



The Skill to Nurture
& Set Limits From Within™

Introduction to Developmental Skills Training (DST)

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Developmental Skills Training: Overview

Developmental Skills Training (DST) is a brain-based intervention program designed to promote the mastery of two fundamental developmental skills: self-nurturing and effective limit setting. Skill mastery results from repeated practice, which retrains the limbic system to a) spontaneously process daily life in a responsive manner most of the time and b) when the process is not spontaneous and responsive, maintain the capacity to use the skills intentionally and effectively.

Typically, individuals are motivated to access DST to solve specific problems or challenges, such as obesity, smoking, diabetes, depression, substance abuse, overspending, post-traumatic stress syndrome or issues related to marital dissolution. Many individuals also access DST to enhance specific qualities and benefits of resilience and maturity, such as intimacy, vibrancy, emotional balance, or integration. However, although DST may alleviate a particular symptom or provide a specific reward, the goal of the DST method is to retrain the limbic brain through the practice of the two skills, self-nurturing and effective limit setting. The result is that the individual experiences resilience and more persistent access to natural pleasures. The drive to engage in a whole range of external solutions is turned off or down.

External solutions are defined as behavioral, emotional and relational patterns that: 1) are repetitive, 2) have an initial positive impact, and 3) are deleterious in the long term. External solutions include patterns that are maladaptive behaviorally (e.g., binge eating, smoking, alcohol abuse, prescription drug misuse, compulsive spending), emotionally (e.g., obsessive thinking, persistent self-pity, hostility, depression) and relationally (e.g., merging, disengaging).

Individuals are more likely to use external solutions to respond to allostasis (the stress response). The use of external solutions in response to allostasis that may be adaptive in the short-term, becomes deleterious with repeated or prolonged episodes. Allostatic load is the cumulative changes in mind and body that results from repeated or prolonged episodes of allostasis and the use of external solutions, including both wear and tear and adaptation. A high allostatic load may increase the frequency and duration of allostasis, which further increases allostatic load. With a high allostatic load in mind and body, a new set point or fixed state of chronic allostasis and prolonged or severe use of external solutions may result. This set point or fixed state increases the risk of health problems becoming intractable and refractory. Decreasing the frequency and duration of allostasis and decreasing allostatic load in both mind and body are thought to enable individuals to separate from that set point that is deleterious to health and to create a new

homeostasis – a new set point – of improved health and well-being. By addressing the mind and body allostatic load, interventions be more effective. Results may be long-term and risk of symptom substitution may be lower (e.g., cessation of smoking and onset of overeating).

DST is used to decrease the frequency and duration and allostasis and the use of external solutions and to decrease allostatic load. It is used to separate from the set point associated with chronic stress and frequent, severe or prolonged use of external solutions and to secure a new set point, a new fixed state of emotional, relational and behavioral homeostasis. Each time an individual uses DST, there are small positive changes in emotional, relational and behavioral patterns. This has an immediate impact on allostasis, decreasing the frequency and/or duration of the stress response and on allostatic load. DST continues until allostatic load is decreased to the point that the individual perceives that the severity, duration and frequency of their use of emotional, relational and behavioral external solutions are low and they experience an abundance of the rewards of resiliency and maturity: integration, balance, sanctuary, intimacy, vibrancy and spirituality. They have both retrained their limbic brain to favor spontaneous changes in their response to daily life challenges, and they have mastered the conscious use of developmental skills to prevent or curtail the allostatic response. In DST, this is known as having a “Solution.”

There is considerable agreement among developmental psychologists that a responsive environment facilitates psychosocial development. A responsive environment includes responsive nurturing (recognizing feelings and needs and providing support) and effective limit setting (reasonable expectations and the capacity to accept difficulty and experience the reward and benefit of such acceptance). Psychosocial development promotes resilience to daily life stressors and decreases an individual’s vulnerability to chronic stress and its associated deleterious effects on mind and body, i.e., the onset or exacerbation of disease.

