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Psychological Tests

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Psychological factors play a significant role in many nutritional abnormalities. These factors include mood (depression, anger, anxiety), emotional eating, distorted body image, low self-esteem, poor self-efficacy, dietary restraint, stress, susceptibility to external cues to eat, locus of control, and stage of change (see Table 39.1). They contribute to a number of nutritional abnormalities including obesity, anorexia nervosa, bulimia nervosa, and binge eating disorder. In this section we discuss instruments that assess psychological factors relevant to nutritional goals and concerns.

Obesity

Obesity is epidemic in our modern society.[1] In the U.S. from 1960 to 1994 the prevalence of obesity has increased from 10 to 20% in men, and from 15 to 25% in women.[2] The abundance of good tasting, energy-dense food is a significant factor fueling this increasing prevalence of obesity. Aromas, advertisements, and social gatherings are some of the environmental cues that trigger eating behavior. An individual's susceptibility to external cues to eat, perceptions of ability to control behavior, and feelings of self-efficacy and self-esteem are factors that interact with the environment to determine behavioral responses.

Despite awareness of the problem of obesity in the U.S., and the chronic and debilitating conditions related to it, many people do not attempt to change behaviors that contribute to the problem.[1] Of those who do attempt change, the majority fail to maintain their weight loss goals. Researchers have speculated as to why this is the case. One theory is that, in general, interventions do not match the way people change. This theory, known as the *Stages of Change* or the *Transtheoretical Model*,[3] posits that people move through various levels of readiness to change, from not interested (precontemplation), to thinking about it (contemplation), to planning to do it one day (preparation), to making concrete efforts to change (action), to maintaining successful change (maintenance). The criticism is that traditional interventions are overwhelmingly action-oriented and offer no help to individuals in the precontemplation and contemplation stages who might benefit from more

TABLE 39.1

Psychological Factors Contributing to Nutritional Abnormalities

Depression, anger, anxiety
Emotional eating
Distorted body image
Low self-esteem
Poor self-efficacy
Dietary restraint
Stress
Susceptibility to external cues to eat, locus of control
Stage of change

TABLE 39.2

Psychological Instruments and What They Measure

	Mood	Body Image	Self-Esteem	Self-Efficacy	Eating Disorders	Restricted Eating	Locus of Control	Stage of Change
RLCQ	X							
SCL90-R	X							
BECK	X							
FRS		X						
EDI2		X			X			
RSE			X					
ESES				X			X	
BES				X	X			
EDE					X			
EI						X		
DEBQ						X	X	
DBS							X	
SOCA								X
URICA								X

RLCQ — Recent Life Change Questionnaire; SCL90-R — System Checklist 90 — Revised; BECK — Beck Depression Inventory; FRS — Figure Rating Scale; EDI2 — Eating Disorders Inventory 2; RSE — Rosenberg Self-Esteem Scale; ESES — Eating Self-Efficacy Scale; BES — Binge Eating Scale; EDE — Eating Disorders Examination; EI — Eating Inventory; DEBQ — Dutch Eating Behavior Questionnaire; DBS — Diet Beliefs Scale; SOCA — Stages of Change Algorithm; URICA — University of Rhode Island Change Assessment Scale

consciousness-raising efforts. Some researchers suggest that this is a contributing factor to the high relapse rate in traditional weight loss programs.

The ability to measure psychological states and traits may facilitate the planning of treatment for disordered eating. We have identified instruments that measure these characteristics (Table 39.2) and describe each of them in this section. Each description explains what the instrument measures, how it measures it, why it is important, administration and scoring procedures, norms, psychometrics, and availability. Many of the instruments do not provide norms for obese populations; however, in light of the evidence indicating no significant differences in levels of psychopathology between obese and non-obese individuals, the lack of obesity-specific norms may not be a major problem.[4]

Eating Disorders

Anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED) are eating disorders described in the Diagnostic and Statistical Manual, 4th edition, (DSM-IV) published by the American Psychiatric Association (1994). Anorexia nervosa is marked by a failure to maintain a minimal healthy body weight and a fear of gaining weight. Bulimia

nervosa is characterized by the uncontrollable eating of unusually large amounts of food (binge eating) followed by compensatory behavior such as vomiting. Binge eating disorder was proposed as an eating disorder for inclusion in the DSM-IV. Although it was not accepted as a formal disorder, the DSM-IV included research criteria to encourage further investigation of the condition.[5] BED is characterized by recurrent episodes of eating unusually large amounts of food within discrete periods of time, which are associated with feelings of being out of control. Three of the following features must also be present to meet the DSM-IV criteria for BED: rapid eating; eating until uncomfortably full; eating when not physically hungry; and feelings of embarrassment, disgust, depression, and/or guilt. Additionally, the behavior must occur at least two days per week for a period of six months.[5]

