Empathy and ego development: Foray in the development of affectivity

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Empathy and Ego Development: Foray in the Development of Affectivity

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Abstract

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Studies of the relationship between empathy and ego development suggested that functioning at the Postconformist level of ego development enables empathetic experiences. These studies found that Postconformists evince cognitive and interpersonal qualities that predispose empathetic experiences. From Hoffman's theory of empathetic development, these studies can be reinterpreted as focusing more on the potential for empathy than on the actual experiencing of empathy. This study integrates empathetic and ego development via a comprehensive examination of potential for and experiencing of empathy.

Eighty-nine undergraduate subjects' level of ego development was assessed with the Sentence Completion Test (Loevinger, 1985). Also, the Interpersonal Reactivity Index (Davis, 1983), a measure of cognitive and affective mediators, was administered. Subsequently, subjects listened to two simulated social interactions conducive to empathetic arousal. Each of the simulated interactions presented a distressed woman describing her problems to a passive listener. One woman attributed social rejections to her physical appearance; the other woman described her unconventional ideology as the cause of social rejections. While listening to the dialogues, subjects reported their moods, the moods of the models, and skin conductance was recorded as objective indicators of empathetic arousal.

The findings suggested that there is a weak, possibly indirect, relationship between one's potential for and experiencing of empathy. This relationship is more pronounced at the Preconformist level of ego development. The findings also suggested that Postconformists do not experience more empathy than experienced at other levels of ego development and that Conformists are the least likely to experience empathy to a distressful situation. In addition, the findings suggested that Preconformists are more sensitive to changes in affect than are Postconformists. Preconformists' lower threshold for affectivity may be related to impulsivity and their simplistic cognitive style.
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...Your Excellency will see the emotional faculties first awakened by the feeling of need arising from the instinct of self-preservation, then giving birth to less selfish feelings, to more expansive impulses, and to some of those generous feelings which are the glory and happiness of the human heart.

From Itard, *The Wild Boy of Aveyron*
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Chapter 1: Introducing This Study

Preface

Studying a Wagnerian opera not only entails fluency in German, a biography of Wagner, familiarity with Victorian German culture, analysis of operatic plots and themes, and a dissection of arias. Operas also can be examined as products of madrigal vocal arrangements as they blend with fortissimo melodies and flowing harmonies. A thorough musicologist would investigate not only these subjective qualities of an opera but also the aforementioned objective properties.

Analogous to studying music, studying affectivity also entails examining objective and subjective aspects of the emotional experience. Schachter and Singer (1962) showed that affectivity is a state determined by objective physiological arousal and subjective cognitive interpretations that are further differentiated by social contexts. From the repertoire of affectivity, I have selected empathy and its mediation as it relates to development as a topic of inquiry.

As concluded from a computer search on published studies, an emerging trend in research on empathy is reliance on subjective signs of empathetic experiences. However, no arguments favoring assessment of subjective over objective signs have been published. Convenience probably
plays a large role in the solitary assessment of subjective expressions of empathy. By employing both objective (physiological) and subjective (self-reported emotion) measures, the present study is an attempt to rectify this apparent over-reliance on subjective assessments and neglect of objective measures. Chapter 2 reviews the origin and current conceptualization of empathetic experiences. Also presented in chapter 2 is a review of research on the development of empathy.

Predating Schacter and Singer (1962), Piaget (1954/1981) suggested that affectivity operates via homeostatic principles. Emotion consists of biological adaptation and compensation to complex stimuli. Before the age of 2 years, children’s affectivity is impulsive, that is, unregulated by cognition (Piaget 1954/1981). As socialization increases, children develop a will to regulate the dynamics between stimuli and affectivity, which becomes a product of homeostatic tendencies and cognition in the form of values. These values are derived from self-images and are products of the individuals’ frames of reference. In effect, Piaget suggested that affectivity is influenced by maturation in cognition, self-images, and socialization. Loevinger’s theory of ego development (1976) provides a structure for examining the dynamics between subjective and social determinants of affectivity, as will be discussed in chapter 3. Chapter 3 also contains a primer on Loevinger’s theory.
Loevinger's theory of ego development encapsulates the development of cognitive and interpersonal styles. This would suggest that there is a relationship between the development of empathetic experiences and ego development. From the research discussed in chapters 2 and 3, hypotheses for this study are stated in chapter 4. Briefly, these are (a) that level of ego development should influence the degree of empathy experienced in response to certain kinds of distress, and (b) that level of ego development should determine the relative performance of cognitive and affective mediators of empathy.

Chapter 5 presents the research design for the study. First, subjects completed a demographic questionnaire, the Sentence Completion Test (Loevinger & Wessler, 1970), a measure of ego development, and the Interpersonal Reactivity Index (Davis, 1983a), which assesses attainment of cognitive and affective mediators of empathetic experiences. These two measures are thoroughly described in chapter 5. During a second appointment, subjects listened to two audio dialogues, each presenting a distressed woman. Each woman had experienced social rejection. In one dialogue, the rejection was attributed to physical appearance. In the other dialogue, the rejection was attributed to an unconventional personal ideology. The models' characterizations and attributions reflected different levels of ego development. The dialogues and presentation formats are also described in chapter 5. While listening to
the audio dialogues, subjects rated their moods and the stimulus models' moods. Also, skin conductance was recorded at fixed-time intervals. Chapter 5 concludes with an elaboration of what procedures and equipment were used to gather skin conductance and to solicit the subjects' mood ratings.

Chapter 6 describes how the data were analyzed, testing for the hypotheses stated in chapter 4. Chapter 7 is a discussion of the implications of the results.

The present study does not challenge a predominating theory of empathy and ego development; there are no theories to challenge. The amount of previous work examining both empathy and ego development is scant. The appeal of this study is that ego development and empathy are considered together, as a foray into the area of affective development.
Chapter 2: On Empathy

Origin & Appeal

Lipps (1926) was the first to identify a cluster of social interactions as Einfühlung, or one's emotional reaction to an aesthetically-arousing object. Originally intended for the appreciation felt towards an objet d'art, Lipps applied the term to reactions towards another's mood. The genuineness of the reaction distinguished between self-serving responses and reactions serving another (Piaget, 1954/1981). Psychoanalytic, humanistic, and cognitive schools have interpreted Einfühlung as empathy. Independent efforts by Deutsch and Madle (1975) and Kalliopouska (1986) trace the historical development of interest in empathy. Continuing interest in empathy, especially among psychoanalytic and humanistic schools, stemmed from studies on psychotherapy.

Empathy has long been recognized as an effective facilitator of the therapeutic process. The insistence on an empathetic understanding of clients can be traced to Sullivan (1953). The later writings of Adler (1956) also emphasized the value of empathy as a means of building a therapeutic alliance. Through empathy, a therapist fosters a client's self-efficacy by understanding, not by judging or devaluing, a client (Rogers, 1980). Since therapy models
enriched interactions, it stands to reason that empathy enhances one's feelings of worth.

As Hoffman (1978) and others have discussed, empathy is not an interpersonal emotion experienced exclusively in clinical settings. Empathy brings a higher-order quality to social interactions, which clinical relationships model for the client. Research on cognitive theory has suggested that cognitive abilities, discussed later, mediate empathy. Other research has specified affective tendencies that also mediate empathy. Cognitive and affective mediators typically develop during childhood and adolescence. Given its dependence on developing mediators, it can be said that empathy itself develops during childhood and adolescence. The development of empathy shall serve as the focus of this study.

The study of empathy is important for several reasons. Aside from therapeutic benefits, by studying empathy and its development, inroads are made into processes that facilitate -- or impede -- adaptive interpersonal relationships. Moreover, empathy is a state of affectivity that is an emotional aspect of altruism, which has utility in society as a whole; it is necessary for the survival of the species (Hoffman, 1978). As Donne wrote, "No man is an island." Our ancestors could have only survived by banding together and supporting each other in times of stress and adding value to their existence by sharing times of glee (Hoffman, 1978). Clark (1980) added that such social tensions as
violence, terrorism, and war are aggravated by the failure to understand the legitimate needs of others and by sharing "frailties, posturing, anxieties, and their passions for meaningfulness in life. (p.190)" Implicit in empathy is a recognition of another's worth and a bond that emphasizes the frailty of the human condition.

