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Pers Soc Psychol Bull 2000; 26; 679
DOI: 10.1177/0146167200268004

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Individual Differences in Emotional Experience: Mapping Available Scales to Processes

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Increasing interest in individual differences related to emotion is evident in the recent appearance of a large number of self-report instruments designed to assess aspects of the feeling experience. In this article, the authors review a sample of 18 of these scales and report technical information on each (e.g., length, format, reliability, construct validity, and correlates). They propose that this domain of individual differences can be usefully structured into five conceptual categories, including measures of absorption, attention, clarity, intensity, and expression. The measures were administered to a sample of individuals, and the coherence of the proposed categories was examined through hierarchical cluster analyses. The results confirmed the proposed structure of this domain of individual difference measures. The authors argue for the usefulness of an individual differences approach to theory testing and specify some of the information-processing roles that might be played by the categories of individual differences found in the data.

A great deal of research has addressed questions about how mood and emotion influence behavior and cognition (see Clore, Schwarz, & Conway, 1994, for a review). For example, mood has been shown to influence evaluative judgments, including risk estimates (Johnson & Tversky, 1983), liking judgments (Forgas & Bower, 1987), and satisfaction with such things as consumer goods (Isen, Shalke, Clark, & Karp, 1978), selected activities (Carson & Adams, 1980), events in one's past (Clark & Teasdale, 1982), and life in general (Schwarz & Clore, 1983). Mood can also influence styles of information processing (Schwarz, 1990; Schwarz & Clore, 1996), positive mood being associated with a heuristic processing style and negative mood being associated with more systematic processing. For example, individuals in negative moods are more likely than those in positive moods to discriminate weak from strong persuasive arguments (Bless, Bohner, Schwarz, & Strack, 1990; Sinclair, Mark,

& Clore, 1994), to solve syllogisms correctly (Melton, 1995), and to estimate correlations accurately (Sinclair & Mark, 1992). Similarly, mild to moderate depression is often associated with more extensive social information search (see Weary, Marsh, Gleicher, & Edwards, 1993, for a review). In contrast, positive moods elicit more heuristic processing, including greater reliance on stereotypes (e.g., Bodenhausen, 1993), scripts (Bless, Clore, Gollisano, Rabel, & Schwarz, 1996), and initially presented information (Sinclair & Mark, 1992). In general, when making social judgments, positive affect is associated with greater use of categorical information, whereas negative affect is associated with greater use of individuating information (e.g., Bless, 1992; Edwards & Weary, 1993; Isbell, Clore, & Wyer, 1999).

The terms "affect," "emotion," "mood," and "feeling" are often used interchangeably. In our usage, affect is a broad category including any representation of value (goodness and badness), preferences and attitudes (affective dispositions), as well as emotions and moods (affective states). Emotions are affective states focused on the goodness or badness of specific objects (Ortony, Clore, & Collins, 1988), and moods are affective states without objects or for which the object is not salient or has become nonspecific (Clore, 1992). Affective feelings are pleasant and unpleasant experiential cues characteristic of moods and emotions. The scales reviewed in this

Authors' Note: This research was supported by grants from the National Science Foundation (No. SBR 96-01298) and the National Institute of Mental Health (No. MH 50074). The authors wish to acknowledge the guidance of Larry Hubert in the use of the cluster-analytic and related techniques and the advice from Bob Wyer regarding the article. Correspondence concerning this article should be addressed to Carol L. Gohm, Department of Psychology, University of Illinois, 603 E. Daniel St., Champaign, IL 61820; e-mail: cgothm@s.psych.uiuc.edu.

PSPB, Vol. 26 No. 6, June 2000 679-697

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article generally focus on affective feelings and reactions to them.

Much of the research on the effect of mood was conducted within an information-processing framework. Accordingly, various cognitive explanations have been proposed to explain the effects that have been found (e.g., the hedonic contingency hypothesis [Wegener & Petty, 1994], the affect-as-information hypothesis [Schwarz & Clore, 1983], spreading activation theory [Forgas & Bower, 1988], and the resource allocation model [Ellis & Ashbrook, 1988]). Tests of these explanations are usually experiments in which the effects of induced moods are examined on relevant cognitive variables. For example, the hedonic contingency hypothesis proposes that being in a happy mood motivates people to maintain their mood so that they should attend to the hedonic consequences of their actions more than do persons in sad or neutral moods. In tests of this hypothesis, Wegener, Petty, and Smith (1995) manipulated the pleasantness of persuasive messages and found that happy moods led to greater scrutiny of pleasant messages and less scrutiny of unpleasant ones. By contrast, research from the affect-as-information perspective often varies the apparent relevance of affective information by manipulating attributions. For instance, Schwarz and Clore (1983) undermined the apparent informational value of the affective experience of some participants by suggesting to them that their feelings were due to unusual attributes of the particular laboratory room in which they were working. When this was done, the usual mood effects on judgments of life satisfaction were eliminated, suggesting that these effects had been due to the information value of their feelings. Similar findings also have been reported by Keltner, Locke, and Audrain (1993) and Schwarz, Servay, and Kumpf (1985).

Although the use of experimental manipulations in these and other studies represents a powerful approach, an alternative method is also available for examining the psychological processes that underlie affective influences. In addition to manipulating relevant variables, investigators could find participants who differ naturally on similar dimensions. Underwood (1975) advocated this method of using individual differences as a crucible for theory testing. He argued that for any psychological mechanism or process, there should exist individual differences in the tendency or ability to engage that mechanism or process. Measures of the relevant individual difference variables can then be used to study the hypothesized mechanism or process. Indeed, Gasper and Clore (2000) both manipulate and measure attention to emotion and show similar effects. For investigators attempting to employ this method, the problem then becomes one of finding appropriate measures.

Using individual differences for theory testing is not limited to any one theoretical perspective. For example, to evaluate the hypothesis that particular phenomena are mediated by consciously experienced affect, assessments of the extent to which individuals pay attention to their emotions may be useful. Thus, the affect-as-information hypothesis (Schwarz & Clore, 1983, 1988) would predict an increase in affective influences on judgment with greater attention to emotion, whereas a nonconscious priming hypothesis (e.g., Winkielman, Zajonc, & Schwarz, 1997) does not require such a relation. Similarly, the hedonic contingency hypothesis (Wegener et al., 1995) maintains that the failure of positive mood to lead persons to elaborate persuasive arguments with which they disagree is motivated by a desire to maintain their good mood. It follows that individuals who pay less attention to their moods should be less motivated to avoid elaborating disagreeable arguments and hence should be less likely to show the usual mood effects on persuasion. In addition, theories regarding the effect of emotion on cognitive capacity (Ellis & Ashbrook, 1988) suggest that for persons scoring higher on a measure of emotional clarity, fewer cognitive resources may be required to understand their feelings. As a result, they should be better able to regulate their feelings than those scoring lower on emotional clarity.

In this article, we first describe some of the stages presumed to be involved when moods influence information processing. Then, we suggest the kinds of individual difference variables that should affect each of these stages. Next, we review some of the currently available measures that assess these and other individual differences in subjective experiences. Included in the review is information about the number of items, response format, reliability, gender differences, construct validity, and correlates. Finally, we report the results of cluster analyses that show how this domain of individual differences in emotional experience may be structured. In addition to its relevance to more abstract concerns about the structure of this self-report domain, the information is intended to be of practical use to investigators in choosing measures suitable for their purposes.

MODEL OF AFFECT AND INFORMATION PROCESSING: INDIVIDUAL DIFFERENCES AS A CRUCIBLE FOR THEORY TESTING

Our emotions presumably evolved as ways of coping with specific problems of survival that were common for mammals in general and humans in particular. As a consequence, individual differences should be minimal in many emotional situations. Indeed, an important function of emotion is presumably to wrest control of attention from less-pressing goals to ensure that processing resources are devoted to more urgent business (Ketelaar &

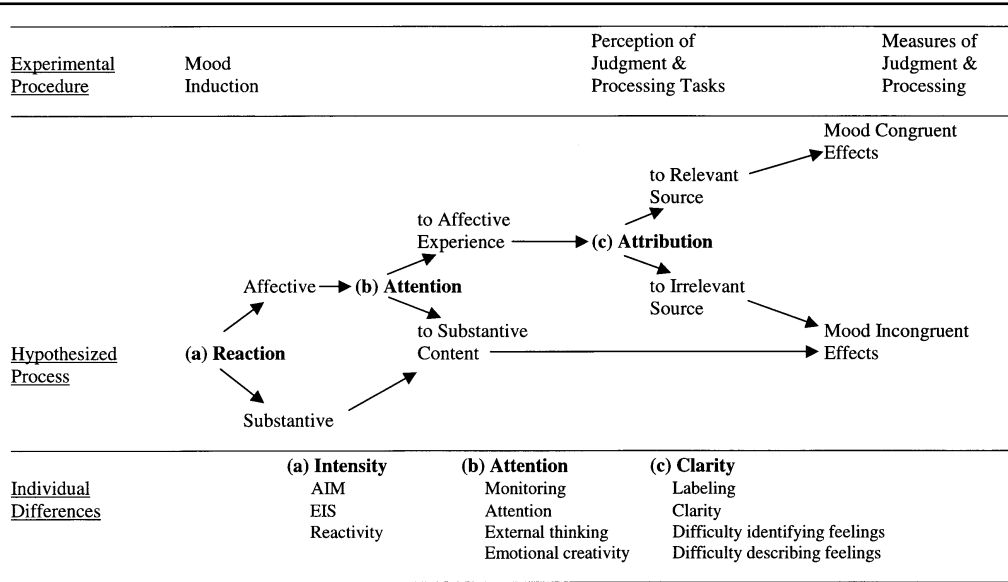


Figure 1 Model of processing stages and individual differences in mood studies.
 NOTE: AIM = Affect Intensity Measure, EIS = Emotional Intensity Scale.