These eating disorders are often comorbid with other psychological abnormalities. For example, the cardinal features of anorexia nervosa include fear of being out of control and distorted body image.[6] Comorbid major depression or dysthymia has been reported in 50 to 75% of anorexia nervosa patients.[7] According to Maxmen and Ward,[6] 75% of bulimics develop major depression. Increased rates of anxiety were reported in 43% of bulimics.[7] Restrained eating and emotional eating due to stress are believed to be related to binge eating disorder.[8] Large and unplanned changes in body weight are symptoms of depression.[5] Instruments assessing these eating disorders are also described in this section.

Mood

Recent Life Changes Questionnaire (RLCQ)

Overeating has been identified as a compensatory behavior used by some individuals to cope with stress.[9-11] Life events can be a major source of stress. Some individuals experiencing high amounts of stress in their lives find it particularly difficult to control their eating behavior. Rahe[12] reported that overweight women experienced more recent stress than normal controls. The Recent Life Changes Questionnaire (RLCQ)[13,14] estimates the amount of stress experienced by determining the number of significant events that have recently occurred in the person's life.

The RLCQ is a popular 74-item questionnaire that quantifies the occurrence of specific events in the areas of health, work, home/family, personal/social, and finance. It has been used to assess the relation between stress and general illness susceptibility.[13,14] For each event identified, the RLCQ asks the respondent to give a value on a 100-point scale representing an appraisal of the degree of stressfulness associated with the event. The values are added together for a subjective life change unit (SLCU) total. Normative values (i.e., weights or LCUs) are also available for these 74 items.[15]

Descriptions of the psychometric properties of the RLCQ are limited. Two studies address test-retest reliability. Using SLCU values (weights), Rahe[16] reported an alpha correlation of 0.90 for the RLCQ when given one week apart and 0.56 when given eight months apart. Pearson and Long[17] found the alpha reliability of the RLCQ using SLCU values to be 0.84 ($p<.001$) over a one-month interval. The RLCQ can be found in Rahe.[14]

Symptom Checklist 90-R (SCL90-R)

The Symptom Checklist 90-R (SCL90-R)[18] is a 90-item self-report instrument designed to assess current pathology along 9 dimensions: somatization, obsessive-compulsive, inter-

personal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychosis. The scales of particular interest to clinicians are anxiety, hostility, and depression because they measure characteristics that may be related to abnormal eating behaviors.[6] The items describe physical and psychological conditions, and subjects are asked to assess the degree to which the conditions have affected them over the past seven days. Responses are selected from a five-point Likert scale that ranges from "not at all" (0) to "extremely" (4). The subscale scores are determined by averaging the scores of the items comprising each subscale.

The SCL-90-R has extensive normative data for psychiatric and non-psychiatric populations, white and non-white subjects, men, women, and adolescents.[18] The subscales have good internal consistency with alpha coefficients ranging from .77 to .90.[19] Investigations yielded Pearson Product Moment Coefficients in the range from .78 to .90, which indicate good test-retest reliability.[19]

A weakness of the SCL90-R is a lack of evidence supporting the discriminant validity of the subscales. The test appears to have the ability to measure general distress; however, its ability to discriminate between types of distress is not supported. The SCL-90-R is available from National Computer Systems, Inc. in Minneapolis, Mn. Their email address is assessment@ncs.com.

Beck Depression Inventory (BDI)

The comorbidity of depression and eating disorders is well documented.[20,21] Depressive symptoms are more severe among obese subjects who also binge eat than among non-bingers.[22] Its assessment in people receiving treatment for these conditions is important because the depression may have a negative impact on program adherence.[23] Intervention outcome for depressed patients receiving treatment for eating-related disorders may be improved by treating the depression first.[24,25]

BDI[26] is a 21-item instrument commonly used to measure depression. The items explore changes in mood, activity level, self-concept, and feelings of self-worth. The BDI has been used with a broad array of subjects ranging from young adolescents through adults. It is easy to understand and takes only about 10 minutes to complete.