The psychosocial developmental skills of self-nurturing and effective limit setting are learned in a responsive environment and are stored in the neural networks of the limbic system. These neural networks are wired in response to repeated contact with an early environment that is responsive rather than depriving or permissive. The neurons that fire in response to repeated contact with responsive caretakers creates neural networks that enable the child to self process his or her daily life in a responsive way. As the child internalizes these skills, he or she learns to self-nurture and set effective limits. Early development of these skills may decrease the frequency, intensity and duration of the stress response and its associated impact on the child’s developing mind and body.

If a child experiences repeated contact with a depriving and/or permissive environment, the neural networks in the limbic system do not develop to enable the child to learn to process his

or her daily life responsively. Rather, the child learns what was presented and experienced and develops psychosocial skills that are depriving and/or permissive. The child's capacity for self-nurturing and effective limit setting is compromised. The frequency, intensity and duration of the stress response is not well regulated, which may result in deleterious effects on the child's mind and body.

In adolescence, the neocortex develops and there is a greater capacity for and dependence on abstract thought. The adolescent processes daily life events more analytically and this creates a "thinking brain barrier" which limits access to the limbic system. It may become more challenging for the responsive experiences in an adolescent's daily life to be processed by the limbic system. This is not necessarily problematic if the individual's early life was responsive, because the dominant neural networks will be responsive. But if the environment was depriving and/or permissive, abusive or traumatic, the dominant neural networks will be depriving and/or permissive and will impact nearly every aspect of life. This individual through no fault of her or his own, and without regard to conventional levels of intelligence, becomes hardwired to live without sufficient emotional intelligence to create a life of health and happiness. Unfortunately, most therapeutic interventions are primarily cognitive and processed by the neocortex – knowledge, analysis, planning, deciding – and the neural networks that are the root cause of the problems are left unchanged. Although insight can be gained and coping skills learned, most problems are intractable and refractory. Typically, if one symptom of a problem is alleviated, another symptom will develop to take its place.

What is needed is an intervention that retrains the neural networks of the limbic system to become responsive through the development of the skills missed in childhood: self-nurturing and effective limit setting. These skills are needed in abundance not only to survive but to thrive in modern life. DST is designed to provide the needed repeated contact with a responsive environment through practice of self-nurturing and effective limit setting. Through DST, the dominant neural networks that favor allostasis are weakened and the neural networks that favor homeostasis are strengthened. Following these changes, the neural networks of resiliency and maturity become dominant and fire easily and often. At this point, many of the individual's problems fade or disappear. Rather than getting stuck in the unavoidable pain of the human condition, individuals move capably through life's problems and challenges. With their new resiliency and deepened maturity, they enjoy their lives, experience improved health status, and contribute more to the world.

Comparisons With Other Interventions

The following is a comparison of DST with other current therapies for psychological and behavioral health problems:

Cognitive therapy – Cognitive therapies have demonstrated efficacy in improving mood and changing behaviors and many understandings from cognitive therapy have been incorporated into DST. Cognitive therapy does not, however, provide a focused training on the precise skills that replicate responsive parenting to heal past hurts, revise implicit learning and retrain the limbic system to respond adaptively to current stressors. Although cognitive restructuring is valuable, the deeper healing that is required to facilitate development to a level where there is freedom from external solutions is not only cognitive but also emotive. One cannot think one's way out of a deep hurt from the past. In DST, neural networks are revised by bringing the past hurt to a conscious level and experiencing the accompanying range of feelings (happy, sad, angry, afraid, grateful, guilty) supported by the responsive nurturing skills. With a new awareness of these previously unconscious feelings, an individual is able to identify and change the unconscious errant limit setting that was reinforced or "hardwired" in the past by using new responsive and effective limit setting skills. Only when deep cognitive work is paired with deep emotional work do revisions in implicit memory occur which leads to healing. In DST, this deep work is referred to as the removal of "emotional trash" and it is a core process to developing resiliency and maturity. Optimally, development is facilitated when a new responsive limit repeatedly replaces the errant one. In DST, this repetition of emotional recognition, expression and responsive limit setting is called "grinding in." The response of the feeling brain does not distinguish between current stressors and unhealed past hurts, memories and distortions. The neural networks that fire in response to current stressors quickly orchestrate the firing of concordant emotional networks from the past. In order to change the brain to favor limbic homeostasis, actual change and revision of these neural networks is required.