Conceptualization

**Contrasting Empathy with Sympathy**

Empathy is more complex than such simple emotions as happiness and sadness. Although the experience of empathy includes simple emotions, attempts to conceptualize empathy are awkward (Kalliopuska, 1986). A way of defining empathy is to contrast it with a similar complex emotion, sympathy. The two are often confused (Wispé, 1986). The contrast between empathy and sympathy reduces to a distinction between knowing and relating. To reveal the intricacy of empathy, this difference between empathy and sympathy is elaborated as follows.

The sympathetic experience is one of compassion and concern in response to another's distress (Wispé, 1986). The empathetic experience involves understanding, in terms of accurately matching another's affect (Rogers, 1980). Sympathy occurs when one feels motivation to alleviate the suffering of another (Wispé, 1986). Alternatively, empathy is when one feels motivation to accurately comprehend the suffering of another's plight (Rogers, 1980). Macfie (cited
R.G.Raslis, Jr.

in Wispe, 1986) related the sympathetic experience to being the other person. Rogers (1980) exemplified an empathetic experience as acting as if one was the other person. Comprehension from empathy augments self-awareness; compassion from sympathy, which reduces self-awareness, boosts the other’s well-being. If either interpersonal emotion is underdeveloped, then one may have difficulties appropriately responding to another’s reality (Wispe, 1986).

Judging from the emotional valence of traditional studies in empathy, one might mistakenly surmise that empathy is solely experienced in reaction to another’s distress. However, empathetic arousal can be attained in reaction to another’s joy. Sympathy, on the other hand, cannot be felt in reaction to another’s joy.

Mediators of Empathy

Discussion suggests that empathy is a multifarious experience. Several theoretical works, e.g., Hoffman (1978) and Kalliopuska (1986), have posited that certain cognitive, affective, and experiential capacities mediate the experience of empathy. A review of studies on these theoretical mediators follows.

Cognitive Mediators. Egocentricism is an inability to see another person’s perspective (Ginsburg & Opper, 1979). As related to empathy, failure to understand another’s viewpoint in favor of one’s own perspective is characteristic of egocentric thinking (Piaget, 1954/1981). Assessing empathy by physiological measures and self-report,
Wilson and Cantor (1985) found that empathy mediated by egocentricism is influenced more by situational than by behavioral cues.

These researchers showed two film clips to toddlers (ages 3 to 5 years) and children (ages 9 to 11 years). The film clips differed in visual perspective of a swarm of bees pursuing a frightened boy. One clip briefly showed the back of the boy's head then a close-up of the bee swarm. This segment presented only situational cues indicating the boy's fright. The other clip was a brief shot of the bees from a distance. Succeeding that shot was a close-up of the boy's face as he was being pursued by the bees. This second video clip presented only behavioral cues of the same boy's fright. The toddlers showed less changes in skin temperature and reported less emotional reactions to the video presenting situational cues than did the older children. Assuming that the older children had attained decreased egocentric thinking, Wilson and Cantor suggested that egocentric thinking actually interferes with recognizing another's emotions from behavioral cues.

Wilson and Cantor (1985) also found that the older children were able to empathize with the protagonist. When asked to report what the protagonist was feeling during the clip presenting behavioral cues, the toddlers were unable to identify the protagonist's emotions. From the same clip, the older children correctly identified that the protagonist was afraid. Role-taking is an ability that coincides with
decreased egocentricism (Flavell, 1968; Selman, 1971). It may be that role-taking is a critical determinant in empathy.

Gruen and Mendelsohn (1986) also found that role-taking mediates empathy. Watching one of two videos, undergraduate subjects (ages 18 to 26 years) completed the Profile of Mood States (McNair, Lorr, & Droppleman, 1971), which assessed what the subjects felt while watching the video. The videos differed in emotional tone and situation. One video (rejection) was about a girl feeling hurt and sad because her boyfriend was moving to Europe. The other video (conflict) was about a girl who was mad and resentful of her parents' refusing to let her move away from home. The authors presupposed that rejection is more distressful than conflict. The Profile of Mood States was coded for empathetic and sympathetic responses. Subjects watching the video of rejection responded more empathetically than subjects watching the video of conflict. Arguing that undergraduates have attained capacities for role-taking, Gruen and Mendelsohn contended that role-taking mediates empathy.

The above studies (Gruen & Mendelsohn, 1986; Wilson & Cantor, 1985) suggest that role-taking, which is a by-product of decreased egocentricism, is a cognitive mediator of empathy. However, the findings are tentative. Wilson and Cantor (1985) drew conclusions from groups contrasted by chronological age. Gruen and Mendelsohn (1986) drew
conclusions from reactions to video sequences contrasted by emotion. It is not clear from these two studies whether there is a direct link between role-taking and empathetic arousal, since neither actually assessed role-taking ability. Lacking conclusiveness in the form of empirical robustness, these findings are probable and are open to further examination.

**Affective Mediators.** From the assumption that decreased egocentricity and role-taking mediate empathy, discussion turns to affective mediators of empathy. Support for affective mediators of empathy is chiefly derived from factors comprising global indices of empathy. Kalliopouska (1983) administered the Mehbrian and Epstein Scale (Mehbrian & Epstein, 1972) to Finnish adults. This scale presents subjects with statements of emotional reactions to various situations. In effect, the subjects endorsed emotional aspects of empathy (Chlopan, McCain, Carbonell, & Hagen, 1985). Performing a factor analysis on the adults' self-ratings on these statements, Kalliopouska identified five factors. Nadelsticher-Mitrani, Diaz-Loving, and Nina (1983) replicated Kalliopouska's factor analysis on Mexican school children and adolescents (ages 7 through 18 years). The highest positive factor was Emotional Receptiveness, which denotes sensitivity to affect (detecting, deciphering, and describing the emotional communications of another person).

Jackson (1984) offers empirical evidence that sensitivity to affect mediates empathy. Jackson
administered a measure of sensitivity to affect, the Affective Sensitivity Scale (Kagan & Schneider, 1977) to undergraduates (ages 19 through 21 years) taking a listening-skills course and had these subjects act as a counselor in a role play of a woman having problems in her marriage. The women confederates were trained to display feelings of confusion and to give subtle indications of being angry at their husband. The subjects were instructed to demonstrate an understanding of the confederates' feelings; that is to say, the subjects were told to empathize with the confederate. The confederates later ranked their counselor on empathy. A significant and positive correlation was found between the subjects' scores on the Affective Sensitivity Scale and their confederates' ratings on demonstrated empathy.

A second positive factor identified by Kalliopuska was Lability of Control. This factor bespeaks of an ability to maintain a self-concept in chaotic surroundings. Rogers (1980) argued that empathy is a sense of knowing the magnitude of another's affect without compromising the self. Given the chaos accompanying some distressing situations, an ability to maintain self-other boundaries implies that distress is not internalized but rather shared or acknowledged. This sharing is a quality that distinguishes empathy from sympathy (Wispé, 1986) or initial stages of empathetic development from higher stages (Hoffman, 1986).
Kalliopuska (1983) also identified two high negative factors: Hardened Feelings and Rejection of Feelings. Kalliopuska speculated that cynicism to others promotes hardened feelings, making it difficult to be empathetic. Also, rejection of feelings should happen when confronting extreme agitation (Kalliopuska, 1983). Rejection of feelings in response to highly affect-laden situations suggests that an individual may become personally distressed, and this distress interferes with empathy.

**Experiential Mediators.** In developing a socio-affective curriculum for children, Copple, Moore, and Warman (1979) found that structured activities of social exchanges enhanced preschoolers' awareness of social cues. Such awareness fostered interpersonal sensitivity. Copple, Moore, and Warman reported that by developing sensitivity to others, children begin sharing feelings, a cornerstone of empathetic experience (Greenson, 1960; Schafer, 1959).

Sharing a similar experience also affects the level of empathetic arousal. Barnett, Tetreault, Esper, and Bristow (1986) recruited undergraduate rape victims and a control group of undergraduate nonvictims to watch videotaped interviews of rape victims. Using a rating scale of various emotions, the rape victims reported significantly higher distressed emotional responses than did nonvictims. Since no physiological measures were made, this finding is limited to the subjective experiencing of empathy. An alternative interpretation of these findings would be that the rape
victims may have been feeling distress about their own past experiences. Such an experience would not be truly empathetic, because empathy is a reaction to another person (Rogers, 1980).

