

MANAGING THE EMOTIONS OF DISASTER RESPONSE WORKERS: A COMPUTER-BASED DEPLOYABLE RESOURCE FOR SITE WORKERS, COUNSELORS AND VOLUNTEERS

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Abstract

The immediate and apparent needs of victims during disaster response efforts obscure the more widespread damage to the emotional health of a large community of disaster response workers. While victims are openly recognized and typically treated for physical injuries and related emotional distress, the mental health needs of site workers, counselors and volunteers are often ignored. The un-addressed secondary trauma of these workers results in excessive employee turnover, domestic violence, and occasional destructive behaviors. This article describes a system called Emogram that can readily measure and report the emotional state of an individual exposed to traumatic events. As a stand-alone program, it can be deployed to the target site and used to monitor and manage the emotional health of disaster response workers, volunteers, and counselors.

Introduction

Over the past three years we have developed and successfully field-tested a computer-based system that measures and interprets individual human emotions. This system has been used to provide immediate insight into the emotional health of individuals subjected to primary and secondary trauma and to treat post-traumatic stress syndrome (PTSD). It is also used to monitor coping efforts and responses to treatment over time. Our primary application for this system was in trauma centers dedicated to the treatment of rape and the prevention of secondary trauma experienced by counselors in those centers. The system has been adapted for use in the field in disaster response theatres. Below is a discussion of the essential insights about human emotions that are necessary to understand how such a system is possible. Specifically, this article provides an introduction to basic human emotions, discusses how they respond to traumatic events and coping strategies, and demonstrates how they can be effectively analyzed and reported.

Our approach integrates these concepts into a system that can perform an assessment of an individual's emotions in approximately six minutes. It produces two types of reports, a baseline report that describes each emotion and the current level of that emotion in the individual and progress reports that describe how the individual's emotions have changed since the previous assessment. These progress reports are most useful for monitoring an individual under stress and

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they contain warnings of excessive strain on the emotional health of the individual along with specific recommendations for intervention.

Understanding Human Emotions

We are all mental, physical, and emotional beings. Emotions are neurological and biochemical processes that can both *respond* to what we think and feel and *affect* what we think and feel. There is no way to separate emotions from the mental and physical processes; they constitute an essential linkage between mind and body [1]. The new found importance of this linkage has prompted the National Institute Of Health (NIH) to request research into how emotions effect aging, cancer treatment, cardiac rehabilitation and mental health issues such as depression, anxiety and substance abuse [2]. While much will be learned in the coming years by these efforts, we already know enough about emotions to measure and respond to individual's emotions in very practical ways.

Emotions are much like the keys on a piano; they are very separate and distinct. However, we don't feel them that way, what we feel is always a combination of all the basic emotions. For this reason most of us are quite unaware of the distinct and separate emotions that we sense all the time. Most people can't name the basic emotions much less recognize them when they feel them. If someone asks us how we feel, we answer with "OK" or "A little down" instead of "Pretty *angry* with a good dose of *contempt*, some *anxiety* and a whole lot of *sadness*." Except in those rare and unpleasant instances when we feel profound anger or fear, we normally sense only a blend of the basic emotions making it difficult to get to know them individually.

Darwin provided the first major contribution to the study of emotion. Though he cites earlier work by Duchenne and Bell, his 1872 book titled The Expression of Emotions in Man and Animal is an obvious beginning to the field [3]. Darwin asked the right first questions: "What are the basic emotions?" and "Are the expressions of emotions universal across the human race and across species?" The answers he received from correspondents around the world allowed him to identify and describe in detail an initial set of basic emotions. As suggested by the title, his work highlighted the way in which emotions are expressed. The differences in the expressions led to the identity of various distinct emotions. Other contributors to the field have since recognized most of the emotions first identified by Darwin.

Not only did Darwin provide an initial list of separate emotions, he provided a productive methodology for research in the field. Expressions are the useful units to define, measure and compare. Expressions define the emotions. Focusing on the facial expressions, Paul Ekman has advanced this notion to a scientific end [4]. He identified the specific muscle groups of the face that relate to selected emotions and developed a Facial Action Coding System (FACS) that allows one to objectively identify an emotion from the combination of facial muscles used to express it. Conversely, it permits one to produce the expression of a given emotion by deliberately manipulating specific muscles in the face. This direct linkage between emotions and facial expressions is important in that it provides the foundation for the method we have used to measure emotions.

