A Critical Appraisal of Self-Report Defense Mechanism Measures

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ABSTRACT  Defense mechanisms have been a source of both fascination and frustration for most personality researchers because they are conceptually intriguing but their assessment is often problematic. To aid personality researchers in integrating defense mechanism theory into personality research, we review and critique the major existing self-report defense mechanism measures: the Coping and Defending Scales (Joffe & Naditch, 1977); the Defense Mechanisms Inventory (Gleser & Ihilevich, 1969); the Life-Style Index (Plutchik, Kellerman, & Conte, 1979); and the Defense Style Questionnaire (Bond, Gardner, Christian, & Sigal, 1983). We conclude that no self-report measure adequately assesses the defining features of defense mechanisms. We offer a number of person and situation variables that must be considered when evaluating any defense mechanism measure, and we conclude that the comprehensive assessment of defense mechanism use will likely require measures obtained from multiple sources.

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Despite the impact that defense mechanisms have had on clinical practice, there remain a number of theoretical and empirical obstacles that prevent personality psychologists from integrating defense mechanism constructs into their theories and research. At a theoretical level, the definitions of defense mechanisms are often vague, overlapping, and ambiguous. Not surprisingly, then, the empirical measurement of defense mechanisms has proven difficult. We will first review the criteria that any defense mechanism measure should meet and second examine four commonly encountered self-report measures for the presence of these criteria. Additionally, we will present the psychometric information needed to evaluate the usefulness of each instrument.

**Definitional Criteria of Defense Mechanisms**

In evaluating the self-report measures of defense mechanisms, we have relied upon the definition of defense mechanisms presented by Cramer (this volume), which has six critical criteria.

**Unconsciousness**

First, a defense mechanism is defined as a *mental or cognitive operation that functions outside of awareness*. How, one might wonder, can self-report defense mechanism instruments assess this requisite quality of unconsciousness? Cramer (1991) and Wallerstein (1985) suggest that the latent constructs of defense mechanisms are distinguishable from their manifest expression, which is labeled *defensive behavior*. Defensive behavior refers to the observable behavior that operates to decrease threat to the person, and need not be unconscious. In theory, then, persons can be aware of their habitual behavior, such as washing their hands (the defensive behavior), and yet still remain unaware of both the cognitive operation that motivates the behavior (the defense mechanism) and the threatening impulse that activates the defense mechanism (e.g., a forbidden sexual impulse).

All self-report measures, by virtue of their information source, can assess the respondent’s accessibility to the motivation or cognitive operation underlying the observable behavior. To the extent that respondents are able to (accurately) report the underlying motivation, the observable behavior associated with that motivation is *not* defensive. By our definition, once the purpose the behavior serves becomes known, the behavior
is no longer an indication of a defense mechanism, but of a coping strategy (Haan, 1977; also see Cramer, this volume). We will examine each self-report measure for the systematic assessment of the awareness of defensive behavior motivation.

**Psychic Threat**

Second, in classical psychoanalytic theory, defense mechanisms operate to keep unacceptable thoughts, impulses, and wishes out of awareness. In current psychodynamic theory, defense mechanisms operate to protect self-esteem and, in more extreme cases, to protect the integration of the self. In both cases, there is an event that is perceived as threatening; however, in the former it always originates intrapsychically, whereas in the latter it can originate either from within or outside of the psyche. Thus, a perceived psychic threat must exist for the resulting behavior to qualify as defensive. For each self-report measure, we will discuss whether or not it is reasonable to assume that a threat existed prior to the hypothesized defensive behavior.

**Aversive Affect Management**

Third, the function of a defense mechanism is to protect the person from experiencing excessive anxiety. Thus, for defense mechanisms to operate as currently defined, there must first be a threat that would result in aversive affect, followed by the activation of a defense mechanism, such that the aversive affect is either avoided entirely or substantially reduced. Although this appears to imply that all defense mechanisms are adaptive, this is not the intent. For example, if someone perceives an intolerable threat, and responds with a dissociative episode, this defensive behavior would not necessarily be viewed as maladaptive. However, the possible anxiety that would have resulted from the threat has, in this case, been avoided. We will examine each measure for its ability to assess whether excessive anxiety or aversive affect was reduced or avoided as a result of the defensive behavior.

**Stability**

Fourth, defense mechanisms are seen as part of normal personality functioning. Theoretically, then, defense mechanism use should be
relatively enduring, stable, and predictable (Chaplin, John, & Goldberg, 1988), although defense mechanism activation may be situationally triggered (Goldberg, 1972). That is, a person may have a stable constellation of defense mechanisms that he or she uses, but the defense mechanisms may only be activated in certain situations or in response to certain threats. Further, defense mechanism use may mature across time, or may change in response to certain interventions, such as psychotherapy or major life crises (Cramer, 1991; Ihilevich & Gleser, 1991; Vaillant, 1976, 1977). Theory and research indicates both that persons have consistent patterns of defense mechanisms (Freud, 1894/1966a; Vaillant, 1992) and that these consistent patterns can change with development and psychotherapeutic intervention (Cramer, 1991; Ihilevich & Gleser, 1991). Thus, similar to all other personality measures, self-report defense mechanism measures must be able to capture the relatively stable use of certain defense mechanisms that characterize a person, and yet be sensitive to threat (or situation) specificity, developmental levels, and significant life events, as all of these are hypothesized to influence and change typical defense mechanism activation.

Adaptation

Fifth, if the use of one or more defense mechanisms is excessive, this may contribute to psychopathology. We have chosen, in this issue, to define defense mechanisms in such a way that they are not inherently pathological (cf. Haan, 1963, 1977). However, there are clearly certain conditions when defense mechanism use would likely be perceived as pathological. Defense mechanism use can be viewed as pathological by the manner in which the mechanisms operate; through excessive and rigid use; by their developmental inappropriateness; by their destructive impact on the self; or by resulting declines in personal, interpersonal, or work functioning levels. The ability to capture the full continuum of adaptation will be explored for each self-report instrument.