Clore, 1997; Simon, 1967). However, despite the fact that emotions may have evolved to deal with important species-level concerns, most of our affective feelings are only metaphorically about survival. Mainly, our affective life is dominated by more mundane matters. As we move through the day, low-level affective cues are often available that neither signal urgency nor command attention (Clore, 1994). Individuals may differ in the extent to which they attend to and integrate these more subtle affective cues into their judgments and choices, and such differences may have significant consequences. For example, one might expect that individuals who are well practiced at attending to their affective inclinations are more assertive, whereas those without ready access to their feelings may be unaware of them until after the optimal moment for asserting their preference has slipped away.

Processing affective influences, both in the real world and in the laboratory, presumably involves several stages. A person must generate an affective experience, attend to it at some level, process the meaning and implications of the affect, and then incorporate it into their judgments or decisions. The influence of affect might be altered or inhibited at any one of these stages. For example, people may differ in their emotional reactivity even to important events. In laboratory situations, individuals may differ in their responsivity to mood-induction procedures so that some may not achieve the appropriate mood, precluding any effects for them on the dependent variable. And, even if the mood induction is completely successful, some participants may not routinely

focus on their feelings. Moreover, even among those who do actively attend to their feelings, some may avoid using them as information for their judgments and decisions and some may try to correct for possible affective influences.

Figure 1 depicts a general framework for some of the processing stages in mood studies and the points at which individual differences might play particularly important roles. Note that the figure is a description of processing stages, not a description of a sequence of measurement. The framework shows how individual differences might prove useful in studies of affect and information processing. A fuller model would, of course, include more processes, such as feedback loops and mood regulation. For example, attention could have an effect on clarity or clarity could influence monitoring. Furthermore, participants with more regulation ability might change their moods to a larger degree than would participants with lower abilities. The model is merely illustrative and is intentionally kept simple. These hypothesized processing stages include reactions (responding affectively to real-world events and to efforts in the laboratory to induce moods), attention (being aware of and valuing affective cues), attribution (being clear about what one's affect means in light of affect-eliciting stimuli), and finally, use of affect (integrating affective reactions into judgments and decisions or inhibiting affective influences). Although we refer to these aspects of affective information processing as stages, they may be neither easily discriminable nor occur in a fixed temporal order. For example, attention

to, attribution for, and use of affective reactions may all occur as embedded parts of a single perception of the goodness or badness of something. Or, on the basis of one's prior understanding of a situation, an attributional category may be in place before any affective reaction occurs.

As indicated in the top row of Figure 1, there are three stages through which participants proceed in a typical mood experiment. First, they undergo a mood-induction procedure; then, they may form a perception of the task that they are being asked to execute; and finally, they may complete a judgment, decision, or performance task of some kind. The center row of the figure indicates the processes hypothesized to underlie these stages. Participants must first react to the mood-induction procedure, a reaction that may be either affective or only substantive. If participants react affectively, they may attend to their feelings or they may attend to whatever substantive content is also activated. If participants attend to their affect, they may then attribute it as a reaction to the task or object of judgment or they may attribute it as a reaction to something irrelevant (e.g., the mood-induction procedure). Participants who experience their affect as a reaction to the task or object of judgment should show mood-congruent processing and judgments, but those who attribute their affect to something other than the task may show no influence of mood or they may show mood-incongruent processing or judgment.

The bottom row of the figure indicates some individual difference variables and some of the scales that measure them. They are assumed to reflect participants' tendencies to engage in the hypothesized processes. Each individual difference variable is indicated by a small letter *a*, *b*, or *c*. The location of its hypothesized influence is indicated in the center row by a matching letter. We predict that (a) experiencing emotions intensely should increase the tendency to react affectively as opposed to substantively to the mood-induction procedure, (b) attending to and valuing one's subjective feelings should increase the accessibility of the affective feelings as opposed to the substantive content of the mood-induction procedure, and (c) understanding one's feelings clearly (e.g., knowing the source of one's feelings) may increase the tendency to attribute affective reactions to their true source (e.g., the mood-induction procedure).

One way to study the hypothesized processes that are diagrammed in the center row is to examine the effects of the individual difference variables shown in the bottom row. For any psychological mechanism or process proposed by a theory, there may exist individual differences in the tendency or ability to engage this mechanism or process. Thus, a measure of the relevant individ-

ual difference variable may be used to test the proposed mechanism or process. By examining how such individual differences moderate the influence of affect, we should be able to test assumptions about the processes underlying the cognitive consequences of affect. In addition to theory testing, individual difference variables also can be used as covariates to suppress error variance and, consequently, to improve the power of experiments. They also can act as moderator variables, changing the relations between independent and dependent variables. However, to employ the individual difference method, one must first locate appropriate measures of the presumed individual differences. A goal of this article, therefore, is to assist researchers in finding such measures by reviewing existing scales that assess individual differences in emotional experience.

REVIEW OF SCALES

In the example presented in Figure 1, three individual difference variables are hypothesized to moderate specific processing stages, that is, intensity, attention, and clarity. Although these three variables are likely involved in information processing, we did not limit our search of the literature to these, but the search also was not exhaustive. PsychInfo served as an initial source of articles related to the experience of emotion, and additional sources emerged from those articles. We excluded scales assessing specific emotions (e.g., depression and anxiety) and scales assessing the tendency to experience emotions of a specific valence (e.g., extraversion and neuroticism). For a review of such traits, their effects on cognitive processing, and their interaction with mood effects on cognitive processing, see Rusting (1997). Our selection has no implications for questions about the relation of positive and negative affect. The primary focus is on the manner in which individuals experience emotion per se, not whether they experience particular emotions or emotions of a specific valence. Furthermore, the scales in two of the categories (attention and clarity) that we review do not have items that allow for the separation of positive and negative dimensions. Although a few scales in the sample include positive and negative subscales, we focused on attributes of affective reactions other than valence. Finally, we confined our review to trait measures. It should be noted that there are many scales that assess state variables (e.g., the Meta-Mood Scale) (Mayer & Gaschke, 1988) that also might be important in the processing of affective information, but these lie outside the focus of the current study.

A conceptual examination of the self-report measures of individual differences in emotional experience suggested several possible categories as dimensions of the feeling experience. We labeled these absorption, attention, clarity, intensity, and expression. In some cases,

these categories appeared distinct. In other cases, there was conceptual overlap between categories. In addition, some scales appear to measure one specific category of feeling experience, whereas others measure multiple facets. We attempted to place each scale in the category that provided the best conceptual fit. As discussed below, the empirical generally confirm these conceptual distinctions, except in the case of the absorption category.

In this review section, we first explain what the scales in each category have in common and then discuss each scale individually. In addition, for each scale in a category, a table is provided that gives the number of items, sample items, the response format, an internal reliability estimate, a stability coefficient, and a report of gender differences (see Tables 1 through 5). Table 6 shows the intercorrelations among the 18 reviewed scales from our own sample.

Absorption

Scales in the absorption category assess the tendency to get immersed in sensory or emotional experiences, to be open to experiencing feelings, and to attend to one's internal state and processes. Thus, absorption encompasses emotional, sensory, and cognitive aspects.

The Absorption subscale of the Multidimensional Personality Questionnaire (Tellegen, 1982) measures the tendency to have "episodes of total attention that fully engage one's representational (i.e., perceptual, enactive, imaginative, and ideational) resources" (Tellegen & Atkinson, 1974, p. 268). Absorption is related to hypnotic susceptibility (Tellegen & Atkinson, 1974), synesthesia (Rader & Tellegen, 1987), and the Big Five factor of Openness ($r = .54$), especially openness to fantasy, aesthetics, feelings, and ideas ($r = .36, .57, .33$, and $.37$, respectively), not openness to actions and values ($r = .21$ and $.13$, respectively) (Church, 1994). Tellegen (1981) suggests that low-absorption persons tend to adopt an instrumental mode of functioning, whereas high-absorption persons tend to adopt an experiential mode of functioning. Wild, Kuiken, and Schopflocher (1995) propose that "aesthetic experience, flow, intrinsic motivation, and peak experiences are all instances of experiential involvement" (p. 569). They point out that these experiences all share absorption but emerge in different situations and have different defining features. These authors found that absorption was positively correlated with participation in aesthetic activities, including taking aesthetically oriented course work and engaging in everyday aesthetic contemplation; rating visual art, music, and literature as important to daily life; and reporting that the arts influence one's moods and feelings.

