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A Critical Review of the Validity of Ego Development Theory and Its Measurement

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Loevinger's (1976) theory of ego development represents an important and original approach to understanding personality development. More than 20 years have elapsed since the last substantial critical review of the validity of the theory and its measurement (Loevinger, 1979). Our article provides an updated critical review of the theory by reviewing the considerable body of research that has accumulated over the past 20 years. This review addresses the construct, predictive, and discriminant validity of ego development theory and the Washington University Sentence Completion Test (WUSCT; Loevinger & Wessler, 1970; Loevinger, Wessler, & Redmore, 1970) as its measurement. We conclude that there is substantial empirical support for the conceptual soundness of ego development theory and the WUSCT.

Hauser (1976) and Loevinger (1979) have provided substantial critical reviews of ego development theory and its measurement, with subsequent brief updates from both authors (Hauser, 1993; Loevinger, 1993). As 20 years have now elapsed since Loevinger's (1979) review, a current critical review appears to be warranted to take account of the considerable body of subsequent research. We begin this article with a brief description of the theory of ego development and its measurement. This is followed by a review of the research regarding the construct, predictive, and discriminant validity of ego development theory and the Washington University Sentence Completion Test (WUSCT;¹ Loevinger, 1979; Loevinger et al., 1970). Finally, the implications of the research findings for the theory of ego development are summarized and suggestions made for further research.

¹ All of the studies reviewed employed the WUSCT as the measure of ego development.

A BRIEF DESCRIPTION OF EGO DEVELOPMENT

Loevinger's (1976) conception of ego development represents a significant, empirically based approach to the developing framework of meaning that is subjectively imposed on experience through the life span. Since its early formulation (Loevinger, 1966), an extensive body of research has accumulated that has refined, extended, and validated the theory (Hauser, 1976; Holt, 1980; Loevinger, 1979, 1985). More than 280 studies have been concerned with various aspects of ego development (Cohn, 1991), and the enduring interest in the theory is evident in the recent publication of a revised version of the WUSCT (Hy & Loevinger, 1996) and an edited volume of studies concerning ego development (Westenberg, Blasi, & Cohn, 1998).

For Loevinger (1976), the ego is a holistic construct representing the fundamental structural unity of personality organization. It involves both the person's integrative processes in dealing with diverse intrapersonal and interpersonal experiences, as well as the consequent frame of reference that is subjectively imposed on those life experiences to create meaning. The ego is referred to by Loevinger (1976) as the "master trait," subsuming other developmental domains such as developmental sequences of intellectual or worldview conceptualizations (Perry, 1970), stages of moral development (Kohlberg, 1969, 1981; Piaget, 1932), and stages of interpersonal understanding (Selman, 1980). Loevinger (1976, 1997) described four domains as representative and inextricably interwoven aspects of the ego: character development, cognitive style, interpersonal style, and conscious preoccupations. *Character development* incorporates impulse control and moral development in terms of the basis for moral behavior and the types of moral concerns. *Cognitive style* represents level of conceptual complexity and cognitive development. *Interpersonal style* represents the attitude toward interpersonal relationships and the other person, the understanding of relationships, and the preferred type of relationship. *Conscious preoccupations* refer to the predominant foci of the person's conscious thoughts and behavior, such as conformity to social rules, responsibility, and independence.

The concept of a "developing" ego refers to the progressive redefinition or reorganization of the self in relation to the social and physical environment and is conceptualized in terms of developmental change in the four domains described previously (Loevinger, 1976, 1997). For example, the character development moves from being impulsive and fearful of punishment by others if caught doing wrong (lower ego stages) to self-regulation and internalized standards (higher ego stages). The cognitive style develops from conceptual simplicity at the lower stages to conceptual complexity and tolerance for ambiguity at the higher stages. The interpersonal style develops from an exploitive approach at the lower stages to a respectful interdependent approach at the higher stages. The conscious concerns develop from bodily feelings and self-protection at the lower stages to affective differentiation, individuality, and communication at the higher stages.

As a theory that is formulated within an organismic model of human development (Overton, 1991), the development of the ego is regarded as representing structural stage change in a hierarchical, invariantly sequential manner, with an inner logic to the stages and to their progression (Loevinger, 1976, 1997). Each sequential stage represents a restructuring of the self-system toward greater self and interpersonal awareness, conceptual complexity, flexibility, personal autonomy, and responsibility. The stage structure of ego development is not purely structural, exclusive of content. The domains of character development, cognitive style, and interpersonal style are structural in that the stage development represents an underlying progressive restructuring of the way in which the domain is understood, with each stage having an inner logic and coherence. The domain of conscious concerns is more content related in that the nature of the concerns change with each stage, but they are also structural in that they are partly a function of the structural changes in the other three domains and that the stages also have an inner logic and coherence. For example, the conscious concerns with affect differentiation and individuality at the advanced ego stages involve structural stage change in the cognitive, interpersonal, and character domains and represent a coherent pattern within the stage. This combination of structure and content means that ego development is more a quasi-structural than a true structural stage theory, in the Piagetian sense (Blasi, 1998; Loevinger, 1991, 1993; Noam, 1993).

Table 1 provides a synoptic overview of the stages in terms of the operational definitions of each stage. The evolution of Loevinger's conception of ego development has been integrally related to the construction of a sentence completion assessment method, the WUSCT (Loevinger & Wessler, 1970; Loevinger et al., 1970). Both the theory and the measurement of ego development are inextricably intertwined. For Loevinger (1983, 1993), the empirical data, in the form of responses to sentence completion stems rather than theoretical predispositions, have formed the conception of the ego and ego development. Thus, evaluating the theoretical and logical coherence of ego development is inseparable from evaluating the construct validity of the WUSCT.