Distinctiveness

Finally, implicit in Cramer’s definition is the idea that each defense mechanism be distinguishable from the others. Although Sigmund Freud (1894/1966a) identified most of the defense mechanisms that his daughter, Anna Freud (1936/1946), elaborated, it was not until late in his life
that he began to differentiate defense mechanisms from each other. Although repression forms the cornerstone upon which all other defense mechanisms are based, there now exists a large number of discrete defense mechanisms that have been proposed or assessed (see Conte & Plutchik, 1993, and Vaillant, 1992, for reviews). However, if these defense mechanisms are completely indistinguishable, then purporting to measure each separately is not helpful.

Unfortunately, the total number of defense mechanisms remains in dispute, and has caused considerable consternation for researchers and clinicians alike. Despite this confusion, each self-report measure should provide a definition for each of the defense mechanisms it claims to assess, and should demonstrate some distinguishability among defense mechanisms. We will examine each self-report measure for the provision of this information.

In selecting self-report defense mechanism measures to review, we restricted ourselves to those that assessed distinct defense mechanisms, or defensive styles, and chose not to review those that assessed global defensiveness. Readers are referred to Cramer (1991), Weinberger (1990), and Endler and Parker (1994) for reviews of self-report defensiveness scales. We selected the four measures most frequently used to assess defense mechanisms, rather than defensiveness: the Coping and Defending Scales (Joffe & Naditch, 1977), the Defense Mechanisms Inventory (Gleser & Ihilevich, 1969), the Life Style Index (Plutchik, Kellerman, & Conte, 1979), and the Defense Style Questionnaire (Bond, Gardner, Christian, & Sigal, 1983).

**Self-Report Defense Measure Review and Critique**

**Coping and Defending Scales (CDS)**

*Description.* The CDS was derived from a specific model of ego functioning (Haan, 1963; Kroeber, 1963). One of the many features of this model is the assumption that coping could be easily distinguished from defending, as coping is defined as flexible, purposeful, reality-oriented, and differentiated behavior, whereas defending is defined as rigid, compelled, reality-distorting, and undifferentiated behavior. However, both coping and defending are assumed to handle stress and conflict, and both are mechanisms by which anxiety is kept within bearable limits.
Thus defensive behavior in this model is defined as a response to conflict that is maladaptive in some way. Haan (1965) originally constructed self-report CDS with 9 coping and 7 defense mechanism scales derived from the California Psychological Inventory (CPI; Gough, 1957) and the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1940). Using a criterion-validity approach, Haan retained self-report items that successfully differentiated those rated high and low for each of 7 defense mechanisms using her (1963) observer-rated defense scales. This approach and measure were expanded by Joffe and Naditch (1977) to 20 (CPI-based) scales (10 coping, 10 defense), and most work with the CDS refers to the Joffe and Naditch (1977) 377-item version. Unlike Haan (1965), Joffe and Naditch (1977) cross-validated their scales with a second sample, resulting in a CDS scale with better psychometric properties. Defense mechanism processes and definitions were derived from Sigmund Freud (1926/1959) and included the classical ones elaborated by A. Freud (1936/1946): isolation, intellectualization, doubt, denial, projection, regression, displacement, repression, rationalization, and reaction formation.

For many of the CDS defense scales, different items and different numbers of items are summed for men and women, but the resulting two scales are given the same label. Scores are calculated as the total of the items for each defense scale, and a total defense score is calculated by summing all defense scales. A second-order factor analysis has also revealed four factors: controlled coping, expressive coping, structured defense, and primitive defense (Joffe & Naditch, 1977). Although the CDS has been employed in a number of studies, little information is available about its applicability to groups other than normal adults, undergraduates, and Marine Corps recruits. Means and standard deviations for community adult and undergraduate men and women can be found in Haan (1977, p. 322).

**Reliability.** Interestingly, item consistency estimates are neither provided by Joffe and Naditch (1977), nor are they reported by any investigator using these scales. Interscale correlations are also not reported. Test-retest stability over a 4-week interval for women ranged from 0.46 (isolation) to 0.81 (intellectualization and repression), and for men ranged from 0.54 (isolation) to 0.82 (displacement). Joffe and Naditch (1977) concluded that there was adequate stability for some, but not all, of the defense scales. Using Joffe and Naditch’s CDS, Helson and Moane
(1987) analyzed a CPI data set repeatedly administered to a single cohort sample of 140 women who first completed the CPI (and other personality measures) between 1958 and 1960, at the average age of 21 years. These women then completed a set of measures including the CPI approximately 5 years later, and then again approximately 15 years later. From age 21 to 27 years, only the defense score for regression significantly decreased, as might be expected developmentally (Cramer, 1991). From age 27 to 43 years, four defenses—denial, primitive defense, structured defense, and summed defense—significantly decreased, and two—intellectualization and reaction formation (both of which suggest increasing cognitive complexity)—significantly increased (Helson & Moane, 1987). These findings suggest that the CDS has remarkable stability, but may be sufficiently sensitive to detect developmental changes.