The Quality of Mental Imagery (QMI) Vividness of Imagery Scale (Sheehan, 1967) measures the ability to

create vivid images of imagined sensory experiences. Thus, it measures the sensory rather than the emotional aspects of absorption. Sheehan (1966) found that imagery ability was related to perceptual processes. However, Miller et al. (1987) believe that imagery is best understood in terms of context-appropriate efferent information associated with the image. They found that imagery of standard affective and action-oriented scripts produced significantly greater physiological activity for good imagers than for poor imagers, particularly after training. Among good imagers, physiological activity varied with the content of the imagery script (action, fear, and anger). The authors interpret this effect to mean that training amplified intrinsic, emotion-specific response dispositions. Poor imagers were unresponsive to standard emotional scripts. Imagery ability may be positively related to the effectiveness of imagery-based therapies; therefore, it is important to be able to assess (Miller et al., 1987; White, Sheehan, & Ashton, 1977). Imagery is positively associated with susceptibility to hypnosis and may be related to hemispheric lateralization (White et al., 1977).

The Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975) measures a tendency to attend to self, including one's mood. Its authors define self-consciousness as "attending to one's inner thoughts and feelings" (p. 523). The Private Self-Consciousness subscale reflects the internal orientation that relates to this category of absorption. The authors' explanation of self-consciousness as attentional focus is supported by studies in which manipulations of self-awareness mimic differences in private self-consciousness (Carver & Scheier, 1978; Scheier & Carver, 1977; Scheier, Carver, & Gibbons, 1979). Both mirror-manipulated self-awareness and high self-consciousness increased responsiveness to current affective states (Scheier & Carver, 1977). High private self-consciousness increases the salience of current emotions (Scheier, 1976; Scheier & Carver, 1977). Men with high private self-consciousness became more aggressive in response to an anger instigation (Scheier, 1977), but it was also positively correlated with thoughtfulness ($r = .48$) and the use of imagery ($r = .30$) (Turner, Scheier, Carver, & Ickes, 1978) and negatively correlated with self-esteem ($r = -.26$) (Turner et al., 1978). In an expectancy manipulation study (strong vs. weak flavor), persons high in private self-consciousness were more accurate in reporting their actual internal state than were persons low in private self-consciousness (Scheier et al., 1979). Private self-consciousness is uncorrelated with intelligence, need for achievement, test anxiety, activity level, sociability, emotionality, and impulsivity (Carver & Glass, 1976). In addition, it was uncorrelated with social desirability and self-monitoring (Turner et al., 1978).

TABLE 1: Scale Information: Absorption

Scale Name and Reference	Number of Items, Sample Items, and Response Options	Average Cronbach's Alpha (α) and Stability Coefficient (SC)	Gender Differences
Absorption (Tellegen, 1982)	34 items When I listen to music, I can get so caught up in it that I don't notice anything else The crackle and flames of a wood fire stimulate my imagination It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered True/False	$\alpha = .88$ (4 samples; $n = 300, 500, 223, 391$) (Tellegen & Waller, in press) $SC = .89$ (30 days, $n = 75$) (Tellegen & Waller, in press)	No reports regarding gender differences were found.
Quality of Mental Imagery (QMI) Vividness of Imagery (Sheehan, 1967)	5 items The sun sinking below the horizon (visual) The sound of escaping steam (auditory) The prick of a pin (cutaneous) Running upstairs (kinesthetic) Oranges (gustatory) Cooking cabbage (olfactory) "Drowsiness" (organic) Vividness ratings from 1 (<i>perfectly clear and as vivid as the actual experience</i>), 2 (<i>very clear and comparable in vividness to the actual experience</i>), 3 (<i>moderately clear and vivid</i>), 4 (<i>not clear or vivid but recognizable</i>), 5 (<i>vague and dim</i>), 6 (<i>so vague and dim as to be hardly discernible</i>), to 7 (<i>no image present at all; you're only "knowing" that you are thinking of the object</i>)	$\alpha = .97$ split-half reliability (2 studies; $n = 67, 12$) (Juhasz, 1972) $SC = .69$ (5 samples; 6 wk., 7 mo., 12 mo., 12 mo., 12 mo.; $n = 35, 62, 89, 162, 251$) (White, Sheehan, & Ashton, 1977)	Gender differences are repeatedly found such that women have higher powers of visualizing than do men and that this faculty increases with age in both genders (White et al., 1977). However, no gender differences were found in a more recent study (Miller et al., 1987).
Private self-consciousness (Fenigstein, Scheier, & Buss, 1975)	10 items I reflect a lot about myself I'm alert to changes in my mood I'm aware of the way my mind works when I work through a problem 0 (<i>extremely uncharacteristic</i>) to 4 (<i>extremely characteristic</i>)	$\alpha = .72$ (5 samples; $n = 68, 189, 71, 62, 77$) (Abrams, 1988) $SC = .71$ (3 samples; 2 wk., 4 wk., 6 wk.; $n = 152, 81, 188$) (Abrams, 1988)	Gender differences in levels of private self-consciousness are not found (Abrams, 1988; Davis & Franzoi, 1991; Fenigstein et al., 1975; Turner, Scheier, Carver, & Ickes, 1978).

NOTE: Unless otherwise noted, all information on each scale is from the reference in the first column.

Thus, absorption assesses the tendency to get absorbed in internal emotional and sensory states, the QMI Vividness of Imagery Scale assesses the ability to create vivid images of imagined sensory experience, and the Private Self-Consciousness subscale assesses the tendency to attend to one's own inner thoughts and feelings. The latent construct appears to be inner directedness, not just attention to emotions but also attention to sensory and cognitive states and processes. Thus, the scales in the absorption category are conceptually different from those in the next category of scales, attention, which assess attention to emotional states only. However, the two categories may not be empirically separable. That is, individuals who attend to their emotions may also attend to, get absorbed in, and vividly imagine sensory states. Conversely, a person who has the ability to create very vivid images may find it easy to get absorbed

in these experiential images, may attend to them often, and may be open to experiencing them.

Attention

Scales in the attention category assess the extent to which individuals monitor their emotions, value their emotions, and maximize their experience of emotion. Unlike scales in the absorption category, the scales in the attention category deal with emotional experiences only and do not include sensory experiences.

The Mood Awareness Scale (Swinkels & Giuliano, 1995) measures individual differences in the awareness of one's mood states. It includes two 5-item subscales for mood monitoring (the tendency to focus on, evaluate, or scrutinize one's own mood) and mood labeling (the ability to identify and label one's mood). We have placed labeling in the clarity category, which is discussed later.

Monitoring was associated with private self-consciousness ($r = .49$), empathy ($r = .41$), neuroticism ($r = .37$), nonverbal expressiveness ($r = .25$), high emotional intensity ($r = .24$), rumination, and the tendency to experience negative affect ($r = .22$) (Swinkels & Giuliano, 1995).

Salovey, Mayer, Goldman, Turvey, and Palfai (1995) define the Attention subscale of the Trait Meta-Mood Scale as the extent to which one tends to observe one's feelings. Another subscale of the Trait Meta-Mood Scale, Clarity of Feelings (the ability to discriminate among feelings), will be discussed in the clarity category. As the items indicate, some items in this scale assess the extent to which individuals attend to their emotions, whereas others assess attitude toward emotions, in other words, whether the respondent values emotional experience. Persons scoring high on this scale showed a mood assimilation effect on judgments of risk, whereas those scoring low showed no mood effect (Gasper & Clore, 2000). Salovey et al. (1995) conducted several construct validity studies. In one, attention to feelings was correlated with private and public self-consciousness ($r = .42$ and $.36$, respectively). It was not associated with ambivalence over expressing emotion, depression, optimism, or the belief that negative moods can be repaired. In another study, attention was slightly correlated with depression ($r = .25$) and repressive-defensiveness ($r = -.22$). It was not associated with restraint or distress. Emmons and Colby (1994) found attention to be correlated with openness ($r = .48$), affect intensity ($r = .32$), ambivalence over expressing emotion ($r = -.19$), belief in the usefulness of expressing emotions ($r = .53$), and belief that negative moods can be repaired ($r = .23$). They also found attention to be unrelated to social desirability and repressive-defensiveness. In one report of daily affect and two reports of past affect, attention was positively associated with the frequency of experiencing positive affect ($r = .27$, $.32$, and $.38$, respectively) but inversely associated with the frequency of experiencing negative affect ($r = -.21$; $-.14$, *ns*; and $-.18$, *ns*, respectively) (Emmons & Colby, 1994).

The Toronto Alexithymia Scale (Taylor, Ryan, & Bagby, 1985) is typically used in clinical populations; however, given that alexithymia may be thought of as a continuous personality trait (Taylor, 1984), it is also appropriate for nonclinical populations. Alexithymia is described as the inability to use words to describe feelings. Individuals high in alexithymia attempt to minimize the experience of emotion. They do this by supplanting emotional feelings with thoughts about coping or with the denial of feelings (Mayer, Salovey, Gomberg-Kaufmann, & Blainey, 1991). The 20-item version of this scale (Bagby, Parker, & Taylor, 1994) contains three subscales: Difficulty Identifying Feelings, Difficulty

Describing Feelings (which will be discussed with the scales in the clarity category), and Externally Oriented Thinking. The Externally Oriented Thinking subscale captures the concrete thought, lack of introspection, and minimization of emotional experience aspects of alexithymia that make it suitable for including in our attention category. However, it should be noted that at least half of its items do not refer to feelings but rather to thoughts. Thus, it might also fit in the absorption category. Externally oriented thinking was negatively associated with psychological mindedness ($r = -.54$), need for cognition ($r = -.44$), and openness ($r = -.61$), especially openness to fantasy, aesthetics, feelings, and ideas ($r = -.45$, $-.51$, $-.61$, and $-.46$, respectively), but not with openness to actions or values. It was not correlated with any of the other Big Five factors (Bagby, Taylor, & Parker, 1994). Externally oriented thinking was also negatively correlated with awareness, importance, and intensity of emotions ($r = -.32$, $-.31$, and $-.26$, respectively) (Yelsma, 1992, cited in Taylor, 1994).