Similarity of physical characteristics can also be an experiential mediator of empathy. Hoffman (1978) speculated that such physical characteristics as age, race, and gender promote higher empathetic responses than similarities in attitudes, preferences, and interests between an observer and a model. Hoffman's contention has implications for the design of studies of empathy, suggesting that researchers should consider the observers' physical characteristics when selecting stimuli.

Habituation is another experiential influence on empathy. Repeated exposure to the same affect-laden scenario decreases one's level of emotional arousal. Linz, Donnerstein, and Penrod (1984) demonstrated this by repeatedly exposing undergraduate subjects to a film of a woman being raped, with each exposure accompanied by reports on mood state using the Multiple Affect Adjective Check List (Zukerman & Lubin, 1965). After daily showings of the film, the subjects showed decreasing levels of appropriate responses. During the last viewing of the film, Linz, Donnerstein, and Penrod reported that some subjects had a reversal of affect; they responded with heightened levels of amusement.
A Developmental Model of Empathy

Viewing such developmental milestones as decreased egocentricity and role-taking as mediators or influences on empathy, Hoffman (1977) has proposed a developmental explanation of empathy that has bearing on the present study.

Hoffman’s Theory of Empathetic Arousal

Hoffman’s theory of the development of empathy parallels the current zeitgeist that cognitive development invokes growing abilities to formulate a self-concept separate from, yet connected, to the environment. Eventually children extend their mental representation of their environment to that of a world outside their home, further refining a self-concept in relation to this increasing world view. Like other contemporary developmental theories, Hoffman’s theory of empathetic development proposes stages, albeit not in the same hierarchical structure as Piaget’s, but more as developmental milestones. Progression through these stages is sequential.

Hoffman’s first stage coincides with the first year of life. When an infant perceives another’s distress, the distress is experienced as if it is happening to the infant. The infant’s emotional state is fused with that of another’s. Hoffman suggests that underlying the infant’s symbiotic perception is the lack of a boundary between the self and environment.
The second stage occurs between the ages of 2 to 3 years. During this time, toddlers initiate the process that leads to a differentiation between themselves and others without recognizing that others' needs and internal states differ from their own. The repercussions of this condition are that although they distinguish between others' affect and their own, the toddlers initiate inappropriate solutions or responses to others' problems. Their responses to another's distress characterizes their egocentric thinking: "What works for me will work for you."

The transitional stage occurs when children develop role-taking abilities, presumably before early-adolescence. During this period, children understand that others' needs and motivations are different from their own. As such, individuals at this stage become more attuned to other's cues and the relevance of the other's perspective. Witnessing distress, children at this stage feel compelled to match the observed affect. But, unlike children at the previous stages, these children don't internalize the affect as their own. Children at this stage are able to maintain their own ego boundaries in spite of observing distress.

Hoffman's final stage of empathetic development is marked by complete differentiation of self-other with an increasing complexity of the individuals' interpersonal reactions and understanding of the context of distress. The complexity of differentiation now includes a larger view of the environment; people are simultaneously seen as
themselves and as members of social groups. At this stage, distress is viewed as part of the plight of a larger class. A mother on welfare is not seen merely as a mother without enough money to provide for her family, as would be typical of children at the transitional stage. Rather, the welfare mother’s distress would be understood within the context of the underprivileged.

**Limitations of Hoffman’s Theory**

For a theory to be useful, completeness is a necessary feature. Hoffman’s fourth stage leaves several questions and is in need of elaboration. Given the differentiation of self from other, how do group-membership classifications affect one’s experience of empathy? As stage four youths and adults explore their environments, they continue to restructure their self-concepts. The effect of such growth likely alters how they view, interact, and empathize with others.

Functioning at Hoffman’s earlier stages of empathetic development, the experience of empathy is reminiscent of the concept of *egoistic* empathy, which states that the motivation for empathy is to relieve one’s own internalized distress (Batson, Fultz, & Schoenrade, 1987). Egoistic empathy is focused on internal conditions. Beginning in the transitional stage of empathetic development, a more sublime experience of empathy develops as the individual’s concern shifts from internal to external foci. Batson, Fultz, and Schoenrade (1987) would refer to the subsequent motivation
as stemming from altruistic empathy whereby arousal promotes relief for the other person's distress. Hoffman suggested that this shift in foci is facilitated by attainment of more complex cognitive schemas that enlarge the primitive self vs. nonself distinction to the more integrative self in relation to nonself discriminations.

According to Loevinger, ego development underlies social development and social functioning (Loevinger, 1976). Ego development, as conceptualized by Loevinger, incorporates changes in cognitive complexity, self-other differentiation, interpersonal styles, and role-taking. These properties have surfaced in Hoffman's theory as underlying influences on empathy or have been suggested as cognitive mediators of empathy. Ego development also explains growth in character and conscious preoccupations, which can lead to changes in affective mediators of empathy, e.g. lability of control.

Considering that empathy is one aspect of social functioning, it would follow that there is a relationship between ego development and empathy. This study examines the quality of this relationship. The next chapter explores Loevinger's model in depth. Following that chapter, I shall return to a discussion of how ego development can illuminate concerns regarding Hoffman's theory of development of empathy beyond childhood.
Origin

The work of Sullivan, Grant, and Grant - two Naval researchers and a psychologist for a probation agency - served as the source of Loevinger’s work on ego development (Loevinger, 1978). From delinquents’ responses to sentence completion tests, Sullivan, Grant, and Grant (1957) forged a core concept for the development of interpersonal style. Maturation of interpersonal style progressed through levels of increasingly integrative sophistication. This progression was structured as crude distinctions of one’s self from others, through a more intricate level of recognizing superficial characteristics among others, e.g., stereotyping jocks. The highest order of interpersonal maturity was valuing one’s own and others’ identity, an individual’s self-concept derived from internal integrative processes.

In Loevinger’s view, Sullivan et al.’s theory connoted the related yet diffuse manifestations of psychological functioning that were primarily socially-based (Loevinger, 1978). Adapting Sullivan et al.’s theory, Loevinger proposed a theory of ego development. Ego development reflects functioning in the dimensions of cognitive style, conscious preoccupations, interpersonal style, impulse control, and character development.
Loevinger’s Theory of Ego Development: A Primer

Conceptualization

Hauser (1976) likened Loevinger’s concept of ego development to a gyroscope, guiding the individual’s social interactions, conscious preoccupations, impulse control, and cognitive style. The constant across these domains of functioning is the individual’s frame of reference (Loevinger, 1976). Further elaboration of the process of ego development shows that Loevinger’s theory parallels humanistic, cognitive, and neopsychoanalytic theories of development.

Unlike psychoanalysis, Loevinger’s concept of the ego is not a mechanism allocating defenses in the service of interpersonal dynamics. Rather, the ego is the process of interpersonal functioning (Loevinger, 1976), resembling Adler’s style of life (Adler, 1956).

The style of life construct accounts for the unity of an individual’s personality in terms of how one views himself or herself, others, and the environment. Experiences are accepted or acknowledged after they are interpreted according to a schema of “truths” about the world. In this manner, the individual’s uniqueness is stable and consistent. Loevinger’s conceptualization of the ego corresponds to the Gestaltist quality of style of life. However, Loevinger departs from the Adlerian construct with respect to development. A style of life is cemented by the age of 5, suggesting the influence of childhood experiences.
Loevinger (1976) suggests that the development of the ego is effected by integration of experiences dissonant with the individual's world-view. The implication is that there is a lifelong potential for ego development.

Development of the ego characterizes the growth of this process, affecting interactions with others and one's self (Loevinger, 1976). In effect, Loevinger has proposed a structure of growth (ego development) suggestive of H.S. Sullivan's self-system (Sullivan, 1953).

Sullivan's self-system is a dynamic principle that mediates the individual's sense of security. Through pairings of directed action and unpleasant consequences, the individual experiences tension in the form of anxiety. The development of the self-system results in a cohesive system that serves to reduce or avoid this tension. By organizing the individual's experiences, avoiding referential processes, and controlling the individual's contents of awareness, the self-system mediates the pursuit of satisfaction and societal mandates so as to create an equilibrium. Maintaining this state of homeostasis, the self-system counters inferential analysis through selective inattention (Sullivan, 1953).