Each item offers a choice of four self-descriptive statements that range in severity from 0 to 3. The instrument is scored by summing the values of the individual items. The range of possible scores is from 0 to 63. Cutoff scores for interpretation of the instrument are: 0 to 9 normal; 10 to 18 mild to moderate depression; 19 to 29 moderate to severe depression; and 30 to 63 severe depression.[27] Individuals scoring above 16 should receive further screening.

The reliability of the BDI is good. The test-retest reliabilty has been consistently reported in the range of .60 to .84[27] in nonpsychiatric populations. Internal consistency is in the .73 to .92 range.[27] The BDI is available from The Psychological Corporation, San Antonio, Texas. Their email address is customer_service@harcourtbrace.com.

Body Image

Figure Rating Scale (FRS)

The FRS[28] is a popular instrument used to assess an individual's level of dissatisfaction with physical appearance. Dissatisfaction with aspects of physical appearance is very

common among people suffering with weight and eating problems. Indeed, it is part of the DSM-IV criteria for diagnosing anorexia and bulimia.[5]

The instrument consists of a set of nine figures of increasingly larger size. Administration is done in two parts. First, respondents are asked to select the figure that most closely resembles their current size. They are then asked to select the figure that most closely resembles their ideal size. The difference (discrepancy score) between selections represents their level of body dissatisfaction.

Despite its popularity, little reliability and validity data exist for this instrument. Measurement of internal consistency is not applicable with this type of scale. Two-week test-retest reliability was .82 for ideal size and .92 for current size in a sample of 34 men, and .71 for ideal size and .89 for current size in a sample of 58 women.[29] In a sample of 146 women, correlations between discrepancy scores and other measures of self-image were moderate to strong.[29] These results suggest that the FRS has adequate validity and good test-retest reliability. The scale appears in Stunkard, Sorenson, and Schlusinger.[28]

Eating Disorders Inventory — 2 (EDI2)

The EDI2[30] is a popular 91-item self-report instrument used to assess eating attitudes and behaviors along three subscales: drive for thinness, bulimia, and body dissatisfaction. Measurement of these factors is important because of their relation to serious nutrition-related conditions such as anorexia and bulimia.

The drive for thinness and the bulimia subscales assess attitudes and behaviors toward weight and eating, respectively. The body dissatisfaction scale is most related to body image. It assesses attitudes and behaviors toward the shapes of nine different body parts. Subjects indicate the degree to which they relate to statements by choosing from six possible choices ranging from "never" to "always." The three most pathological responses are scored 3, 2, and 1 in order of descending severity. The three least pathological responses are not scored. Scores are computed by summing all responses for each subscale.

Normative data are available for male and female college-age eating-disordered and non-eating-disordered subjects[31] as well as for adolescents. The body dissatisfaction subscale has been found reliable with children as young as eight years old.

In reports on internal consistency, alpha coefficients range from .69 to .93 for the three scales.[31] One-year test-retest reliability in a sample of non-disordered subjects ranged from .41 to .75.[32] Test-retest reliability after a three-week span was above .8 on all scales in a similar sample.[33] The EDI2 is available from Psychological Assessment Resources, Odessa, FL. Their email address is custserv@parinc.com.

Self-Esteem

Rosenberg Self-Esteem Scale (RSE)

The RSE[34] is a ten-item Likert scale that measures global self-esteem. This construct refers to a person's general feelings of self-worth. Low self-esteem is related to various eating disorders[35,36] and may confound efforts to correct dysfunctional eating behavior. Identifying and treating low self-esteem may improve outcome in the treatment of some eating disorders.[37]

The items are statements of self-perception. Respondents are presented with a choice of four responses ranging from "strongly agree" to "strongly disagree." The scale is scored by assigning a zero to low self-esteem responses and a one to high self-esteem responses. Individual item scores are summed to arrive at the scale score. A score of 10 indicates high self-esteem across all items.

The RSE is a mature instrument with norms available from many samples. However, several scoring approaches have been used, which sometimes makes comparisons tricky. For example, the aforementioned scoring method is suggested in the RSE available from the University of Maryland.[38] Descriptive statistics for a Guttman-scale version of the RSE are reported by Wylie.[39] In the Guttman-scale version, higher scores represent lower self-esteem and lower scores represent higher self-esteem. Conversely, Poston et al.[40] suggest that a scoring method resulting in scores ranging from 10 to 40 is the most widely used method. In this method, lower scores represent lower self-esteem and higher scores represent higher self-esteem.