An ongoing debate has centered on the list of emotions. What precisely are the basic emotions? A useful answer comes from the doctoral work of Ilan Shalif at the University of Rami Gan, Jerusalem [5]. His dissertation, originally published in Hebrew in 1991 and translated to English in 1992 addressed the question of whether emotions are more faithfully described and communicated as cognitively interpreted terms (e.g., words) or subjectively interpreted visual images of expressions (e.g., pictures). In pursuit of this question Shalif developed a defensible list of emotions supported by the prior research of Charles Darwin, Charles Izard [6] and Paul Ekman [7]. In our work we were able to add Anxiety to this list as a distinctly different emotion supported by Darwin and others (see Table 1).

Table 1: A Consolidated List of Basic Emotions

Happiness	Shame
Interest	Fear
Surprise	Anger
Contempt	Distress
Disgust	Sadness
	Anxiety

Although we are all familiar with these terms, they are used here to refer to distinct and separate emotions defined by unique sets of physiological characteristics and neurological responses. The origin of each is also thought to differ though they all have distinctive evolutionary implications. Recent work by Richard Lazarus confirms the merit of this list and adds considerably to our understanding of how they relate to each other [8]. Though distinct, these emotions are all present to some degree at all times. Our emotional state at any given moment is defined by the relative strength of these elements. Lazarus' thoughtful discussions about the interactions of emotions contributed directly to our interpretation and analysis of emotional dynamics in the Emogram system.

Measuring Emotions

Describing emotions as unique facial actions does not measure them. Toward this end, Shalif's dissertation again proved helpful. His research provides support for the use of images of expressions (e.g., pictures) rather than terms to communicate the emotions. He found that visual expressions of emotions are more reliably recognized than are common terms for emotions.

The important next step was obvious. If expressions of emotions were the most effective way to communicate emotions, perhaps individuals could indicate the extent to which they relate to any given emotional expression. If a measure of concordance between a subject and an emotional expression could be collected, then the relative weights of the basic emotions at any given moment could be measured and it would finally be possible to have metrics on emotions.

We tested the use of photographs to measure emotions by using many of the reference photographs from various sources identified by Shalif. Each photograph was incorporated into an original software program that would present an image to a subject and collect a response using a six-point Likert-type scale. We tested this approach with more than 100 clients of a rape-crisis intervention agency and found the assessment process to have real promise. Subjects reported they could easily judge the extent of concordance held with each of the photographs presented and the measures of emotions obtained corresponded to counselor assessments and case status.

Support for the phenomenon of concordance comes from the literature on attachment, which describes how non-cognitive communication between an infant and a caregiver provides a foundation for learning to identify and regulate emotions. According to Schore, attachment allows the transmission of a caregiver's "affective appraisal of objects;" later, the child develops the capacity to internally self-evaluate objects and situations [9]. Our use of photographs allowed subjects to bypass, as much as possible, cognitive processes and sense their agreement- their concordance- with multiple emotional expressions.

The success with this approach to assessment was particularly promising given the poor quality of the original photographs. Although they were considered representative of the various emotions and had been extensively used in prior research, the photographs were of poor quality and obviously dated. What we learned by experience using these images for nearly a year allowed us to formulate an approach to producing new photographs void of the many problematic features.

Our current set of images were produced under studio conditions using modern digital color photography and trained professional talents as presenters. The images represent varying degrees of expression for each emotion and each complies with the FACS. A sample of the images is provided in Figure 1 along with a general description of each emotion. In an attempt to maximize the level of concordance, we produced five sets of images representing both gender and ethnic diversity.