Development of the organism, according to Sullivan's self-system, occurs when the self-system can no longer effectively maintain the psychosocial equilibrium. As Sullivan (1953) explains, such ineffectiveness happens as a result of an overwhelming amount of disruptive experiences.
Loevinger (1978) adds that this discordance is necessary but not sufficient. According to Loevinger, development advances when the individual can integrate a volume of disruptive experiences with previous experiences, a process that concludes with a fundamental change. These tenets of the self-system are directly applicable to Loevinger’s theory of ego development. The key difference is that whereas Sullivan implied that this process of development is the same for all individuals, Loevinger’s theory explicitly mandates structured development through the adoption of stages of development.

According to Loevinger (1978), the fundamental striving of ego development is akin to Roger’s concept of phenomenology (cited in Nye, 1975): searching for meaning and integration. Although one’s sense of meaning and integration is idiographic, Loevinger (1976) suggested that how one develops an existential identity is normative. Ego development is characterized by invariant and sequential stages, each being a hallmark of a level of maturity.

**Manifestations of Ego Levels**

Ego development, according to Loevinger, can be characterized according to discrete stages. Inasmuch as there are varying degrees of maturity within age groups, these ego stages do not correspond to chronological age inasmuch as to maturity. Loevinger & Wessler (1970) reported that adult scores were normally distributed across the range of ego stages. The highest proportion of adults
fell in the middle ego stages. Each stage is defined by clusters of developmental milestones along the domains of impulse control, character development, conscious preoccupations, interpersonal style, and cognitive style. The complete set with corresponding milestones is shown in Table 1.

To further illuminate Table 1, consider the manifestations of each ego level (Preconformist, Conformist, and Postconformist). Ego levels are clusters of stages related by their position relative to the Conformist stage. Loevinger & Wessler (1970) reported the Conformist stage as the modal stage for individuals twelve years or older.

After the age of 12, functioning at the Preconformist level is often referred to as "developmentally-delayed." The stages comprising the Preconformist level are the Symbiotic (I-1), Impulsive (I-2), Self-protective (I-Delta), and Transition from Self-Protective to Conformist (I-Delta/3) ego stages.

The presocial (Symbiotic) person is someone who, at first appearance, resembles an autistic child. Except for infants, the Symbiotic lacks appropriate controls for impulses, and grossly inappropriate behavior transcends all social interactions. Attachments to others would be regarded as inflexible and constraining. Such a person
would make insistent demands on the caretaker's presence. In the mind of the Symbiotic person, there is little or no distinction between self and others. Assessing this stage is methodologically difficult and would be better accomplished with behavioral checklists. Without reading, writing, and communication skills, the Symbiotic person cannot be assessed with the measure of ego development (Loevinger & Wessler, 1970), which is a written measure. Nor can such a measure be adequately administered orally; the Symbiotic cannot comprehend the task of completing the sentences. For these reasons, Loevinger didn't include any guidelines for identifying functioning at the Symbiotic stage.

Persons at the higher Preconformist levels of ego development (stages I-2, I-Delta, and I-Delta/3) display characterological tendencies, have simplistic stereotypical views of their environment, and are preoccupied with "what's in it for them." Preconformists describe their moods as bodily states. For example, completing the sentence, "When they talked about sex," the Preconformist would reply, "I get hot," (Loevinger, Wessler, & Redmore, 1970). The quality of the Preconformist's affective descriptions lacks the subtle shades of grey that color the statements of people at higher levels of ego development, who view emotions as inner feelings and not as bodily states. For Preconformists, cognitive representations are split in an all-or-none fashion. This simplistic cognitive style may
explain the Preconformists' expression of feelings in limited terms, which are prototypically dichotomizing "good" and "bad." Impulses are regulated by external contingencies; self-control is not internally motivated. In this manner, social interactions are structured by Preconformists to seek pleasure or to avoid pain. When needs are unchecked, Preconformists often are in conflict with authority figures, who are viewed as adversaries.

The Conformist (stages I-3 and I-3/4) has a more complex world view than the Preconformist. The Conformist begins to elaborate on the self-other distinction formed during the Preconformist level. This elaboration contains views of others in a larger context extending beyond an immediate attachment to a caretaker. Impressions of social roles are being formulated at the Conformist level. The Conformist is concerned about becoming a part of society, i.e., fitting in somewhere. Struggling, the Conformist confronts a guiding question of what are social roles and which role is appropriate. For the Conformist, the pervasive fear is one of not belonging. Conventional social norms are accepted without any personal evaluation. Cliches are frequent and guide the Conformist's social involvements. Feelings of security are formed exclusively by social approval and belonging. Unlike the Postconformist, the Conformist understands the ways things do and ought to happen in absolute terms and without contingencies or exceptions. In this manner, the Conformist internalizes
contingencies for regulating impulses. The Conformist lacks the complex cognition of the Postconformist. For the Conformist, social distinctions are based more on readily-observed appearances. Behavior is governed by doing the right things and looking the right way. In short, the Conformist "judges a book by its cover." Moreover, any transgression of those rules or opinions congruent with an idolized group's identity creates feelings of shame or guilt in the Conformist. Social interactions are guided by being "in" with the right group and being like the right group. Assimilating the group's identity, the Conformist views favorable authority figures as ideals to which the Conformist aspires.

At the Postconformist level (stages I-4, I-4/5, I-5, and I-6), often referred to as "developmentally-advanced," individuals develop abilities for more abstract thinking and focus these skills on determining their roles in society. Early during the Postconformist level (stage I-4), earlier perceptions of society are renounced. At this point, Postconformists may become asocial. Especially at the stages higher than I-4, the Postconformist is concerned with mutuality and meaningful communication. Social interactions provide forums for exercising recently-attained capacities for abstractions. We see this as Postconformists strive to be "deeper" than the Conformist. Such concepts as love, death, existence, and gender roles become tools for expression, or rather exploration. Conflicting needs in the
Postconformists and others are recognized. By contrast, Preconformists strive to cope with conflicts at another's expense, and Conformists handle conflicting needs by compensation. Recognizing conflicts, Postconformists seek reconciliation. To reconcile conflicting needs and values in themselves, in their relationships, and in their world views leads to a self-evaluated identity. Postconformists move towards autonomy in themselves, their relationships, and in their social roles. Integration is attained when Postconformists come to cherish not only their own individuality, but that of others, regardless of others' self-concepts. Authority figures are not viewed as global representations but rather as individuals. For example, whereas the Preconformist and Conformist will view all policemen as either bad or good, the Postconformist can recognize that there are bad policemen and good policemen.

Research on the Relation between Ego Development and Empathy

A strength of Loevinger's work was that it was operationalized as an incomplete sentence task, the Sentence Completion Test (SCT) (Loevinger & Wessler, 1970). Subjects project their frame of reference on the open-ended sentence stems. The subjects' sentence completions are examined for structural qualities and the meaning of the subjects' views and integration of experience. Loevinger and Wessler argued that this projective format allows more freedom for subjects to convey idiographic frames of reference than fixed-format
tests, e.g., Likert scales, which limit the subjects to emulated frameworks.

Validation of the SCT was strong, as this measure was developed from a normative sample of more than a thousand females (Loevinger & Wessler, 1970). Moreover, independent validity efforts also strongly supported convergent, discriminant, and predictive validity of Loevinger's theory of ego development, as manifested by the SCT (consult Hauser, 1976).

Following a period of validity studies (e.g., Adams & Jones, 1981; Gold, 1980; Loevinger, 1985; Rozsnafsky, 1981; Sutton & Swenson, 1983), research on ego development examined relations to personality development and sociocultural patterns (e.g., Snarey & Blasi, 1980; White, Speisman, & Costos; 1983; Hauser, Jacobson, Noam, Powers, Follansbee, & Weiss 1984). However, very little work has been carried out on its relation to affective development, let alone empathy. A review of the reports relevant to the relation between ego development and empathy follows

**Mediators of Empathy Related to Ego Development**

As suggested by Carozzi, Gaa, and Liberman (1983), experiential mediators of empathy and ego development are related. Carozzi et al. (1983) administered the Sentence Completion Test and the Affectivity Sensitivity Scale (Kagan & Schneider, 1977) to college-dorm advisers. Carozzi, Gaa, & Liberman claimed that the Affectivity Sensitivity Scale measures interpersonal sensitivity, an experiential mediator
of empathy\(^1\). Postconformists had higher scores on the Affectivity Sensitivity Scale than did the Preconformists and Conformists \((p < .05)\), implying that higher ego functioning adolescents may also have better-developed capacities for empathy. By using a measure of one mediator of empathy, Carlozzi et al. presumed that of all the mediators of empathy, interpersonal sensitivity was the one most likely to be related to ego development. However, there are cognitive mediators of empathy which may also be related to ego development.

