

XIV. INFORMATION-PROCESSING APPROACHES

In tune with the cognitive revolution, Erdelyi (1974) called for an information-processing approach to studying defenses. Issues of consciousness, repression, and threat became issues of attention, memory, and filtering. Since then a number of theoretical pieces have been couched in such information-processing terms (Grzegolowska, 1976; Hamilton, 1983; G. E. Schwartz, 1977). Indeed, the impact of cognitive psychology may be seen in most modern analyses of defense either in terms of theory (e.g., Horowitz) or in terms of method (e.g., percept-genetic). Before we return to these broad theories, we will consider some smaller domains that have been subject to particular scrutiny.

A. Individual Differences

Heilbrun's recent work is a good example of the direct application of cognitive psychology to the measurement of defenses. In Heilbrun and Pepe (1985), for example, defenses are assessed by examining the cognitive processing of self-descriptions under various motivational conditions. Discrepancies between various conditions provide measures of projection, repression, rationalization, and denial. The authors concluded that unconscious utilization of projection and rationalization was related to successful control of stress, whereas unconscious repression was related to excessive stress. The conscious use of denial was related to a low level of stress.

B. Attention and Defense

The dynamics of defense can be studied by examining the interplay between selective attention and attentional breakdowns known as "intrusions," that is, the partial interference of threatening thoughts in some ongoing thought process. Sophisticated cognitive methodology and analyses (e.g., signal detection) are necessary to capture such phenomena. Spence (1983), for example, showed the indirect effects on speech patterns of weakly defended beliefs. Nielsen and Sarason (1981) examined disruptive effects of sexual and achievement-related distractors on a dichotic shadowing task. Bonanno and Wexler (1992) also found selective perception effects as a function of stimulus affective valence. Finally, Blum and his colleagues used hypnotic inductions to condition affect to arbitrary words (e.g., Blum, 1986; Blum & Barbour, 1979): the disruptive effects faded over time as selective inattention gradually developed.

Wegner's recent research (1989) has suggested that intrusions actually result from attempts to suppress unwanted thoughts. Subjects instructed to avoid a particular thought (e.g., white bears) were later reported to have more intrusions of such thoughts than a group of subjects actually instructed to think about white bears.

Finally, Paulhus and his colleagues have demonstrated a link between disruption and defense (Paulhus, Graf, & Van Selst, 1989). For example, Paulhus and Levitt (1987) found that, in the presence of threatening distractors, subjects showed

a temporary increase in the positivity of self-descriptions. This sequence provides an automatic mechanism for defending the individual under stress (Paulhus, 1993). As a whole, this body of research points to a dynamic attentional substrate for psychological defense.

C. Subliminal Impact

Many cognitive psychologists have also come to accept the validity of subliminal perception, albeit in a form somewhat different from early models (Bargh, 1984; Dixon, 1981; Marcel, 1983; Zajonc, 1980). The work of Silverman and his colleagues (e.g., Silverman, 1983) on the Subliminal Psychodynamic Activation (SPA) of unconscious fantasies warrants some acknowledgement in a review of defense mechanisms literature. Some 100 articles and doctoral dissertations support the hypothesis and the efficacy of the methodology 4 to 1 (for reviews, see Hardaway, 1990; Silverman, 1983; J. Weinberger & Silverman, 1990). This extensive body of literature is well cited and has influenced the work of others, particularly the recent perceptogenesis theoreticians (discussed later).

However, defenses *per se*, and research on individual differences, have not been the focus of the SPA investigations. Potentially, SPA could be used to stimulate defense in the laboratory (Geisler, 1986). However, the theoretical and empirical foundations of SPA have recently been the subject of trenchant critiques (for reviews, see Balay & Shevrin, 1988; Brody, 1988; for reply, see J. Weinberger, 1989).