Validity. Many of the CDS items have no face validity. For example, the item “Christ performed miracles such as changing water into wine” is scored as a regression item when respondents indicate “false” to this item. Thus respondents are not asked to endorse or reject potentially defensive behavior, which minimizes social desirability biases. Joffe and Naditch (1977) report that when Haan’s (1963) observer-based ratings of defense mechanisms were employed as external criteria with two independent samples of normal adults, the correlations ranged from .21 (rationalization) to .57 (denial) for women, with a median value of .38. For men, the range was from .21 (denial) to .46 (reaction formation), with a median value of .33. The male version of rationalization did not reach an acceptable level of validity. To examine construct validity, Joffe and Naditch (1977) also correlated their CPI-derived defense scales with the original CPI scales (measures of adaptive personality), and showed a generally negative relation between the two. Bartek, Krebs, and Taylor (1993) found that the defense scores of prostitutes and other young offenders were significantly higher than those of nonoffenders (although they did not report specific defense scale differences). Helson and Wink (1987) examined the predictive validity of the CDS to ego level as assessed by the Loevinger Sentence Completion Test (Loevinger, Wessler, & Redmore, 1970) and competence as assessed by a vector score from the CPI (they dropped from analysis suppression, sublimation, empathy, isolation, denial, regression in the service of the Ego, and intellectualization, due to the poor psychometric characteristics of these scales). They employed the same cohort sample as Helson and Moane.
and found that increased projection and displacement scores at 21 years predicted decreased competence at 43 years, and that increased repression predicted decreased Ego level at 43 years. The CDS has also been correlated with Type A behavior components (Vickers, Hervig, Rahe, & Rosenman, 1981) and locus of control (Vickers, Conway, & Haight, 1983); a complete review of these studies is available in Cramer (1991).

**Definitional Criteria.** There were six definitional criteria offered by which self-report measures can be scrutinized for their ability to assess defense mechanisms. First, as defense mechanisms are definitionally unconscious, self-report methodology offers the unique possibility of excluding certain behaviors as defensive, if a respondent is aware of the motivation for that behavior. The respondent’s awareness of the motivation for the defensive behavior is not assessed with the CDS, and so the CDS cannot speak to the consciousness or unconsciousness of that motivation. The second definitional criterion we presented was that a psychic threat must exist for the respondent for a response to be defensive, and the CDS does not establish or ensure that a psychic threat has occurred. As such, it is unclear how the CDS can ascertain that the response would be defensive on the part of the respondent. The third definitional criterion was that affect management occur as a result of the defensive behavior. With the CDS there is no way of determining whether or not affect management occurred. The fourth definitional criterion was that defense measures should be assessing constructs that have enduring, personality-like features. Stability and consistency have been nicely demonstrated for the CDS and indicate that the constructs that the CDS assesses are relatively stable and enduring over time. The fifth criterion was that the measure should assess the full range of adaptation. Following Haan’s (1963) model of ego processing, all maladaptive items are considered defensive, and all adaptive items are scored as coping responses. Thus, the CDS does not assess the full continuum of adaptation of defense mechanisms, by excluding any that might be considered adaptive. The last definitional criterion was that individual defense mechanism scales should be distinct; it is unknown if the CDS defense scales are unique, as the interscale correlations have not been published, and extensive single-scale validation has not yet been attempted. Thus, while the CDS has met some validity requirements, it fails to address five of the six definitional characteristics for defense mechanism assessment.
Critique. One of the distinct strengths of the CDS is its lack of face validity, which decreases socially motivated distortion of responses. Second, both the correlations with observer-rated defense mechanism use and the longitudinal cohort studies suggest that the construct validation work conducted thus far is promising. Finally, the ability to assess enduring traits that develop across time is also a strength of the CDS.

There are four notable limitations to the CDS. First, further validation of the individual defense scales is required. Although the original empirical criterion keying and the subsequent cross-validation suggest that the individual scales might be valid, they are only valid to the extent that the Haan (1963) observer-based CDS are themselves valid. One could offer convergent and discriminant validation hypotheses for each of the 10 defenses, and these hypotheses could then serve to test if the scales are, in fact, distinct. Second, the CDS requires completing 377 true-false items, and this will limit the usefulness of the CDS when researchers wish to assess defenses alongside other personality constructs, due to participant time (and patience) constraints. Third, the use of different items, and different numbers of items, for similarly named subscales for men and women highlights the delicate and often difficult nature of empirical criterion keying. For example, men and women might have displayed repression indicators differentially in the 1970s, and perhaps do not do so to the same extent in the 1990s. A constant consideration of the differences between the sample under study and the keying sample must be undertaken if one plans to use the validity data from the keying sample, and this is a limitation to the ongoing usefulness of the CDS. Finally, the CDS is no longer frequently employed. Searches of the Social Science Citation Index, and of the Psychlit CD Rom database, revealed almost no empirical citations for this scale after 1987, and few citations from the 1977 to 1987 time period.

The Defense Mechanisms Inventory (DMI)

Description. The DMI is based on the psychoanalytic assumption that defense mechanisms resolve or decrease conflicts between external and internal reality by one of the following methods: attacking, distorting, or becoming selectively unaware of aspects of either the internal or external world (Gleser & Ihilevich, 1969). The DMI assesses five theoretically distinct defensive styles: Turning against the self (TAS), Turning against the object (TAO; which includes identification with the aggressor and
displacement), Projection (PRO), Reversal (REV; which includes nega-
tion, denial, reaction formation, and repression), and Principalization
(PRN; which includes intellectualization, isolation, and rationalization).
These styles are considered to account for most of the classical defense
mechanisms mentioned in the psychoanalytic literature (Ihilevich &
Gleser, 1986).

The DMI consists of 10 stories describing situations hypothesized to
capture commonly encountered conflictual situations. There is a male
and a female version of the questionnaire. Each story is followed by five
different options (corresponding to the five defensive styles) for each of
the following four categories: actual behavior, impulsive fantasy,
thoughts, and affect. The respondent is asked to select the option that is
most representative and least representative of him or her for each
category. Thus, for each of 10 stories there are 20 options, resulting in a
total of 200 DMI items. Scores for each defensive style are calculated by
summing scores across all stories and all categories, resulting in scores
for each defensive style that range from 0 to 80 (Cramer, 1988; Gleser &

