “It’s in the brain”; “It’s in the genes”; “It’s caused by our thoughts.” Asking “What’s missing?” is valuable in avoiding misleading oversimplifications. A “What’s missing?” section could include examples of incomplete assessments. The more we can make our examples like a detective story, the more likely people are to engage with the material. Detective stories present a problem—who did it? We could ask, “What is wrong with this picture?” Failure to recognize environmental influences is a key reason distortions and misrepresentations of ABA and radical behaviorism are so common. If such influences were more vivid, their role would be more difficult to disregard, including contingencies related to behaviors that could successfully compete with those complained of. We could include a weekly example challenging readers to test their skills in functional analysis and learn the answers in a later communication.

A “See For Yourself” Section containing video clips illustrating application of basic behavioral principles designed to enhance behavioral literacy (e.g., see Carr & Fox, 2009). This would include links to sources illustrating effective applications of behavioral principles such as “It’s Me or the Dog,” a popular TV show in which Victoria Stillwell illustrates the application of basic behavioral principles to pet behavior problems, which, as would be expected in a behavioral approach, are linked to human behaviors. She focuses on the use of positive reinforcement, stimulus control, and shaping to encourage hoped-for changes.

A “Neglected Successful Programs” Section highlighting effective programs and policies that are ignored such as the decriminalization of all drugs in Portugal in 2001 (see Hughes & Stevens, 2010; Redmond, 2012; See also Chapman & Mackenzie, 2010). We could describe classic studies which illustrate underused effective interventions. To how many communities has the Juniper Gardens Children’s Project been disseminated (e.g., Greenwood et al., 1992)?

A “Valuable Resources” Section linking readers to other valuable websites such as PharmOut.org, DUETS, healthyskepticism.org, fallacyfiles.org, and www.cochraneconsumer.org
A “Self-Experiment” Section describing valuable self-experiments others have conducted including past uses of self-management methods (e.g., see Roberts, 2004; Silverman, 1986).

A “Useful Apps and Games” Section. Games could depict different kinds of contingency analysis challenges and possible approaches and provide repeated opportunities to model valuable questions such as “What’s missing?” “Who says so?” “Is it true?” Apps designed to enhance observation and propaganda detection skills can be noted. Comparison of a computerized cognitive behavioral self-help intervention using a game format with intervention as usual, found the former to be more effective in decreased depression, anxiety, and hopelessness among adolescents (Merry et al., 2012; see also www.healthit.gov).

An “Opportunities to Meet Birds of a Feather” Section (e.g., listing of conferences and training opportunities, special interests groups).

A “What’s new?” Section alerting viewers to new books/websites such as *Addiction: A disorder of choice* by Heyman (2009).

**Conclusion**

Disseminating knowledge that contributes to enhancing quality of life is of interest in all helping professions. The history of medicine is replete with lost opportunities to avoid harm and to help people. This is also true in the interpersonal helping fields of psychology, psychiatry, social work, and counseling. The history of ABA is filled with creative applications of basic behavioral principles that have helped people to enhance the quality of their lives. Let us make these histories more visible in terms of gaps between what was done and what could have been done. How often do we hear “If I had only known.” Baer et al. (1987) suggest that “effectiveness for the future will probably be built on system-wide interventions and high-quality failures, as we continue to bring theory to the point of designs that solve problems” (p. 325)—a very Popperian (1994) view of the growth of knowledge. They suggest that the most important remedy of all, “will be to establish the proper context in which to respond to failures” (p. 324). They also raise the question as to whether technological failure is the same as theoretical failure. “We should expect a long period of difficult, expensive, repetitive, and sometimes ineffective research into these applications, and we should enter that research with our best social skills, because we shall require the cooperation of unusually many people, often in unusually exposed positions. However, even with relatively little reaction-to-failure work behind us, it seems clear that we can do it” (p. 325).

Let us reveal situations in which use of ABA would minimize lost opportunities to help clients. Environmental variations are increasingly recognized as vital even in gene expression as can be seen in the burgeoning field of epigenetics (see also Plomin, 2011). Let us help all involved parties to see past the clutter of hundreds of theories/remedies. One life choice is whether to see misery in people’s lives and how much or to turn away. All great religions address this issue and urge us to take a stand against inhumanity and avoidable suffering. But there is many a slip between the call and the action propelled in part by the profit and the prophet motives (Jarvis, 1990). The eyes may grow weary of seeing plights that appear unsolvable. However, professionals are obligated by their codes of ethics to see and to take action to decrease avoidable suffering. Only if we expose waste and avoidable miseries, including those due to neglect of methods that can help people to increase their quality of life, are we likely to make more headway in closing gaps. We can draw on a science of behavior to discover and alter relevant conditions. Some say that behaviorists are optimists. Here is a view by Don

Some of us have ignored both the thesis that all persons are educable and the thesis that some persons are ineducable, and instead have experimented with ways to teach some previously unteachable people. Over a few centuries, those experiments have steadily reduced the size of the apparently ineducable group relative to the obviously educable group. Clearly, we have not finished that adventure. Why predict its outcome, when we could simply pursue it, and just as well without a prediction? Why not pursue it to see if there comes a day when there is such a small class of apparently ineducable persons left that it consists of one elderly person who is put forward as ineducable. If that day comes, it will be a very nice day. And the next day will be even better. (D. M. Baer, personal communication, February 15, 2002 in Heward, 2013, p. 16).

We can take advantage of a science of behavior and related values to design and disseminate programs that help people to enhance the quality of their lives. Don Baer likened behavior analysis to a tree with nodes some of which form a branch and some of which flourish. Let us nourish these nodes in a user-friendly manner informed by a science of behavior.

**Author’s Notes**

This article was presented as the inaugural Don Baer Lecture at the annual conference of the Association for Behavior Analysis International, on May 26, 2012, Seattle, WA. This paper was invited and accepted at the discretion of the Editor.

**Declaration of Conflicting Interests**

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Hutto Patterson Charitable Foundation.

**Note**

1. Dr. Pinkston, a superb scholar and delightful human being, died a few days after this lecture was given.
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