Figure 1: Sample Images Representing the 11 Basic Emotions

BASIC HUMAN EMOTIONS		
<p>Emotions are separate and distinct. How we feel at any moment is always a combination of several basic emotions. Emotions are most clearly communicated by facial expressions which have been shown to be consistently expressed and interpreted across cultures. Here are eleven basic emotions along with precise facial expressions of each. As you look at each photo note your own emotional reaction to each expression.</p>		
	<p>HAPPINESS: Happiness refers to the positive emotional state sometimes referred to as enjoyment/joy. It emerges when one feels he or she is making reasonable- or rapid-progress toward whatever is desired.</p>	
	<p>INTEREST: This emotion prepares us to interact with elements in the environment. It is a sign of openness or alertness. Interest indicates that we are willing and motivated to inquire into something new.</p>	
	<p>SURPRISE: Surprise is related to what we know as our "startle" reflex. Like interest, it relates to our readiness to attend to incoming information; however, it also has the function of "blearing the decks" so we can attend to whatever is surprising.</p>	
	<p>CONTEMPT: The purpose of this emotional state and the facial expression related to it is to communicate that another is considered inferior; it is used to place another person in a position to feel shame or fear.</p>	
	<p>DISGUST: We respond with disgust when we deem something to be distasteful or noxious. This response could be the result of substance smelled or held in the mouth that produces revulsion or it could be a response to ideas or images which we consider repugnant.</p>	
		
		<p>SHAME: Shame is a particularly powerful emotion that quickly emerges whenever we feel any sense of personal weakness or defectiveness.</p>
		<p>FEAR: People experience fear in the face of specific, sudden, and concrete threat of physical harm. When there is fear, the fearful person can name the feared source of the stimulus; there is also a strong motivation to retreat or escape from the feared object.</p>
		<p>ANGER: We feel anger when we believe someone has deliberately committed an offense, with demeaning or malevolent intentions, against ourselves or our family and friends. Anger is motivating because it carries a desire to change or destroy the source of the anger.</p>
		<p>DISTRESS: Distress is a call for help. In the young, distress is always linked with crying. Adults experiencing distress may "feel like crying"; distress presents an expression that says "please help me."</p>
		<p>SADNESS: Sadness is an emotional state usually linked to loss. It reflects a sense of helplessness and resignation toward the loss.</p>
		<p>ANXIETY: A unique emotion, anxiety is the result of fear but, rather than having a specific source of that fear, anxiety has an unknown or undefined cause. Essentially, the person who feels anxiety senses something is wrong but is unable to identify the precise source of the threat.</p>

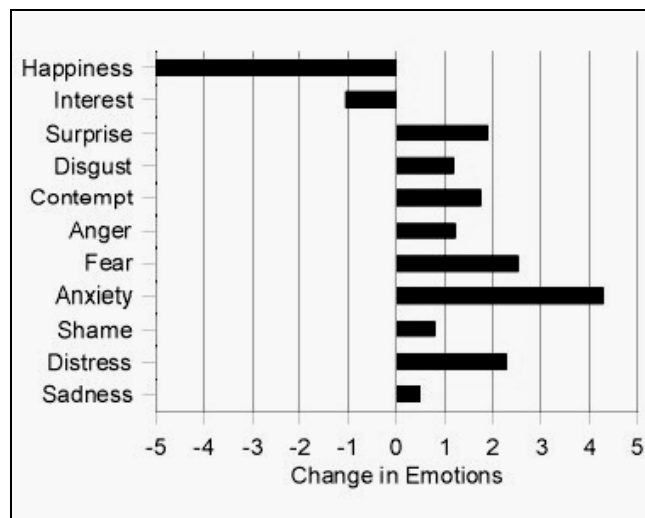
Emotional Responses and Coping

Besides the fact that we sense a blend of basic emotions, another fundamental attribute of emotions is that they are constantly changing. Referring again to the piano keyboard analogy, the combination of emotions we feel can change in an instant just as different cords can be played in any order and at any tempo. From moment to moment we can feel *anger* then *fear*, *shame* then *contempt*.

These changes in emotions are the result of *what we are thinking* and *how we are feeling physically* at any given moment. The recent terrorist events strike at some of the most fundamental beliefs we hold and they threaten us individually and directly. When we think about the threats that they represent we sense some degree of *fear*. When we think about those responsible for these acts we feel mostly *contempt*. When we think about eliminating those who threaten us we feel mostly *anger*. While all of these reactions are appropriate, we can become emotionally exhausted as our minds work through the many and varied thoughts and conversations we have about these issues. To make matters worse, the more unpleasant emotions such as anxiety, fear, and shame naturally become stronger with physical exhaustion toward the end of the day.

