

Measures of Individual Distress

Individual distress, like organizational stressors, can be measured with objective or subjective techniques. The discussion of individual consequences in Chapter 4 of *Preventive Stress Management in Organizations, Second Edition*, provides a good indication of the range of behavioral, psychological, and medical factors which might be evaluated in the measurement of individual distress. This document will focus on some of the standardized measures of individual distress. Unfortunately, these measures do not have the specificity and comprehensiveness that individual psychological testing or a complete medical examination offer. They are, however, more feasible measures in the context of most organizations.

Physiological Measures

There are literally dozens of physiological parameters which have been used in the study of stress. These range from obvious and easily obtained measures such as heart rate to obscure and poorly understood parameters such as newly discovered hormones and hormone-like substances. Physiological measures raise several issues for the executive, manager, or organization consultant which are different from the issues faced with questionnaire or interview material.

First, there is the question of interpretation of physiological data. The validity of medical tests is determined both by the *sensitivity* and *specificity* of the test. Sensitivity and specificity are complementary measures which together indicate how well a test identifies people with a given condition (sensitivity) and separates them from people without the condition (specificity).

As tests of organizational stress, physiological measures have potential problems with both specificity and sensitivity. For example, specificity of blood or urinary measures of catecholamines is limited by the fact that there are many factors other than stress which influence catecholamine assays. These factors include severe illness, use of one or more of a wide variety of prescription and nonprescription drugs, and ingestion of tea, coffee, or one of several other drinks or foods. Similarly, heart rate can be influenced by a wide range of factors in addition to stress. Other measures may be limited by their lack of sensitivity. Cholesterol levels, for example, tend to change slowly and, if used as an objective measure of stress, might remain relatively constant despite the occurrence of some highly stressful events.

A second factor to consider in the use of physiological measures is feasibility—both in terms of cost and convenience. Pulse and blood pressure are easily determined. Company nurses can teach others to take pulses and blood pressures in a matter of minutes, and a minimum of equipment is required. Measurement of muscle tension or galvanic skin response (GSR) is also quite easy to teach nonmedical personnel, but both require special, sometimes costly equipment. Serum hormonal measures not only require someone skilled at blood drawing but can also be quite costly to process. Finally, in an era of heightened awareness regarding such issues as employee drug testing and the confidentiality of medical information (e.g., HIV status), employees may be less than eager to participate in certain stress diagnostic procedures.

The third issue of importance in evaluating physiological measures of stress is applicability. How will the results be used? For instance, demonstrating that cholesterol levels increase in accountants near tax time does not help to determine what it is about tax time that is stressful or what can be done about it. Similarly, demonstrating that urinary catecholamines rise during public speaking does not provide much information about the reasons for the rise or the impact of public speaking on the individual who is speaking.

Some physiological measures, however, do have direct application to stress management. Blood pressure control, for example, is a valid objective of stress management as well as a measure of stress. Equipment used to assess muscle tension can also be used in biofeedback techniques discussed in Chapter 11.

In summary, the major advantage of physiological measures is their objectivity. Disadvantages include the lack of sensitivity and specificity of many of the measures, the inconvenience of some measures, employee concerns regarding the nature of the test and the confidentiality of the results, and the high individual cost which is sometimes involved, which is sometimes involved. Physiological measures can be useful when objective measures are needed for preintervention and postintervention assessments to evaluate a stress reduction program or when objective measures are desired for comparing different occupational groups or corporate divisions. Finally, some physiological parameters represent therapeutic targets in themselves.

Blood pressure and muscle tension are two such measures. Further information on the measures can be found in Hurrell, Murphy, Sauter and Cooper, (1988).

Behavioral Measures

The behavioral and psychological consequences of individual distress suggest several possible measures of individual stress. Such measures might include the number of cigarettes smoked (possibly divided between on-the-job and at-home smoking), self-report of alcohol consumption and other drug use, recent weight change, sleeping pattern, and number and severity of accidents, both work-related and non-work-related. Some specific measures which have been used in general studies of health status include:

- Number of days per year lost from work
- Number of days per year of illness-related restricted activity
- Number of days per year of bed-bound disability

Although there are no standard values for absenteeism and disability, the Centers for Disease, Control, and Prevention (CDC) have developed a Disability and Health Data System. With this system users customize the way that they view disability and health data across the country (CDC, 2012).

Daily Log of Stress-Related Symptoms

One of the most detailed and individualized instruments for assessing individual distress is the Daily Log of Stress-Related Symptoms (Manuso, 1980). The log is intended as a self-assessment tool for use in a comprehensive stress management workshop. It is designed to help participants identify symptoms which have causes other than stress, to discover their own unique patterns of stress response, and to establish goals for stress management.

Using a symptom checklist, participants record the development of any symptoms by putting a dot on the log over the time of day at which the symptom began. The symptom is rated by its intensity (vertical axis of the log) and by the extent to which it interferes with ongoing activities (number in parentheses next to each dot). Interference with ongoing activities is rated from 1, no interference, to 100, total incapacity. The log also has space to record number of hours at work, percent of time interacting with others, use of medications, daily accomplishments, avoidance strategies, use of alcoholic beverages, use of relaxation and other stress-control techniques, and cigarette consumption. The daily log can be scored to establish one's relative stress level. It takes about 20 minutes a day to complete.