The WUSCT was first published in 1970 (Loevinger & Wessler, 1970; Loevinger et al., 1970), revised in 1985 (Loevinger, 1985), and revised again in 1996 (Hy & Loevinger, 1996). It consists of 36 incomplete sentence stems with the test instructions "Please complete the following sentences." The rationale for choosing this method was that it allowed people to project into the incomplete sentences their core level of ego functioning (Loevinger & Wessler, 1970; Loevinger et al., 1970). There are separate forms for men and women, with the only difference between two forms being a change in personal pronoun to make a sentence stem personally relevant: for example, "Sometimes he/she wished that . . ." Two alternate short forms of the WUSCT were subsequently developed by Loevinger (1985), which consist simply of the first and second 18 items on the revised full test. Each item is scored for ego stage, using the comprehensive scoring manual (Loevinger & Wessler, 1970;

TABLE 1
Loevinger's Stages of Ego Development

Presocial and Symbiotic (E1)	Exclusive focus on gratification of immediate needs; strong attachment to mother, and differentiating her from the rest of the environment, but not her/himself from mother; preverbal, hence inaccessible to assessment via the sentence completion method.
Impulsive (E2)	Demanding; impulsive; conceptually confused; concerned with bodily feelings, especially sexual and aggressive; no sense of psychological causation; dependent; good and bad seen in terms of how it affects the self; dichotomous good/bad, nice/mean.
Self-Protective (E3)	Wary; complaining; exploitive; hedonistic; preoccupied with staying out of trouble, not getting caught; learning about rules and self control; externalizing blame.
Conformist (E4)	Conventional; moralistic; sentimental; rule-bound; stereotyped; need for belonging; superficial niceness; behavior of self and others seen in terms of externals; feelings only understood at banal level; conceptually simple, "black and white" thinking.
Self-Aware (E5)	Increased, although still limited, self-awareness and appreciation of multiple possibilities in situations; self-critical; emerging rudimentary awareness of inner feelings of self and others; banal level reflections on life issues: God, death, relationships, health.
Conscientious (E6)	Self evaluated standards; reflective; responsible; empathic; long term goals and ideals; true conceptual complexity displayed and perceived; can see the broader perspective and can discern patterns; principled morality; rich and differentiated inner life; mutuality in relationships; self critical; values achievement.
Individualistic (E7)	Heightened sense of individuality; concern about emotional dependence; tolerant of self and others; incipient awareness of inner conflicts and personal paradoxes, without a sense of resolution or integration; values relationships over achievement; vivid and unique way of expressing self.
Autonomous (E8)	Capacity to face and cope with inner conflicts; high tolerance for ambiguity and can see conflict as an expression of the multifaceted nature of people and life in general; respectful of the autonomy of the self and others; relationships seen as interdependent rather than dependent/ independent; concerned with self-actualization; recognizes the systemic nature of relationships; cherishes individuality and uniqueness; vivid expression of feelings.
Integrated (E9)	Wise; broadly empathic; full sense of identity; able to reconcile inner conflicts, and integrate paradoxes. Similar to Maslow's description of the "self-actualized" person, who is growth motivated, seeking to actualize potential capacities, to understand her/his intrinsic nature, and to achieve integration and synergy within the self (Maslow, 1962).

Note. Adapted from Hy and Loevinger, 1996; Loevinger, 1976; Loevinger and Wessler, 1970; Loevinger, Wessler, and Redmore, 1970.

Loevinger et al., 1970; Hy & Loevinger, 1996). The manual provides the themes and representative examples of specific responses that have been found to occur at each ego stage in response to particular sentence stems.

The research conducted prior to and subsequent to Loevinger's (1979) review has provided substantial support for the reliability of the WUSCT. A high level of interrater reliability has been consistently found in studies involving a range of populations (Browning, 1987; Dubow, Huessman, & Eron, 1987; Hauser et al., 1984; Novy & Francis, 1992; Snarey & Lydens, 1990; Waugh, 1981; Weiss, Zilberg, & Genevro, 1989). Using the item sum score, Loevinger and Wessler (1970) reported a Cronbach's alpha of .91. Almost identical results have been found in subsequent studies (Browning, 1987; Novy & Francis, 1992; Redmore & Waldman, 1975), including those using a shortened, 12-item version with large participant sample (Hansell, Sparacino, Ronchi, & Strodbeck, 1985; Holt, 1980). Split-half reliability has been investigated using the two alternate short forms mentioned previously. Novy and Francis (1992) found a high and significant correlation between the two forms in a large sample of adults and a similar correlation between each half and the 36-item version. This replicates the earlier finding of Redmore and Waldman (1975). In terms of test-retest reliability, when sufficient time is allowed between the two tests to allow for motivational effects, significant correlations have been found between test and retest scores (Redmore & Waldman, 1975; Weiss et al., 1989).

VALIDITY OF EGO DEVELOPMENT THEORY AND MEASUREMENT

Determining the validity of structural-developmental theories and their measurement does not fit easily within the classical principles outlined by Cronbach and Meehl (1955) for evaluating the construct validity of tests (Broughton, 1978a; Loevinger, 1993; Wood, 1990). Structural-developmental tests are designed to assess an underlying structure, whether it be moral reasoning (Kohlberg, Levine, & Hewer, 1983), epistemology (Broughton, 1978b), perspective taking (Selman, 1980), or ego development (Loevinger, 1976, 1997). The relation between such underlying structures and behavior is complex (Broughton, 1978a; Loevinger, 1976), making it difficult to establish predictive validity in terms of overt behavior. In addition, the external criterion for establishing construct validity needs to be a variable that is appropriate for a structural-developmental measure. For example, using self-esteem as an external criterion would not be appropriate, as it would not be expected that self-esteem would increase with stage of ego development. However, the basis for self-esteem may be an appropriate criterion. It would be expected that, with increasing ego stage, the basis for self-esteem would move from concrete and external factors (such as the opinion of others, physical appearance) to internal

factors (such as self-evaluation, unique personality characteristics). The limited research findings provide some support for this expectation (Pazy, 1985).

Notwithstanding these difficulties, both Hauser (1976) and Loevinger (1979), in their substantial reviews of a large number of studies, concluded that sufficient evidence was available at that time to support the validity of ego development theory and the WUSCT as its measurement. We discuss the subsequent research in terms of construct, predictive, and discriminant validity.

Construct Validity

We review the construct validity of ego development and the WUSCT from two perspectives. The first relates the WUSCT to the external criterion of alternative measures of ego development. The second evaluates the validity of three central characteristics of Loevinger's (1966, 1976; Loevinger & Wessler, 1970) conception of ego development: the unitary nature of the ego, the ego consisting of an integration of various personality characteristics, and the specific sequentiality of the stages of ego development through the life span.

Relationship to Alternative Measures of Ego Development

Loevinger (1979, 1993) stated that one of the problems in establishing the construct validity of the WUSCT was that the uniqueness of her theory and measure of ego development made it difficult to find appropriate alternative measures. The research to date reflects this, with only four studies comparing the WUSCT with other measures of ego development (Helson & Wink, 1987; Rozsnafszky, 1981; Sutton & Swenson, 1983; Westenberg & Block, 1993).