D. Psychophysiology of Defense

The influence of cognitive psychology has also prompted wider use of psychophysiological measurements (e.g., Epstein & Clarke, 1970; Shevrin, 1988). For example, skin response has been used to indicate repression (e.g., Hare, 1966; D. A. Weinberger et al., 1979). Repression-prone individuals have also shown increased evoked potentials for unacknowledged threats (Shevrin, Smith, & Fritzlner, 1970). Finally, Assor, Aronoff, and Messe (1986) studied the role of defensiveness in impression formation using physiological arousal as a dependent measure. In the study of defense, as in the study of psychopathology as a whole, a dual rationale for studying psychophysiological responses is that they are commonly seen as an indicator of psychological damage (Davidson, 1993) as well as defensive activity (Gerin et al., 1995).

XV. SOCIAL PSYCHOLOGY

For many years, the topics of defense and the unconscious were virtually taboo in social psychology.⁵ This rejection peaked with the advent of attribution theory,

⁵ At the same time, it seemed that certain core concepts, for example, cognitive dissonance, were simply euphemisms for the study of defense mechanisms.

where the tendency was to explain all mental processes in terms of "cold cognition," that is, cognition devoid of affect (e.g., Greenwald, 1980; Nisbett & Ross, 1979). Although traditional terminology is still eschewed, the 1980s and 1990s have seen an active interest in the elements of defense—motivation, the unconscious, and even the possible benefits of bias. Indeed, recent reviews of social cognition now accept the importance of these elements (e.g., Fiske & Taylor, 1991; Showers & Cantor, 1985).

In social psychology, the concept of a motivation has emphasized maintaining or enhancing self-esteem rather than warding off anxiety. Typically, threats to self-esteem are induced by fabricating academic and social failures (in contrast to psychoanalytic threats) that may be studied in the laboratory. In the revised theory of cognitive dissonance (Aronson, 1969), for example, a threat to self-esteem is considered necessary for dissonance reduction. The most comprehensive of these motivational models is Tesser's (1986) theory of self-esteem maintenance: Four factors (maintenance, relative performance, importance of the domain, and closeness of the comparison other) interact to determine threat to self-esteem and, therefore, subsequent behavior (Tesser & Campbell, 1982).

Greenwald's (1980) seminal article extended the notion of defense to cognitive conservation. Indeed, a sustained program of research by Swann has that defense of self-esteem is less important than shown defense of identity (e.g., Swann, 1992). Baumeister (1993) went further to cite the motivation to escape the self to explain a wide range of defensive phenomena. C. R. Snyder's elaboration of "excuse-making" (e.g., Snyder & Higgins, 1988) also broadened the range of defensive processes to include protection of self-image and sense of control.

The evidence for "depressive realism" (Mischel, 1979) has also encouraged social psychologists to consider possible positive consequences of inflated self-perceptions (e.g., Kruglanski, 1989). This view is best represented in the influential review by Taylor and Brown (1988). They lay out the benefits of positive illusions for mental health. They also distinguish these beneficial positive illusions from traditional defenses, which they view as maladaptive. The Taylor and Brown review was followed by up an entire issue of the *Journal of Social and Clinical Psychology* titled "Self-Illusion: When Are They Adaptive?" (Snyder, 1989). Colvin and Block (1994) countered with data suggesting that self-enhancement illusions are fundamentally detrimental.

Over time, the term "defense" has gradually crept into a variety of social-psychological terms such as "defensive attribution," "defensive self-presentation," and "defensive pessimism" (Norem & Cantor, 1986). At least one active topic has retained the traditional term—projection (e.g., J. D. Campbell, 1986; Holmes, 1981; Paulhus & Reynolds, 1995) while distinguishing between attribution and defensive forms (Sherwood, 1980).

In sum, it appears that social psychologists have begun to address virtually the full gamut of psychoanalytic defenses, albeit with different labels. Many would argue that this delay was necessary because, only now, with improved laboratory

technology and with less pressure from a dominant psychoanalytic community, can such phenomena be studied effectively.

XVI. DEVELOPMENTAL ANALYSES

A number of developmental psychologists (Chandler, Paget, & Koch, 1978; Cramer, 1983; Feldman & Custrini, 1988) have proposed that defenses can be conceptualized along a developmental continuum, according to their complexity and degree of maturity. Following Piaget's stage model of cognitive development, and based on the belief that defensive strategies vary in their complexity, these writers have argued that (a) the various defenses appear at different stages and (b) there are identifiable stages of development for each specific defense.