Averill and Thomas-Knowles (1991) define emotional creativity as the development of emotional syndromes that are novel, effective, and authentic (reflective of one's own values and beliefs about the world). Emotional syndromes are defined as the ability to respond emotionally, which requires knowledge of the social rules and norms of emotional responding. Thus, emotional creativity requires the ability to understand these norms and rules, supplemented by the flexibility to create one's own ways of responding. Although Averill and Thomas-Knowles's construct of emotional creativity is complex, the items clearly inquire about the extent to which the respondent attends to his or her emotional life; therefore, it was placed in our attention category. Emotional creativity also was associated with affect intensity ($r = .58$) and with the capacity to communicate one's emotional state with others ($r = .47$).

Monitoring represents one aspect of the attention construct—the extent to which one attends to his or her own emotions. Attention and emotional creativity include this aspect but also have items related to valuing emotions. Externally oriented thinking assesses the reverse of attending to emotion, that is, intentional avoidance of attending to emotion and a preference for concrete thoughts. The lack of introspection aspect of the Externally Oriented Thinking subscale is also conceptually related to the absorption construct. For example, the facets of openness to which externally oriented thinking was inversely related are the same ones to which absorption is positively related. Thus, it is possible that the externally oriented thinking subscale should be placed in the absorption category. In addition, as was discussed previously, it remains to be seen whether the

TABLE 2: Scale Information: Attention

Scale Name and Reference	Number of Items, Sample Items, and Response Options	Average Cronbach's Alpha (α) and Stability Coefficient (SC)	Gender Differences
Monitoring (Swinkels & Giuliano, 1995)	5 items I find myself thinking about my mood during the day I am sensitive to changes in my mood I often evaluate my mood 1 (<i>disagree very much</i>) to 6 (<i>agree very much</i>)	$\alpha = .86$ (4 samples; $n = 127, 128, 175, 116$) SC = .94 (4 wk., $n = 44$)	Women sometimes scored higher than did men but the differences were not consistently significant.
Attention (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995)	13 items I often think about my feelings I pay a lot of attention to how I feel I believe in acting from the heart People would be better off if they felt less and thought more (reverse-scored) 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	$\alpha = .81$ (3 studies; $n = 198, 86, 78$) SC = NA	In four samples, women scored higher than did men (Gasper & Clore, 1997, 2000).
External thinking (Bagby, Parker, & Taylor, 1994)	8 items I prefer to just let things happen rather than to understand why they turned out that way I prefer talking to people about their daily activities rather than their feelings I find examination of my feelings useful in solving personal problems (reverse-scored) 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	$\alpha = .65$ (3 samples; $n = 965, 401, 218$) SC (total Toronto Alexithymia Scale [TAS] scale score) = .77 (3 wk., $n = 72$)	Men scored higher than did women (Parker, Bagby, Taylor, Endler, & Schmitz, 1993).
Emotional creativity (Averill & Thomas-Knowles, 1991)	32 items I am interested in the emotional aspects of my life I think about and try to understand my emotional reactions I like art, poetry, music, dance, and paintings that arouse new and unusual emotional reactions I think about past emotional experiences to help me cope with a current emotional problem 0 to 8, anchored by <i>not at all</i> and <i>very much</i>	$\alpha = .89$ ($n = 100$) (Averill & Thomas-Knowles, 1991) SC = NA	Women scored higher than did men (Averill & Thomas-Knowles, 1991). Furthermore, emotional creativity was associated with grade point average for men ($r = .40$) but not for women ($r = .06$), $n = 41$ and 57 , respectively.

NOTE: Unless otherwise noted, all information on each scale is from the reference in the first column.

attention and absorption constructs are empirically separable.

Clarity

Scales in the clarity category assess individual differences in the ability to identify, distinguish, and describe specific emotions. Four of the scales in this category are subscales of scales that also contributed subscales to the attention category.

The Labeling subscale of the Mood Awareness Scale (Swinkels & Giuliano, 1995) measures the ability to identify and name one's mood. In two samples, labeling correlated with monitoring ($r = .21$ and $.21$). Labeling was positively correlated with self-esteem ($r = .35$), the tendency to experience positive affect ($r = .34$), extraversion ($r = .28$), and nonverbal expressiveness ($r = .24$). It was inversely correlated with difficulty identifying feelings ($r = -.64$), difficulty describing feelings ($r = -.64$), social anxiety ($r = -.30$), and external thinking ($r = -.27$).

The Clarity subscale of the Trait Meta-Mood Scale (Salovey et al., 1995) measures the ability to discriminate

among feelings. Salovey et al. found clarity to be uncorrelated with attention. However, Emmons and Colby (1994) found them somewhat related ($r = .28$). Clarity is negatively associated with vulnerability to distress ($r = -.44$), depression ($r = -.27$), and with ambivalence about emotional expression ($r = -.25$) (Salovey et al., 1995). Indeed, Salovey et al. feel that clarity and ambivalence are opposite ends of the same dimension. This belief is shared by Emmons (1992, cited in Salovey et al., 1995), who calls this factor "emotional complexity." Low clarity is also associated with neuroticism ($r = -.40$), indicating that greater mood lability is associated with a lack of clarity about mood (Salovey et al., 1995). Individuals high in clarity recovered from a negative mood more quickly than did those low in clarity and showed a quicker decline in ruminative thought (Salovey et al., 1995). Salovey and his colleagues suggest that this is because they do not need to engage in prolonged rumination about their feelings to figure them out. Clarity is positively correlated with the belief that negative moods can be repaired ($r = .43$) (Emmons & Colby, 1994). It was

inversely correlated with ambivalence about expressing emotions ($r = -.50$) (Emmons & Colby, 1994). In one report of daily affect and two reports of past affect, clarity was positively associated with the frequency of experiencing positive affect ($r = .30, .37$, and $.30$, respectively) and inversely associated with the frequency of experiencing negative affect ($r = -.24, -.24$, and $-.29$, respectively) (Emmons & Colby, 1994).

As indicated previously, a major component of alexithymia is the inability to identify and communicate emotions. It is the former aspect that places it in our clarity category. The 20-item Toronto Alexithymia Scale (Taylor et al., 1985) contains three subscales: Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking (discussed in the attention category). In two student samples and one clinical sample (Bagby, Parker, & Taylor, 1994), Difficulty Identifying Feelings and Difficulty Describing Feelings were strongly correlated ($r = .51, .65$, and $.72$), whereas Externally Oriented Thinking was less closely related to either of these two subscales (Difficulty Identifying Feelings: $r = .18, .10$, and $.32$, respectively; Difficulty Describing Feelings: $r = .29, .36$, and $.50$, respectively). Bagby, Taylor, and Parker (1994) found that the Difficulty Identifying Feelings subscale was inversely related to psychological mindedness, need for cognition, openness, and extraversion ($r = -.44, -.40, -.28$, and $-.22$, respectively). Furthermore, it was positively correlated with neuroticism ($r = .42$) but not significantly correlated with agreeableness or conscientiousness. The Difficulty Describing Feelings subscale displayed a similar pattern of relations with these constructs ($r = -.51, -.36, -.30$, and $-.26$, respectively). Similar to the Difficulty Identifying Feelings subscale, the Difficulty Expressing Feelings subscale was positively correlated with neuroticism ($r = .26$) but not significantly correlated with agreeableness or conscientiousness.

In conclusion, there is a great degree of conceptual similarity among the scales in this category. All appear to measure a similar construct—the ability to know what one is feeling and to distinguish one emotion from another.

Intensity

The fourth category, intensity, concerns the strength with which individuals tend to experience emotions. The Affect Intensity Measure (AIM) (Larsen & Diener, 1985, 1987) assesses the characteristic magnitude with which individuals experience their emotions, regardless of whether the emotion is positive or negative. Larsen and Diener (1987) view it as “a general temperament dimension of emotional reactivity and variability” (p. 1). Intensity of emotional experience is distinct from the tendency to experience positive affect more or less fre-

quently than negative affect (Larsen & Diener, 1985). Larsen, Diener, and Emmons (1986) found that participants scoring high on the AIM respond more intensely to both positive and negative emotional stimuli. That is, individuals who tend to experience positive emotions intensely also tend to experience negative emotions intensely. Individuals high in intensity reacted more strongly to actual and hypothetical life events than did individuals low in affect intensity (Larsen, Diener, & Emmons, 1986). Affect intensity was positively correlated with several temperament measures of activity ($r = .36$ to $.41$), sociability ($r = .29$ to $.45$), arousability/reactivity ($r = .39$ to $.49$), and emotionality ($r = .27$ to $.57$) (Larsen & Diener, 1987). It also was positively related to measures of somatic and neurotic symptoms ($r = .32$ to $.48$) but was not correlated with measures of psychological well-being (Larsen & Diener, 1987). Affect intensity was not related to sensation seeking (Larsen et al., 1986). Induced mood influenced attitudes, stereotypes, and feelings toward groups, but only for persons scoring high on the AIM (Haddock, Zanna, & Esses, 1994).