Comparing the WUSCT with an unstructured interview and the Thematic Apperception Test (TAT; Murray, 1943) as measures of ego development, Sutton and Swenson (1983) found a significant correlation between the WUSCT and both the unstructured interview and the TAT. Rozsnafszky (1981) compared the distinctive milestone traits described as characterizing each stage of ego development with California Q-sort (Block, 1961/1978) personality ratings. An 80 item Q-set of personality descriptors was developed for the study, with separate composites of particular items used to represent the milestone traits associated with each ego stage. Sixty-five hospitalized alcoholics and 26 medical patients, all male, completed the WUSCT and rated themselves using the Q-set. In addition, all participants were independently rated on the Q-set by either three or four group therapists for the alcoholic group, or three or four nurses for the medical patients. Overall, the results indicated that both observer and self-ratings of particular personality

descriptors were consistent with the level of ego development as determined by the WUSCT, for both the alcoholics and the medical patients.

Westenberg and Block (1993) also used California Q-sort ratings to investigate the relationship between personality variables and ego development. The difficulties inherent in investigating the relationship between ego development and nondevelopmental, heterogeneous personality dimensions (such as neuroticism; McCrae & Costa, 1980) were recognized by Westenberg and Block (1993), which led them to create from the Q-sort items four developmentally homogeneous categories that were expected to be related to ego stage. These were ego resiliency, interpersonal integrity, conformity, and need regulation. In a sample of 98 male and female participants, assessed at ages 14 years and 23 years, the findings were consistent with the predictions from ego development theory. Ego development was associated with increasing ego resiliency, increasing personal integrity, increasing need regulation, and conformity peaked at the conformist ego stage and declined at the self-aware ego stage.

In the fourth study, Helson and Wink (1987) used data from their longitudinal study of life and personality changes in a large sample of women, and compared personal maturity as measured by the WUSCT and the competence score on the revised California Psychological Inventory (CPI; Gough, 1987). The two measures assume different definitions of maturity, with the CPI conceptualizing maturity as the ability to function effectively within society, whereas the WUSCT views maturity as increased self-differentiation and integration, and an independence from social conventions. Helson and Wink (1987) employed and developed a range of measures on which to compare the WUSCT and the CPI. These included descriptions of life experiences, ratings of interpersonal maturity, and measures of Allport's (1961) description of general personal maturity. It would be expected from Loevinger's (1976) theory that ego development would have both some overlap with, as well as some differentiation from, competence. In addition, a developmental measure of maturity will not necessarily be related to certain aspects of life experience. Comparing the two measures of maturity in a sample of 90 women at 43 years of age (Helson & Wink, 1987), a significant correlation was found between the two measures. Also, there was considerable variation in their respective relations with other variables, with the primary variations being consistent with the differing definitions of maturity. For example, level of interpersonal maturity was significantly related to ego stage but not to competence. In Allport's (1961) dimensions of personal maturity, self-extension, capacity for intimacy, and coping and reality-oriented adaptive styles were related to both ego stage and competence. However, ego stage and competence were associated with different aspects of capacity for intimacy: ego stage with appreciation of the other's individuality and competence with pursuit of harmony. Competence, and not ego stage, was associated with emotional security or adjustment, whereas ego stage, and not competence, was associated with individuality of personal integration and

with the conscious development of a personal and unifying philosophy of life and values.

These findings provide substantial support for the construct validity of ego development. Helson and Wink (1987) concluded from their study that "The material presented in the comparison of competence and ego level provides evidence that each of these measures does what it claims to do" (p. 539).

Three Central Characteristics of Ego Development

Unitary Nature of the Ego

The ambitious scope of Loevinger's (1976) conception of the ego, incorporating structures, functions, content, and processes has raised questions about whether it is so broad that it lacks real meaning and theoretical coherence (Broughton & Zahaykevich, 1988). Also, Noam (1988, 1993) and Labouvie-Vief (1993; Labouvie-Vief & Diehl, 1998) have questioned the unitary nature of Loevinger's (1976) conception of the ego, arguing that it attempts to combine into a single construct two independent though interacting dimensions: self-complexity, which is a predominantly cognitive process, and self-integration, which is a predominantly affective and interpersonal process. Loevinger's (1983, 1993) response to these concerns is to agree that the construct is broad and complex, but that this is a result of allowing the empirical data, rather than theoretical predispositions, to form the conception of the ego and ego development. This response does not necessarily answer the question of whether the construct does have theoretical and logical coherence. The answer to that question is best provided by the research into the unitary nature of the ego.

Despite the complexity and breadth of the construct, there is considerable empirical support for the unitary nature of the ego. In a factor analysis of the WUSCT protocols of a diverse and large sample of women (Loevinger & Wessler, 1970), the first component accounted for 20% of the total variance and the second factor accounted for 5.6%. The first factor also correlated highly with the sum of item ratings. The second and third factors were uninterpretable. Other studies (Blasi, 1971; Loevinger, 1993) have attempted unsuccessfully to separate out specific items that appeared to be measuring a particular aspect of ego development.

A further question concerning the unitary nature of the ego is whether the ego represents, as Loevinger (1976, 1983) has proposed, the indivisible master trait that subsumes other developmental domains. This conception of the ego has been questioned by other researchers who regard the ego as divisible into separate and distinct subdomains (Snarey, Kohlberg, & Noam, 1983). There has been only one study (Novy et al., 1994) that has subjected this question to empirical investigation.

Novy et al. (1994) employed a structural equation model to evaluate alternative models for conceptualizing the way in which ego development relates to the four strands of character development, cognitive style, interpersonal style, and conscious preoccupations. In a large sample of adult women and men using various self-report questionnaires to assess each of the four strands and the WUSCT to assess ego development, Novy et al. (1994) found that the best fitting model was a hierarchical model with the five variables being intercorrelated and a single second-order construct underlying all five variables. That is, the four strands and ego development are all aspects of a single process rather than ego development being the underlying factor in the four strands, as proposed by Loevinger (1976).