For example, denial occurs early in childhood and is linked to an infant's lack of muscular ability to remove itself from anxiety-arousing situations. Sleep is thus a common behavioral manifestation. Later, a child physically acts to exclude noxious stimuli (hands over eyes), and finally uses language to deny the existence of danger. More advanced defensive strategies, such as projection, emerge later in childhood, tied again to physical and cognitive developments. Intellectualization, asceticism, and identification appear still later, typically, in adolescence. Vestiges of all mechanisms can and do exist into adulthood, but a preponderance of the later-developing defenses is presumed to exist in the healthy adult.

There is some consensus about how the more advanced defenses emerge. Feldman and Custrini (1988) argue that as children mature, they gain an increased ability to perceive when others are being deceptive, and should better understand their own self-deceptive activities, such as when they utilize denial. Thus, a broader range of more effective defensive strategies is required to better deceive oneself and ward off anxiety. A child is forced to abandon an earlier, simpler defense in the light of an increasing awareness of its operation: a conscious defense is an ineffective defense (Cramer, 1983, 1991). Thus, it must be replaced with a more complex strategy that remains out of awareness, and therefore is effective.

Chandler et al. (1978) found evidence to support this developmental sequence. Preoperational children are incapable of comprehending any defensive strategy. At a slightly older age, concrete operational children are capable of inverse (repression, denial) and later reciprocal (displacement, reaction formation, rationalization) defenses. Finally, formal operational children can employ all types, including the most complex defenses, projection and introjection, which deal with statements about statements and second-order propositions. Cramer (1991) has confirmed a developmental sequencing of denial, projection, and identification. Feldman, Jenkins, and Popoola (1979) indirectly validated these findings in a study on the development of self-deception techniques in children.

For comprehensive treatments of defenses in children and adolescents, the reader is referred to recent books by Cramer (1991) and Smith and Danielsson (1982).

XVII. RELATIONS AMONG THEORETICAL TAXONOMIES

A number of the theoretical systems noted above include taxonomies of defense—some even describe the structural relations among them. Unfortunately, these taxonomies differ dramatically both in terminology and in organization. We note four common criteria for categorizing defensive processes: (a) their cognitive complexity and level of development (Chandler et al., 1978; Cramer, 1983), (b) their internal-external orientation (Gleser & Ihilevich, 1969; Ihilevich & Gleser, 1986), (c) their maturity-immaturity (Haan, 1956, 1969, 1977; Vaillant, 1971), and (d) their level of conscious awareness (Haan, 1977; Lazarus & Folkman, 1984; Vaillant et al., 1986).

However, there is less diversity than meets the eye. A closer examination reveals that these taxonomies have some fundamental similarities. By pointing out the similarities in their organizational principles, we may help reconcile apparently diverse systems.

For example, the Lazarus, Epstein, and DMI models involve a distinction between problem-focused responses (those altering the troubling transaction) and emotion-focused responses (those directed at affect regulation). This dichotomy, to some extent, parallels that between attentional and avoidance strategies (Suls & Fletcher, 1985; Taylor, 1990). Miller's (1989) distinction between monitoring and blunting has a similar flavor. Such theorists suggest that avoidant or emotion-focused strategies are superior in managing short-term or uncontrollable stress whereas attentional or problem-focused strategies may be more effective for long-term or controllable stressors (Lazarus, 1986; Suls & Fletcher, 1985; Taylor & Clark, 1986).

Another growing theme distinguishes defensive from enhancement processes: one form minimizes negative information about the self, and the other form promotes positive information (e.g., Sackeim, 1983). Some writers have argued further that, ultimately, a good offense can have defensive value, that is, it can buffer the individual from subsequent threats. Examples of enhancement processes include Taylor and Brown's (1988) positive illusions and Paulhus and Reid's (1991) self-deceptive enhancement. Although those writers see offensive and defensive processes as independent, Baumeister, Tice, and Hutton (1989) argue that they represent default strategies of high-versus low-self-esteem individuals.