The Emotional Intensity Scale (EIS) (Bachorowski & Braaten, 1994) measures the tendency to experience emotions intensely, independent of frequency. It has positive and negative subscales. Positive intensity was only moderately related to negative intensity ($r = .39$ and $.58$ for men and women, respectively) (Bachorowski & Braaten, 1994). Each valence was associated with different personality traits (Bachorowski & Braaten, 1994). Intensity of negative emotions was very strongly associated with neuroticism ($r = .62$ and $.57$ for men and women, respectively) but was not related to extraversion. However, gender differences existed in the association between positive emotional intensity and extraversion. For men, intensity of positive emotions was more strongly associated with extraversion than with neuroticism ($r = .49$ and $.03$, *ns*, respectively), whereas for women, intense positive emotions were associated with both extraversion and neuroticism ($r = .36$ and $.28$, respectively). In the personality literature, emotional reactivity is often found to be associated with negative emotions. Indeed, the two are both included in some measures of neuroticism. Total scores on the EIS were moderately correlated with the AIM ($r = .38$ and $.45$ for men and women, respectively) (Bachorowski & Braaten, 1994).

The Reactivity subscale of The Mood Survey (Underwood & Froming, 1980) assesses the frequency (i.e., number of mood shifts) and intensity of individuals' affective experiences. Although the items specifically inquire about mood shifts, scores on this subscale correlated moderately ($r = .44$, $n = 422$) with self-reported intensity of reaction to emotional experiences (Underwood & Froming, 1980). Underwood and Froming

TABLE 3: Scale Information: Clarity

Scale Name and Reference	Number of Items, Sample Items, and Response Options	Average Cronbach's Alpha (α) and Stability Coefficient (SC)	Gender Differences
Labeling (Swinkels & Giuliano, 1995)	5 items I have trouble explaining my feelings I'm never really sure what I'm feeling I have a hard time labeling my feelings 1 (<i>disagree very much</i>) to 6 (<i>agree very much</i>)	$\alpha = .76$ (4 samples; $n = 127, 128, 175, 116$) SC = .76 (4 wk.)	Women sometimes scored higher than did men but the differences were not consistently significant.
Clarity (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995)	11 items Sometimes I can't tell what my feelings are (reverse-scored) I usually know my feelings on a matter I almost always know exactly how I am feeling 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	$\alpha = .85$ (3 studies; $n = 198, 86, 78$) SC = NA	In four samples, there were no significant gender differences (Gasper & Clore, 1997).
Difficulty identifying (Bagby, Parker, & Taylor, 1994)	7 items When I am upset, I don't know if I am sad, frightened, or angry I am often puzzled by sensations in my body I have feelings that I can't quite identify 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	$\alpha = .80$ (3 samples; $n = 965, 401, 218$) SC = .77 (3 wk., $n = 72$)	There were no gender differences on mean levels of difficulty identifying feelings (Parker, Bagby, Taylor, Endler, & Schmitz, 1993).
Difficulty describing (Bagby, Parker, & Taylor, 1994)	5 items It is difficult for me to find the right words for my feelings I find it hard to describe how I feel about people It is difficult for me to reveal my innermost feelings, even to close friends 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	$\alpha = .75$ (3 samples; $n = 965, 401, 218$) SC = .77 (3 wk., $n = 72$)	Men scored higher than did women (Parker et al., 1993).

NOTE: Unless otherwise noted, all information on each scale is from the reference in the first column.

found that reactivity was positively correlated with emotionality ($r = .69$), impulsivity ($r = .24$), normlessness ($r = .38$), powerlessness ($r = .38$), social isolation ($r = .35$), variability ($r = .29$), social anxiety ($r = .36$), private self-consciousness ($r = .24$), and depression ($r = .27$), controlling for trait affect. It was negatively correlated with locus of control ($r = -.36$), achievement self-esteem ($r = -.38$), general self-esteem ($r = -.43$), affiliativeness ($r = -.29$), social involvement ($r = -.29$), and warmth ($r = -.39$). It did not correlate significantly with social self-esteem or public self-consciousness.

In conclusion, similar to the scales in the clarity category, those in the intensity category all seem to measure the same construct, the magnitude of one's emotional reactions, although there is some variation in whether they focus on intensity of emotion, frequency of emotion, or both.

Expression

Scales in the expression category assess the extent to which individuals express their feelings and their attitudes toward expressing their feelings. The Emotional Expressiveness Questionnaire (King & Emmons, 1990) measures the extent to which individuals outwardly display their emotions. It includes subscales assessing the expression of positive emotion, negative emotion, and

intimacy. The Emotional Expressiveness Questionnaire correlated positively with peer ratings of expression ($r = .43$), family expression ($r = .46$), and the AIM ($r = .50$) and was not associated with social desirability ($r = -.11$, *ns*) (King & Emmons, 1990). Kring, Smith, and Neale (1994) also found the Emotional Expression Questionnaire to be correlated with the AIM ($r = .54$ and $.41$) and to be unaffected by social desirability bias ($r = -.09$, *ns*). Kring et al. (1994) provided additional construct validity by finding an association between Emotional Expression Questionnaire scores and scores on the Affect Communication Test ($r = .56$) (Friedman, Prince, Riggio, & Dimatteo, 1980) and family expressiveness ($r = .54$). Originally, findings regarding the association of Emotional Expressiveness Questionnaire scores with measures of psychological well-being were mixed. The scores were somewhat associated with Multidimensional Personality Questionnaire (MPQ) well-being ($r = .27$) and the extent of recent positive affect ($r = .24$) but were not significantly associated with the Satisfaction With Life Scale ($r = .19$) (Diener, Emmons, Larsen, & Griffin, 1985), reports of daily positive affect ($r = .05$), depression ($r = -.02$), the extent of recent negative affect ($r = .10$), neuroticism ($r = .02$), or self-esteem ($r = -.03$). However, Kring et al. (1994) did find associations between Emotional Expressiveness Questionnaire scores and meas-

TABLE 4: Scale Information: Intensity

Scale Name and Reference	Number of Items, Sample Items, and Response Options	Average Cronbach's Alpha (α) and Stability Coefficient (SC)	Gender Differences
Affect Intensity Measure (Larsen & Diener, 1985)	40 items When I succeed at something, my reaction is calm contentment (reverse-scored) When I feel guilty, this emotion is quite strong When I'm happy, I feel like I'm bursting with joy 1 (<i>never</i>) to 6 (<i>always</i>)	$\alpha = .93$ (4 samples) (Larsen & Diener, 1987) SC = .81 (1 mo., 2 mo., 3 mo.) (Larsen & Diener, 1987) SC = .75 (2 yr.) (Larsen & Diener, 1987)	Women report experiencing emotion more intensely than do men (Diener, Sandvik, & Larsen, 1985; Fujita, Diener, & Sandvik, 1991).
Emotional Intensity Measure (Bachorowski & Braaten, 1994)	The scale presents 30 situations and offers five possible affective responses from which to choose, for example: "Someone compliments me. I feel: 1 (<i>it has little effect on me</i>), 2 (<i>mildly pleased</i>), 3 (<i>pleased</i>), 4 (<i>very pleased</i>), 5 (<i>ecstatic—on top of the world</i>)"; "Something frustrates me. I feel: 1 (<i>it has little effect on me</i>), 2 (<i>a little frustrated</i>), 3 (<i>frustrated</i>), 4 (<i>very frustrated</i>), 5 (<i>so extremely tense and frustrated that my muscles knot up</i>)"; and "I see a sad movie. I feel: 1 (<i>so extremely sad that I feel like weeping</i>), 2 (<i>very sad</i>), 3 (<i>sad</i>), 4 (<i>a little sad</i>), 5 (<i>it has little effect on me</i>)."	$\alpha = .90$ ($n = 105$) SC = .83 (9 wk., $n = 58$)	Mean levels of affect intensity were higher for women than for men for both positive and negative affect.
Reactivity (Underwood & Froming, 1980)	5 items I may change from happy to sad and back again several times in a single week My moods are quite consistent; they almost never vary 1 (<i>strong disagreement</i>) to 6 (<i>strong agreement</i>)	$\alpha = \text{NA}$ SC = .84 (3 wk., 7 wk.; $n = 73, 61$)	In two studies, women reported greater reactivity than did men ($r_{pb} = .22$, $df = 400$ and $r_{pb} = .19$, $df = 420$, respectively).

NOTE: Unless otherwise noted, all information on each scale is from the reference in the first column.

ures of psychological well-being, for example, MPQ well-being ($r = .51$), self-esteem ($r = .37$), satisfaction with life ($r = .42$), and frequency of positive affect ($r = .46$). However, the relation between expression and psychological well-being (and distress) may be moderated by ambivalence about expressing emotions (see the discussion of the Ambivalence Over Emotional Expressiveness Questionnaire [AEQ] below).