Novy et al. (1994) acknowledged some problems with the measures employed to assess the four strands of character development, cognitive style, interpersonal style, and conscious preoccupations. For example, the objective, self-report measures for the four strands, some of which involve simply true–false response formats, are not comparable with the projective, open-ended nature of the WUSCT. However, these problems do not detract from the importance of the findings for Loevinger’s (1976) conceptualization of ego development. First, they raise questions about her conception of the ego as a master trait that subsumes other developmental domains. Second, they support her conception of the ego as a broad construct that encompasses a range of personality characteristics. We review other research that pertains to this second point in the following section.

An Integration of Various Personality Characteristics

Loevinger (1976) suggested that ego development represents an integration of diverse personality characteristics, including cognitive functioning, personal and interpersonal emotional awareness, and character development. Although Loevinger (1976) regarded these strands as inextricably interwoven within the personality, for the purposes of evaluating construct validity we consider each of these strands separately.

Cognitive functioning. For cognitive functioning, it is theorized that with each successive ego stage there is an increase in abstract reasoning, conceptual complexity, and tolerance of ambiguity (Loevinger, 1976, 1997). Three aspects of cognitive functioning may be delineated from the research as relevant for the construct validity of the WUSCT: cognitive development, conceptual development, and cognitive complexity.

In terms of Piagetian cognitive development, although the successive ego stages represent a shift from concrete to formal operations—and Loevinger (1976) speculated that the Piagetian cognitive stages may act as a “pacer” for ego stages—the number of studies into this relation has been limited. King, Kitchener, Wood, and

Davison (1989) examined relationships across the developmental domains of intellectual, moral, and ego development in a longitudinal study of adolescents and young adults. They used two measures of cognitive development: Terman's (1973) Concept Mastery Test as a measure of verbal ability and abstract reasoning and The Reflective Judgement Interview (Kitchener & King, 1981) as a measure of postformal reasoning in relation to epistemic assumptions and justifications. On each of three testings over a period of 6 years, with the effects of age and education removed, the correlation between ego development and the two measures of cognitive development ranged from low to moderate but were not significant. Commons, Armon, Richards, and Schrader (1989) also compared level of cognitive, ego, and moral development in a cross-sectional study of members of Mensa. Commons et al. (1989) used the Multisystems Task (Commons, Richards, & Kuhn, 1982), a measure of postformal reasoning in the logico-mathematical domain. In a small sample they found a low, nonsignificant correlation between postformal reasoning and ego development. They interpreted this result as possibly due to a difference between the cognitive and ego measure in the definition of structural stage. The cognitive measure is based on the rigorous Piagetian definition, whereas the ego development measure is based on a more stochastic definition (Loevinger, 1986). This distinction is similar to Snarey et al.'s (1983) distinction between the "hard" structural stages of Piagetian cognitive development and the "soft" structural stages of ego development. An additional, or alternative, interpretation of these findings may be that the measures employed are assessing cognitive development within the logico-mathematical domain, rather than the socioemotional domain of ego development. These two domains appear to be distinct, with cognitive functioning in the logico-mathematical domain not necessarily generalizing to the socioemotional domain (Dittmann-Kohli & Baltes, 1990).

This interpretation in terms of the distinction between cognitive domains is supported by the research of Blanchard-Fields (1986). In a sample representing both sexes and a wide age range, Blanchard-Fields found no relation between ego development and cognitive development as measured by two Piagetian type tasks: correlational reasoning and isolation of variables. However, a highly significant relation was found when cognitive level was assessed in terms of its application to the socioemotional domain. The socioemotional domain for the study consisted of three hypothetical social dilemmas, which varied in emotional saliency. Analysis of variance showed a significant main effect for ego stage on cognitive development on each of the three dilemmas and significant correlations between ego stage and reasoning scores for each of the three dilemmas.

Harvey, Hunt, and Schroder (1961) described conceptual development as the development of an increasingly flexible orientation toward the environment and the interpersonal world. The person is regarded as moving, under optimal conditions, from a self-centered orientation with an unorganized self-other differentiation through to an empathic orientation with the self and other clearly

differentiated but seen in interrelationship with each other. Sullivan, McCullough, and Stager (1970) investigated the relation between ego development and Harvey et al.'s (1961) approach to conceptual development in a sample of male and female adolescents. They found a significant correlation between conceptual and ego development.

The research into the relation between ego development and cognitive complexity has been of an indirect nature. In their research into life plans, McAdams, Ruetzel, and Foley (1986) found that advanced ego development was significantly related to a higher degree of complexity in midlife adults' plans for the future, in the sense of a greater differentiation of numerous and varied goals. In a study of women with bulimia, Teusch (1988) found that postconformist individuals described a significantly higher number of self-characteristics and interpersonal beliefs as causative factors, displayed significantly greater insight into some of the motives for binge eating, and had a significantly greater emotional vocabulary for their affective experience of the bulimia.

Personal and interpersonal awareness. For personal and interpersonal awareness, Loevinger's (1976) theory suggests that each successive stage represents a broader and more complex understanding of the self, others, and the self in relation to others. The research that has relevance for the construct validity of this aspect of ego development has been concerned with the relationships among ego development and self-experience, conceptualization of emotions, empathy, and interpersonal style.

Pazy (1985) investigated the relationship between ego development and self-awareness from a phenomenological viewpoint—that is, how the self is experienced. Pazy hypothesized that people who were higher in ego development would be characterized by greater variability of self-experience. Three aspects of variability were assessed: phenomenal variation, or the subjective perception of the degree of variability in the self; contextual variation, or the recognition of variability across contexts; and polarity of the self, or the awareness of internal contradictions. A questionnaire was used to assess phenomenal variability, which yielded scores on self-characterization and on evaluative stance toward variability. Contextual variation and recognition of polarity were assessed using an adaptation of Kelly's (1955) personal constructs. In a sample of 112 adults ranging in age from 20 to 50 years, it was found that high ego development was accompanied by significantly greater identification of variability in the phenomenal experience of the self and in contextual variation, as well as greater valuing of variability. In addition, adults at advanced stage of ego development were significantly more able to recognize contextual variation in negative constructs and to recognize the polarized aspects of themselves in a simultaneous manner. These results provide support for Loevinger's (1976) descriptions of higher ego stages as characterized by greater complexity of understanding of the self, recognition and acceptance of in-

ternal contradictions, and awareness of the impact of social context on personal behavior.