The RSE has good internal consistency. Rosenberg[34] reported an alpha coefficient of .77 for a sample of 5024 high school juniors and seniors. In a survey of seven studies, Wylie reported alpha coefficients in the range from .72 to .87.[39] Two-week test-retest reliability for a sample of 28 college students was .85. With a sample of 990 Canadian high school students, test-retest correlation after a seventh-month interval was .63.[39]

The RSE is available free of charge for educational and research purposes. It can be downloaded directly from the University of Maryland website.[38] The University of Maryland website address (URL) for the scale is http://www.bsos.umd.edu/socy/rosenberg.htm.

Self-Efficacy

Eating Self-Efficacy Scale (ESES)

The ESES[41] is a self-report instrument designed to measure perceived ability to control eating behavior in 25 challenging situations. Perceived ability to control eating is evaluated along two subscales: control in socially acceptable situations and control when experiencing negative affect. For many people, today's environment is filled with opportunities and encouragement to consume large quantities of food, and this is especially challenging for those who eat in response to stress. Understanding a person's behavioral response in the presence of gastronomical opportunities and stress is important in the design of programs to normalize eating.

The ESES is a 25-item Likert scale that presents answers in a 7-point format. Ten of the items make up the social acceptability subscale and the other 15 make up the negative affect subscale. Subscale scores are computed by summing the scores of the associated items.

The instrument appears to have good internal consistency across subscales. Alpha coefficients for a sample of 484 female undergraduates were .85 for the negative affect subscale and .85 for the social acceptability subscale.[41] Seven-week test-retest reliability computed using a sample of 85 female undergraduates was .70.[41] The ESES appears in Glynn and Ruderman.[41]

Binge Eating Scale (BES)

The BES[42] is a 16-item scale designed to assess binge eating in obese subjects. It has also been used with non-obese populations. Eight items of the BES measure binge eating

behavior and the other eight measure associated feelings and thoughts. Each item consists of a cluster of self-statements. Respondents are asked to select the statement that most closely resembles their feelings. Responses are given different weights. The scale score is computed by summing weighted scores of the 16 items. The BES does not assess all of the information necessary to make a clinical diagnosis, but does measure behavioral features and cognitions associated with binge eating. The scale score has been interpreted as an indication of severity of binge eating.[43] The range of potential scores is 0 to 46. The higher the score, the more severe the binge eating. A score above 27 suggests severe binge eating.

The original work by Gormally et al.[42] suggests that the BES has adequate internal consistency. The scale discriminates well between people with bulimia nervosa (non-purging) and normal controls.[43] The BES has good test-retest reliability.[44] The BES, along with norms and instructions for scoring, appears in Gormally et al.[42]

Eating Disorders

Eating Disorders Examination (EDE)

The EDE[45] is a 62-item semistructured interview that measures the presence of disorders along four subscales: shape concern, weight concern, eating concern, and dietary restraint. Shape concern is related to general feelings of dissatisfaction and preoccupation with issues related to body image. Weight concern relates to the desire to lose weight and the importance given to it. The eating concern subscale measures fear and guilt about eating as well as any preoccupation with food. The dietary restraint scale attempts to quantify the degree to which the subject is guided by strict rules concerning type and quantity of food.

In addition to subscale items, the examination also has diagnostic items used in making a clinical diagnosis of eating disorders. The EDE was originally developed with individuals suffering from bulimia and anorexia nervosa. Hence, the examination is useful in determining specific areas of concern as well as in making formal clinical diagnosis of eating disorders. It is a mature instrument that underwent many revisions before publication.

The items used in calculating the four subscales are scored using a severity indicator expressed by a seven-point Likert scale value that ranges from zero to seven. These items are organized within a set of 23 higher-order categories such as pattern of eating, restraint, and fear of losing control. The 4 subscales are comprised of these 23 higher order items, with the restraint scale consisting of 5 items, the eating concern scale 5, the weight concern scale 5, and the shape concern scale 8. Subscale values are computed by summing the severity indicators of the related items and then dividing by the number of valid items. A global score, defined as the sum of the individual subscale scores divided by the number of valid subscales, may also be computed. The diagnostic items are scored in terms of frequency; e.g., frequency of binge days over the preceding two months.