Neural networks are difficult to change. They only change through effective stimulation and long-term repetition of new responses; this is what DST provides. Basic DST (survival level skills) can be helpful in changing some problem behaviors or in the enhancement of a primarily responsive skill level. But in order to change long standing neural networks, advanced DST, learned through long-term, sophisticated, layered training in the skills, is needed to alleviate problems that are otherwise intractable and refractory, such as obesity, eating disorders, substance abuse and depression.

During the last 14 years of developmental testing of DST with adults, we have observed a relationship between the vigor and rigor with which participants practice the skills and participant outcomes. Participants move through predictable developmental stages through their use of the

program materials with a significant shift toward emotional balance after the first nine months of training. Decreases in emotional appetites occur during the last nine months of training when the reward of the new neural networks, e.g., connection (integration, intimacy, spirituality) increase. These observations are consistent with the literatures on neural network revision (repeated contact) and the neurochemistry of the reward (medial forebrain bundle) and the punishment (operventricular system) circuitry of the brain.

Following long-term DST, participants decrease negative mood states and the frequency and duration of the stress response. Their capacity to access natural pleasures, including intimacy and spirituality increases. It is hypothesized that this pattern of transformation supports neurochemical changes that decrease emotional appetites and addictive behaviors. Our developmental testing of DST has shown that it is not until the later stages of the training that these transformations are sufficiently persistent to result in changes in appetites and behaviors. It is unlikely shorter-term cognitive therapy could produce similar outcomes.

Psychotherapy – The efficacy of psychotherapy on objectively measured health outcomes such weight loss or addictive behaviors is disappointing. It is, for example, no more effective in the treatment of obesity or substance abuse than self-help interventions such as 12-step programs. Long-term psychotherapy, however, may retrain the limbic system. If the therapeutic relationship is responsive, these interactions may facilitate the client’s learning and mastery of developmental skills and result in changing the limbic system to favor homeostasis and resiliency. It is estimated that four to six years of psychotherapy is required to retrain the limbic system; significantly longer than the 18 to 24 months required to complete advanced DST. This difference in the required duration of therapy may be related to differences in the frequency and intensity of the interventions. In DST, the therapeutic session initiates a weekly assignment of DST kit work and practice. When delivered as a group treatment, in addition to the DST kit work and practice, other group members provide repeated, emotionally intense practice of the skills for four to six hours per week. This structure, support and practice is significantly different than the experience of clients who are only able to receive one hour of weekly psychotherapy.

We have trained adults in DST at the University of California, San Francisco, since 1991. In our experience, many of these participants report a history of long-term psychotherapy. Although their experiences may not be representative, we have observed several patterns that are associated with this history. First, many participants learned how to access their feelings through psychotherapy but did not master limit-setting skills. If skills of emotional awareness are increased without a simultaneous increase in limit-setting skills, emotional imbalance is likely to result. For example, when both skills are available, an individual accessing sadness has limit-

setting skills that enable the individual to feel the sadness and allow it to fade. The individual who cannot set effective limits on sadness is prone to depression.

Another common presentation we have observed in individuals with a history of long-term, insight-oriented psychotherapy is obsessive thinking and a preoccupation with an analysis of past events. This dependence on and overuse of cognition blocks change in the limbic system and often becomes an external solution itself. Thus, over-thinking becomes a way to escape emotional pain and avoid the process of uncovering the errant limit setting at the root of the problem. If the root of the problem is not identified, it cannot be replaced with an adaptive, effective limit and the very process that supports development cannot occur.

Participants with severe psychopathology may require psychotherapy prior to participating in DST. For these participants, individual coaching with DST and/or psychotherapy may be of particular importance and benefit. Individual coaching is recommended for all advanced DST participants at specific points in the training that are associated with significant developmental shifts.