The generalizability of the DMI has been investigated across demo-
graphic characteristics such as gender, age, and ethnicity. Most of the
research on gender differences has found that men score higher on TAO
than women, and that women score higher on TAS than men (see Cramer,
1991). Men have also been found to score higher on PRO than women,
and there is weak evidence that women score higher on REV and PRN
than men. Results of research relating the DMI scales to age have
generally shown that more mature defense styles are increasingly em-
ployed as age increases. PRN and REV are positively related to age, while
TAS and TAO are negatively related to age (Cramer, 1991; Gleser &
Ihilevich, 1969; Ihilevich & Gleser, 1986). Finally, a few studies have
looked at the relation between ethnicity and the DMI scales. Martin
(1977) found that Native American adolescents scored higher on REV
and lower on TAO compared to White adolescents. Similar results have
been found by Banks and Juni (1991), who discovered that African
American youths scored significantly higher than Caucasian youths on
REV. Normative data exists for adolescents, adults, college students, and
many samples of psychiatric patients (Ihilevich & Gleser, 1986, 1991).
Apparently, foreign language versions of the DMI are available, though
a list of the available language choices has not been published. Clinical
study results can be found in Ihilevich and Gleser (1991).
Reliability. The reliability and validity of the DMI have been reviewed extensively elsewhere (Cramer, 1988, 1991; Gleser & Ihilevich, 1969; Ihilevich & Gleser, 1986, 1991, 1995; LaVoie, 1987) and so will only be summarized here. In general, studies report adequate estimates of the DMI’s interitem consistency and stability coefficients, which are around .78 for both when stability is measured across 1 to 4 weeks (see Cramer, 1988, for a complete review of these estimates). Cramer (1988) also notes that reliability estimates tend to be highest for TAO and lowest for PRO, and also somewhat higher in women than in men.

Validity. The validity of the DMI has been examined extensively, and across a number of types of validity. Content validity is considered adequate for three of the five styles, as clinicians agree with the labeling of the majority of the items (TAS, REV, and PRN; Gleser & Ihilevich, 1969). However, PRO and TAO items are frequently classified as the other style, or are not considered to represent defensive behavior (Blacha & Fancher, 1977; Gleser & Ihilevich, 1969). There is a possible lack of independence that is frequently reported for these two styles (\( r = .45 \); Cramer, 1988), and factor analyses of the styles (using a modified report format) suggest that the two load on the same factor (Woodrow, 1973, as cited in Cramer, 1988). As a result of these consistent findings, it has been suggested that a different scoring system be employed for the DMI (Juni, 1982).

Attempts to establish concurrent and construct validity have been limited by the nonindependence of the scales, by conceptualization and theoretical problems associated with some of the DMI defense styles (Cramer, 1991; Ihilevich & Gleser, 1986), and by the measures to which the DMI has been compared. The DMI has been investigated in relation to the MMPI defensive scales (L, D, and F), Byrne’s Repression-Sensitization scale (Byrne, 1961), Haan’s MMPI-derived Defense scales (Haan, 1963), Joffe and Naditch’s Coping and Defending scales (Joffe & Naditch, 1977), and the Coping Operations Preference Enquiry (COPE; Schutz, 1962). For construct validation purposes, the DMI has been employed to predict therapy continuance, therapy outcome, and successful differentiation of psychiatric from normal samples (Ihilevich & Gleser, 1986). REV is the only DMI scale to show consistently expected relations with the concurrent measures of similar constructs (Cramer, 1991); REV is consistently related to primitive defenses, repression, and avoidance. The evidence does not support the validity of
PRN; except for the COPE isolation scale, PRN does not meaningfully relate to any of the other expected measures. There is some support for TAO, although the amount of research devoted to this style has not been extensive. For PRO and TAS the findings are mixed. Two studies found no relation between PRO and other measures of projection, while three did (when only men were considered). Similarly, for TAS, one study found that mental health staff ratings of TAS were correlated with self-reported TAS, whereas a second study did not (Cramer, 1991). Interestingly, in a number of the construct validity studies, PRO and TAO (the two highly interrelated styles) were differentially related to the outcome measure of interest, and the individual styles were each sensitive to clinically meaningful outcomes (for a review of these studies, see Cramer, 1991), suggesting that, despite their interdependence, they have discriminant validity.

**Definitional Criteria.** First, the consciousness of the defensive motivation is problematic for the DMI. Kline (1991) points out that defenses are to be used against unconscious threats, and yet the DMI explicitly describes the threats in each story. Thus, by most definitions of defense mechanisms, the behavior reported upon within the DMI is not defensive. Second, by definition, a psychic threat is necessary for defense mechanism activation to occur. The DMI approach does not consider the idiographic nature of psychic threat or conflict. In the current format, there is no way to ascertain that the conflict situation that is listed for respondents poses a psychic or even relevant threat for the respondent. Thus, if being splashed by an inconsiderate driver is not threatening to you, it is hard to consider your responses to that “conflict” as defensive. Third, it will be difficult to measure anxiety and anxiety reduction after defense activation for all self-report measures, yet one has to ask whether some of the situations specified in the DMI would arouse threatening anxiety levels in the average respondent (such as threatening levels of anxiety after having been splashed). Fourth, although the stability of the DMI defense styles has been examined across a number of weeks, there have been no long-term stability studies conducted using the DMI, to examine if responses are enduring and consistent across time. Fifth, the DMI appears to allow a range of both adaptive and maladaptive defensive behaviors, and so appears to cover the full range of adaptation. Last, the DMI may not meet the definitional criteria of defense mechanism style distinctiveness, as there are large interdefense style correlations. However,
individual styles do predict important clinical outcomes differentially, indicating that the styles may be sufficiently distinctive (Cramer, 1991). Thus, the DMI does not meet the first three criteria, but likely meets the latter three criteria.

**Critique.** The DMI is the most widely used self-report defense mechanism measure. Thus, there are data for both obvious and obscure questions about the DMI, and for hypotheses about defenses in general. Second, the DMI is an easy-to-use instrument that measures a wide range of defensive styles. Third, some of the individual scales appear to be differentially related to subtle nuances of clinical behavior, in the expected direction (Cramer, 1991).

