In clinical work, no concept is more befuddling than that of the self. To illustrate, consider the following verbatim comments by a client named Bernice:

Beatrice: It's so fucking hard to be real, to be me.

Therapist: If you aren't you, who are you?

Beatrice: I'm whoever someone else wants me to be. I don't even know when I'm being myself.

The self that Beatrice is talking about possesses incongruous attributes that seem to defy attempts to precisely define and specify it. She refers to her self as something different from her body; that is, she describes her self as changing with other people's wants even though her body obviously remained the same. Her self, then, is not physical—it is no body. Second, she implied that the experience of self, an internal experience, is controlled by external others. However, this self that was experienced was not really her because it was controlled by others. Th Beatrice implied that there is a self which is unchanging and not controlled by others that she desires to have but is not sure when she it.

We have developed a behavioral theory of self that makes sense of what Beatrice said. More generally, in this article we account for how the experience of self develops in terms the early learning of language. We also explore how this process can go awry, leading to variety of problems of the self including being overly sensitive to criticism, not knowing what you want, losing oneself in close, relationships, and, the chaotic self experience of borderline personality disorder.

The Development of Self: A Theory of Experience

Since normal and pathological views of self are based on the experience of the person, our focus is on the experience of self. Our approach is based on an elaboration of Skinner's (1953, 1974) analysis of self and on our clinical experience. We will explain the experience of self by identifying and describing the something (the stimulus) that is experienced. To illustrate, explaining a person's experience of heat involves identifying and describing relevant stimuli (temperature, humidity, etc.) that result in feeling hot.
in the person saying "that's hot." A complete account would also inclu
the person's history (e.g., growing up in Alaska or Hawaii) that expla
individual differences in relevant stimuli for saying "that's hot."

In the case of self experience, however, obviously the person doesn't
"that's self" for us to identify and describe the relevant stimuli. Howev
people do use self referents such as "I," "me," "Jamie," and
"Mommy" imbedded in longer phrases such as "I am here." According to t
behavioral theory of language, these self referents are under the cont
of relevant stimuli in the same manner as "hot" discussed above. The k
understanding self then, is the identification of the relevant stimuli
evoke self referents.

Verbal Reports

Since our theory is built upon identifying relevant stimuli that lead
to verbal report about the stimulus, a definition of verbal reports is ca
for. Based on Skinner's (1957) behavioral approach to language acquisi
we define a verbal report as an utterance that was specifically taught
to be evoked by a prior stimulus (technically known as the tact). To
illustrate, imagine a baby who is learning how to talk, and is reinfor
for saying "apple" by her parent's joy only when an apple is shown, an
when a banana or an orange are shown. Eventually, just having the appl
present will result in the child's saying "apple" or "appee" or "ahp"
the case may be. In behavioral terms we would say that the verbal repo
(the utterance "apple", a tact) occurs when an apple is present. As a
result of this learning history, we would say the response "apple" is
the stimulus control of the apple. Further, the actual apple (the rele
stimulus) came to evoke the response "apple" because it was the only
stimulus that was present each time saying "apple" was reinforced.

The Emergence of the Verbal Report "I" as a Small Functional Unit

In essence, we believe that a child learns the word "I" in a similar m
ly learning "apple." That is, the parents or caretakers naturally prom
and model the child saying "I" only when certain stimuli are present.
process for teaching "I," however, differs in important ways from teac
"apple." First, unlike "apple" the word "I" is not taught as an indepe
unit. That is, the parent doesn't hold up the stimuli appropriate to "
and say "this is an 'I'." Instead, the verbal report "I" emerges as an
independent, single unit from previously learned larger phrases contai
"I." This is the same process that occurs in a concept learning task w
an element of a complex figure emerge as the relevant stimulus. The pr
is described by Skinner as the "by-product of the acquisition of large
responses containing identical elements" (Skinner, 1957, p. 120). Sec
in normal, non-pathological development, as the child’s utterance "I"
emerges an independent unit, the stimuli that control the response "I"
transfers from the public stimuli used by parents to private stimuli
available only to child. On the other hand, impediments to this transf
from public to private relevant stimuli are implicated in problems of
self. We have designated three developmental stages relevant to the emergence of "I."

