

Reflexive Attention Diversion and a Method of Attention Training

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**Abstract**

The past two decades have seen an increasing acceptance of mindfulness as a core psychotherapy process and an increasing emphasis on attention regulation. The model presented here assumes that the development of an habitual flight response involving both intentional and automatic attentional processes is the core cause for the development of psychological problems. This dysfunctional habit consists of a reflex-like decrease in, and withdrawal of, attention from the here and now. The attention training program described here is aimed at building a new habit that restores individuals' natural tendency to maintain sensory contact with their environment in the here and now. The first phase, The Four Points, focuses on object attention and conscious thoughts. Clients are taught to consciously monitor what they attend to and to increase their awareness of all sensory inputs in the here and now. The second phase, Taking Back Small Times, deals with receptive attention and orienting thoughts. Clients are asked to focus attention on everyday behaviors that are normally engaged in automatically and with little awareness. They are also asked to expand their attentional field by becoming aware of peripheral stimuli without losing their attentional focus. Attention training can be taught individually or in groups.

**Keywords**

Attention, awareness, habit, orienting thoughts, attention training.

## 1. Introduction

According to Kabat-Zinn, Lipworth and Burney (1985), different approaches to the treatment of chronic pain such as progressive relaxation, biofeedback, operant conditioning, hypnosis, and cognitive-behavioral therapies all subscribe to the therapeutic value of attention regulation. Perhaps not surprisingly, the past two decades have seen a rapid rise and proliferation of mindfulness-based stress reduction programs that are based on patient education rather than a clinical treatment model (Salmon, Santorelli & Kabat-Zinn, 1998). Partly in response to these developments, mindfulness has been proposed as a core psychotherapy process (Martin, 1997), and mindfulness meditation has been suggested both as a valuable part of the therapeutic process (Marlatt & Kristeller, 1999) and as an effective cognitive approach to the development of self-awareness (Kutz, Borysenko & Benson, 1985). The training of mindfulness skills to enhance attentional control has also been adopted as an important component in the treatment of depression (Teasdale, Segal & Williams, 1995) and in dialectical behavior therapy for the treatment of borderline personality disorder (Heard & Linehan, 1994; Linehan, 1993). According to Kabat-Zinn et al. (1985), mindfulness is clearly a generic term encompassing a range of techniques and traditions all utilizing attention though directing it to quite different objects. The same authors also suggested that the intensity and regulation of one's attention may be more important than the particular object or process attended to, and that the importance of attention regulation has generally been underestimated.

In this paper we present a theory and technique which go beyond the aforementioned approaches by postulating that intentional and automatic attentional processes are the only processes that are of critical importance for an understanding of psychological health and psychological problems. Specifically, it proposes that a reflex-like or automatic attentional habit, dysfunctional in nature and developed in response to certain environmental conditions or events, constitutes the common core that underlies a wide range of psychological disorders and symptom manifestations. Consequently, the proposed intervention technique involves the training of individuals in the re-deployment of attention to pre-empt the dysfunctional attentional habit. This approach offers several practical advantages. First, it is presented as an educational rather than a treatment program. Second, it is manual based and standardized across a wide range of disorders. Third, it can be administered not only individually but also in groups. Fourth, it has equal applicability across different cultures and subcultures.

We begin by describing the essential features of psychological health and intelligent functioning as conceptualized within this approach. Then we proceed to a description of the dysfunctional attentional habit, its nature and the environmental events and conditions that are favorable for its development. In the third part of the paper we outline the essential components of the training program. We conclude with remarks that offer an evaluation of the approach based on the first author's experience as gained from years of developing and fine-tuning his attention training program.