The EDE has become the preferred method for the assessment of binge eating. It measures eating behavior using a 28-day recall method, although some questions extend out to the previous 3 and 6 months. Even when administered by trained interviewers, requiring subjects to recall what they ate more than 14 days prior is problematic.

The EDE is designed to be administered and scored by trained interviewers familiar with eating disorders. Administration may take one hour or more when properly administered. The authors of the instrument recommend that the interviewer first seek to develop a rapport with the subject. The belief is that good rapport and a feeling of trust facilitates disclosure and contributes in a positive way to the validity of the process.

The EDE appears to have satisfactory internal consistency. With a sample of 100 eating disordered patients and 42 controls, Cooper et al.[46] reported alpha coefficients ranging from .68 to .82 for the four subscales. Another study measuring internal consistency in a sample of 116 eating-disordered people reported alpha coefficients ranging from .68 to .78.[47] In studies of inter-rater reliability, very good correlations were reported across all items.[48,49] The EDE appears in Fairburn and Cooper.[45]

Restrained Eating

Eating Inventory (EI)

The EI,[50] also known as the Three-Factor Eating Questionnaire (TFEQ-R), is a 51-item self-report instrument that was developed as a measure of behavioral restraint in eating. Measuring restraint is important in the nutritional context of obesity because severe caloric restriction may lead to binge eating and increased metabolic efficiency, promoting weight gain.[51,52] Restriction also has nutritional sequelae such as vitamin deficiency and related morbidity.

The instrument is divided into two parts. The first part consists of 36 true/false questions. The second part has 14 questions presented in a four-level Likert format with choices ranging from *rarely* to *always,* plus an additional question that is a six-point rating of perceived self-restraint. Questions ask about cues to eat, ability to control eating, and willingness to diet. Respondents are asked to indicate how often each statement applies to their personal behavior patterns.

The questionnaire has three subscales:

1. Cognitive control of eating
2. Disinhibition
3. Susceptibility to hunger

The first subscale is related to one's awareness of, and ability to cognitively control or restrain, eating behavior. The second subscale refers to one's tendency to periodically lose control of eating, and the third relates to one's ability to resist cues to eat.

Scoring is described in the Eating Inventory Manual.[53] The control sub-scale has 21 questions, the disinhibition subscale has 16, and the hunger subscale has 14. Each question has a value of zero or one. Individual subscale scores are calculated by summing the scores of the related questions. Scores above 13, 11, and 10 are considered to be in the clinical range for the control, disinhibition, and hunger subscales, respectively.

The EI appears to have good construct validity. Food diaries and doubly-labeled water techniques have been used to assess the construct validity of the subscales. These studies have shown that high scores on the restraint scale are correlated in the hypothesized direction with low levels of caloric intake.[54,55]

The test has good internal consistency (>.80)[50] and test-retest reliability of .91 over 2 weeks.[56] The inventory appears in Stunkard and Messick (1985).[50] The inventory and related scoring materials are available from The Psychological Corporation, San Antonio, Texas. Their email address is customer_service@harcourtbrace.com.

Dutch Eating Behavior Questionnaire (DEBQ)

The DEBQ[57] is a 33-item self-report instrument that measures eating behavior along three subscales: restrained eating, emotional eating, and eating in response to external cues. The diagnostic capabilities of this instrument are useful for identifying overeating triggers when designing effective behavioral interventions, as well as for the identification of individuals with restrained eating patterns.

The instrument consists of questions related to eating behavior. Each item is presented in a five-point Likert response format with possible answers being: *never, seldom, sometimes, often,* and *very often*. Some of the items have an additional *not relevant* category. Subscale scores are computed by summing the scores of the related items and dividing by the number of items. Items scored as not relevant are omitted from the subscale score.

The restraint scale has received most of the research attention. Some norms are available for the restraint scale.[58] In general, they indicate that women have higher restraint scores than men, and that obese people have higher restraint scores than non-obese. Internal consistency of the scales was reported in the range from .80 to .95.[58] Two-week test-retest reliability of the restraint scale was .92.[56] The DEBQ is published in Van Strien et al.[57] and in Wardle.[59]

Locus of Control

Dieting Beliefs Scale (DBS)

The DBS[60] is a 16-item scale that measures weight-specific locus of control. Weight locus of control is a method for categorizing beliefs about factors influencing weight. Individuals with an internal locus of control have the expectancy that they can control, to some extent, their own weight. An external locus of control implies a more fatalistic orientation marked by beliefs that weight is determined by factors outside of personal control, e.g., genetics, environment, and/or social context.