Hauser et al. (1984) suggested that such a relationship exists. Hauser et al. had families of adolescents discuss moral dilemmas. Each family member's (father, mother, and adolescent) discourse was recorded and coded for whether the utterance constrained or enabled the discussion in an affective or cognitive manner. One of the subtypes of this coding classification was empathy. In this classification scheme, an empathetic utterance was coded when the speaker had tuned in and grasped what the other had said (Hauser, Powers, Weiss-Perry, Follansbee, Rajapark, & Greene, 1984). Such quality suggests a display by the speaker of perspective-taking, which is a cognitive mediator of empathy.

\(^{1}\) On the surface, this claim counters Jackson's (1984) interpretation (See chapter 2). The use of the Affectivity Sensitivity Scale can be to assess either affective or interpersonal sensitivity, depending on whether this measure is being evaluated for content or construct validities.
The results suggested that adolescents' ego development level accounted for 6% of the variance ($p < .10$) in their displays of empathy. Ego development significantly accounted for 8.8% of the variance ($p < .05$) in empathy of adolescents' utterances to their mothers. Hauser et al. offer evidence relating cognitive mediators to ego development.

Evidence for a relationship between affective mediators and ego development is indirect. Kaplan and Arbuthnot (1985) compared juvenile delinquents and nondelinquents on self-ratings of affective mediators of empathy (sensitivity to affect) and open-ended questions about a fictional character's feelings, i.e., identification of the character's affect. Delinquents performed more poorly on the open-ended responses than did nondelinquents ($p < .01$). This suggests that delinquents are both less adept at generating or verbalizing empathetic responses and are less able to identify affectivity than are nondelinquents. Since delinquents tend to have lower levels of ego development than do nondelinquents (Frank & Quinlan, 1976) Kaplan and Arbuthnot's results may imply a relation between affective mediators of empathy and ego development.

Comments on Ego Development Research Related to Empathy

Although Carlozzi et al. (1983), Hauser et al. (1984), and Kaplan and Arbuthnot (1985) suggest a relationship between empathy and ego development, the indices of empathy adopted by the three studies were limited to experiential,
cognitive, or affective dimensions of empathy. To date, it has not been found that any one dimension is clearly predictive of empathetic arousal. Any procedures replicating Carlozzi et al. (1983), Hauser et al. (1984), or Kaplan and Arbuthnot (1985) would only offer indirect evidence of a relationship between empathy and ego development. A study of the relation of empathy to ego development should recognize the multidimensionality of empathy.

Mandler (1975) defined affectivity as a reflexive arousal accompanied by physiological changes and a tendency toward action. Izard and Read (1986) describe a system for recording facial expressions of infants and children less than 10 years old as a way to observe affective changes. However, Hoffman (1978) acknowledged that such procedures are ineffective for older subjects because of demand characteristics. To be more thorough, a study of the relation of empathy to ego development should also record actual experiences of empathy, as indicated by physiological changes.

Dupont (1979) implicitly suggested that the differentiation and integration of affectivity is actuated by structural or organizational transformations in personality. Such transformations would be evidenced by changes in ego development levels (Loevinger, 1978). These developmental transformations have repercussions for attaining mediators of empathy. The relationship between
mediators of empathy and empathy is as unclear as the relation of empathy to ego development. A rigorous study of empathy and ego development must also account for mediators of empathy. This study proposes procedures that enable assessments of ego development, empathetic mediators, and the experience of empathy. The next chapter discusses the proposed study's specific hypotheses for examining the relationship between ego development, empathetic mediators, and the experiencing of empathy.
Chapter 4: On Empathy and Ego Development

Hypotheses

In chapters 2 and 3, I presented theories and research pertinent to empathy and ego development. A critical review of these works identified shortcomings. That empathy develops is generally accepted. How empathy develops is less clear. Research on empathy has identified a number of cognitive, experiential, and affective mediators of the experiencing of empathy. However, such works indirectly assessed empathy by measuring isolated mediators of empathy. The findings, erroneously generalized to the total experiencing of empathy, are rather limited in scope. This study proposes that the assessment of empathy must include measuring more mediators as well as the actual experiencing of empathy. Toward this end, a comprehensive methodology is proposed that helps determine the relationships between mediators and the experience of empathy, as viewed within the context of ego development. In this chapter, salient questions are posed in the form of hypotheses for this study.

Assessing Empathetic Arousal

Schacter and Singer (1962) reported that emotions are manifested by undifferentiated states of physiological arousal. Whether an individual is feeling euphoric or angry, the sympathetic division of the autonomic nervous
system would be activated, manifested in elevated heart rates, EEG activity, and palm-sweating. Contrary to popular opinion, parasympathetic activity does not suggest negative moods. Rather, declines in activation (parasympathetic activity) establish physiological homeostasis.

Schacter and Singer also found that cognitive labels, in the form of subjective self-reports, differentiated or colored the physiological arousal states. While physiological activation may detect the presence of an affective state, an individual's attributed cognitive label differentiates the nature of the affectivity. In accordance with Schacter and Singer, accurate assessments of affective arousal should probe both physiological and cognitive indicators.

In the case of measuring physiological signals as a sole indication of affective arousal, Cacioppo & Tassinary (1990) implied that such methodology lacks direct correspondence with psychological significance. Cacioppo & Tassinary suggested that empirical studies have not established a plausible model for the relationship between physiological signals and psychological events. Physiological signals may be a precipitant for, an outcome of, a concomitant, or an invariant of psychological events. Congruent with Cacioppo & Tassinary's discussion, inferring a psychological event on the sole basis of physiological signals is unfounded.
Conversely, interpreting affectivity solely from subjective self-reports is similarly unfounded. For example, Gruen and Mendelsohn (1986) reported on a study that relied on self-reports as sole indicators of the subjects' affect. In response to video clips, subjects endorsed adjectives describing how they had felt while watching the video clips. Theoretically-justified adjective clusters indicated which subjects experienced sympathy and which subjects experienced empathy. There was no indication that these clusters were checked for reliability or validity. Without an indication of physiological activity, it is possible that subjects did not experience emotional arousal, particularly since the fixed-choice format permitted only reports of sympathy or empathy. In addition, a time-lag effect limited the results since the self-reports were made after the video clips were shown. As found by Schacter & Singer (1962), the accuracy of detecting affective states is improved when both subjective self-reports and physiological signals are included.

Consistent with this position, Hoffman (1978) concluded from a review of research on laboratory-induced affective states that more than one index of affectivity is necessary, such as self-reports and measurement of either changes in gross-motor activity (if the subjects are infants or children) or changes in autonomic activity (if the subjects are adolescents or adults). The present study adopted data collection procedures that were congruent with Hoffman's
(1986) conclusion. However, the validity of Hoffman’s position is theoretically derived. An initial hypothesis for the present study is that subjective self-reports and physiological signals manifest the same psychological event, namely empathetic arousal. Support for this hypothesis would be positive correlations between the measurements of skin conductance and the scores of self-reports on mood.

Concordance of Mediators of Empathy and Empathetic Arousal

Wisenfel, Whitman, and Malatesta (1984) reported on a study similar in design and sample to the present study, using skin conductance as one of the criterion variables. The predictor variable was a median split on the Mehrabian and Epstein self-report measure (1972) of capacity for empathy. When viewing emotionally-laden pictures of infants, those subjects who were high in capacity for empathy had lower levels of skin conductance (skin conductance decreases as palm-sweating increases) than subjects low in capacity for empathy.