There are, however, a number of limitations to the DMI. First, the current DMI response format is unusual: A respondent indicates the most and least representative option out of five possible options, leaves all other items blank, and these blank items are then given a score of 1. This response format does not allow for standard item-consistency or factor analyses to be conducted on the data (as it is dependent, has substitutions for missing data, and is nominal). Further, Juni (1994) has noted that this response instruction is problematic for certain demographic groups, such as the learning disabled and those with poor reading skills or lower educational backgrounds. Although some using the DMI have employed a 7-point Likert scale (Vickers & Hervig, 1981; Woodrow, 1973, as cited in Cramer, 1991), there is currently no comparison of the two response formats.

Second, situation and response selection is idiosyncratic. The authors were attempting to select representative threatening conflict situations in the areas of situational frustration, competition, authority, independence, and sexual identity. However, it is not clear how many respondents would find imagining themselves as orphaned and being informed they may not go out (by an adoptive uncle and aunt), or receiving a ticket unfairly from a policeman, as psychically threatening. Further, it is not clear how representative (or even reasonable) the behavior, fantasy, thought, and feeling items are within each situation. Personality researchers are strongly encouraged to complete the DMI for themselves (and to complete both the male and female versions) to understand the peculiarity of both the situations and the choice of possible responses that the DMI offers. To the extent that respondents are not given responses that are
likely for them, or situations that are threatening to them, the validity of
the measure will be compromised.

Finally, substantially different findings are often obtained for men and
women. For example, TAS is positively related to social desirability in
women, but negatively so in men (as summarized in Cramer, 1991).
However, since different situations and items are employed for the male
and female versions, the resulting style scores have the same labels, but
a different meaning. There is 80% overlap in the situations, and 84%
overlap in the items, but it is not clear how much the nonoverlapping
situations and items contribute to the current sex difference in DMI
defense style findings.

Life Style Index (LSI)

Description. The LSI was developed to remedy limitations in existing
self-report measures of defense mechanisms (Plutchik et al., 1979).
Specifically, Plutchik and colleagues (1979) attempted to develop a
measure that would provide a theoretical framework for assessing de-
fense mechanisms. A circumplex model of defense mechanisms is pre-
sented, and their relation to affect, personality disorders and each other
is specified (Conte & Plutchik, 1993; Plutchik et al., 1979). The LSI was
developed through a series of face validity and factor analytic studies
with undergraduate participants. The LSI is a 97-item inventory with a
“usually true” or “usually not true” response format that results in scores
for eight defense mechanisms: compensation (including identification
and fantasy), denial, displacement, intellectualization (including subli-
mation, undoing, and rationalization), projection, reaction formation,
regression (including acting out), and repression (including isolation and
introjection). Norms for 147 normal adults in the form of percentiles and
T-scores are available (Conte & Plutchik, 1993), but the applicability to
specialized populations other than psychiatric patients is unknown. A
complete review of the studies conducted thus far with the LSI is also
available (Conte & Plutchik, 1993).

1. The original article describing the LSI reports that the final item selection resulted in
138 items (Plutchik, Kellerman, & Conte, 1979). However, a recent review of the LSI
reports that the final version contains 97 items (Conte & Plutchik, 1993). Researchers
interested in this measure should exercise caution regarding which version they employ,
and whether research results pertaining to their field employed the 97- or the 138-item
version.
Reliability. Item consistency estimates are presented for two samples: inpatients and students. Coefficient alphas range from .30 for intellectualization (students) to .86 for projection (inpatients), with median values of .62 and .54, respectively (Conte & Plutchik, 1993). Stability estimates are not provided.

Validity. In the original presentation of the LSI, the eight scales were correlated with a self-esteem measure and an anxiety measure, and the authors argue that the general pattern of correlations supports the theoretical framework that is presented for these defense mechanisms (Plutchik et al., 1979). For example, the greater a person’s score on anxiety, the greater his scores on regression, compensation, projection, displacement, and intellectualization. Also, schizophrenic patients were found to score higher on seven of the eight defense scales than the original sample of students, as would be expected by Plutchik’s model of defense mechanisms. Apter et al. (1989) report that the regression scale successfully distinguished suicidal from nonsuicidal patients, and that the use of displacement successfully distinguished violent from nonviolent patients. Schizophrenic patients who used repression, displacement, and denial were more likely to be rehospitalized in the 2 years following LSI administration, although the authors point out that these were not the strongest predictors of rehospitalization (Conte, Plutchik, Schwartz, & Wild, 1983). Finally, high reaction formation and projection scores were found to predict psychiatrists’ ratings of successful psychotherapy outcome of 21 medical students who attended an average of 42 sessions (Buckley, Conte, Plutchik, Wild, & Karasu, 1984). Although the projection finding appears inconsistent with defense theory, the authors point out that “low” projection scores for this sample were at the 4th percentile of a norm group, whereas “high” projection scores were at the 31st percentile.

Definitional Criteria. The authors of the LSI scale provide a rationale for employing a self-report measure while maintaining that defenses are unconscious (Plutchik et al., 1979). They suggest that most persons, either through psychotherapy or life experiences, learn to identify their own typical defense styles. Additionally, they suggest that most persons can report their own feelings and behavior, even if they cannot interpret the dynamic meaning of such feelings and behavior (p. 236). However, similar to the authors of other self-report measures, these authors do not
ascertain if respondents are aware of the motivations underlying the reported behavior, our first criterion. Similarly the second criterion, the existence of a psychic threat, or the identification of the type of threat that activates defenses in a respondent, is not assessed by the LSI measure. Plutchik and colleagues reported that the use of six defenses was positively correlated with anxiety, whereas one (denial) was negatively correlated with anxiety. In our conceptualization of defenses, all defenses should result in decreased within-person state anxiety; it is unclear how the report of general defensive behavior should relate to between-person trait anxiety. Thus, with regard to our third criterion, affect management, it is not yet clear if the LSI is assessing constructs that result in the avoidance or reduction of threatening anxiety and affect management. Fourth, the stability of these defense scales is unknown, and should be examined. Fifth, all adaptive defense mechanisms are excluded from this measure (e.g., humor, suppression, etc.), as the authors argue that these are definitionally conscious. This is not consistent with most conceptualizations of defense mechanisms and subsequently limits the utility of the instrument. Finally, efforts were made, through multiple test construction phases, to identify unique and distinctive defense mechanisms and styles, but the authors explicitly argue that some are conceptually similar to others (Plutchik et al., 1979). Thus, the LSI meets the last criterion, but it is largely unknown if the other criteria are met, as they have not yet been extensively tested.