Using another common organizing principle, Cramer and the DMI theorists argue that certain defenses are internally oriented (for example, turning against self) while others can be placed on an externally oriented pole (projection). Thus, in empirical work (e.g., Ihilevich & Gleser, 1986) attempts are made to relate defensive styles to field articulation and locus of control. Starting with Cohen (1964), a similar distinction has guided the articulation of the defensive styles of those with high self-esteem (defensives) and low self-esteem (projectives).

Another useful organizing principle is a hierarchy of maturity: Haan's coping-defense-fragmentation trio closely parallel Vaillant's four-tiered mature-immature/neurotic-psychotic defenses. Semrad, Grinspoon, and Fienberg (1973) also proposed a classification system of ontogenetic maturity. Similarly, the 29 defenses

outlined by Horowitz (1988), the 28 described by J. C. Perry and Cooper (1989), and the 12 of Hauser (Jacobson et al., 1992) can be ordered along this mature-immature continuum. By contrast, Ihilevich and Gleser's DMI mechanisms all fall at the same level of the hierarchy, namely, the neurotic/immature level.

One can also order the defensive processes in terms of the degree of consciousness involved. The mature (Vaillant) or coping (Haan, Plutchik) processes (e.g., sublimation, suppression, humor) and some of the higher level neurotic defenses (e.g., intellectualization, isolation) are assumed to be more conscious than the lower-level psychotic or fragmented mechanisms (e.g., delusional projection). As with Haan's coping processes, those tapped by the Ways of Coping scale are held to be conscious. Thus, for example, Haan's or Vaillant's suppression resembles the WOC's self-control. However, when they become automatized and no longer require attentional resources, they lose status as coping processes (Lazarus & Folkman, 1984, p. 131). Plutchik and Conte (1989) are the most explicit in explaining how, as a defense becomes more conscious, it develops into a parallel coping process that is far more adaptive.

Note that some recent theorists have challenged the traditional requirement that defenses be fully unconscious (A. Freud, 1936). They emphasize instead the flexible interplay of all defenses with coping (Erdelyi, 1990; Plutchik & Kellerman, 1980).

It is instructive that three of these dimensions—mature-immature, conscious-unconscious, and primitive-complex—are assumed to be closely connected: That is, to the extent that defense is conscious and complex, it tends to be viewed as mature. Thus a central theme runs through these ostensibly different theoretical orderings. Unfortunately, this theme is burdened with evaluative and moral implications. Moreover, despite accumulating evidence to the contrary, the hierarchy is often assumed to correspond to increasing adaptiveness.

After conducting this review, we cannot accept the claim for a single dimension of adaptiveness for defenses. There are too many reasonable yet incommensurate criteria for adaptiveness: short-term distress, long-term distress, task performance, reproductive success, social adjustment, and so forth. In our view, the adaptiveness of defenses can be evaluated only *locally*—that is, only after specifying a precise criterion as well as a precise point in time.⁶

XVIII. CONCLUSION

Apropos the topic of psychological defense, this chapter required the balancing of two conflicting goals. We hoped to demonstrate the diversity of current theories and operationalizations of psychological defense. At the same time, we hoped to

⁶ Kruglanski (1989) makes a similar point about evaluating accuracy in general.

integrate the literature. We suspect that we have been more successful at the former goal than the latter.⁷

There are already a number of useful integrative schemes currently available (e.g., S. H. Cooper, 1989; Horowitz et al., 1990; Conte & Plutchik, 1995; Vaillant, 1992). None of these taxonomies, however, can subsume all the literature reviewed here until there is more consensus on the terminology for various defenses. Even some theoretical models remain fatally incommensurate with others.

Nonetheless, all psychologists interested in psychological defense must agree that the current lack of consensus is a far cry better than the peremptory dismissal of the very notion of defense heard only a few years ago.

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⁷ Holmes (1974, 1981; Holmes & McCaul, 1989) deserves particular mention as a critic of the evidence for defense mechanisms. He continues to argue that no convincing evidence for the existence of these defenses has ever been produced. His reviews appear to have been highly influential; as he notes himself (Holmes & McCaul, 1989), the volume of laboratory work on repression declined drastically after his 1974 review. Equally careful reviewers (S. H. Cooper, 1992; Erdelyi, 1985), however, have drawn much more favorable conclusions from the same literature.

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