Another expression scale, the Emotional Expression Scale (Kring et al., 1994) also measures the extent to which individuals outwardly display emotions. Emotional Expression Scale scores were positively correlated with other measures of expression (Kring et al., 1994): the Emotional Expression Questionnaire ($r = .53$ and $.64$), the Affect Communication Test ($r = .45$) (Friedman et al., 1980), and the Family Expressiveness Questionnaire ($r = .44$) (Halberstadt, 1986). Furthermore, scores were significantly related to observer ratings of expression ($r = .38$ and $.43$) and to maternal ratings of expression ($r = .49$). Construct validity was provided by correlations with conceptually related constructs, for example, MPQ social closeness ($r = .53$), urgency ($r = .31$), and social anhedonia ($r = -.42$). Discriminant validity was

provided by the lack of association with conceptually unrelated constructs, for example, self-esteem ($r = .04$, ns), agreeableness ($r = .05$, ns), culture ($r = .03$, ns), and conscientiousness ($r = -.09$, ns). Emotional Expression Scale scores were not biased by social desirability ($r = -.01$ and $-.03$, ns). They were also unrelated to several measures of psychological well-being, including MPQ well-being ($r = .06$, ns) and MPQ stress reaction ($r = .09$, ns). However, they were somewhat related to other measures of well-being, for example, life satisfaction ($r = .27$ and $.21$) and emotional stability ($r = .21$). Expression of emotions was related to the intensity of their experience ($r = .47$ and $.26$) but was unrelated to the frequency of their experience (positive affect: $r = .11$, negative affect: $r = .13$).

The developers of another expression scale, the Berkeley Expression Questionnaire (Gross & John, 1995), define emotional expression as the behavioral (e.g., facial, postural) changes that typically accompany emotion. Based on a model of emotion that views emotion-expressive behavior as partly a function of internal, subjective responsiveness and partly a function of the manner in which these response tendencies are modulated, this scale assesses general expression and three facets of

expressive behavior: impulse strength, negative expression, and positive expression. Berkeley Expression Questionnaire scores were positively associated with scores on the Emotional Expression Questionnaire ($r = .64$), the Emotional Expressiveness Scale ($r = .78$), the AIM ($r = .69$), and the Affect Communication Test ($r = .48$), but not the Self-Monitoring Scale ($r = .01$) (Gross & John, in press). Construct validity was provided by associations between Berkeley Expression Scale scores and social norms for emotion display rules for different genders, different cultures, and even different political groups (Gross & John, 1995). For example, Asian Americans were less expressive (total score) than were African Americans, Caucasians, and Hispanics, who were not different from each other. In addition, all Expression subscale scores correlated negatively with all subscale scores of Watson and Greer's (1983) emotional control scale ($r = -.51$) for total scale scores. Further construct validity was provided by associations between Berkeley Expression Scale scores and other constructs related to emotional impulses such as the Big Five factors of Neuroticism and Extraversion ($r = .29$ and $.32$, respectively) for total expression. More specifically, impulse strength and negative expression were more strongly related to neuroticism than to extraversion, whereas positive expression was more strongly related to extraversion than to neuroticism. In addition, health complaints were related primarily to impulse strength ($r = .29$) and negative expression ($r = .15$) but not to positive expression.

The Emotion Control Questionnaire (ECQ) (Roger & Neshoever, 1987) was developed in the context of studying inhibition of expression as a moderator in the relation between stress and illness. The Emotional Inhibition subscale is most relevant to this category of feeling scales (e.g., "When someone upsets me, I try to hide my feelings," "People find it difficult to tell whether I'm excited about something or not"). It initially consisted of 9 true or false items and was later expanded to 14 (Roger & Najarian, 1989). Emotional inhibition was inversely related to extraversion ($r = -.38$) (primarily sociability, $r = -.37$) and to Byrne's (1961) scale measuring expression, the Repression-Sensitization Scale ($r = -.27$) but was not associated with neuroticism (Roger & Neshoever, 1987). The 14-item version also was inversely associated with extraversion ($r = -.37$) and inversely related to measures of locus of control, specifically, a sense of interpersonal control ($r = -.56$) and a sense of sociopolitical control ($r = -.33$).

Subscales of the Toronto Alexithymia Scale (Taylor et al., 1985) were discussed in the attention and clarity categories. However, alexithymia also could be described as the tendency to use a nonemotional response style. Thus, it could be considered a measure of emotional

expressiveness, especially the Communication of Emotions factor. The communication factor is positively associated with ambivalence about expressing emotion, with negative affect, and with being uncomfortable with experiencing negative emotions. It is inversely associated with positive affect. Furthermore, alexithymia was associated with reports of feeling less emotionally safe during childhood and of experiencing low levels of positive family communication (Berenbaum & James, 1994).

The AEQ (King & Emmons, 1990) measures the extent to which one is ambivalent about expressing emotions, that is, either wanting to express emotion but not doing so or expressing emotion but regretting it. This scale has two factors: Ambivalence Over Expressing Positive Emotions and Ambivalence Over Expressing Negative Emotions. Because the two factors were highly correlated with each other ($r = .71$), the authors suggest that the AEQ is best characterized as unidimensional. Although individuals who are ambivalent about expressing emotion tend to be inexpressive, it appears that it is ambivalence rather than inexpressiveness that is associated with psychological and physiological distress (King & Emmons, 1990, 1991).

Four of the expression scales, the Emotional Expressiveness Questionnaire, the Emotional Expression Scale, the Berkeley Expressiveness Scale, and the Emotion Control Questionnaire, clearly assess the same theoretical construct: the degree to which one outwardly expresses emotion. The Emotional Inhibition subscale of the Toronto Alexithymia Scale is similar but not conceptually identical to expression. On the other hand, the AEQ does not attempt to assess expression per se—it assesses attitude about expressing emotion. Differing from the other expression scales, the Berkeley Expressiveness Scale assesses multiple facets of expression.

Summary

As a summary description of these five categories, absorption is the depth of immersion in feeling experiences, attention concerns focusing on and valuing feeling experiences, clarity involves insight into feeling experiences, intensity concerns the magnitude of feeling experiences, and expression involves the demonstration of feeling experiences. We categorized the feeling scales into five theoretically related groups. In two separate studies, we have collected data on a subset of 10 of these scales. These studies found and replicated a five-factor structure for these feeling scales that included two scales representing each of the five categories (Gohm & Clore, 1999). However, the theoretical underpinnings of these scales would support other equally plausible models. For example, because absorption and attention both indicate a tendency to be inner directed, the scales in

TABLE 5: Scale Information: Expression

Scale Name and Reference	Number of Items, Sample Items, and Response Options	Average Cronbach's Alpha (α) and Stability Coefficient (SC)	Gender Differences
Emotional Expressiveness Questionnaire (King & Emmons, 1990)	16 items Two of the 7 items from the positive emotions subscale are as follows: "Watching television or reading a book can make me laugh out loud" and "I often touch friends during conversations" Two of the 4 items from the negative emotions subscale are as follows: "When I am angry, people around me usually know" and "I always express disappointment when things don't go as I'd like them to" Two of the 5 items from the intimacy subscale are as follows: "I often tell people that I love them" and "If a friend surprised me with a gift, I wouldn't know how to react" (reverse-scored) 1 (<i>do not agree</i>) to 7 (<i>strongly agree</i>)	$\alpha = .78$ ($n = 299$) SC = NA	Correlations with biological sex indicated that women scored slightly higher than did men overall ($r = .15$), in the expression of positive emotions ($r = .14$), and in emotional intimacy ($r = .17$). There were no gender differences in the expression of negative emotions ($r = -.06$, <i>ns</i>). Kring, Smith, and Neale (1994) found a similar small correlation with biological sex; however, it not significant due to the smaller sample size ($n = 97$, $r = .16$, <i>ns</i>).
Emotional Expression Scale (Kring et al., 1994)	17 items: I can't hide the way I am feeling Even if I am feeling very emotional, I don't let others see my feelings (reverse-scored) Other people believe me to be very emotional 1 (<i>never true</i>) to 6 (<i>always true</i>)	$\alpha = .91$ (7 samples; $n = 373, 102, 102, 127, 28, 100, 97$) SC = .90 (4 wk., $n = 102$)	The correlation with biological sex indicated that women scored higher than did men ($r = .47$).
Berkeley Expression Scale (Gross & John, 1995)	16 items Sample impulse strength items are as follows: "I experience my emotions very strongly" and "There are times when I have not been able to stop crying even though I tried to stop." Sample negative expression items are as follows: "People often do not know what I am feeling" (reverse-scored) and "What I'm feeling is written all over my face." Sample positive expression items are as follows: "When I'm happy, my feelings show" and "Whenever I feel positive emotions, people can easily see exactly what I am feeling." 1 (<i>strongly disagree</i>) to 7 (<i>strongly agree</i>)	α (total scale) = .84 (3 samples; $n = 470, 394, 528$) SC (total scale) = .86 (2 mo., $n = 68$)	Women were more expressive than were men overall, and the difference was greater for impulse strength (due to items related to crying) than for negative or positive expression.
Emotional inhibition (Roger & Najarian, 1989)	14 items When someone upsets me, I try to hide my feelings People find it difficult to tell whether I'm excited about something If I'm pleasantly surprised, I show immediately how pleased I am (reverse-scored) True/false	α (Kuder-Richardson) = .77 ($n = 244$) SC = .79 (7 wk., $n = 86$)	No gender differences were found in the derivation sample for the Emotion Control Questionnaire but King and Emmons (1991) found that women scored higher than did men in their sample.
Ambivalence (King & Emmons, 1990)	28 items It is hard to find the right words to indicate to others what I am really feeling I worry that if I express negative emotions such as fear and anger, other people will not approve of me I would like to express my affection more physically but I am afraid others will get the wrong impression 1 (<i>never feel that way</i>) to 5 (<i>frequently feel that way</i>)	$\alpha = .89$ ($n = 299$) SC = .78 (6 wk., $n = 50$)	Women were slightly more ambivalent than were men overall ($r = .10$) and about expressing positive emotions ($r = .11$), but there was no gender difference in expression of negative emotions ($r = .03$, <i>ns</i>).