## 2. Intelligence, attention and psychological health

Human beings, as open living systems, are born with a natural tendency to direct attention outward. Sensory stimulation is necessary for normal development and functioning and is, for the most part, intrinsically pleasurable. Intelligence - an individual's capacity to interact competently with his/her environment - cannot function at an optimal level unless attention is directed outward, thereby letting the individual maintain full sensory contact with his/her environment and producing awareness of the here and now. Consistent with current dual-process models (e.g., Chaiken & Trope, 1999), intelligence is assumed to function simultaneously at two interrelated levels. At the level of primary-process thinking (Kutz et al., 1985), orienting thoughts are automatic and non-conscious (Bargh & Chartrand, 1999). Orienting thoughts contain perceptions and concepts of familiar events and situations providing the individual with a style of behavior and an efficient and economical use of well-learned behaviors and skills in those situations. Orienting thoughts maintain contact with the environment through what Deikman (1982) called the receptive mode of attention. At the secondary-thinking level (Kutz et al., 1985), intelligence involves conscious thoughts that prompt an individual's intentional and purposeful actions. Conscious thoughts generally maintain contact with the environment through what Deikman (1982) called the object mode of attention. While receptive attention is ideally always oriented towards the present, external environment, intelligent thinking does not require that object attention is also always focused solely on the here and now. For instance, when an individual is

engaged in planning, object attention is temporarily focused on specific future events, decisions are made and object attention readily returns to the here and now. Similarly, memory implies that object attention is temporarily focused on specific events in the past, decisions are made concerning the relevance of the past events with regard to the individual's present or future, and object attention again readily returns to the here and now. Finally, reminiscing involves a temporary redirection of object attention towards pleasurable events in the past followed by a return to the here and now. In that sense, all intelligent thinking is positive and based in reality.

Psychological health is not possible without effective intelligent functioning. It requires that orienting thoughts maintain contact with the here and now through receptive attention towards the external environment, thus priming the individual to be open and sensitive to sensory inputs in the here and now. The resulting sensory perceptions supply relevant information to conscious thought allowing the individual to be oriented to space and time, to direct object attention towards the task at hand, to perceive differences between situations, to be sensitive to his/her physical-social context and, thus, to engage in appropriate behavioral responses. To the extent that receptive attention is oriented towards the present, external environment, object attention can be employed effectively and intelligence functions optimally. Furthermore, the individual experiences his/her own behaviors (including locomotor behavior, verbal behavior, and thoughts) as conflict-free expressions of personal tastes, that is, personal likes and dislikes, constrained only by personally and socially accepted rules and

norms. As will be elaborated below, intelligent functioning decreases and psychological health becomes compromised in direct proportion to the degree to which receptive and object attention are withdrawn from the external environment and the expression of personal tastes is suppressed. Therefore, it becomes important to understand the nature of the mechanism that redirects attention away from the external environment as well as the events and conditions that contribute to its development and maintenance.

### **3. Reflexive attention diversion (RAD)**

Human beings are born into a social environment and are gradually incorporated into meaningful social groups where members share common cultural values and are expected to adhere to common social rules and to be considerate of each other. At the same time, such social environments allow or even foster the development of a diversity of personal tastes and interests and their expression in individuals' behavior. Ironically, however, the social environment is such a powerful force that it can also have a negative impact making it difficult or even impossible for individuals to express their personal tastes and interests without experiencing internal conflict.

The development of personal tastes and interests begins in childhood. According to Newman and Newman (1984), toddlerhood is a period of high activity levels when children want to do things "on their own". That is, a good deal of children's behavior between the ages of about 2 to 4 is an expression of quests for personal autonomy. During the ages from 5 to 7, children begin to exhibit increasing levels of curiosity and behavior becomes an expression of

personal experimentation. During late childhood (ages 8-12) children become increasingly motivated to build skills and behavior becomes an expression of personal competence and mastery. A sense of personal autonomy, curiosity and experimentation, and a sense of competence are the psychological foundations for the development and expression of personal tastes and longer-lasting interests.

Parents who are the primary caregivers of children may respond in different ways to their children's expressions of autonomy and curiosity (e.g., Baumrind, 1967; Maccoby & Martin, 1983). Authoritative parents provide a balance of guidance and support for their children's expressions of autonomy and curiosity and the child will learn that such expressions are mostly pleasurable experiences. In contrast, authoritarian and overprotective parents tend to respond to their children's expressions of autonomy and curiosity with punishment, criticism, and/or discouragement. By failing to provide proper guidance and support, permissive and/or neglectful parents make it more likely that their children experience too many unnecessary failures in their attempts to express autonomy. Failure, punishment, criticism, and discouragement are likely to elicit fear and/or shame and guilt in the child (Newman & Newman, 1984). These emotions, in turn, trigger a flight response that is primarily attentional in nature. It involves, at least initially, a decrease in, and redirection of, object attention away from the environment. If these negative consequences are experienced sufficiently frequently and the associated negative emotions are sufficiently intense, the child will come to believe that expressions of personal