A specific example of how one's emotions can change immediately and dramatically is provided by the following description of a real event. Randall, a 33-year old executive, was concluding a weeklong business trip to Canada when the World Trade Centers and the Pentagon were struck. Two days later, on Saturday morning, September 15th, he had boarded a flight in Toronto for the trip home to San Antonio, Texas. At 10:30 AM he was seated on the plane at the gate in Toronto awaiting departure. In an instant four Royal Canadian Police entered the plane, two thundering down the aisle from the front and two from the back, with machine guns and pistols drawn. They violently confronted, handcuffed and arrested a Middle-Eastern man sitting just four rows behind him. A few days later we targeted this event and measured Randall's emotional response to it. Figure 2 provides the results of that assessment.

Figure 2: Emotional Response to a Selected Event



Randall response is instructive. Happiness, the sense that one is making reasonable progress toward what one desires, instantly disappeared and was replaced by anxiety because he didn't know what was going to happen. Fear emerged in response to the event and the emotion of distress, which is a call for help, increased. Note also the surprise associated with this encounter and the increases in both contempt and anger. The increase in shame is likely associated with a feeling of guilt Randall felt over having placed himself in such a risky situation; he has a wife and two kids. Randall's emotional response was the result of being placed in entirely unexpected and undesirable circumstances over which he had little information or control.

Our ability to cope is what saves us from the continuation of such emotional strain. We have all developed ways to work through the barrage of assaults we endure during the day. We have learned coping strategies that allow us to reason through conflicting issues or even temporarily disengage when things get too tough. Counselors typically classify coping strategies as either *emotion-focused*

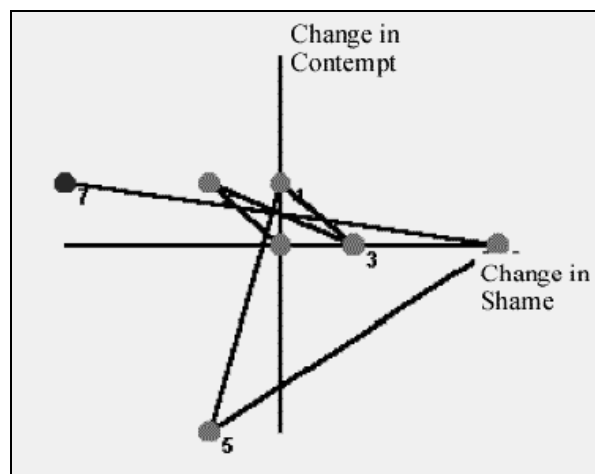
or *problem-focused*. Emotion-focused coping is an attempt to change how we *think* about a stressful issue. We attempt to change our perspective, which leads to different emotions. Problem-focused coping is an attempt to deal with matters by directly addressing and changing whatever it is that is bothersome. You cope by considering your alternatives and then taking action to change the reality you confront. The donations of blood and financial contributions subsequent to September 11, 2001 are examples of problem-focused coping behavior. Unfortunately, in the immediacy of disaster relief settings, these coping strategies are easily overwhelmed as individuals are made to endure more anger, contempt, anxiety and fear than they are adapted to handle. Typically, there is too little time to process emotional distress, the coping process is subverted and the damage to the mental health of an individual emerges only later in the form of chronic Post Traumatic Stress Disorder.

Analyzing Emotional Dynamics

Our production and use of new photographs provided a reliable means of obtaining measures for each emotion, however, an appropriate method was needed to analyze the interactions of emotions and the dynamic changes in emotions which occur over time. Recent advances in applied nonlinear systems theory provided the appropriate concepts and tools.

Nonlinear science makes use of a concept called state space that describes the current dynamic state of a system over time. From this view, an individual's emotions are seen as a collection of discrete elements changing and interacting with each other. In this application a "state" is defined as the dynamic combination of two or more emotions. For example, an increase in Contempt combined with a decrease in Shame constitutes a unique state. Similarly, a decrease in Contempt combined with an increase in Shame constitutes another entirely unique state. When expanded to include the dynamics of all eleven emotions one can see that the myriad of states rapidly increases. Though complex, the states are mutually exclusive and exhaustively finite. State space provides a means of defining the unique dynamic condition of the system at any moment and the sequence of dynamic conditions through which the system has passed [10].

Figure 3: A Phase Plane Depicting the Interaction of Emotions



The phase plane presented in Figure 3 is the most basic tool in the non-linear toolbox. It is used to reveal the dynamic behavior of a system over time. This image, relating changes in Contempt to changes in Shame, plots the attribution one applies to a particular event. Because Contempt is directed toward others and Shame is directed to the self, the dynamics of these two emotions

provides an important psychological insight; it reveals the way in which an individual assigns blame.