During Stage I the child learns small units such as "mama," "light," a "hot." In addition, the child also learns numerous large units which a the focus of our account. Examples of large units are "I am hot," "I w juice," and "I see mommy" (in actuality these statements might be "me mama" or "baby juice"). At this stage, these large units are learned a whole—that is, they are functional units and are not composed by the from the individual words they contain. Our proposition that toddlers learn units of this type has been verified by the observation of child ranging between 18 months and 3 years (Cooley, 1908; Dore, 1985; Fraib 1977; Peters, 1983). As in all discrimination learning, the parent mus public stimuli (stimuli available to the parent) when teaching their children to give Stage I verbal reports.

We will consider in some detail the stimuli a parent uses to help a ch learn "I see apple" as a large unit in stage I. There is a subtle but importance difference between the utterances "I see apple," and the exclamation "apple." "I see apple" is ostensibly controlled by a priva activity of the speaker—that is, the child would be describing his or private experience of seeing. In this sense, "I see apple" could also used to report on an imagined apple, i.e., the child is experiencin activity of seeing the apple but there is not public apple stimulus present. In order to have the child's "I see apple" reflect this subtl the parent in effect has the difficult task of trying to teach the chi come under control of the private activity of seeing when saying "I se apple." That is, the parent needs to detect when it is apparent that t child is having the private experience of seeing the apple in order to prompt the child to correctly say, "I see apple." Public stimuli that parent could use for this purpose include the overt orienting of the c toward the apple such as head-turning, pointing, widening of the eyes, intense staring in the general direction of the apple. The actual orie would probably vary slightly from time to time depending on the locati apple, child, ambient lighting, etc.

In addition to public stimuli, a wealth of additional private stimulat are present such as the private activity associated with the public orienting toward the apple (e.g, the vegetative components of the orie reflex, Sokolov, 1963). Another would be the particular visual system activity associated with seeing the apple as well as a general compone seeing (the general activity of seeing that occurs regardless of what being seen). The private components of the child’s relative location w respect to others and objects we have designated as "perspective" afte Hayes, 1984.

During Stage II, smaller functional units emerge, such as "I am," "I h "I want," and "I see," which can then be combined with particular obje It is during this stage that a child can say, "I want basketball" even though she or he may never have uttered this particular phrase before.
this stage, the private stimuli controlling the unit "I see" are the private experience of seeing.

During Stage III, a single, even smaller unit "I" emerges along with the experience of "I". Thus, the acquisition of the experience of "I" is similar to one's acquisition of the experience of a basketball, mommy, heat in that they are all verbal reports under the control of relevant stimuli. These experiences differ from "I," however, in that they are the control of specific public stimuli that can be separately learned. On the other hand, is under the control a private stimulus and is not learned separately as a small unit but emerges from the previously mentioned larger units. It is at this point that perspective becomes the relevant stimulus for "I" because it is the only element that is present across all responses containing "I" as in "I am," "I have," "I want," "I see." In normal development, this private, relevant stimulus (perspective) is unique in that it is always where the child is and does not change as the child's body changes (e.g., as the child grows, has chicken pox, etc.). It is also the place (location) where the wanting occurred that controls the "I want," as well as the "seeing", "feeling" etc. for the various "I X's." These properties of the relevant stimuli control "I" account for the everyday non-pathological experience of "I" "an abiding, resting awareness, featureless and unchanging, a central something that is witness to all events, exterior and interior" (Deikm 1973, p. 325) and might even be responsible for spiritual experience (Hayes, 1984).

Our theory that the self develops as a result of language acquisition that the meaning of "I" emerges from the meaning of larger phrases in "I" is imbedded is not a new idea. In 1908 Cooley (who was not a behaviorist) collected data on the acquisition of "I" and developed a theory of self based on his observations. Although not stated in behavior terms, his theory is in essence the same as ours. Cooley concluded that at age 26 months, the child's use of I-phrases such as "I don't know," "I --," and "Come see me," seems to have been learned as "wholes" (p. 355 in our terminology, large functional units. Cooley then goes on to say "From these she probably gets the I idea by elimination...(that is) the rest of the sentence varies but the pronoun remains constantly associated with the expression of the will, the self attitude." (p. 355) or, in our terminology, emerges.