The log's degree of detail limits its use as a screening or group assessment instrument. However, it is the amount of detail and individualization inherent in the daily log which makes it a valuable tool in intensive stress management workshops.

Found in Manuso, J. S. J. (1980). *Manage your stress. CRM multimedia module* (Facilitator's guide, film or videotape, audiocassette, exercise books). Del Mar, CA: McGraw-Hill Films.

SCL-90-R

Derogatis and Savitz (1999) have developed a 90-item, multidimensional self-report symptom inventory which measures symptomatic psychological distress. The measure evolved most directly from the Hopkins Symptom Checklist (Derogatis, 2000). The SCL-90-R results in three global measures of distress as well as nine primary symptom dimensions. These primary symptom dimensions are (a) somatization, (b) obsessive-compulsive, (c) interpersonal sensitivity, (d) depression, (e) anxiety, (f) hostility, (g) phobic anxiety, (h) paranoid ideation, and (i) psychoticism. Each item is rated on a five-point scale as to the degree of distress which it causes. The internal consistency of the nine symptom dimensions ranges from 0.77 to 0.90 and the test–retest reliability of the dimensions ranges from 0.78 to 0.90. Derogatis has established some normative data for psychiatric outpatients, psychiatric inpatients, and nonpatient populations.

The SCL-90-R has been used as an evaluation tool in examining the effects of meditation and other relaxation techniques for the purpose of stress reduction. It has also been used with cancer patients to establish clinical levels of psychological symptoms. Another advantage of the SCL-90-R is that it is available in over 2 dozen languages, and it has been used extensively worldwide (Derogatis and Savitz, 1999).

Available from [Pearson Assessments](#).

Approximate completion time: 15 min

Maslach Burnout Inventory

Maslach has developed a 22-item measure of burnout which assesses three aspects of the burnout experience (Maslach, Jackson, & Leiter, 1997). These three aspects of burnout are incorporated in the three subscales found in the overall measure. These subscales are emotional exhaustion, depersonalization, and lack of personal accomplishment. This three factor model has been validated over other two and one factor models across a wide variety of occupations (Baker, Demerouti, and Schaufeli, 2002). While burnout is a stress-related experience most commonly found in human-service professions, anyone under stress, including business executives, may be subject to it (H. Levinson, 2006). The Maslach measure of this syndrome normally takes less than thirty minutes to complete and is easily scored using the scoring key. It has been administered to a variety of occupational groups, including police officers, nurses, agency administrators, teachers, counselors, social workers, probation officers, mental health workers, physicians, psychologists, and psychiatrists (Maslach & Jackson, 1981a; 1981b; Maslach, Jackson, & Leiter, 1997). This instrument has very good evidence reliability, stability and validity (Maslach & Jackson, 1981a; Corcoran, 1995).

Available from [Mind Garden](#).

Approximate completion time: 15 min

State-Trait Anxiety Inventory and State-Trait Anger Expression Inventory-2

Stress and anxiety are not the same. Stress is often accompanied by the experience of tension and anxiety, although not always. However, it may be useful and/or appropriate to develop measures of anxiety in conducting a stress diagnosis individually or organizationally. Spielberger, Gorsuch, and Lushere (1970) have developed a self-administered questionnaire for this purpose. It was developed for normal individuals, although it has also been used in clinical settings and with emotionally disturbed individuals. It may be completed in less than 10 minutes by normal individuals, although it may take up to 20 minutes for emotionally disturbed individuals to complete the instrument (Spielberger, 2010).

The instrument will assess both state (i.e., transitional) and trait (i.e., stable individual proneness for anxiety) anxiety. The reliability and validity data available on the state-trait anxiety scale suggest that it is a psychometrically sound measure. In addition, norms are established for some groups, such as students.

Recent research suggesting that anger and hostility are related to heart disease has increased attention to anger and hostility assessment (Forgays, Forgays, and Spielberger, 1997). The State-Trait Anger Expression Inventory-2 (STAXI-2) is a psychometrically developed measure used to evaluate different facets of anger (Forgays et al., 1997). The STAXI-2 was developed by Spielberger in 1999.

State-Trait Anxiety Inventory available from [Mind Garden](#).

Approximate completion time: 10–20 min

State-Trait Anger Expression Inventory available from [Mind Garden](#).

Approximate completion time: 30 min

Profile of Mood States (POMS)

The POMS is a 65-item adjective checklist that reflects measures of six primary mood states (McNair, Lorr, & Droppleman, 1971). The mood dimensions (derived through factor analysis) are labeled tension-anxiety, depression-dejection, confusion, anger-hostility, vigor, and fatigue. Each item of the POMS is scaled on a five-point scale from not at all to extremely; the measurement context is “the past week including today.” The scale takes approximately 10 to 15 minutes to complete. The POMS is psychometrically well constructed and has repeatedly proven itself to be sensitive to both work-related and non-work related stressors. There is also a shortened form of the Profile of Mood States. The number of items was reduced from 65 to 37, and the correlation between the two scales have been found to be as high as .95 (Schacham, 1983). These scales are still widely used today in the medical and health psychology fields as well as others (Krasner et al., 2009; Smyth, Hockemeyer, & Tulloch, 2008).

Available from [Multi-Health System Inc.](#)

Approximate completion time: 10–15 min

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