Each axis on the phase plane measures changes in one of the two measures. The origin is coordinate 0,0 representing no change; positions to the right or upward represent increases, those to the left and downward represent decreases. Any point on the phase plane represents the state of the system at a moment in time describing precisely how the relationship between the two measures is changing. The trajectory on the phase plane is produced by plotting points at the intersections of the changes in each of the two measures over time and then tracing a line from each point to the next. The dynamic behavior of the two measures in interaction is revealed by the changing position of the trajectory on the phase plane [11].

This approach provides the necessary qualities to appropriately analyze the changes in emotions. It captures the incrementally evolving nature of emotions in that each new measure is compared to the prior measure of that same emotion for the same individual. This self-referencing approach is essential if one expects to assess a single individual. It is a fundamentally different approach than norm-based methods that apply statistics to compare an individual to a sample from a given population. By plotting the changes in two dynamic measures, the phase plane reveals an underlying interaction that is not otherwise apparent.

Phase planes are not just another way to present data. They provide a precise description of the system at each moment in time and they can be related to specific intervention strategies. For example, any point in Quadrant 2 (the upper left quadrant) reflects an *increase* in Contempt and a decrease in Shame by some specific amount. This combination of dynamic changes provides sufficient information to permit *interpretations* to be attached to the phase plane. An appropriate interpretation for Quadrant 2 may be “the individual is assigning more blame to others and less to the self.”

Because interpretations can be drawn directly from positions on the phase plane, it follows that recommended *prescriptions for action* could also be attached to positions on the phase plane. Doing so does require that the context of the analysis be known. For example, if Contempt increased and Shame declined for a traumatized individual, that unique state may relate to a prescription stating “Confirm the appropriate assignment of blame to others and reinforce the realization that the individual should not blame the self.” This prescribed action and the interpretation on which it is based flow directly from the changes in the underlying data. The phase plane, therefore, provides a means for converting the complex dynamics of the emotions into descriptive interpretations and recommendations for action. The method allows for the development of an extensive knowledge base that provides precise professional insight in real time. This approach, which constitutes a dynamic form of clinical pathway construction, has been successfully applied in other medical rehabilitation settings [12].

Applications

To make practical use of these concepts and methods we developed a unique software program that performs both the measurement and the analysis of emotions. With the financial assistance of the San Antonio Area Foundation we developed a demographically diverse set of validated photographs to be used to measure emotions. Then, guided by the literature and the insight of the certified counselors on this project, we developed three knowledge bases to address the unique conditions presented by trauma victims, crisis intervention volunteers, and trauma counselors. Each of these separate knowledge bases is capable of producing reports tailored to its designated audience. Each one can be used in a variety of ways from simple intake assessment to monitoring and psycho-education. The software program, the assessment images and the various knowledge

bases were ultimately combined onto a single compact disk that will run on any modern Windows-based computer.

The Assessment Process

It is important to recognize that the Emogram assessment constitutes a psychoanalytic instrument and is therefore governed by the rules of conduct and ethics imposed on mental health professionals. In general, those rules dictate that any licensed professional administering a psychoanalytic instrument must be trained on that instrument or is subject to ethics violations. Our experience with Emogram has also established that it is essential that it be administered by a licensed counselor trained on the system or, at the minimum, by a counselor trained on the system and supervised by a licensed mental health professional. Additionally, a consent agreement is obtained from the client. These standards have been established because the measurement and subsequent feedback of measures of emotions can solicit candid and open responses of a personal nature from the client. The administrator must, therefore, be competent enough to address such issues productively.

The assessment process begins by entering an identifying name or number into the program. The administrator or client then selects one of the five presenters incorporated into the system. These presenters are (1) an Anglo female, (2) a Hispanic female, (3) an African-American female, (4) an Anglo male and (5) an African-American male. In general demographic matches are made with the client although there are specific exceptions to this practice.

The client is then instructed that there will be a presentation of thirty-three facial photographs depicting various emotions. The client is not to analyze the photographs cognitively, but rather, to simply answer the following question: "To what extent do you feel the way the individual in the photograph feels?" The client is presented with a data entry screen as shown in Figure 4 and responds by clicking on any one of the response bars that range from "Very Different" to "Very Similar."