Critique. The LSI provides a rationale for the defense mechanisms that are selected for assessment, and explicitly predicts their relation to emotions, psychopathologies such as certain personality disorders, and each other. This theoretical clarity is clearly welcome. Further correlations between the LSI defense mechanism scales and those from other scales (both self-report and observer-based) would be most helpful in evaluating the usefulness of this instrument.

Defense Style Questionnaire (DSQ)

Description. In the development of the DSQ, Bond et al. (1983) originally attempted to assess 24 defense mechanisms that were gleaned from A. Freud (1936/1946), S. Freud (1926/1959), Kernberg (1967), and Klein (1973). Items were retained when rated as appropriate by a group of clinicians and when item-total correlations were acceptable (Bond et al.,
However, second-order factor analyses, and low item-consistency estimates, led to a four defense style scoring system (at the time labeled Defense Style 1 to 4), computed from 81 items answered on a 9-point Likert scale. Examples of the items include “If someone mugged me and stole my money, I’d rather he be helped than punished” (reaction formation) and “If my boss bugged me, I might make a mistake in my work or work more slowly so as to get back at him” (passive-aggression).

The original version of the DSQ had 97 items; it was later reduced to 81 items and a four-factor solution labeled Defense Style 1 to Defense Style 4 (Bond et al., 1983). In 1986 Bond revised the DSQ to 88 items but retained a four-factor solution and continued to call these Styles 1 through 4 (Bond, 1986). In another 1986 publication, however, Bond revised the factor labeling for his four-factor solution, now calling the factors maladaptive action patterns, image-distorting defenses, self-sacrificing defenses, and adaptive defenses (Bond & Vaillant, 1986). It is this version of the DSQ and labeling that is currently used by Bond (e.g., Bond, Paris, & Zweig-Frank, 1994). The DSQ has, however, been rescored by Andrews, Pollock, and Stewart (1989) into a three-factor solution and into 20 defense scales, which is more consistent with the glossary of defense mechanisms listed in the Diagnostic and Statistical Manual of Mental Disorders, third edition, revised (DSM-III-R; American Psychiatric Association, 1987). Thus, researchers should be cautious as to which version and which scoring system of the DSQ has been used in a study: the 81 items and factor labels, the revised 88 items using the original or revised factor labels, or the Andrews three-factor scoring system.

Reliability. Item consistency estimates for many of Andrews 20 defense mechanism scales are not satisfactory (.07 to .82), but the estimates for the scores are better (.68, .77, and .86, respectively). In a sample of 39 subjects, Bond (1995) looked at the test-retest stability over a 6-month period for the four style version of the DSQ. Results indicated that the defense styles were stable over time (.73, .71, .68, and .69 for Styles 1 through 4, respectively).

Validity. The validity of the DSQ has been tested by looking at the relation between the defense styles identified by Bond et al. (1983), and how they relate to other existing measures of ego maturity. Style 1 has been characterized as immature and is most strongly and significantly
negatively related to both ego strength using the Ego Function questionnaire and Loevinger’s developmental stages (–0.91 and –0.42, respectively), while Style 4 has been characterized as mature and is most strongly and significantly positively related to ego strength and Loevinger’s development (0.32 and 0.19, respectively). Styles 2 and 3 are relatively indistinguishable from one another and fall between the first and fourth style (Bond, 1992, 1995).

To further test the validity of the maturity levels of the four styles, patient and non-patient samples were assessed for the frequency with which they used each style. Psychiatric patients were more likely to use Style 1 and less likely to use Style 4 than non-patients (Bond, 1992, 1995; Bond et al., 1983).

The DSQ has been cross-validated with the Defense Mechanism Rating Scale (DMRS; Bond, Perry, Gautier, Goldenberg, Oppenheimer, & Simand, 1989; Perry & Cooper, 1986), an observer-based instrument. Significant positive correlations between the use of DSQ maladaptive defense styles (Style 1) and the ratings of immature defenses on the DMRS were found, as were significant negative correlations between the DSQ Style 1 and the ratings of mature defenses on the DMRS. Additionally, significant negative correlations between the DSQ Style 1 (maladaptive) and the Health-Sickness Rating Scale were found; however, significant positive correlations were found with life events (Bond, 1992).

The relation between the DSQ and borderline personality disorders and other psychiatric disorders has also been investigated (Bond, Paris, & Zweig-Frank, 1994). Results suggest that borderline patients reported using more maladaptive and image-distorting defense styles (Styles 1 and 2) and less adaptive defense styles (Style 4). Additionally, the borderline group used suppression, sublimation, and humor less than the nonborderline group.

**Definitional Criteria.** Bond et al. (1983) decided that self-report methodology was not appropriate to assess unconscious defense mechanisms, but that they could assess the conscious derivatives of defenses, and styles of defenses, rather than distinct defense mechanisms (Bond, 1995). Similar to all other self-report measures, awareness of motivation is not assessed, nor is psychic threat activation, or anxiety avoidance/reduction, our first three criteria. Further examination of the enduringness of these responses would be helpful to determine their stability, our fourth criterion. Our fifth criterion, adaptability, is addressed by the DSQ. Defensive behaviors assessed by the DSQ clearly range in adaptation. Finally, the
20 defense mechanisms likely are not sufficiently distinctive, but the three-factor scores or four styles do appear to meet our sixth criterion.