tastes are to be suppressed in order to avoid negative consequences. More importantly, however, with sufficient repetition these beliefs become automatic and non-conscious orienting thoughts. They prime the child to view all social comparisons and differences in opinion between self and others as criticisms, to withhold or suppress the expression of anger specifically and of personal tastes more generally and to be apprehensive towards the here and now. Moreover, the flight response itself becomes a reflex-like or automatic habit involving a decrease in receptive attention towards the external environment (RAD) and thereby reducing sensory contact with the environment in the here and now.

As stated before, human beings share with all living systems the characteristic of being open systems with a natural tendency to direct attention towards the external environment. RAD as an automatic and non-conscious habit, however, functions in direct opposition to that natural tendency. As a result, RAD produces internal tension that is experienced as psychological discomfort and negative affect. The greater the frequency and pervasiveness of the RAD response, the more intense and pervasive the discomfort that is experienced. Eventually, the individual becomes motivated to identify the source of that discomfort. However, because RAD is non-conscious it cannot be identified as the source of that discomfort. In addition, because sensory contact with the external environment is reduced, intelligent functioning becomes less effective. Failure to identify the source of discomfort compels the individual to redirect more and more object attention inwards thus further reducing contact with the external environment. In addition, negative affect produces a narrowing of attention and a

failure to consider alternatives (Fiedler, 1988). The senses literally recede, less information is obtained from the environment in the here and now, and behavior becomes tense and awkward. With increasingly less attention directed towards the present environment, the individual becomes more disoriented to time and space. Memory and problem solving become impaired and information-processing becomes increasingly mindless (e.g., Teasdale et al., 1995), that is, removed from the here and now. Unable to find a source of the discomfort in the present environment, the individual begins to engage in “out-of-control” thinking characterized by thoughts that are increasingly detached from the present and aimed at fabricating a justification for the experienced discomfort, that is, “identifying the enemy”. In other words, RAD leads to “out-of-control” thinking that is always negative, fails to result in any useful decision, and resists a return to the here and now.

The negative content of “out-of-control” thoughts triggers a sequence of negative emotions that have no readily identifiable source in the present, external environment. Experienced first is typically anxiety. To reduce that anxiety, the individual begins to engage in avoidant behaviors. Such behaviors serve to temporarily relieve anxiety but also to suppress the expression of personal tastes. As a consequence, avoidant behaviors will eventually produce depression. That is, deprived of the free expression of personal tastes and the intrinsic pleasure that derives from it, the individual comes to feel hopeless and helpless believing that he/she has not been happy in the past and will never be happy in the future. Over time, depressed individuals come to feel trapped and

controlled. Feelings of being trapped and controlled may then generate anger that the individual will hold back for fear of negative consequences. However, a continued suppression of such anger has the cumulative effect of spawning uncontrolled angry outbursts whose intensity is typically out of proportion to the triggering events. These outbursts may be directed outward towards the environment or inward towards the self and will often make the individual feel self-critical, thus further reinforcing the RAD.

Overall then, RAD and its automatic and non-conscious functioning are assumed to be a common cause of emotional disorders characterized by manifestations of anxiety, avoidance, depression, and anger. However, most individuals are not likely to exhibit symptoms of anxiety, depression, and anger simultaneously. Instead, it is more common that they manifest symptoms primarily in one of these areas. Nevertheless, since RAD is assumed to be the initial stage in this psychopathic sequence, interventions have to be aimed at RAD rather than the various symptoms in order to be effective.

#### **4. Attention training**

The training program described here is based on the premise that stimulation to the senses is intrinsically pleasurable and that sensory pleasure can be experienced only if attention is directed towards the environment. RAD, in contrast, is an automatic habit that withdraws attention from the environment thus depriving the individual of sensory pleasures and producing discomfort. The overall objective of the program is not to weaken the RAD habit but, instead, to build a new habit by restoring and strengthening the individual's natural tendency

to direct attention outward at the level of both conscious and orienting thoughts. As stated before, it is assumed that the new habit is intrinsically rewarding and, once it has gained sufficient strength, will become dominant over the RAD habit. The program begins by giving clients a description of RAD, what it is, how it works, how it generates a sequence of negative emotions and symptoms, and how to identify “out-of-control” thinking and avoidant behavior. Clients are also made aware of the distinction between negative emotions brought on by RAD and “normal” negative emotions with an identifiable source in the environment. The latter include warranted anger in response to being treated unfairly, fear in response to physical threats, nervousness in situations with social consequences of high, personal value, and reactive depression in response to personal losses. Attention training itself is then presented in two phases involving two distinct objectives.