Figure 4: The Emogram Data Entry Screen



Each time a response is entered a new photograph appears on the screen depicting another emotion. There are three photographs for each emotion that differ only in degree. An important aspect of this assessment process is that it does not rely on the client knowing the names of the emotions or having any prior instruction about emotions. The response is essentially guttural rather than

cognitive. When a response has been entered for each of the thirty-three photographs the system combines the scores for each emotion mathematically to derive a specific score for each emotion.

The Reports

Assessments can be made at anytime. After the initial assessment a baseline report is produced which simply identifies the strength of each emotion on Likert-type scales ranging from one through six. Subsequent assessments produce Progress Reports that include the analysis and insight from our certified counselors. The reports may also contain special “Cautions” and “Alerts” if the system detects problematic transitions in the client’s emotional profile. The report also provides an Overall Emotional Quality Score (E-Quality) that is scaled from +100 to -100. A sample report is provided in Figure 5.

Figure 5: An Emogram Report

<p>PROGRESS REPORT</p> <p>Individual: #4345 Knowledge Base: KBASE3 Image Series: F1HIS Assessed: 4/6/02 6:35 PM Previous Report: 4/5/02 5:26 PM</p> <p>Here is an analysis of the assessment data. Consider the specified target material and the purpose of the assessment when interpreting these results.</p> <p>OVERVIEW: Overall Emotional Quality decreased. The Overall Emotional Quality Score has declined to -28.09. Caution: The subject's Emotional Quality score is particularly low; the subject may not be in a safe emotional state.</p> <p>ORIENTATION: This component of the emotional state refers to openness and willingness to attend to information in the environment. It examines the changes in interest and surprise.</p> <p>Surprise has increased to 3.11; interest has declined from 3.94 to 2.23. The subject's openness to new insight and information has increased. CONSIDER: Using this as an opportunity to explore new perspectives on difficult material.</p> <p>APPRAISAL: This section examines the way in which a subject assigns blame for negative emotions. It reflects changes in shame (blaming self) and contempt (blaming others).</p> <p>The subject is assigning more blame to others than in the prior report while self-blame remains the same (the contempt score has increased from 2 to 4.47, the shame score remains constant at 2). CONSIDER: (1) Using this condition as a therapeutic opportunity to discuss responsibility and the appropriateness of blaming others for current emotions and (2) assessing the subject's potential for acting out anger on others.</p> <p>COPING STRATEGY: This component refers to the subject's response tendencies. It addresses the propensity to approach (anger) or retreat (fear) in relation to the target material.</p> <p>The subject is currently both more angry and more fearful than in the prior report. The anger score has increased from 2.29 to 5 and the fear score has increased from 1 to 2.52. The subject may be experiencing mixed feelings in interactions with others and may be experiencing helplessness regarding target material. CONSIDER: (1) Identifying and processing the threat that is soliciting the fear response, (2) helping the subject identify the sources of fear and anger and regain control where appropriate, and (3) assisting the subject in expressing anger in safe and appropriate ways.</p> <p>ALERT: The subject's Emotional Quality score has declined significantly since the previous assessment. The subject has reported an Emotional Quality Score below -20; it is currently -28.09. Assess the client's safety. Consider seeking counsel regarding this subject.</p>
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Each report is unique in that its content is constructed from the myriad of possible state spaces defined by the eleven interacting emotions. These reports also vary in content depending on the specific application. For example, reports relating to trauma victims are directed toward the counselor and contain discussions and suggestions appropriate for a trained counselor to assist in intervention. Reports relating to counselors contain very specific coping strategies that help the counselor prevent “counselor burnout.” Those reports used to monitor volunteers and other crisis workers are phrased in language that is appropriate for both the supervising counselor and the subject.

Reports are produced instantly after each assessment and retained so that the chronological history of the individual can be referenced at any time. Each report relates specifically to the period of time since the previous assessment. Periodic assessments, therefore, provide a series of reports that reveal the continuously evolving mental health of the individual. Because the reports are based on subtle changes in the various emotions they are able to readily detect changes that call for intervention. Put simply, the reports identify changes that, if continued, would result in a deterioration of the emotional state. Editing and note-taking features are included in the system to further simplify documentation requirements.