The study by Wisenfel, Whitman, and Malatesta (1984) suggested that there is correspondence between capacity for and arousal of empathy. Capacity for empathy was assessed through a self-report measure. Arousal of empathy was recorded from the subjects’ skin conductance while they were viewing slides of infants. Considering that self-report measures are influenced by self-perceptions, Wisenfel, Whitman, and Malatesta imply that individuals who perceive themselves as empathetic will be more prone to empathetic
arousal than individuals who do not perceive themselves as empathetic. For the present study, capacity for empathy, or mediators of empathy, was assessed with the a self-report measure. It was hypothesized that there is a strong and positive relationship between mediators of empathy and empathetic arousal. The analyses for this hypothesis correlate the empathetic mediator variables with the skin conductance and mood-rating variables.

Implications of the Development of Mediators for Empathy

Davis (1983a) has argued that empathy is a multidimensional experience that incorporates cognitive, affective, and experiential functions. Cross-sectional research on empathy suggests that empathetic arousal is more prominent after cognitive mediators have been established (e.g., Gruen & Mendelsohn, 1986; Wiesenfel, Whitman, & Malatesta, 1984). However, these studies suffered a key methodological problem. In general, these studies indirectly assessed empathy via the presence of cognitive mediators, i.e., samples of high-low empathetic subjects were divided on the basis of cognitively-oriented measures of empathy (e.g., Mehrabian & Epstein, 1972). Affective mediators of empathy were not directly assessed by these measures. One study (Carlozzi, Gaa, & Liberman, 1983) assessed empathy using a measure of interpersonal receptivity, the Affective Sensitivity Scale (Kagan & Schneider, 1977). Receptivity to interpersonal experiences is an experiential mediator of empathy. However, Carlozzi
et al. included no other mediators of empathy in their operationalization of empathy.

As such, no contemporary developmental study has incorporated a multidimensional assessment of empathy. Such an oversight raises the question of the relative functions of affective and cognitive mediators of empathy. For instance, in lieu of delayed growth of cognitive mediators, are affective mediators sufficient to promote empathy?

This study addressed this question through regression analyses. Stepwise regressions on the skin conductance scores and mood ratings (discussed in chapter 5) were performed, loading the affective and cognitive mediators as the first factors. The affective and cognitive empathetic mediators were assessed using the Interpersonal Reactivity Index (Davis, 1983b). These stepwise regressions were conducted separately for individuals at each of three ego levels. According to Loevinger and Wessler (1970), Postconformists have more complex cognitive styles, including decreased egocentricity, perspective-taking, and separation of self-concept from environment. Therefore, it was predicted that for Postconformists, variances in the arousal of empathy, as indicated by skin conductance scores and mood ratings, are explained more by cognitive mediators than by affective mediators. Hoffman (1986) speculated that primitive forms of empathy can be experienced prior to attaining the cognitive capacities of decreased egocentricity, role-taking, and separation of self-concept
from environment. It follows that Preconformists and Conformists, although lacking a complex cognitive style, may also experience empathetic arousal. It was predicted that their arousal of empathy would be attributed to affective rather than cognitive mediators.

**Influence of Ego Development on Empathetic Arousal**

Hoffman (1986) suggested that regardless of level of development, one reacts to another's distress. Developmentally advanced individuals view distress as relating to social roles (Hoffman, 1986). Distress becomes attributed to characteristics of the plight of a class of people (Hoffman, 1978). However, as discussed in chapter 2, it is the description of this last stage of empathetic development that is the weakest in Hoffman's theory of empathetic arousal. This study tests the proposition that ego development further elaborates Hoffman's last stage.

In Loevinger's model, social roles are only superficially acknowledged by Conformists and fully comprehended by Postconformists (Loevinger, 1976). Postconformists most likely view a model's distress as relevant to the model's social role; for the Preconformist, there is no differentiation other than "helps me" or "hinders me." This study proposed that levels of empathetic arousal would differ for different contexts of distress based on one's level of ego development. Specifically, Preconformists would show empathetic arousal for portrayals of low levels of ego development, and Conformists and
Postconformists would show empathetic arousal for portrayals of advanced levels of ego development.

In this study, all subjects listened to two audio dialogues. In one dialogue, the model was distressed about a superficial quality (physical appearance). In another dialogue, the model was distressed about a more reflective quality (an unconventional ideology). I hypothesized that the Preconformist and Conformist subjects would not be as empathetically aroused by the latter slide sequence as they would be by the former. To empathize with the latter model, one would need to understand that another's distress is influenced by the person's role in society. Comprehension of social roles is beyond the Preconformists and not readily available to the Conformists (Loevinger & Wessler, 1970).

Empathetic arousal was measured by changes in skin conductance and changes in self-ratings on mood during each dialogue. To test the hypothesis that Postconformists would be more empathetically aroused by the reflective dialogue, repeated-measure ANOVAS were performed on scores for skin conductance and mood ratings during baseline and exposure to stimuli periods. Level of ego development were the predictor variable for these ANOVAS.
Method

Design

To answer sufficiently the questions posed in the last chapter, assessments were made of each subject's level of ego development as well as affective and cognitive mediators of empathy. To relate these assessments to empathetic experiences, conditions were simulated that were conducive to empathetic arousal. The form of simulation was two audio dialogues, each presenting a distressed woman describing her problems to a neutral listener. One woman attributed social rejections to her physical appearance; the other woman described her unconventional personal ideology as the cause of social rejection. While listening to the dialogues, subjects reported their moods, and skin conductance was recorded as a physiological indicator of empathetic arousal. In addition, the stimuli materials incorporated scenarios that the subjects may have previously experienced. This chapter elaborates the procedures used for this study and the rationale for selecting these procedures.

Subjects

Subjects were 89 undergraduates (approximately 1:1 male to female ratio) taking an introductory psychology class at the University of Montana. Initially, 127 undergraduates participated, but 38 were eliminated from the sample pool.
after a screening for the influence of response biases or procedural anomalies which are discussed later. These remaining subjects were taking the psychology class either during the spring or fall quarter, 1989. Previous studies (e.g., Carozzi, Gaa, & Liberman, 1983) suggest that this sample size would be adequate to ensure a fair distribution of subjects across levels of ego development.

The sample was drawn from a narrow age range in order to remove confounds related to age differences. Kitchener, King, Davison, Parker, & Wood (1984) reported a two-year longitudinal study of late-adolescent and young-adult development and found that there was an adequate number of late-adolescents functioning at each level of ego development for doing multivariate data analyses. Based on Kitchener et al., the age range of undergraduates was restricted to 18-22 years.

Following a review of the procedures and ethical concerns, the University of Montana Institutional Review Board authorized recruiting subjects from the introductory psychology subject pool. Recruitment rosters solicited participation for a study of "Personal Reactions during the Undergraduate Years." Additional information about the nature of this study was restricted to the informed consent form (See Appendix A).

The subject pool of 89 undergraduates was selected from a sample of 127 undergraduates. The remaining 38 undergraduates were not included in the analyses because of
affirmative self-reports of influence by demand characteristics (84%), skin conductance measurements made with faulty equipment (13%), or intoxication (3%). Post-hoc analyses comparing the remaining subjects with those excluded from the analyses showed no significant differences for age, gender, Duncan socio-economic status, ego development level, the affective scores for empathetic mediators, and mood ratings. However, significant differences were found between these groups with respect to skin conductance and perspective-taking. These significant differences supported excluding certain subjects from the analyses for unintended conditions.

Tables 2 and 3 present sample characteristics relating to level of ego development and gender, respectively:

Insert Tables 2 & 3 Here

Comparisons between level of ego development and gender revealed a significant distribution. The distribution of females across levels of ego development was skewed towards higher levels of ego development. The same distribution for males was skewed towards lower levels of ego development. Based on this discrepancy in distribution, gender was included in subsequent analyses as a secondary predictor variable.

Measures

Demographic Information Form
Demographic variables were surveyed with the Demographic Information Form (see Appendix B). This form was constructed for the current study. Separate sections of the form assess information relating to the individual, his or her parents, and step-parent if applicable. Subjects with more than one step-parent were asked to provide information for the step-parent with whom they reside during the school year. Although much background information is solicited by the Demographic Information Form, the only variables used in the analyses were gender, age, years of education, and socioeconomic statuses for the individual, mother, father, and step-parent (if applicable).