The utility of this instrument is in the planning of treatment for obese and overweight people. Theoretically, individuals who believe they have control over factors determining their weight would be expected to have greater success in weight management programs. Identifying individuals with an external locus of control might be valuable in the process of treatment planning because it would cue the counselor to be particularly mindful to avoid interventions that might inadvertently reinforce pre-existing negative expectations. For example, very modest and frequently measured short term goals may be set for people with external loci of control in an effort to encourage them toward more positive expectations.

The 16 items are statements expressing either internal or external locus of control viewpoints: eight are internal and eight are external. The items are presented in a six-point Likert format ranging from *not at all descriptive of my beliefs* (1) to *very descriptive of my beliefs* (6). Eight of the items are reverse scored. The instrument is scored in the internal direction so that high scores indicate more of an internal locus of control.

The DBS has three subscales: internal control, uncontrolled factors, and environmental factors. The internal control subscale is related to the belief that individuals can control their weights through internal means such as willpower and effort. The uncontrolled factors subscale is associated with belief in the importance of factors such as genetics and fate. The environmental factors subscale is related to beliefs in the importance of context

and social setting. The subscales are scored by summing the scores of the individual items that make up the scale.

This scale demonstrates moderate internal consistency (Chronbach's alpha = .69) and good stability in a sample of undergraduate students.[60] The DBS is published in Stotland and Zuroff.[60]

Stage of Change

Stages of Change Algorithm (SOCA)

The SOCA[61] is a self-report instrument that assesses weight loss activities and intentions. The instrument is based on the transtheoretical model,[62] which conceptualizes change as a five-stage process. The stages are precontemplation, contemplation, planning, action, and maintenance. The purpose of the model is to maximize successful behavior change. The model posits that optimal intervention strategies vary according to a person's position in the change process. The purpose of the SOCA is to facilitate treatment planning by identifying the individual's position in the process. Persons in the precontemplation stage may not be at all concerned with their condition. These individuals might benefit from efforts to raise their awareness and to personalize their risk factors. People in the contemplation stage may be concerned but not yet decided on taking action. Such people might benefit from information regarding possible treatment alternatives. The preparation stage is characterized by people who have decided to do something about their condition but who have not yet begun. Encouragement to take action and to make a commitment to their health may help people in this stage to move to the action stage. Individuals who are ready to take action, or who have recently begun taking action, may benefit most from behavioral interventions such as goal setting and self-monitoring. Moral support and recognition might be best for people in the maintenance stage. The SOCA uses only four of the stages: precontemplation, contemplation, action, and maintenance. The model is of particular interest in the context of nutrition because of the refractory nature of dysfunctional eating behavior.

The SOCA consists of four yes/no items. The scoring is simple and the determination of the person's stage of change is quickly determined.[61] Data describing the reliability of the SOCA for weight loss are not available. The SOCA was found to be reliable when applied to similar problems. For example, in their investigation of the processes of change in smoking-related behavior, Prochaska et al. observed alpha coefficients ranging from .69 to .92, with the majority being above .80.[63] The SOCA is published in Rossi et al.[61]

University of Rhode Island Change Assessment Scale (URICA)

The URICA[64,65] is a 32-item Likert scale designed to measure a person's position in the four-stage change process: precontemplation, contemplation, action, and maintenance. It is similar in concept to the SOCA. It is different in that it has 28 more items, and each stage of change is implemented as a scale. The URICA produces a score for each scale. When viewed together, the scale scores can be interpreted as a profile. This approach is richer than the SOCA because it provides a framework that allows attitudes and behaviors characteristic of different stages of change to coexist in a single individual. Thus, the URICA may be able to detect gradual shifts from one stage to another. The URICA is

general in format and not specific to any particular problem area. It has been widely used across an array of problem areas, including a sample of 184 people in a weight control program.

Items are presented in a five-point format. Scale scores are computed by summing the responses to the scale items. Good internal consistency is indicated by numerous studies reporting alpha coefficients ranging from .69 to .89 across all scales.[64-66] The general version of the URICA is published in McConnaughy et al.[64] A version designed for use in a weight control context is available in Rossi et al.[61]

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