The complexity of conceptualization of emotions would be expected from ego development theory to increase with ego stage. At lower ego stages, it would be expected that emotions would be described in concrete terms, referring predominantly to single emotions, bodily sensations, and physical actions. At higher ego stages, descriptions would be expected to refer to a range of complex and sometimes conflicting emotions, which are regarded as inner emotional states. This expectation is supported by the findings from two studies (Labouvie-Vief, DeVoe, & Bulka, 1989; Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990). Labouvie-Vief, DeVoe, et al. (1989) formulated a four-level rating system for emotional understanding based in part on Loevinger's (1976) description of ego stages. This system was used to rate the complexity of self-descriptions of four emotions: anger, sadness, fear, and happiness. In a moderate-size sample of participants ranging from age 10 to 77 years, a significant correlation was found between ego stage and level of complexity of conceptualization of each of the four emotions. Equivalent results were found by Lane et al. (1990) using a 5-point rating system for complexity of emotional responses to 20 hypothetical scenarios designed to elicit the same four emotions.

Empathy as a specific component of interpersonal style would be expected to have a linear relationship to ego development. The skills involved in high levels of accurate empathy include the capacity to discern a range of complex emotional states, to discriminate between overt and covert forms of communication, and to differentiate between personal responses and those of others. As these are skills that are characteristic of those at advanced ego levels, level of accurate empathy would be predicted to increase with ego stage. Carlozzi, Gaa, and Liberman (1983) investigated this hypothesis using Kagan and Schneider's (1977) Affect Sensitivity Scale—which assesses the ability to accurately identify emotions in others—as the measure of empathy. In a sample of male and female dormitory advisers at a university, they found that those at or above the self-aware ego stage scored significantly higher on empathy than those below that stage. This finding is confounded by the limited sample size and range of ego levels represented, with only 10 out of the sample of 51 adults functioning below the self-aware stage. In addition, employing alternative measures of empathy may provide a clearer understanding of the relationship between ego development and empathy.

Barrett-Lennard (1981) described the complex nuances of empathy, which includes a cyclical interaction of affective, cognitive, and communicative components. In contrast, Kagan and Schneider's (1977) measure only assesses one aspect of this cycle, and it is an aspect that clearly does not necessarily require high levels of ego development. In fact, a successful psychopath may be expected to score highly on the measure and be able to use to his or her own advantage the ability to accurately identify others' emotions (Hare, 1993; Lykken, 1995). It is the complex

nuances of empathy as identified by Barrett-Lennard (1981) that are more likely to be related to ego development. To date, there have been no published studies addressing the relationship between ego development and some of these other aspects of empathy.

Lorr and Manning (1978) compared the characteristics of each ego stage with 17 bipolar constructs that reflect interpersonal style. A large sample of male and female participants from a wide range of ages and socioeconomic levels were administered the WUSCT and The Interpersonal Style Inventory (Lorr & Youniss, 1973). The results provide support for the validity of the conceptualization of each ego stage. The self-protective ego stage, which is characterized by wariness, exploitiveness, and externalizing of blame, was lower than the higher stages on trust and higher on avoidance of involvement and use of counterattack. The conformist ego stage, characterized by conformity to social conventions and a morality based on adherence to rules, was higher than the other ego stages on rule boundedness. The individualistic and autonomous ego stages—characterized by a concern for individuality and independence, tolerance, and an understanding of the complexity of the self and others—were higher than the lower ego stages on independence, sensitivity, tolerance, and psychological mindedness. These findings are consistent with an earlier unpublished doctoral dissertation (Harakal, 1971), using the WUSCT and the Interpersonal Style Inventory with a sample of female adolescents and young adults.

Character development. For character development, ego development represents an increase in internalized self-control, respect for the rights and individuality of others, and internalized moral principles. This description is supported by the research that indicates that higher levels of ego development are significantly associated with emotional self-regulation (Labouvie-Vief, Hakim-Larson, DeVoe, & Schoeberlin, 1989); with internalized, principled moral reasoning (Gfellner, 1986a, 1986b; Lee & Snarey, 1988); and with political ideological reasoning that is based on reciprocity rather than self-interest (Candee, 1974; Snarey & Blasi, 1980).

Labouvie-Vief, Hakim-Larson, et al. (1989) developed a structured interview and rating system to assess four levels of self-regulation based on a neo-Piagetian structural model of adult development (Labouvie-Vief, 1982). Emotional regulation represents a complex, internal, and interpersonal process of negotiation. The lowest level, the presystemic, is characterized by impulsivity and emotional control is achieved through the intervention of authority figures. At the intrasystemic level, the primary means of control are identification with others, conformity to social conventions, and denial of emotions. At the intersystemic level there is an acceptance of emotions and individuality, and a capacity for objectivity and to understand the effects on the self and others of different forms of emotional expression. The integrated level is the highest, in which emotional control incorporates and integrates a number of dialectical tensions: subjective and objective

reality, own and others' needs, independence and interdependence, and cognitive and sensate aspects of emotions. Using a small sample of female and male participants with ages ranging from 11 to 67 years, a significant correlation was found between ego stage and level of emotional control. However, age and verbal ability were also found to have a significant effect on level of emotional control, which suggests that further research is required—with a larger sample—to determine the specific effect of ego development.

Although there is substantial theoretical and empirical support for a relationship between ego and moral development (Gfeller, 1986a, 1986b; Kohlberg, 1981; Loevinger, 1976; Sullivan et al., 1970), there has also been considerable debate about the nature and extent of that relationship (Kohlberg, 1981; Lee & Snarey, 1988; Loevinger, 1983, 1986; Snarey et al., 1983). Loevinger (1976, 1986) has subsumed and incorporated moral development within the unity of the ego. Kohlberg and his colleagues (Kohlberg & Armon, 1984; Snarey et al., 1983) have agreed that ego development is a more general domain than moral development, but differed in grounding them both in the still more general domain of cognitive development. They (Snarey et al., 1983) also regarded the subdomains of the ego as separable, relatively self-contained, with each having a distinct substructure. In addition, they have hypothesized that development in one subdomain may precede and be necessary but not sufficient for development in related domains. In particular, moral development is regarded as preceding and necessary but not sufficient for ego development (Snarey et al., 1983).