Editions

The need to address volunteers, counselors and victims differently resulted in the development of three different editions representing the different knowledge bases. In all cases the assessment process is the same, however, because of differences in the context of the assessment and the characteristics of the clients, the reports differs greatly. All three of these editions are incorporated onto a single compact disk and can be used interchangeably on the same computer. In this way a single counselor can use the system to monitor volunteers, perform intake assessment and counseling with trauma victims and monitor his or her own response to the demands of the job.

The volunteer edition is specifically designed to support agencies placing volunteers in potentially stressful situations. Volunteer monitoring is typically required by professional and ethical codes of conduct. By administering Emogram tests at the beginning of the assignment and periodically throughout the assignment it is possible to reduce the risks to both the volunteer and the clients they serve. Our experience using the system with volunteers at a detention facility suggests that it definitely aids in debriefing the volunteer after assignment thereby reducing stress and improving the volunteer’s coping ability. It may also reduce the turnover rate and absenteeism of volunteers. An additional benefit with volunteers is that it provides an enjoyable check-in, checkout system that is both efficient and time-stamped.

The counselor burnout edition is designed to assess changes in emotion and to provide suggestions aimed at improving counseling professionals' abilities to meet the demands of emotionally taxing work, thus preventing possible burnout. Grounded in the work of major burnout theorists, this edition addresses burnout issues at the individual level by promoting awareness of stress producing situations, providing guidance for appropriate appraisal, and suggesting possible coping strategies for dealing with negative affect. Designed for counselors assumed to possess adequate coping skills, it detects early signs of job stress and provides suggestions to help counselors self-manage their emotions. Targeted emotions are assessed and emotional changes tracked in the context of the known effects of vicarious trauma and burnout. Transitions toward burnout manifest themselves as changes in orientation (surprise and interest), congruence (happiness), incongruence (anger plus contempt, disgust, shame, fear, and distress), internal blame tendencies (fear, shame, and distress), and external blame tendencies (disgust and contempt). By promoting behavior that includes engagement, change, and healthy coping skills, this edition directs counselors to manage stress and take control of their emotional lives.

The trauma edition is based on specific assumptions about the clinical population relating to the cognitive and social-interpersonal effects of trauma. These include: irrational self-blame for the trauma, a sense of helplessness and incompetence, hyper-vigilance often accompanied by inaccurate interpretation of emotional expressions and other related disorders of affect modulation, regulation, and attachment. Because of these assumptions, this edition incorporates interpretations of emotional dynamics and prescriptive comments that are extremely sensitive to issues of client safety and is most suitable for clinical users. Traumatic events have extremely powerful influences in both the cognitive and emotional development and they powerfully and negatively impact adolescents and adults with otherwise normal developmental patterns. The effects of traumatic exposure can be drastic, debilitating, and dependent on the complex interrelationships between the nature of the traumatic event and the resilience of the individual. Our experience using this edition in a large trauma treatment facility indicates that, when used as an intake assessment tool, it can greatly reduce the time required to begin effective treatment. Used as a pre-session and post-session assessment tool, it can measure the effectiveness of counselor interventions.

Training and Deployment

Training is provided in sessions usually organized by counseling and intervention agencies. The length of training varies from four hours to twelve hours depending upon which versions are addressed. Volunteer training is typically only four hours, the volunteer and counselor burnout editions can be taught in a one-day session, an additional four hours of “hands-on” training is required for those planning to use the trauma edition.

Distributing compact disks that contain the software and the relevant editions provides deployment to those counselors trained on the system. Certain features in the program make it simple to transmit reports via e-mail to counseling supervisors not on location or to share entire data sets with other counselors. Confidentiality is maintained by using either unique identification numbers or pseudonyms for clients while security over the system is maintained by either password protection or by off-loading and securing data files.

The Emogram system has been deployed to crisis intervention centers, detention centers and to more than 60 schools in the southwest. Its applications have varied from intake assessment of juvenile criminals as young as 14 years of age to use as a treatment tool for PTSD clients and individuals with multiple-personality disorder. Its primary benefits center around its ease-of-use and the accurate insight provided in the reports. Other valuable features cited by users are the fact that it is self-scoring and that the reports accomplish a major part of session documentation requirements.

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Author Biographies

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