Finally, psychotherapy is not usually a body/mind intervention. But lifestyle, health problems and medications all affect the limbic system. Without an integrative approach to treatment, outcomes may be compromised and the psychotherapeutic process impeded. DST is a mind/body, integrative approach that offers the possibility of enhanced psychodynamic process and improved outcomes.

Behavioral Therapy – Behavioral therapy produces change in the limbic system as a result of repeated engagement in responsive behaviors. Behavioral therapy does not, however, train participants in developmental skills, and the rate of participant drop out is high. Approximately 50 percent of behavioral therapy participants drop out in 12 weeks. In comparison, DST drop-out rates are 20 percent for 18 months of service. To revise neural networks, even those of behavioral imbalance, requires long-term repeated contact. Unfortunately, the high drop-out rates associated with behavioral therapy make such extended contact unlikely. Moreover, the drive to engage in maladaptive behaviors, such as overeating, is usually first emotional and only secondarily behavioral. The neural networks that favor emotional imbalance flash first, followed by the neural networks of behavioral imbalance. A method that focuses on behavior change without first retraining the limbic system to decrease the frequency, intensity and duration of the emotional underpinnings of that behavior is unlikely to produce lasting change. Targeting behavior change without addressing the emotional roots that drive that behavior also increases rebound behavior, symptom substitution and perceptions of failure.

Pharmacotherapy – Pharmaceuticals directly impact the neurochemicals and hormones affecting the limbic system, and is often combined with DST. But it is impossible for pharmacotherapy alone to cure any multifaceted health problem. The influence of genetics (200 currently identified in obesity alone), developmental history, current lifestyle behaviors and long-standing emotional and psychological patterns all contribute to the onset and progression of such diseases, e.g., obesity, depression, smoking, etc. Drug therapy for common conditions is rapidly increasing as new therapeutics become available. But there are many limitations to a predominantly pharmacologic approach to health care. Individuals vary in their responses to drug treatment, drugs may have a limited period or level of efficacy and the financial costs associated with many of these prescription drugs is prohibitive. For example, one new weight loss drug confers a daily caloric benefit of about 100 kcals or ½ of a large apple compared to diet and exercise alone. The cost of this drug is about \$3/day. The cost (if it was even possible) that would be associated with developing a drug for every disease with roots in an individual’s developmental history is incalculable. Currently, there is no drug that effects the limbic system to spontaneously favor homeostasis. There is no pharmaceutical substitute for training to acquire these skills, to complete psychosocial development, and gain the resiliency and maturity to become responsible for one’s own health and happiness.

Developmental Skills Training: Objectives

The overall objective of DST is for participants to gain the skills required to maintain limbic homeostasis most of the time. This training incorporates skills in health maintenance, behavioral therapy, mindfulness training, imagery and visualization, insight, and expressive arts therapy. The training focuses on:

- **Mastery Living** – Adopting a lifestyle that enhances natural pleasures and decreases the frequency and duration of the stress response.
- **Solution Skills** – Mastering the developmental skills to maintain limbic homeostasis. This includes both the conscious use of the skills and the unconscious effects of their use, i.e., retraining the limbic system, which comprises healing emotional memories and includes the revision of implicit learning.

In DST, participants focus on using the skills to stay in limbic homeostasis rather than being in allostasis. In the training, the state of being in limbic homeostasis is referred to as being “above the line” and the state of being in limbic allostasis is referred to as being “below the line.” Participants use Mastery Living and Solution Skills to accomplish this singular goal of being