The results from research into these questions have been equivocal, with correlations between ego and moral development ranging from .2 to .8 (Gfeller, 1986b). These variable findings may be attributed to diversity in sample sizes, age range, and measurement and scoring techniques (Lee & Snarey, 1988). Lee and Snarey summarized as well as reanalyzed some of the prior research to control for these confounding factors. They found a high correlation between ego and moral stage scores, which clearly indicates a strong relation between the two variables. However, there was no strict correspondence between specific ego and moral stages and no support for the primacy of either domain. For 27% of the participants, ego stage exceeded moral stage, and for 45% moral stage exceeded ego stage. There was a significant interaction with age, with ego stage higher than moral stage for the majority of adolescents and young adults, equality in stage level during middle adulthood, and moral stage higher than ego stage for the majority of later adults. These findings make it clear that the nature of the relation between the two domains is not as clear as has been theorized by Loevinger (1983, 1986) or Kohlberg (Kohlberg & Armon, 1984; Snarey et al., 1983). However, the construct validity of ego development in terms of character development is supported by the significant correlation between ego and moral development.

A more indirect indication of character development is the perception of the social contract, whether it is based on self-interest or reciprocity and equality. Ideolog-

ical reasoning based on internal values of equality, justice, dignity, and individuality would be expected to be related to higher stages of ego development. This expectation finds support in the research by Snarey and Blasi (1980) that compared founding and nonfounding residents of an Israeli kibbutz. The founding residents established the kibbutz in the 1930s with the intention of creating a community based on an ideological orientation of self-evaluated principles of equality and justice. The nonfounding residents did not have this ideological intention. They consisted of both those who had joined the kibbutz after 1948 seeking a safe refuge from the anti-Semitic persecution in Europe and those who were second generation kibbutzniks for whom living in the kibbutz was more to do with familiarity and habit than ideology. A significantly higher proportion of the founding members were found to be functioning at advanced ego stages, whereas nonfounding members were significantly more likely to be functioning at the lower ego stages.

These findings replicate those from an earlier study of student leftists (Candee, 1974) in which it was found that political ideological reasoning based on internal values of equality, justice, dignity, and individuality was significantly more frequent among those at higher than lower stages of ego development.

Sequentiality of Ego Stages

Both Loevinger (1993) and Kohlberg (1969) emphasized that for stage developmental theories establishing the sequentiality of the stages is of critical importance for the evaluation of construct validity. Sequentiality means that the changes occur in a particular, invariant, progressive sequence that is dictated by the internal logic of the developmental continuum rather than by external factors. Loevinger (1979) described the difficulties inherent in adequately assessing sequentiality, such as conducting frequent retestings without measurement effects, and summarized the findings to that date as being "all more or less supportive of the claim, but with none being totally convincing" (p. 287). Research completed subsequent to that review has provided further support for the sequentiality of the stages, but has also made it clear that although the order appears to be invariant, regressions may occur.

Redmore and Loevinger (1979) conducted a large-scale longitudinal study of male and female adolescents who had been previously tested on the WUSCT as a part of other studies. The combined participant sample represented a wide cross section of socioeconomic status (SES), ethnic background, and ability. The school grade at first testing ranged from Grade 6 to 11, and the retest period ranged from 1.5 to 6 years. There was an increase in ego stage on retest for all participants. This increase was statistically significant for all except for those in which the retest interval was only 1.5 years, from Grade 11 to 12 and Grade 12 to 1st year of college.

Empirical support for the sequentiality of stage development during adolescence and early adulthood was found in a 9-year longitudinal study by Westenberg and Gjerde (1999). Using data from the ongoing Block and Block (J. Block, 1993;

J. H. Block & Block, 1980) longitudinal study of ego and cognitive development, 97 male and female participants completed the WUSCT at age 14 and 23 years. For both male and female participants there was a significant increase in ego scores over the 9-year period. The average growth was approximately 1.5 ego stages. In terms of intraindividual patterns of development, 21.6% of the participants did not progress to the next ego stage, 26.8% increased one ego stage, 40.2% increased two ego stages, and 7.2% increased three ego stages. Only 2 of the 97 participants regressed one stage of development. Stage development was more likely among those participants who were functioning at the self-protective or the conformist ego stages at age 14 years, with 83% developing one or more stages compared to 42% of those at the self-aware stage. This latter finding is consistent with other research, which indicates that the self-aware stage represents the modal level of the adult population (Holt, 1980; Loevinger et al., 1985; McCrae & Costa, 1980; Novy, 1993; Redmore, 1983; Redmore & Loevinger, 1979).

Longitudinal studies of ego development in adulthood have focused predominantly on college students (Adams & Fitch, 1982; Loevinger et al., 1985; Redmore, 1983). All of the studies provided support for the sequentiality of ego stages, but they also challenged the theorized irreversibility of ego development, and raised unanswered questions about the variability in levels and rate of ego development according to gender and context.

Adams and Fitch (1982) conducted a study of change in identity status and ego development over a 1-year period. In a moderate-size sample of male and female students, they found that 61% of the students remained stable, whereas 22% progressed and 17% regressed. This varied according to gender, with more female than male students remaining stable and more male than female students regressing. Redmore (1983) found similar results in a sample of 97 male and female college students from two different universities who were retested after a 4-year period: 49% of the total sample remained at the same level, 41% increased, and 10% decreased in ego stage. However, in one of the universities—a pharmacy college—there was a significant interaction effect between gender and ego stage change. Women began at a higher level than the men but remained stable over the 4 years, whereas the men increased over that period, graduating at the same level as the women. This was not the case at the other setting—a community college—where the women and men began at the same level, and both increased to the same significant degree, ending at the same level as each other. For the combined sample, the mean increase in level of ego development was statistically significant, with highly significant positive test–retest correlations, which led Redmore (1983) to conclude that the data were consistent with Loevinger's hypothesis (1976) of fixed sequences of ego developmental stages.

Loevinger et al. (1985) compared the course of ego development in college years in a liberal arts and an engineering campus and found results that were both similar to, and different from, the previous studies. A total of 666 male and female students,

drawn from 6 successive years of college intakes, were tested in their 1st year and then retested in their 2nd and their final years. The results from different cohorts were inexplicably variable, with some intakes showing an increase, whereas others showed a decrease in ego stage from 1st to 2nd year. When all the cohorts were combined and the comparison made between 1st and senior year, the men at the engineering campus showed significant increase in ego stage, whereas the women showed an increase but not to a statistically significant degree. The men at the liberal arts campus also increased in ego stage to a nonsignificant degree, whereas the women significantly decreased. The gender differences in both campuses can be interpreted in terms of age of maturation, as on first testing the women were at a higher stage than were the men, but by the last testing men and women were at the same level. Women and men at the liberal arts campus began and ended at a higher level of ego development than the women and men at the engineering campus.