#### *4.1. Phase I: The Four Points*

The first phase, The Four Points, is intended to redirect object attention towards, and thereby increase awareness of, the present, external environment. Clients are asked to monitor their attention and to focus it deliberately and consciously on ordinary external stimuli by performing the Four Points as continuously and frequently as possible. It is stressed that frequent repetition is the key to building up the new attentional habit or style. The Four Points are:

(1) Consciously orient to time and place. Clients are asked to consciously know and understand where they are and what is occurring around them at all times.

(2) Consciously and deliberately employ one or more of the five senses.

Clients are instructed to consciously be aware of stimuli such as seeing clouds, feeling a breeze, hearing children play, smelling flowers or tasting food. They are asked to emphasize the visual, tactile, and auditory senses, especially in familiar situations such as at home.

(3) Be active in order to reduce avoidant thinking or drifting in low

stimulation situations. Clients are instructed to be active. Activity that requires attention and participation helps to focus object attention towards the environment. The client is warned that passivity or mindless activity allows avoidant thinking. Clients are instructed that whenever they become aware of avoidant thinking to interrupt it with simple activities such as getting a glass of water or phoning a friend.

(4) Only allow thoughts that are concerned with the here and now and

what is impinging on the senses. Clients are instructed to consciously and deliberately try to allow only thoughts that pertain to the immediate environment in order to block out-of-control thinking. Out-of-control or RAD thinking involves thoughts that are detached from the environment in the here and now and preoccupied with the future, the past, and/or what others may be thinking. Thoughts about the future tend to generate anxiety and clients are asked to self-instruct: "If I can't see, hear, smell, touch or taste it, it doesn't exist. I'll handle it if and when it happens but I'm not going to worry about it now". Thoughts about the past tend to generate depression and clients are asked to self-instruct: "It's over. There is nothing I can do about it". Mind-reading thoughts also tend to produce

anxiety and are counteracted with “If the person doesn’t say it, he/she is not thinking it”.

Clients are asked to perform the Four Points as frequently as possible. They are cautioned not to expect dramatic changes but, instead, to notice periods of slight relief and comfort whenever attention is focused on the external environment. In contrast to other treatment approaches, clients are instructed to ignore all negative thoughts and symptoms brought on by RAD and to keep attention focused on the present, external environment.

Performance of the Four Points is likely to encounter five resistances. First, clients may forget to practice the Four Points. Therefore, they are asked to write down the Four Points, to make copies of them and to leave them in familiar places as reminders. Second, clients may believe that they are too busy to practice the Four Points. Therefore, they are instructed to apply the technique while engaged in everyday activities in order to develop a style of doing everything with attention. Third, clients may “feel fine” and become complacent thinking that further practice is unnecessary. Therefore, they are made aware of the possibility of relapses. Fourth, clients may believe that practicing the Four Points is not necessary in familiar situations and need to be instructed that it is actually easiest in such situations. Fifth, clients may find the technique too simplistic. In that case, clients are asked to examine their subjective sense of well-being whenever they apply the technique.

Clients are also informed to be mindful of their energy levels since reduced energy will lessen the ability to be attentive. In particular, three

conditions are identified as pressures that lower energy levels. Two of these pressures are physical in nature and include (a) illness and/or normal medical conditions such as pregnancy and monthly menstrual cycles and (b) fatigue. In both cases, reduced energy levels lead to decreased attention toward the environment and, thus, to RAD thinking. Clients are asked to anticipate such conditions and when experiencing them, to identify the source of subjective discomfort as a physical one, to rest and/or to curtail all activities that are not essential. The third pressure is psychological in nature and involves events of high personal value. Clients are asked to place such events in proper perspective in order to counteract the RAD induced tendency to take these events too seriously and, thereby, to prevent the triggering of anxiety.