_Critique._ One strength of the DSQ is that Bond and others have attempted to validate a variation of Vaillant’s hypothesized maturity levels of defense mechanisms and have investigated these levels for their prediction to clinical outcomes. The DSQ has derived its defense mechanisms from a list of defense mechanisms that is currently under consideration as a separate axis for the DSM nosology, and the list has some promising predictive validity (Vaillant, 1986). However, further work with this measure is clearly warranted. Many of the limitations with this measure apply to all self-report measures, and so we now turn to a general discussion of these instruments.

**Current Status of Defense Mechanism Measurement by Self-Report**

The advantages to using a self-report format with structured responses for assessing defense mechanism use is clear. The stimuli used to elicit the responses are straightforward and objective, and presumably have the same meaning for all persons. Likewise, the response is elicited in a format that is unambiguous, objective, and easily scored without observer bias. Developing a self-report measure of defense mechanisms presents a number of challenges to the test developer. To meet the criteria specified in this special issue, a defense mechanism measure must assess behavior that is unconsciously motivated; that results from the activation of an unconscious psychic threat; that decreases or avoids intolerable anxiety; that is personality-like in its stability; that varies along an adaptation continuum; and that is an indicator of a specific defense mechanism. Finally, to add to the complexity, a self-report measure must consist of behavioral items to which a respondent can plausibly respond with some degree of accuracy.

The juxtaposition of these features with the major existing self-report measures highlights the difficulty faced by personality researchers who attempt to assess defense mechanism constructs. Defense mechanisms are formulated as dynamic process constructs, but they are typically assessed as stable personality constructs. This discrepancy is not a fatal flaw, as many personality theorists have proposed that behavior is situationally activated, but predisposed by personality (see Coyne & Gotlieb, 1996, for a recent discussion).
To examine the usefulness of each defense mechanism measure, a summary table has been constructed of the reliability, validity, and definitional criteria that have been employed throughout this article (see Table 1). Although some promising reliability and validity research exists, an examination of the standing of all measures on the six definitional criteria is less promising. None assess whether a respondent is aware of the motivation for a behavior; none ascertain whether a psychic threat exists for the respondent when the putative defensive behavior is activated. Similarly, affect management of any type is not assessed. Two measures rule out any behavior that might be adaptive. Finally, distinctiveness is often attained by summing individual defense mechanisms together. Given that no one measure is clearly superior to the others, the question of their relations to each other arises.

### Concurrent Validity of the Self-Report Defense Mechanism Instruments

Most of these frequently used self-report instruments appear to have selected similarly named defense mechanism constructs for assessment.

<table>
<thead>
<tr>
<th>Defense Mechanism Measures</th>
<th>CDS</th>
<th>DMI</th>
<th>LSI</th>
<th>DSQ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability Item Consistency</td>
<td>Unknown</td>
<td>Yes</td>
<td>Some</td>
<td>Some</td>
</tr>
<tr>
<td>Validity Concurrent</td>
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<td>Some</td>
<td>Unknown</td>
<td>Some</td>
</tr>
<tr>
<td>Predictive</td>
<td>Yes</td>
<td>Some</td>
<td>Some</td>
<td>Unknown</td>
</tr>
<tr>
<td>Construct</td>
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<td>Some</td>
<td>Some</td>
<td>Some</td>
</tr>
<tr>
<td>Defining Criteria Unconsciousness</td>
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<td>No</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Psychic threat</td>
<td>No</td>
<td>Unknown</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Affect management</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Stability</td>
<td>Yes</td>
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<td>Unknown</td>
<td>Some</td>
</tr>
<tr>
<td>Adaptation</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>Unknown</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

¹Table contents refer to defense style scores, not to defense mechanism scores.
Thus, despite differing methodologies, one would expect some overlap in defense assessment. An impressive overlap in defense mechanisms to be assessed does exist among the four measures. However, as the following two exemplars demonstrate, the intercorrelations for these four measures are almost nonexistent. For example, the DSQ shows neither convergent nor discriminant validity with the LSI, the DMI, or the COPE, and a factor analysis of the scales indicated only measurement factors, rather than any defense mechanism factors (Mehlman & Slane, 1994). Similarly, when the DMI, CDS, and COPE were concurrently evaluated, only measurement factors once more emerged, and the pattern of correlations did not support either convergent or discriminant validity (Vickers & Hervig, 1981). Cramer (1991), in reviewing studies that have examined correlations between the DMI and other self-report instruments, demonstrates that few high intercorrelations are found. Vickers and Hervig (1981) argue that their results are consistent with concluding that either the measures or the constructs are not valid (Campbell & Fiske, 1959). However, they suggest that different self-report instruments may assess different parameters of defense mechanisms, and this in turn leads to their low interrelations. These different parameters are often not considered when assessing defense mechanism use, and we turn now to an examination of these untapped individual difference dimensions that may underlie defense mechanism use.

**Additional Dimensions Underlying Self-Report Defense Mechanism Measures**

Whether or not motivations for behaviors are unconscious cannot be determined by self-report alone. However, self-report methodology may offer part of the solution for determining if a behavior is, in fact, unconsciously motivated. For example, if a person is able to accurately report upon the motivation for a behavior, then that behavior no longer meets our definition for a defensive behavior. But, to complicate the assessment picture, someone must make a judgment about the likelihood that the reported motivation explanation is accurate and complete, and that no unconscious underpinnings remain. This discussion raises the possibility of an important and fascinating individual difference dimension. Surely, awareness of motivation for behavior differs dramatically among us, and likely informs how much behavior in general is defensive, and how much is not. Efforts at assessing motivation awareness would...
be worthwhile. None of the above measures currently assess this dimension, although all will be influenced by it.