NOTE: Unless otherwise noted, all information on each scale is from the reference in the first column.

these two categories may not be easily distinguishable in some instances. Thus, a four-factor model also might be plausible. In addition, the association between intensity and expression may be strong enough to form a single factor, resulting in a three-factor model. Furthermore, it seems not unlikely that individuals who pay a lot of attention to their feelings would come to understand them well. Thus, clarity might be indistinguishable from experience/attention, resulting in only a two-factor model.

The simplest model, of course, represents a one-factor structure in which all of the feeling scales tap a general emotionality dimension. According to such a model, individuals who are highly experiential are also often aware of their emotions, usually clear about what they are feeling, experience their emotions intensely, and are expressive. A causal process simply driven by biological reactivity could explain a co-occurrence of all five tendencies. It would seem plausible that individuals who experience emotion intensely would have a difficult time not paying attention to them, not getting absorbed in them, and not expressing them. Moreover, habitually attending to affective feelings might easily lead to greater understanding of them. Thus, it might be reasonable to expect, despite the conceptual distinctions that can be drawn, that all of these emotion scales are substantially intercorrelated. Examination of the structure of these scales would aid investigators in the selection of scales appropriate for their needs. To examine the relations among emotion scales, we administered 18 of those reviewed here to a single sample and analyzed the resulting scores using hierarchical cluster analysis.

CLUSTERING OF THE SCALES

Method

Participants. Participants were 151 upper level psychology students enrolled in a class on research in personality at a large Midwestern university. Ten participants who did not complete all of the scales were not included in the analyses, leaving 141 participants (39 men and 102 women). Participation was a course requirement.

Measures and procedure. The following scales were administered in regularly scheduled sessions of the course: The absorption subscale of Tellegen's (1982) MPQ, the QMI Vividness of Imagery Scale (Sheehan, 1967), the Self-Consciousness Scale (Fenigstein et al., 1975), the Mood Awareness Scale (Swinkels & Giuliano, 1995), the Trait Meta-Mood Scale (Salovey et al., 1995), the Toronto Alexithymia Scale-20 (Taylor et al., 1985), the Emotional Creativity Inventory (Averill & Thomas-Knowles, 1991), the AIM (Larsen & Diener, 1987), the EIS (Bachorowski & Braaten, 1994), the Mood Survey (Underwood & Froming, 1980) for its Reactivity

subscale, the Emotional Expressiveness Questionnaire (King & Emmons, 1990, 1991), the Emotional Expression Scale (Kring et al., 1994), the ECQ (Roger & Nesshoever, 1987), and the AEQ (King & Emmons, 1990, 1991). Only specific subscales of some instruments were included in the analyses as representative of their respective categories (see Review of Scales). In addition, we did not have access to the full Emotional Creativity Inventory. Thus, only the 18 items listed in Averill and Thomas-Knowles (1991) as those that distinguish between high-creative and low-creative persons were included in this study.

Results

Interscale correlations are shown in Table 6. Before any clustering methods were applied to the data, all scales were keyed in the direction of general emotionality. Thus, emotional inhibition, external thinking, difficulty identifying emotions, difficulty describing emotions, and ambiguity about expressing emotions were reverse-scored with respect to their scale name. A hierarchical cluster analysis using the complete linkage method was conducted on this reverse-scored correlation matrix of the 18 scales. The resulting cluster tree is shown in Figure 2. The hierarchical cluster procedure starts by joining the two scales that are most similar; these two scales become a cluster. The procedure continues to sequentially compare all scales and clusters, combining the two most similar and then comparing all again until all scales and clusters are joined in one cluster.

The first two scales to join were lack of emotional inhibition and the Emotional Expression Scale. These two were then joined by the Emotional Expressiveness Questionnaire, forming an emotional expression cluster. The expression cluster was then joined by the paired Intensity scales, suggesting that although expression and intensity are separable, they are closely related. Surprisingly, the Reactivity scale did not join the intensity cluster as was expected. It did not join a cluster until the expression and intensity categories merged. Thus, caution must be advised before interpreting the Reactivity scale as a pure measure of affective intensity. Note that the items in the Reactivity scale inquire about the frequency of mood shifts. The fact that this scale did not immediately cluster with the Intensity scales indicates that frequency of mood shifts may not be the same as intensity of mood.

The second pair of scales to join were Clarity and Labeling, which were then joined by low difficulty in identifying emotions, low difficulty in describing emotions, and ambiguity about expressing emotions, forming a cluster of scales that assess clarity in knowing and describing what one is feeling. The unexpected joining of ambivalence about expressing emotions with the clar-

TABLE 6: Interscale Correlations

	<i>react</i>	<i>emotinh</i>	<i>ees</i>	<i>eeq</i>	<i>aim</i>	<i>eis</i>	<i>atten</i>	<i>monitor</i>	<i>privsc</i>	<i>create</i>	<i>extthink</i>	<i>absorb</i>	<i>image</i>	<i>difid</i>	<i>clarity</i>	<i>label</i>	<i>difdesc</i>
<i>react</i>																	
<i>emotinh</i>	-.36																
<i>ees</i>	.33**	-.79															
<i>eeq</i>	.15	-.63	.66**														
<i>aim</i>	.27**	-.46	.47**	.48**													
<i>eis</i>	.34**	-.33	.32**	.31**	.65**												
<i>atten</i>	.16	-.55	.58**	.47**	.30**	.23**											
<i>monitor</i>	.20*	-.35	.29**	.29**	.15	.30**	.57**										
<i>privsc</i>	.16	-.24	.22**	.19*	.26**	.20*	.37**	.51**									
<i>create</i>	.25**	-.46	.55**	.48**	.38**	.34**	.63**	.59**	.56**								
<i>extthink</i>	-.12	.25**	-.28	-.27	-.15	-.14	-.49	-.50	-.55	-.63							
<i>absorb</i>	.07	-.20	.22**	.30**	.29**	.24**	.29**	.28**	.38**	.46**	-.36						
<i>image</i>	-.05	-.15	.17*	.23**	-.17	.12	.13	.16	.26**	.22**	-.20	.19*					
<i>difid</i>	.28**	.09	-.18	-.19	.15	.21*	-.13	-.14	.04	-.08	.15	.16	-.31				
<i>clarity</i>	-.11	-.22	.29**	.25**	.03	-.10	.28**	.18*	.12	.34**	-.31	.07	.26**	-.68			
<i>label</i>	.03	-.43	.52**	.37**	.21*	.10	.44**	.40**	.32**	.50**	-.43	.14	.35**	-.65	.78**		
<i>difdesc</i>	-.08	.52**	-.62	-.42	-.28	-.17	-.36	-.28	-.29	-.44	.35**	-.14	-.35	.52**	-.59	-.77	
<i>ambiv</i>	-.04	.38**	-.43	-.36	.06	.11	-.18	-.05	.04	-.13	.11	-.01	-.11	.42**	-.37	-.39	.47**

NOTE: react = Reactivity, emotinh = Emotional Inhibition, ees = Emotional Expression Scale, eeq = Emotional Expression Questionnaire, aim = Affect Intensity Measure, eis = Emotional Intensity Scale, atten = Attention, monitor = Monitoring, privsc = Private Self-Consciousness, create = Emotional Creativity, extthink = Externally Oriented Thinking, absorb = Absorption, image = Quality of Mental Imagery, difid = Difficulty Identifying Feelings, clarity = Clarity, label = Labeling, difdesc = Difficulty Describing Feelings, and ambiv = Ambivalence Over Emotional Expressiveness Questionnaire.

* $p < .05$. ** $p < .01$.

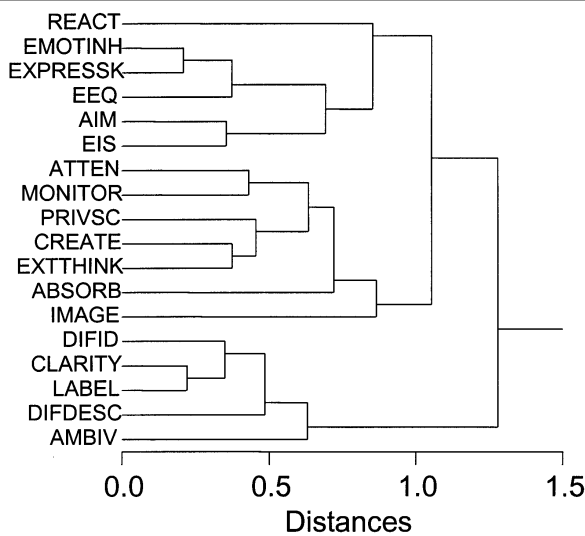


Figure 2 Cluster tree of feeling scales.