The finding of stage regression in these longitudinal studies of ego development in adulthood (Adams & Fitch, 1982; Loevinger et al., 1985; Redmore, 1983) clearly indicates that ego development is not, as was theorized, irreversible (Loevinger, 1976). However, there has been no research into the causes or duration of such regression. Loevinger et al. (1985) hypothesized that the regression in ego development they found among some tertiary students may have been due to the university environment or curricula being, for some, a regressive experience. This accords with the clinical observation of developmental regression to earlier, less complex but more secure ways of functioning in response to perceived threat (Ivey, 1986; Noam, 1988) and with the findings from Bursik's (1990) longitudinal study of divorced women. Bursik found that those who were experiencing adjustment difficulties both immediately after the divorce and one year later remained stable in ego development, and those who had few initial adjustment problems but a greater number one year later regressed in ego stage.

A substantial and well-designed cross-sectional investigation into the validity of the progressive sequence of ego stages was conducted by Novy (1993). The sample was more diverse than in previous studies, which had predominantly used young university students. It consisted of a large sample of men and women, ranging in age from 18 to 75 years, with diverse educational, occupational, and ethnic backgrounds. Novy (1993) suggested that the progressive sequence of ego development may be investigated by comparing ego stage with an underlying factor or construct that may be identified from a range of different objective personality measures that are conceptually related to the four strands of the ego—interpersonal style, cognitive development, character development, and conscious preoccupations. Twelve personality variables were chosen on the basis of their conceptual link to the four strands of the ego and because of their empirically established linear relation to ego development. The variables were assessed with objective measures that had satisfactory levels of reliability and had been constructed independently from the WUSCT. These objective measures included subscales

from The Interpersonal Style Inventory (Lorr, 1986), the Personal Orientation Inventory (Shostrom, 1966), and the Perceived Self Questionnaire (Heath, 1968). The 12 variables included ambiguity tolerance, self-regard, interest in diverse thinking, deliberate versus impulsive, interpersonal sensitivity versus insensitivity, and perceived self in terms of values.

A principal component analysis yielded one component of personal maturity. Of the 12 personality variables, 11 had moderate to high loadings on this component. The component scores were then calculated for each participant and correlated with ego stage. For statistical purposes the ego stages were collapsed into three: preconformist, conformist, and postconformist. The correlation between component scores and ego stage was highly significant, which provided support for the construct validity of the WUSCT. The sequence of mean component personal maturity scores showed a clear progression for each of the three ego stages, which was interpreted by Novy (1993) as providing empirical support for the specific sequentiality of ego development.

Predictive Validity

As ego development represents an underlying frame of reference and a way of construing the self and the world, Loevinger (Loevinger & Wessler, 1970) regarded it as inappropriate to expect a clear one-to-one relationship between ego stage and overt behavior. Although this means that the predictive validity of the WUSCT cannot be evaluated using the same level of probability that may be used for other tests, it does not mean that ego stage and behavior are unrelated. Loevinger (Loevinger & Wessler, 1970) regarded the relationship as a probabilistic one and later reviewed 13 studies into the way in which ego stage predicted behaviors such as helping, responsibility, and conformity (Loevinger, 1979). Thus, within this constraint of a probabilistic rather than a one-to-one relationship expected between ego stage and overt behavior, it is appropriate to consider the predictive validity of the WUSCT.

Since Loevinger's (1979) review, there has been only one published study (Hart & Hilton, 1988) that is of relevance for predictive validity. Hart and Hilton investigated the hypothesis that the patterns of contraceptive use among female adolescents would be related to their stage of ego development. They found that the degree of consistency in the use of contraception was predicted by the stage of ego development. Clearly, further research is required before the predictive validity of ego development can be said to have substantial empirical support.

Discriminant Validity

Hauser (1976) and Loevinger (1979) reviewed the research into the discriminant validity of the WUSCT in relation to the variables most likely to be confounded with ego development, namely regarded verbal fluency, intelligence, and SES. We discuss these same variables in this review.

Verbal Fluency

The nature of the relation between verbal fluency and ego development is complex. Verbosity in response to the sentence stems is not necessarily an indication of higher ego stage, nor is brevity an indication of lower ego stage. The scoring system for the WUSCT makes a clear distinction between the content and structure of a response and the number of words used. However, more words may sometimes be required to convey the greater conceptual complexity of higher ego stages. Early in the development of the WUSCT, Loevinger and Wessler (1970) investigated the correlation between ego stage and the number of words used. In one sample of 204 women, they found a median correlation of .31, and in another sample of 543 women, the median correlation was .35. Subsequent research has found similar results among samples of male adults (McCrae & Costa, 1980) and male and female university students (Einstein & Lanning, 1998).

Thus, verbosity is related to ego development, but the levels of the correlations indicate that the WUSCT is not simply measuring verbal fluency and are consistent with what may be expected in terms of the number of words required to convey conceptual complexity.

Intelligence

Since Loevinger's (1979) review, there has been only one study (Cramer, 1999) of the relation between intelligence and ego development. In that study of a small sample of young male and female adults, a significant correlation was found between the two variables. This finding is consistent with those from the earlier studies reviewed by Loevinger (1979) in which a moderate positive correlation was the most frequent finding, ranging from .13 to .46 for 10 out of the 15 studies reviewed. Although the range of these correlations indicates the need for more research to clarify the reasons for such a degree of variability, it may be concluded that intelligence and ego development are related. Further, the correlations suggest a sufficient level of discriminant validity. However, the nature of the relation between ego development and intelligence remains unclear. Although Hauser (1976) raised the question over 20 years ago, no research has been conducted into whether the relation between intelligence and ego development remains the same through all the ego stages or into whether higher levels of intelligence are necessary for, or facilitate, higher ego stages.

SES

Prior to the reviews of Hauser (1976) and Loevinger (1979), there had been very few studies addressing the relation between ego development and SES. Most of these had not been specifically directed toward investigating the relation, and Loevinger's (1979) review has only one paragraph devoted to the question, most

of it concerned with the study by Redmore and Loevinger (1979). The finding by Redmore and Loevinger (1979) from a large and diverse sample of adolescents from four different schools was that, overall, there was a significant positive relationship between ego stage and SES. However, there was considerable variation from school to school, with results in two of the four schools showing no relation between the two variables.