A period of approximately three to five weeks of practicing the Four Points is usually necessary to develop and maintain increased levels of object attention towards the environment. However, reduced energy from any of the above mentioned pressures may cause a relapse, a temporary period of time when clients' attention is decreased and directed inwards with a resulting return of symptoms. The second phase is designed to prevent such relapses.

#### *4.2. Phase II: Taking Back Small Times*

The second phase of the attention training program is aimed at restoring the natural tendency of receptive attention to maintain contact with the present, external environment. Unless individuals' orienting thoughts can be shaped to maintain contact with the environment through receptive attention, the conscious efforts of redirecting object attention towards the external environment will

eventually fade. Therefore, the second phase represents an attempt to make individuals aware of some of their orienting thoughts in two ways. First, individuals are instructed to become aware of small times, that is, times in between events, times characterized by high automaticity and low awareness. For instance, while sitting on the couch and watching TV I decide to go to the refrigerator to get a beer. Getting up and walking to the refrigerator is usually a highly automatic behavior involving little awareness, that is, it is a small time. Second, individuals are instructed to make an effort to become more aware of peripheral sensory inputs at the same time that their object attention remains focused on a task, that is, they are asked to practice a widening of their attentional field. Again, individuals are asked to practice Taking Back Small Times continuously and as frequently as possible. A period of approximately four to six weeks of practice is usually necessary to prevent relapses to the old RAD habit.

## **5. Conclusions**

Since 1994 the first author has offered attention training as described above to approximately 750 clients. About 75% of these clients had experienced prior treatment with most of them having seen two therapists before. Clients presented a wide range of symptoms and diagnoses including anxiety disorders, depressive disorders, manic depression, obsessive compulsive disorder, panic and anxiety attacks, phobias, eating disorder, and visual and auditory hallucinations. Approximately 30% were on medication when they began

attention training. More extensive background information was gathered on only about 5% of clients who manifested suicidal and/or violent tendencies.

Approximately 1% of clients dropped out before completing the program. They included individuals who were either extremely unmotivated (e.g., court referred) or found the conceptual model of the program too simplistic and not psychological enough. All those who completed the training program received between 4 and 25 weekly sessions depending on the severity of their RAD habit. 90-95% of the completers were finished within 10-15 sessions. About 30% of them have maintained contact with the first author (some up to 6 years) and remain symptom free.

The only clients who relapsed and returned to the author for additional training were among those who had been seen before 1994 when the attention training program consisted only of The Four Points. In those cases, relapse usually occurred 2 years after the training program. These observations suggest that Taking Back Small Times is critically important in building the new attentional habit and in preventing a relapse.

Motivation appears to be the single most important factor determining the success of the training program. However, even when clients' motivation is initially low, their hesitations are often overcome and motivation substantially enhanced due to the following factors. First, clients appreciate the fact that they are not asked to disclose private confidential information about themselves nor to reconstruct potentially painful experiences in their past. Second, clients including those with little or no knowledge of psychology, find the conceptual model of

RAD and its effects logical and easy to understand. Third, clients find comfort in the notion that their symptoms are not the manifestation of deep seated psychological deficiencies but, instead, the result of a bad habit that can be overcome by learning a set of attention related skills and building a new habit. In other words, the program is viewed more as an educational program than as a psychological intervention. The generally favorable view of the program is reflected in the fact that many clients are family members and/or friends of other clients who recommended it to them.

Attention training as described above is not appropriate for young children. However, parents can be taught to incorporate the central principles of the program into their child-rearing practices. Specifically, parents are trained (1) to encourage their children to make choices and decisions in child-appropriate everyday situations, to accept those decisions without any negative criticism or punishment and, if necessary, to help them understand the consequences of their decisions and (2) to help their children practice the Four Points. Attention training has also been adapted for couples. Partners are taught to express personal opinions to each other and to recognize mutual differences as differences in points of view rather than as mutual criticism. They are also taught to help each other practice the Four Points and to become aware of negative RAD thinking in the form of mind-reading and dwelling on past negative events.

In sum, the short- and longer-term outcomes obtained with this attention training program are quite promising. They warrant both a wider adoption of it by other practitioners as well as a more systematic evaluation of its effectiveness.

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