For the present study, the Duncan Socioeconomic Status (Duncan SES) was used, which is more robust and based on more contemporary norms than other indices of socioeconomic status (Mueller and Parcel, 1981). The Duncan SES score is a normative value based on a regression model derived from census figures reported in the Dictionary of Occupational Titles (U.S. Department of Labor, 1977). Given an occupational title and a description of the job duties, the corresponding Duncan SES is found by referring to a table. The magnitude of the of the Duncan SES score is directly proportional to socioeconomic status.

Separate Duncan SES scores were listed for the subject, both parents, and if applicable, his or her step-parent. If a Duncan SES score was not available for a family member, then the sample mean was substituted. The family Duncan SES
score was computed as the highest score among a subject's family members.

**Sentence Completion Test**

Values for the predictor variable, ego development, were collected from the total protocol ratings of the subjects' responses to the Sentence Completion Test (Loevinger & Wessler, 1970. See Appendices C & D). The Sentence Completion Test (SCT) is Loevinger's measure of ego development. Contemporary studies on ego development rely on the SCT as the *de facto* measure of ego development.

The SCT presents 36 sentence stems, e.g., "My conscience bothers me if..." The content of these sentence stems gauge opinions on self-views, family relationships, social interactions, affectivity, morality, and gender roles. Respondents are instructed to complete each sentence. Because the stems are leading, and because the instructions do not specify how to complete the sentences, the SCT is a semi-projective test.

A formal scoring system is available that determines the manifested ego stage for each sentence completion. Loevinger & Wessler (1970) specify cut-off points for the cumulative sum of the stage rankings in assigning an ego stage for the total protocol. As was done for the present study, three clusters of ego stages are considered levels of ego development (Preconformist, Conformist, and Postconformist), which are discussed in chapter 3. This clustering insures adequate cell sizes for the analyses.
For the present study, ego stage scores (see I-codes in Table 1) were assigned to each stem completion in agreement with a scoring manual (Loevinger, Wessler, & Redmore, 1970) listing categories of responses for each ego stage for each stem. The total protocol rating of a respondent's SCT, i.e., the ego stage indicating a subject's ego development, is derived from the cumulative frequency of the 36 stage scores. This method of scoring incomplete sentence measures departs from traditional scoring techniques for incomplete sentence forms, e.g., the Rotter Incomplete Sentence Blank (Rotter & Rafferty, 1950). Traditionally, manuals for scoring such measures list examples of responses for each stage of functioning. Loevinger (1978) identified this method of scoring projective measures as exemplar categories. Exemplar scoring manuals fail to account for problematic sentence completions. Such conundrums are rare or atypical responses; pluralistic completions (responses compounding themes; each theme suggesting a different level of functioning); monothematic pluralisms (expression of two or more ideas suggestive of the same level of functioning); cliches (e.g., [My father] "is the greatest."); subtleties in word choices that suggest higher levels of functioning (e.g., [Being with other people] "helps me" vs. "is a learning experience"); redundancies (e.g., [I am] "me"); and blank responses. Interrater reliability tends to be weak for sentence completions categorized by exemplars (Loevinger, 1978), since the rater must extrapolate from the
scoring manual's examples with little guidance. Decision rules are derived from inconsistent criteria when either more than one rater is used or a single rater scores a large number of protocols.

Loevinger (1978) argued that scoring methods based on rationalized categories increase interrater reliability over other sentence completion scoring methods. The ego stage categories were devised first from theoretical formulation, then from close inspection of an extensive normative sample of 1765 females (Loevinger & Wessler, 1970). These females were drawn from groups of psychiatric inpatients, college students, and professionally-employed adults. Ages of these subjects ranged from 11 to 60 years. Loevinger (1978) attested that extensive normative sampling and revision of the scoring categories substantiated the adequacy of the scoring rules. Such forethought in devising the manual overcame methodological problems which pervade this genre of testing. On this merit, the SCT is preferred to other measures of ego development, such as the Thematic Apperception Test (see Sutton & Swenson, 1983 for a discussion of alternative measures of ego development).

Aside from rigorous test-construction and self-taught rater-training programs, another appeal of the SCT was its validity. Hauser (1976) reviewed convergent, divergent, and predictive validity studies conducted by Loevinger, her associates, and other researchers. Following Hauser's supportive review, further convergent validity has been
suggested by moderate, yet significant, positive correlations with other developmental measures, e.g., Eriksonian measures of ego identity (Adams & Fitch, 1981), moral development (Gfllner, 1986; Kitchener, King, Davison, Parker, & Wood, 1984), Piagetian measures of formal operations (Hurtig, Petersen, Richards, & Gitelson, 1985), and objective behavioral sampling (Loevinger, 1985; Sutton & Swensen, 1983).

A survey of research on ego development suggested that the SCT has become the sine qua non measure of choice since the mid-1970's. Although standardized on females, Loevinger (1985) showed that the SCT can also be used with males. Moreover, the SCT has been administered to delinquents (Frank & Quinlan, 1976), psychiatric inpatients (Brownig, 1986; Noam, Hauser, Sebastiano, Garrison, Jacobson, Powers, & Mead, 1984; Vincent & Castillo, 1984), political activists (Candee, 1974), the elderly (Zlotogorski, 1983), Apache schoolchildren (Day, Boyer, & DeVos, 1975), adult kibbutzniks (Snarey & Blasi, 1980), transsexuals (Fleming, Costos, & MacGowan, 1984), adults (Bell & Bell, 1983; Hauser, Jacobson, Noam, Powers, Follansbee, & Weiss, 1984), and adolescents (Adams & Fitch, 1983; Adams & Jones, 1981; Hauser, Jacobson, Noam, & Powers, 1983; Hauser, et al., 1984).

Interpersonal Reactivity Index

One set of criterion variables, mediators of empathy, was assessed using the Interpersonal Reactivity Index
Empathy and Ego Development

(Davis, 1983a. See Appendix E). The Interpersonal Reactivity Index (IRI) measured capacities theoretically related to empathetic arousal. Davis' reports on the IRI (Davis, 1983b) suggested adequate validity. Revising an initial pool of test items, factor analyses yielded four subscales. The subscales correlated with other self-report measures as predicted (Davis, 1983b). Test-retest and internal reliabilities were also encouraging with correlations ranging from .61 to .81.

The IRI presents 28 I-statements, each of which is rated by the individual on a 5-point Likert scale. Scores for the IRI are tallied for 7-item clusters and range from 0 to 28. These four 7-item clusters comprise the four subscales of the IRI.

Because literature on empathy alludes to a multi-dimensional approach (Davis, 1983b), the IRI is comprised of statements relating to one of four subscales, each subscale tapping one of four dimensions of empathy. The affective subscale is Empathetic Concern, or feelings for others. IRI items for this subscale (e.g., "I am quite often touched by things that I see happen") reflect capacity for empathy leading to sympathy. Davis (1983a) suggested that co-occurrence of empathy (recognizing another's misfortune) and sympathy (concern for another's distress) are the outcomes of affectivity and would predispose prosocial behavior. This is supported by positive, modest factor loadings on involvement with a charity drive (Davis, 1983a) and
willingness to aid an actress portraying an impoverished mother (Davis, 1983c). Another subscale of the IRI is Perspective-Taking, the ability to take another's point of view. As the name of this subscale suggests, items of this subscale assess capacities for role-taking, a cognitive mediator of empathy (Davis, 1983a). An example of an item from this subscale is "Before criticizing somebody, I try to imagine how I would feel if I were in their place."

The other two subscales of the IRI, Fantasy and Personal Distress have negative to zero correlations with involvement in a charity drive (Davis, 1983a). These subscales were found to be detractors from empathy, or divergent dimensions of empathy. Fantasy (e.g., "I really get involved with the feelings of the characters in a novel") evaluates one's projective feelings and actions on others. Such projection dissuades one's comprehension of another's distress from reflecting the other's true state; there is an injection of self-relevant biases to the comprehension of the other's disposition. The other divergent subscale of the IRI is Personal Distress, or the uneasiness one feels in tense interpersonal contexts. An example of an item from this scale is "When I see someone who badly needs help in an emergency, I go to pieces."