“above the line,” maintaining limbic homeostasis, and it is clinically highly effective. The state of the limbic system influences most aspects of the mind and body. Instead of relying on identifying a range of related problems and treating each of them separately, the participant focuses on staying above the line. As a result, many problems resolve or fade spontaneously. This efficiency in treatment is directly related to the role of the limbic brain. It is the seat of emotional balance, relationship intimacy, spiritual connection and the whole range of pleasure drives and addictive behaviors. With the limbic system in allostasis, the risk of emotional imbalance (e.g., depression, anxiety, dysphoria), relational problems (e.g., enmeshment, disengagement), spiritual imbalances (e.g., existential anxiety, religious obsession), behavioral imbalances (e.g., eating disorders, substance abuse) increase. Each of these problems impacts the risk for other problems, particularly for those who are most at risk for allostasis due to genetics, temperament, early abuse or neglect, socioeconomic stresses, health problems, medications or addictive behaviors. The observation that 20 percent of patients incur 80 percent of health care expenditures is related, in part, to this synergism of the negative effects of chronic stress.

The limbic system perceives stress in response to the information that pours into it from the internal milieu and external environment. Thoughts from the neocortex, emotional memories from the limbic system, unconscious knowing or expectations from implicit memory (extracting truth from life experiences), messages from the brain stem and body as well as sensory input converge moment-to-moment in the limbic system. The limbic system does not differentiate stress or pain: the pain of repetitive negative thoughts, the hurt of lost love, the stress of back pain or a stomach ache from overeating register with equal value. It meets our survival need to process all salient information and prioritize it. When the sum total of the stress from all sources—the internal milieu and the external environment – is greater than the individual’s level of developmental skill, the brain perceives and responds to this stress. This stress response then elicits the cascade of stress hormones and the draining of neurotransmitters.

Human beings are genetically designed for a life of episodic physical stress, tribal closeness and resource scarcity. Because modern life involves chronic emotional stress, isolation and abundance, our limbic systems are subject to a level of chronic stress that our ancestors were not. Add to the mix cognitive stresses such as negative ruminations; triggering of emotional memories; maladaptive expectations stored in implicit memory; environmental stress from work, home, and neighborhood; major life events; trauma and abuse; poor health behaviors; medical problems and medications and it is no wonder that the stress response can be frequently activated.

The normal stress response includes a period of activity followed by a period of recovery. However, with repeated “hits,” lack of adaptation, a prolonged stress response without recovery

or an inadequate response, there is a price to pay in body and mind for adaptations to this increase in the allostatic load. Although it is normal and even adaptive to experience the allostatic response at times, having a high allostatic load adds to the stress processed by the limbic system. Allostatic load increases as the body adapts to the stress response. For example, hyperinsulemia is a response to obesity. It is also the wear and tear on the body, e.g., joint pain from excessive body weight.

With each triggering of the stress response, there is also a price to pay neurologically as the couplings of the neurons that fire together are strengthened. With repeated allostasis, the neural networks of emotional imbalance become more dominant. Negative moods resulting from emotional imbalance change perceptions of daily life, so even responsive situations are perceived as stressful, thereby adding to overall stress levels. In a negative mood state, people engage in external solutions. Patterns of reaching for food, cigarettes, alcohol, etc., become hardwired. Problems associated with these behaviors add to stress levels and increases allostatic load on the body from wear and tear (e.g., excessive exercise) and adaptation (e.g., hyperinsuliemia in response to obesity). Moreover, because the original problem that led to the stress response has not been responded to effectively because the individual coped by engaging in maladaptive behaviors, the problems persist and add to limbic system stress.

All these factors can lead to a higher allostatic load and a greater propensity toward triggering the stress response. At some point, the individual adopts a new set point, a new homeostasis that is fixed in a state of imbalance. Many homeostatic mechanisms then operate to maintain the state in which emotional, relational, and behavioral imbalances are perceived as normal. Because this fixed state of imbalance in body and mind is neurologically hard-wired, health and happiness continue to decline unless interventions address both improved health (body allostatic load) and mind (neurological allostatic load). In the absence of such interventions, the individual becomes dependent upon procedures and medications to ameliorate the impact of a high allostatic load in mind and body. Positive outcomes tend to be short-term or dependent upon ongoing treatment. If improvements do persist, other problems are likely to arise and symptom substitution is common.