NOTE: REACT = Reactivity, EMOTINH = Emotional Inhibition, EXPRESSK = Emotional Expression Scale, EEQ = Emotional Expression Questionnaire, AIM = Affect Intensity Measure, EIS = Emotional Intensity Scale, ATTEN = Attention, MONITOR = Monitoring, PRIVSC = Private Self-Consciousness, CREATE = Emotional Creativity, EXTTHINK = Externally Oriented Thinking, ABSORB = Absorption, IMAGE = Quality of Mental Imagery, DIFID = Difficulty Identifying Feelings, CLARITY = Clarity, LABEL = Labeling, DIFDESC = Difficulty Describing Feelings, and AMBIV = Ambivalence Over Emotional Expressiveness Questionnaire.

ity cluster rather than the Expression scales suggests that it assesses ambivalence about what one actually feels, not

just about whether to express it. Note that the clarity cluster stays separate until all the other scales have joined. Thus, clarity is clearly distinct from other aspects of the feeling experience. Next, another cluster consists of emotional creativity, external thinking (reversed), and private self-consciousness, which is joined by the attention and monitoring pair. Together, these form a cluster of scales related to valuing and attending to emotion that we labeled attention. The attention cluster is then joined by absorption, followed by ability to image. This cluster suggests that although attention and absorption (absorption and imagery) are separable conceptually, they are somewhat related. At least absorption and imagery are more related to the attention cluster of scales than to other clusters of scales in this set. Notice, however, that absorption and imagery do not join each other before they join the attention cluster, indicating that they do not form a cohesive cluster on their own as was expected.

To examine the stability of the structure in the data, an additive tree procedure that allows for repeated fitting with multiple starting configurations was applied to the correlation matrix. The resulting structures were very similar across multiple starting configurations, indicating the absence of local minima problems. Four clusters consistently appeared—expression, intensity, attention, and clarity. Differences from the results of the hierarchical clustering procedure were always minor. Imagery sometimes clustered with the Clarity scales.

Reactivity sometimes clustered with two Intensity scales. The expression and intensity clusters did not always join with each other before joining the attention cluster.

A two-dimensional scaling procedure that was applied to the correlation matrix provides further evidence of the stability of the clustering solution (see Figure 3). The scaling plot shows the same four major clusters, that is, clarity, expression, intensity, and attention, that were evident in the hierarchical clustering and additive tree procedures. It also illustrates the minor differences between those two methods and the differences among the multiple additive tree fittings. These differences involve three scales that are each about equally distant from two clusters. That is, it illustrates that ambiguity about expressing emotions might cluster with clarity or with expression, that reactivity might cluster with expression or with intensity, and that imagery might cluster with clarity or with attention. As in the hierarchical cluster analysis, absorption is on the periphery of the attention cluster.

Hierarchical clustering analyses within gender yielded similar dendrograms. However, among the women, absorption joined the external thinking/emotional creativity/private self-consciousness cluster before rather than after that cluster joined with the attention/monitoring cluster. In addition, reactivity and ability to image formed a cluster very late in the process and joined with the intensity/expression/experiential cluster just before it joined with the clarity cluster. Among the men, the main difference was that difficulty describing emotions clustered with the Expression scales, ability to image clustered with the Clarity scales, and the two Intensity scales did not join with the Expression scales. Instead, they formed a separate cluster and joined the cluster of all the other scales immediately before the main root. However, caution is advised when interpreting the clustering solution among men because the sample consisted of only 39 men. In general, the solutions were very similar. Cross-validation in another sample, especially one containing a greater proportion of men, is needed.

Discussion

Although the five proposed categories are discernible in the hierarchical clustering diagram, at the four-cluster level, the hierarchical cluster analysis indicates a tight cluster of scales assessing clarity, a slightly looser cluster of scales assessing attention with absorption (as absorption and imagery), a cluster assessing intensity with two scales, and a cluster assessing expression with three scales. A major benefit of a hierarchical cluster analysis diagram is that it allows one to view multiple structures simultaneously. Thus, this cluster tree illustrates possible groupings of the scales into approximately two to five

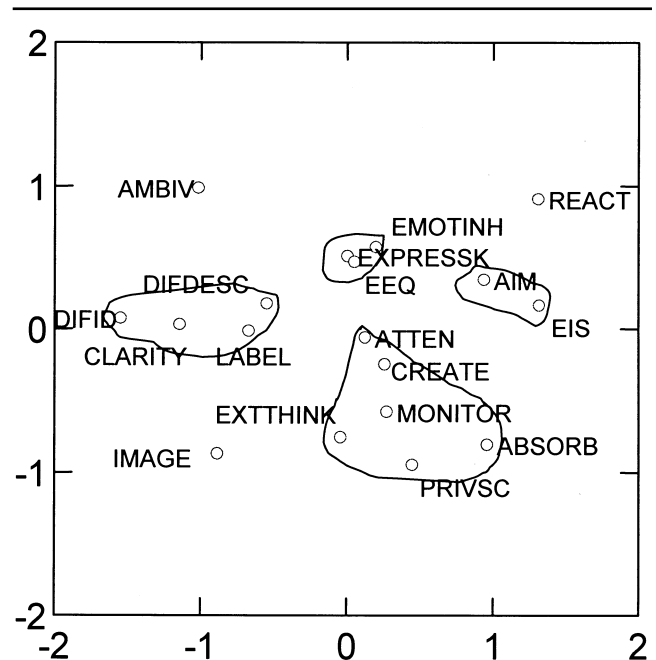


Figure 3 Multidimensional scaling plot.

NOTE: AMBIV = Ambivalence Over Emotional Expressiveness Questionnaire, REACT = Reactivity, EMOTINH = Emotional Inhibition, EXPRESSK = Emotional Expression Scale, EEQ = Emotional Expression Questionnaire, AIM = Affect Intensity Measure, EIS = Emotional Intensity Scale, DIFID = Difficulty Identifying Feelings, CLARITY = Clarity, DIFDESC = Difficulty Describing Feelings, LABEL = Labeling, IMAGE = Quality of Mental Imagery, ATTEN = Attention, CREATE = Emotional Creativity, MONITOR = Monitoring, EXTTHINK = Externally Oriented Thinking, PRIVSC = Private Self-Consciousness, and ABSORB = Absorption.

clusters. However, the convergence among the three different clustering techniques provides strong support for the four-cluster solution.

Some relations among these scales are not surprising. For example, persons who experience their emotions intensely also tend to express them, and persons who value emotions tend to pay attention to them. However, several relations among the scales were counterintuitive. For instance, one might assume that persons who value and monitor their feelings also would tend to get absorbed in them. The cluster tree indicates that this is true only to a limited extent. Furthermore, one might assume that persons who have an internal orientation (i.e., are high on private self-consciousness) would, by virtue of practice, be good at creating mental images. Again, the cluster tree indicates that this is true only to a limited extent. The most interesting counterintuitive relation was that between clarity and intensity. It would be logical to assume that persons who experience their emotions intensely would tend to pay attention to them and, because of the heightened intensity and attention,

would have learned to distinguish them. The separation of the Clarity scales from the Intensity scales in the cluster tree suggests that many individuals experience their emotions intensely but do not understand what they are feeling. Thus, for example, such persons may realize that they feel very negative but do not focus more specifically on whether they are angry, disgusted, or depressed.

The hierarchical cluster analysis and the multidimensional scaling plot also provide information about which scales not to use to assess clarity, attention, expression, and intensity. The Absorption, Quality of Mental Imagery, Ambiguity Over Expressing Emotions, and Reactivity scales were not good measures of any of these constructs. However, these clustering techniques do not provide especially useful information about which scales within a cluster are the best measures of the latent trait. Results from factor analysis of these scales (Gohm & Clore, 1999) indicate that the Labeling, Clarity, and Difficulty in Identifying Feelings scales are good measures of clarity. The Emotional Creativity, Externally Oriented Thinking, Monitoring, and Private Self-Consciousness scales are good measures of attention, whereas the Attention scale had strong secondary loadings on expression. All three Expression scales and both of the Intensity scales are good measures of their respective constructs.

CONCLUSION

In conclusion, we have sought to encourage the use of individual difference variables to test psychological hypotheses as an alternative to the omnipresent experimental manipulation of variables. The potential usefulness of this method was demonstrated by presenting a model of affective processing stages as an example of how individual differences might be employed for theory testing. We then reviewed the available information on 18 individual difference scales related to emotion, reporting technical information on each scale, such as the number of items, response format, reliability, construct validity, and correlates. We also proposed on conceptual grounds how this domain might be structured into five categories. Finally, we administered the entire set of scales to a sample of individuals and tested the proposed categories of individual differences through the use of a hierarchical cluster analysis. Support for the resulting four-cluster structure was provided by a multidimensional scaling plot and by additive tree fitting. From the literature on these scales and the cluster analytic evidence, several conclusions seem warranted. Clarity appears to be conceptually clear and empirically distinct from the other categories; however, absorption and attention appear both conceptually and empirically intertwined. Furthermore, although intensity and expression are conceptually distinct and empirically separable, they may still often co-occur. Surprisingly, the

cluster analysis suggested that persons who experience their emotions intensely do not necessarily know exactly what they are feeling. Although the convergence of multiple methods in this sample provides substantial evidence for the structure of these scales, cross-validation in another sample, especially one containing a greater proportion of men, is important.

It is hoped that our proposals about how the processes tapped by these scales fit into a general processing framework, the review of the psychometric properties of the scales, the summary of the available literature on each, the information on how the scale might fit into categories of conceptually related measures, and the empirical results concerning how the domain of individual differences in emotional experience is structured will all aid investigators in choosing measures of individual differences in affect suitable for their particular purposes.

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Received December 31, 1997

Revision accepted February 12, 1999