Disorders of the Self

In this section we will briefly describe how our theory accounts for problems of the self. Due to space limitations, we only will discuss the common self disorders--the unstable self and borderline personality disorder. For a more complete discussion of the development and treatment of self disorders (including multiple personality disorder) see Kohlen and Tsai (1991).

As a result of childhood language acquisition, every person ends up with
more or less private control of "I." In a nutshell, our theory of prob
of the self involve an early learning environment which does not produ
sufficient private stimulus control over the verbal report "I."

The Unstable or Insecure Self

An example of a mild self problem occurs when the emergence of "I" has
moderately impeded. We are unsure of who we are if we didn't receive t
early learning experiences that lead to the emergence of an "I" under
control of the private stimulus, and instead end up with "I" controlle
ambiguous, inconsistent, or conditional relevant stimuli. In normal
development the emerging "I" comes under the stimulus control of the
"place" where the activities such as seeing, wanting, feeling, thinkin
occur. If these activities are partially under public control, then th
experience of self (the place where wanting, feeling, and thinking tak
place ) will also be partially under public control. Further, since th
public stimuli, such as parent behavior, can vary from time to time, t
self experience will also vary depending on the degree to which it is
publicly controlled. Thus, a somewhat unstable self will occur because
varies with who is present and in particular is variable in close
relationships. This occurs because public control over "I X" largely
involved the parent, an important, close relationship.

As an example of how this could happen, assume that "I see" has emerge
a functional unit during Stage II after considerable experience with m
larger units, such as "I see ball," and "I see kitty." At this point i
development, both public and private stimuli are present that could co
the response "I see." Let' say that the child then reports seeing eith
imagined stimulus (e.g., an imaginary friend) or a public stimulus tha
parents don't see (e.g., a fish which darts away). A parent who ridicu
or criticizes the child at this point will lessen control by private
stimuli and the child more likely will say "I see object X" only when
or her public orienting responses and X are public and conspicuous (to
parent and thus to the child). In other words, the child would need so
kind of external validation in order to say "I see X." Parents who tak
their children's "I see" reports seriously when the parent cannot see
controlling stimulus are reinforcing control by private stimuli. As a
result, the child more likely will say "I see object X" based on his o
private seeing activity.

Keep in mind that we are not describing the process in which a child
becomes reluctant to report his or her internal visual experiences bec
of fear or embarrassment. This type of suppression can occur only afte
child has learned to accept private experience as a valid object to be
seen. We are describing the process by which the object is seen in the
first place--the genesis of the relationship (or lack thereof) between
private experience and seeing.

In general, the fewer the "I X" responses a person has under private
control, the greater the confusion or difficulty he or she would exper
in answering questions having to do with personal preferences, desires
values when another person is present who is difficult to "read." Such
questions may include: "What do you like?" "What do you want?" "What do
believe?" and "What are your goals?"

Extreme sensitivity to the opinions, beliefs, desires, and moods of ot
is another way of saying that a person's "I Xs," which ideally are und
private control, are actually under public control. If a person's sens
self is shaky, any perceived or actual criticism may be experienced as
devastating because it means any criticized "I Xs" were wrong or bad a
the critic's "I Xs" must be adopted. It also involves a shift from wha
weak private control was present to control by the other. Under these
conditions, life is unpredictable, chaotic, subject to the whims of ot
thereby is likely to be aversive.