Through DST, participants decrease the allostatic load and the frequency and persistence of the stress response (allostasis). Since the limbic system is the clearinghouse for the external environment and internal milieu, promoting effective use of health care and a health-promoting lifestyle (Mastery Living) are core elements of the intervention. Both offload stress from the feeling brain. However, compliance with health care and the adoption of a health-promoting lifestyle are unlikely when the limbic system is in allostasis. The conscious use of developmental

skills training facilitates increased effectiveness in preventing the stress response and decreasing its duration. However, it is in the long term use of the training that emotional memories decrease their emotional charge and the basic expectations (the implicit memory) change. Both are key to lasting change, particularly among individuals who are genetically or environmentally prone to addictive behavior, chronic disease, economic disadvantage or who have a history of trauma or abuse.

Developmental Skills Training: Two Applications

Developmental Skills Training was developed at the University of California, San Francisco, and has been used since 1979. It can be applied as a “survival” tools for applications ranging from suicide hotlines for adults to preventive health education in schools. In addition, it has these two applications.

The Solution Method – This is the developmental skills training program for adults. It can be used for health promotion and disease prevention or for the treatment of high-risk medical and psychosocial problems, including obesity and addictive behaviors. Participants first complete Basic Solution Support, an orientation and some basic training in the method (four weekly group sessions or two private one-hour coaching sessions). For participants who are at lower risk and who just want to use the method for coping skills and not to retrain the limbic brain, this is often sufficient. For participants who intend to master developmental skills, Basic Solution Support is an introduction to the method followed by Advanced Solution Support. Advanced Solution Support involves completing six Solution Kits, each consisting of a workbook and four CDs as well as membership in The Solution Internet Community. The kits use knowledge, insight, behavioral therapy, mindfulness training, imagery and visualization and expressive arts therapy to master the developmental skills. Each kit takes approximately three months to complete, culminating in the participant mastering the developmental skills for intentional use and the retraining of the limbic brain to spontaneously stay in limbic homeostasis sufficient to experience the rewards of maturity and freedom from the common excesses associated with modernity. Health professionals who have mastered the clinical and personal skills, guide participants toward mastery of these skills, provide individual therapy/coaching, facilitate group programs, and support the safe and effective use of the kits. The small group format is preferred because its structure, nurturing and support enhance the training. Participants contact one another by telephone between sessions in Community Connections to practice using the method when stresses mount. This enhances group cohesion and dyadic intimacy and improves limbic revision outcomes and program retention.

The Shapedown Program – The application of Developmental Skills Training for children, The Shapedown Program, is used for the prevention and treatment of pediatric obesity. Program materials include workbooks and parent guides for four levels of development, ages 6 to 8, 9 to 11, 12 to 14 and 15 to 18 years. The program is family-based, teaching nurturing and limit-setting skills to parents and, to the extent appropriate, to children and adolescents. With a foundation of nurturing and limits, skills in body pride and good health as well as lifestyle and healthful eating are taught. All family members use the same nutritional plan for health promotion and all use the same developmental skills. Creating a family system change to decrease disengagement and enmeshment and improve emotional connection reinforces the mastery of developmental skills and decreases emotional appetites. The program involves 10 weekly sessions and an option for two additional advanced sessions.

The Shapedown Program trains health professionals in interdisciplinary aspects of pediatric obesity to support the delivery of a comprehensive, biopsychosocial assessment for all children. About half of the children who enroll in the program have serious additional contributory problems that need to be addressed if limbic homeostasis and lasting change is to be achieved. Therefore, providers require an understanding of the broad range of contributors to pediatric obesity, from sexual abuse to pulmonary problems to learning disabilities. The training for certification prepares clinicians not only to conduct group and individual sessions based on the method but also prepares them to assess childhood obesity through a specific protocol and to assess adolescent obesity (ages 10 to 18) with the option of using a computerized assessment (Youth Evaluation Scale – YES). The advantage of using developmental skills training compared to behavioral interventions is that it equips families with the developmental skills that support family cohesion and resilience and, with the individualized assessment, identifies and plans treatment of contributing factors that would otherwise typically go unnoticed.

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