In a later study (Browning, 1987) that was directly concerned with the relation between ego development and SES, Browning questioned the variability in Redmore and Loevinger's (1979) method of assessing SES. Their method used the education and occupation of the parent with the highest rating and, if there was a discrepancy between education and occupation, gave more weight to occupation. Browning (1987) sought to investigate the relation between ego development and several indexes of SES, including respondent's and parent's education and father's occupation. The total sample was 930 male and female participants age 16 to 25 years, which was broken down into three age groups: 16 to 18 years, 19 to 21 years, and 22 to 25 years. No significant correlation was found between age and stage of ego development. The respondents' own educational level had a consistently significant, moderate correlation with ego stage for both sexes and all three age groupings. The correlation between parent's education and occupation and ego stage was inexplicably variable across gender and age. Father's education and occupation ceased being significantly related to ego stage with male respondents after 18 years of age and with female respondents after 21 years of age. Mother's education was not significantly correlated with ego stage both for female respondents under 22 years of age and for male respondents between 19 and 21 years, but was significantly correlated for men and women over 22 years of age. Multiple regression analysis showed that the different indexes of SES, including respondents' own educational level, accounted for 8% to 13% of the total variance in ego stage. In the youngest group, parental factors added statistically significant information beyond the respondents' own education. However, for those over 18 years of age, 8% of the variance in ego stage was accounted for by the respondents' own education level, and parental factors did not contribute any additional information. Also, for those over 18 years, respondents' education alone accounted for nearly twice the variance that it did for those less than 18 years. That is, once people attain adulthood, their stage of ego development is less influenced by their family background characteristics.

Contrary to Browning's (1987) finding, Hansell et al. (1985) found moderate, significant correlations between ego stage and both father's education and occupation levels in a sample of older adults. This conflicting finding may be due to generational differences between the study samples, as well as the randomness of Hansell et al.'s (1985) sample being confounded by using several participants from the same family.

Snarey and Lydens (1990) used an innovative approach to investigate whether the relation between SES and ego and moral development necessarily held in all circumstances. The two factors of work environment and work complexity were hy-

pothesized to confound the relationship with SES, which is predominantly based on occupation and education. Education and occupation may not be related to ego or moral development in a work environment that promotes psychological development, such as a kibbutz community—which is based on economic equality regardless of type of work—and participatory democracy. Also, work complexity as described by Kohn (1977), more than education and occupation, may be related to psychological development, especially in such contexts as the kibbutz. Kohn (1977, 1980) had suggested from his research that the psychological impact of a job comes not from the education required, the income earned, or the status ascribed, but from the complexity of the work task. According to Kohn, variation in the complexity of work tasks may be unrelated to social class: The work of an engineer, a receptionist, and a miner may be of equal complexity. Snarey and Lydens (1990) compared three samples of participants on ego and moral development, SES, and work complexity. Participants in all three samples had been kibbutz founders 30 years previously, but one sample had remained on the kibbutz and the other two had moved to work in Israeli and North American cities. It was hypothesized that ego or moral development would not be significantly related to occupation and education in the kibbutz sample, but would be related to work complexity and that the reverse would be found in the two urban samples. These hypotheses were confirmed, with ego and moral development found to be significantly correlated with occupation and education among workers in the two urban settings but not in the kibbutz. Work complexity accounted for a significant amount of the variance in ego stage among the kibbutz workers but not among the urban workers, in which it was education for the Israeli city workers and occupation for the North American workers.

These findings suggest that the relation between ego development is not necessarily related to SES and that sociopolitical factors are relevant in terms of the opportunities they provide for psychological growth. Snarey and Lydens (1990) also interpreted their findings as bringing into question the critiques of ego and moral development as being elitist and class biased (Broughton & Zahaykevich, 1988; Haan, Aerts, & Cooper, 1985; Snarey, 1985).

CONCLUSIONS

A diverse range of studies has been reviewed in relation to the construct, predictive, and discriminant validity of ego development and its measurement. The findings indicate that there is substantial support for the validity of ego development theory and its measurement, with questions raised in regard to some aspects of the theory and other aspects that require further investigation.

Substantial support was found for the construct validity of ego development in terms of the relation to the external criterion of alternative measures, as well as the validity of three central tenets of the theory: the unitary nature of the ego, the ego representing an integration of diverse personality characteristics (cognitive functioning, personal and interpersonal awareness, and character development), and the

sequentiality of ego stages. Studies into discriminant validity indicated that although some relation was found between ego development and verbal fluency and intelligence, the levels of the correlations were sufficiently low to conclude that ego development was distinct from the two variables. Ego development was also distinct from SES, as indicated by background factors and personal level of education, a finding that challenges a criticism of the theory as being class biased.

Only two aspects of ego development theory were brought into question by the findings. The first was Loevinger's (1976) conception of the ego as a master trait that subsumes other developmental domains. Ego development and the four strands of character development, cognitive style, interpersonal style, and conscious concerns were found to be aspects of a single process rather than ego development being the underlying factor in the four strands. Also, although the domains of ego and moral development were found to be related, neither domain had primacy over the other. The second aspect was that although there was strong support for the sequentiality of ego stages in childhood, adolescence, and adulthood, there were also clear indications of the reversibility of ego stage transition.

Important gaps still remain in the research into the validity of ego development theory, despite the considerable amount of research published in the last 20 years. Further research is required to clarify the reasons for variable rates of ego development according to gender and context, as well as when and why people experience ego stage regression. The hypothesized relation between ego development and Piagetian cognitive development requires further investigation using measures that assess cognitive reasoning as it is applied to the socioemotional domain of ego development. Also, the relation between ego development and empathy needs further investigation using measures that assess the interaction of affective, cognitive, and communicative nuances of empathy. As there has been no research in the last 20 years into predictive validity, research is required into areas in which stage of ego development would be expected to predict behavior. These might include behaviors such as management style, health self-care, social behavior, and parenting style. Although ego development was found to be sufficiently distinct from intelligence, the specific nature of the relation between the two variables, such as whether intelligence provides a ceiling for ego stage, needs investigation.

In summary, the research conducted in the 20 years since the last review (Loevinger, 1979) has provided further support for the conceptual soundness of ego development theory. The findings indicate that ego development may be regarded as a complex, but unitary, construct, with the ego developing in a hierarchical, invariant, and sequential manner.

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