Borderline Personality Disorder

According to our formulation as stated above, if a large number of "I
responses end up being under public control, there will be severe self
problems. This situation is produced by parents who are very inconsist
in their own reactions to conspicuous public stimuli (e.g., a schizoph
or borderline parent). With such unstable parents, the "I see" respons
for example, only would be reinforced when the following relevant stim
(Sd's) were present: (1) the stimulus consisting of the child's public
orienting to a public object, (2) the stimulus of the parent's public orienting,
and (3) the stimulus of the parent not appearing to be preoccupied, distracted, or having a psychotic episode. Under these
learning conditions, very little of the private activity of seeing wou
come to control the "I see" response. Instead, the child's seeing main
would be controlled by the parent's mood and public orienting. Under t
extreme circumstances, when the parent is present, the child would see
fish only if there were conspicuous public stimuli consisting of both
and indications the parent sees the fish.

The "I" that emerges under these conditions would be dependent on the
provided by the parent. As a result, when the parent is present, what
seen, felt, wanted, liked, disliked, and so forth, would be dependent
cues from that parent. For example, one set of cues may be that the pa
appears to be in a good mood, is paying attention to what is going on
(e.g., the public stimuli), and gives indications that the child's nee
will be attended to. Then, based on the child's past experiences of "f
in a good mood," an extensive repertoire of "I X" responses, such as "hungry"
and "I just saw a birdie," will appear and be reinforced. The
that emerges under these conditions will be under public control; that
the sense or experience of "I" is dependent on the cues given by the
parent. When the parent is in a different state, however, withdrawn,
inattentive, or even hallucinating, a different "I X" repertoire is ca
for and a different publicly controlled "I" experience would emerge (e
one that had no needs or feelings, or that is super-sensitive to the
parents' needs).
Borderline personality disorder is characterized as a chaotic interper relating and emotionality. A paucity of private control of "I" could lead to this instability. The statement, "I feel empty," which is character of clients who are diagnosed as having borderline personality disorder could be an effect of the relative absence of private Sd's which contr "I." Since wanting, feeling, thinking, and the like are mainly not und private control in the extreme case, the locus is primarily outside an dependent on the parent's behavior. The "outside" location of the stim evoking "I" would be experienced as depersonalization, and when these external stimuli are absent--one would experience the absence or loss self. Since emptiness refers to something that was contained within an now gone, the presence and absence of the stimuli controlling the experience of self could be tacted as "emptiness."

According to Linehan (1993), an invalidating parent environment leads the development of borderline personality disorder because such parent likely to (1) invalidate the child's reports of current emotional experiences, especially negative ones (i.e., not take them seriously, disbelieve the reports, respond as if the child is not feeling what he she communicates); (2) oversimplify the ease of controlling one's emot experiences, thinking, and action, and thus invalidate the child's experiences of difficulty and need for help; and (3) excessively criti or respond punitively when the child expresses preferences, values and beliefs that do not reflect those of the parents.

The behavioral view of Linehan's (1993) account is that invalidation i lack of positive reinforcement for private control over a broad range the child's "I X" responses, such as "I want," "I feel," "I need," and believe." As pointed out, these contingencies not only will directly a the experience of "I want," "I feel," "I need," and "I believe," but w also affect the "I" experience that emerges from these.

Conclusion

Our behaviorally informed account of the self is based on the environm conditions that can produce stimulus control of those tacts known as self-referents. We have pointed out how variations in these environmen conditions could result in more or less control by private stimulation. These variations in the source of stimulus control also offer an accou those clinical problems that are referred to as problems of the self. advantages of this view of the self is that it capitalizes on the clar of behavioral concepts and avoids the reification, dualism, and homuncularization of non-behavioral theories. The ultimate value of ou approach. however, lies in its utility in generating research on the s and the development of effective clinical interventions for problems o self. We have taken some initial steps in this direction. In Functiona Analytic Psychotherapy (Kohlenberg and Tsai 1991), we proposed therape methods based on this model of the self that involve using the client-therapist relationship as an environment in which control can b
shifted from public (the therapist) to the client's private control. We hope this paper will encourage behavior therapists to do research and clinical work on issues of the self.

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(2) Address: Department of Psychology 351635 - University of Washington
Seattle, WA 98195-1635. - Voice (206) 543-9898 - FAX (206) 685-3157 (go back... / voltar...)
[Image]E-mail: fap@u.washington.edu