Similarly, some persons are capable of reporting behavior that meets the criterion for defensive behavior, whereas others likely are not. Thus, we can ask to what extent persons are also aware of their feelings, thoughts, and behavior. This too, then, is an individual difference variable with important theoretical and empirical implications for defense mechanism assessment. The DMI, LSI, and DSQ all assume that respondents have sufficient self-awareness to report thoughts, feelings, and behavior (e.g., Plutchik et al., 1979). We suspect that there are persons well able to describe their own feelings, thoughts, and behavior, and others who clearly cannot do so (see, e.g., the alexithymia literature; Lesser, 1981). Self-report defense mechanism measures will, unfortunately, only be valid to the extent that a person is high on the behavior awareness dimension, or self-monitoring (Snyder, 1974; Snyder & Gangestad, 1986).

There are two individual difference dimensions of interest for unconscious psychic threats: the types of situations that are perceived as threatening by certain persons and the frequency with which these threatening situations are encountered. Both of these dimensions, by their very nature, may be difficult to ascertain through self-report. First, a person may be unaware of the existing threat—for example, because of the successful employment of repression—and so may be unable to report the situation as being threatening. We must ask about all possible situations and we must further assume that defenses such as repression are not operating in such a way as to cause an underreporting of the type of situation that is found to be threatening. Second, if we cannot obtain an accurate list of threatening situations by self-report, assessing frequency by which those situations are encountered will be pointless.

Interestingly, both the type of situations and the frequency of these situations strongly influence our perceptions of others’ overall defensiveness. For example, if in daily life a person perceives as threatening only work-related self-esteem issues, and if this is an infrequently encountered situation, then that person will not be viewed as particularly defensive. However, if the person’s life is such that work-related self-esteem issues are activated during the majority of waking hours, the rating of defensiveness will be high. Of course, there also will be persons for whom work-related self-esteem situations will not be psychically threatening, and so that type of psychic threat will be unrelated to others’ perceptions
of their overall defensiveness. Psychic threat type and psychic threat frequency are critical in the investigation of defense mechanism use.

The predictability and consistency of defensive behaviors and defense mechanism use are issues meriting empirical investigation. Funder and others’ examination of the consistency and predictability of persons (Bem & Funder, 1978; Funder & Colvin, 1991) suggests that we do, indeed, differ on a consistency and predictability dimension. Similarly, some of us may be very predictable in the defensive way in which we respond to a threat, whereas others of us might be very inconsistent in our defense use, and/or unpredictable in which defense we use when threatened. This individual difference dimension will thus impact upon defense mechanism activated when a person is threatened.

Do we differ on the adaptive level of our defense mechanism functioning? Vaillant (1976, 1977, 1986, 1994) has theorized that some defense mechanisms are more mature than others, and hence more adaptive. He has demonstrated that those who typically use more mature defense mechanisms in early adult life have fewer mental and physical health problems later in life (Vaillant, 1976, 1977). We suggest that there are also adaptation differences within persons, as well as within defense mechanisms. For example, reflexively employing repression when faced with an uncontrollable threat, but using sublimation when faced with a controllable threat, may indicate adaptive defense use. Thus, it may be that the psyche’s ability to match defensive responses to the type of threat, the needs of the person, and the context in which the threat occurred will be more valuable in assessing the overall mental health (and future prospects of mental health) of a person than would simply knowing that he or she generally uses a specific defense. This dimension of adaptive defense mechanism activation is similar to Block’s (1961) work on ego resiliency, and is an area and a literature that must be considered when one is interested in assessing defense mechanism use.

Finally, the differentiation among defense mechanisms, and behaviors representative of defense mechanisms, has posed a challenge for defense mechanism researchers from the beginning. The problem has been approached from a variety of perspectives (Cramer, 1991), but we believe that the crux of the matter is that a behavior that is defensive may shift across time for one person, and may differ between persons; that is, we believe that defense behavior meaning is idiographic. Thus, washing hands repeatedly throughout the day may indicate undoing for Person A at Time 1, but reflect the existence of a premature baby in the home for
Person A at Time 2. Washing hands repeatedly in Person B may be linked only to their profession as physician, and may never indicate undoing. Yet, answering affirmatively to “Do you wash your hands repeatedly?” is simply coded as a defensive behavior in some self-report measures. Thus, self-report measures will likely remain insensitive to these critical subtleties.

Within this area of research, sensitivity to the need for a better understanding of specific threat-defense processes, broader contextualizations of specific processes, or still broader patterns of regular person–threat interactions will aid in evaluating the strengths and limitations of the commonly used self-report defense mechanism measures. However, any single self-report measure will likely be insufficient for capturing all the dimensions that are critical for assessing the complex constructs of defense mechanisms. Thus, the assessment of defense mechanisms will generally require information from a number of sources, including self and peer report, clinical assessment, biographical data, as well as behavioral observations, to fully discern defense mechanism use.

Clinical judgment—of defense activation, of motivation awareness, of type and frequency of psychic threat—will be necessary to even start to fathom the defensive structure and functioning of a person. Yet what of the defensive structure of the clinical judge? The theorizing on the cognitive biases that result from defensive activation surely must be attributed to clinical observers, as well as to our research participants. Freud (1894/1966a) had an answer for this problem: that the psychoanalyst himself or herself be fully aware of his or her own defensive processes and the reasons for these defensive processes before offering insights into the defenses of others. This, however, is an unlikely contemporary solution to this classical dilemma. Instead, McCrae (1994) has offered another theoretical and psychometric solution to this problem in the area of general personality: generalize across observers. That is, multiple clinical observers are unlikely (or at least, less likely) to share similar defense structures, and so averaging across observed defense mechanism ratings may minimize observer biases. This methodology, in conjunction with self-report, may allow us to better view the defensive structure of a person.

SUMMARY

In conclusion, self-report defense mechanism measures ignore individual differences in defense motivation and behavior awareness, psychic
threat type and frequency, defense consistency and predictability, adaptive defense activation, and defense behavior meaning. Surely these are not dimensions that we should ignore, but instead are personality dimensions that we should study. To capture the rich context and subtleties that will contribute to our understanding of defense mechanism use, we need to simultaneously examine different assessment approaches.

REFERENCES