Feelings prompted by Personal Distress are more self-oriented than other-oriented. If aversive to the observer, the experience may lead to rejection of feelings or hardened cynicism to others (Kalliopuska, 1983).
A thorough literature search indicated that IRI was the only measure assessing empathetic capacity via gauging one's self-reporting on more than one aspect of empathy (Davis, 1983a). Given the lack of other robust and comprehensive measures of capacity for empathy, the IRI was adopted. Moreover, the IRI was age-appropriate for the sample. Davis (1983a) devised the IRI using undergraduates attending a large Midwestern public university.

Empathetic Arousal

Crucial to this study was the second set of criterion variables, which relate to empathetic arousal. Arousal was sampled while subjects listened to two audio dialogues. Arousal states were measured as levels of skin conductance (palm-sweating) and self-reports on mood state.

Rate of skin conductance was selected over other forms of physiological measures, because is more readily obtained than other channels of physiological activity. Subjects are less inconvenienced by the placement and number of electrodes than they would be by recording cardiovascular or brain wave activations. Ray and Raczynski (1981) also favored skin conductance because of its popularity and simplicity over other methods of physiological assessment.

Physiological Activity. Skin conductance was recorded before and after each baseline period and each stimulus presentation. A Fels Dermograph (Yellow Springs Instrument Co., 1964) was used to record skin conductance levels. The amount of D.C. voltage passed through each subject's palm
was 0.70±5% volts. Skin conductance was recorded from the analogue meter in units of mhos. Convenient for analyses, separate composite skin conductance scores were calculated for each audio dialogue. The formula for the composite scores was:

\[ SC = \log S_2 - \log S_1 - \left( \frac{\log B_1 + \log B_2}{2} \right) \]  \[1\]

where \( SC \) is the composite skin conductance score, \( S_2 \) is the last skin conductance measurement during the stimulus presentation, \( S_1 \) is the initial measurement during the stimulus presentation, and \( B_1 \) and \( B_2 \) are the initial and final measurements made during the baseline period, respectively.

Since no controls were implemented prior to each subject's arrival for the study, baseline readings were used to obtain a measure of level of arousal prior to each stimulus presentation. Formula 1 partials out these basal levels from the final stimulus-exposure arousal levels. In this manner, the SC scores reflect changes in arousal due to stimulus-exposure without interference from pre-assessment activities.

The computational scores used in the analyses were logarithmic transformations of the raw measurements. Homogeneity-of-variance tests (the Bartlett-Box F) determined that the distributions of the raw measurements were not amenable to the planned analyses. Logarithmic transformations were selected in accordance with guidelines for transforming raw scores suggested by Winer (1971).
SC is a variant of a change score. It differs from traditional change scores in that the variances related to the average baseline measurement are removed from the initial measurement during stimulus presentation. SC scores are linearly independent of baseline activity, hence they quantify overall reactions to the stimulus conditions irrespective of initial levels of activation. As relating to skin conductance, a high SC score would indicate that the subject experienced much physiological arousal in response to the stimuli. If one subject had a higher SC score than another, one could say that this subject experienced more physiological activation in response to the stimulus than a subject with a lower SC score, regardless of differences between the two subjects' baseline affectivity.

**Self-Reports.** For the present study, subjects reported their feelings before and after each baseline period. In addition, subjects reported their feelings and those of the stimulus protagonist immediately following the stimulus presentations.

Subjects reported their moods using a form designed for this study (see Appendix F). The self-report form guided subjects through three steps to report their mood state. First, subjects wrote a word or two on how they felt. Next, the subjects ranked this feeling's intensity using a 5-point Likert scale. Finally, a series of 5 bipolar adjectives (Angry-Peaceful, Bitter-Pleasant, Discouraged-Enthusiastic, Low-High, and Unhappy-Happy) were listed and subjects
endorsed each pair using a Likert 7-point scale (-3 to +3). These adjective pairs were selected from the adjectival endorsements made by a panel of judges while reviewing the audio dialogues (discussed in a later section). Between the self-report forms for the subjects' moods and the form for the distressed models' moods, the adjective pairs were listed in a mixed order with the depressed/hostile adjectives at the low end of the rating scale. For each self-report form (Self's and Other's mood), three scores were calculated: these were the total of all the rankings (which ranged from -15 to +15), the total of the rankings on depressed-nondepressed adjective pairs (which ranged from -9 to +9), and the total of the rankings on hostile-nonhostile adjective pairs (which ranged from -6 to +6).

Interviewing Schedule for Subject Debriefing

The debriefing interview was conducted with the assistance of an interview schedule (see Appendix L). The schedule was prepared by the principal investigator and adhered to the debriefing guidelines suggested by Tesch (1977). The purpose of the interview schedule was to structure the debriefing interviews, to assess for the influence of demand characteristics, and to provide consistent information about the study to the subjects. The interview schedule form also enabled experimenters to transcribe their subjects' responses.

The general structure of the interview schedule followed a "broad to narrow" scope, proceeding from broad
impressions about the study to feedback about specific procedures. Both favorable and unfavorable impressions were solicited with separate questions, e.g., "What did you like about..." and "What did you not like about..."

About halfway through the interview schedule, a screening question (see Appendix L, section I, question 4) was posed that assessed influence by demand characteristics. The wording of this question was derived from Tesch (1977). If this question was answered affirmatively, the experimenter proceeded to ask a series of questions (see Appendix L, section II) that queried for the purpose of the study and reactions to different phases of their participation. The experimenters were aware of the purpose of these questions, because their awareness assisted their decision to administer section II of the interview schedule.

As mentioned earlier, those subjects who responded affirmatively to the screening question were eliminated from the sample pool. The principal investigator determined exclusion. The exclusion criteria was a positive response to the screening question and responses to the additional questions that paralleled the intended purpose of the procedures.

At the end of the interview schedule was a fixed script (see Appendix L, section III) that identifies the experimenter, the principal investigator, and the faculty supervisor. In addition, the purpose of the study, relevant background, the hypothesis, and the procedures were conveyed
using laymen's English. This script was delivered verbally to all subjects, regardless of their response to the questions screening for the influence of demand characteristics.

Procedure

Before subjects were recruited for this study, stimulus audio dialogues were constructed, and research assistants were trained. Subjects were recruited for two appointments approximately one week apart. The first appointment was made for groups of five to twelve individuals who were administered the paper-and-pencil forms. The second appointment was an individual appointment involving exposure to the audio dialogues and measures of empathetic arousal.

Construction of the Audio Dialogues. The scripts for each dialogue were derived from transcripts of graduate student role-plays, fictional stories, and sample sentence completions from Loevinger, Wessler, & Redmore (1970). Four graduate students reviewed the initial drafts of the scripts. These students unanimously approved the final draft of the script with respect to credibility, affective tone, and flow. The final draft was further edited so that both dialogues were 6.25 minutes long.

Two paid actresses portrayed the same dyad in the two audio dialogues. Using a variable-speed cassette recorder, their voices were electronically altered for one of the dialogues, distinguishing their voices from the other dialogue. The benefit of this procedure was that such vocal
characteristics as diction, enunciation, and emphasis were more consistent than if two sets of actresses were used.

One audio dialogue, *Judging a Book by Its Cover*, (See Appendix G) presented a woman talking to a passive listener about her attribution of social rejections to her physical appearance. The second audio dialogue, *Judging a Book by Its Contents*, (See Appendix H) presented another woman talking to a passive listener about her attributions of social rejection to her unconventional personal philosophy. Both dialogues were similar in terms of setting, emotional tone, and pace. The first half of each dialogue set the stage and detailed some of the protagonist's experiences. The last half presented the women's explanation for being rejected and their reactions of frustration and despair. To enhance their negative self-presentation, each protagonist disclosed behavioral indications of depression.

A panel of judges consisting of five psychology graduate students rated the emotional content of the audio dialogues using the Multiple Affect Adjective Check List (Zuckerman & Lubin, 1965. See Appendix I). The Multiple Affect Adjective Check List (MAACL) presents 132 adjectives (e.g., "panicky", "down," and "bored"). The adjectives are endorsed in a binomial manner and clustered into three subscales, Depression, Hostility, and Anxiety. The subscale scores are converted to t-scores with a mean of 50 and a standard deviation of 10. The t-scores are directly proportional to the magnitude of corresponding affectivity.
For the judges' ratings, the standard instructions were modified from rating their own feelings to rating the distressed model's feelings. Each judge completed a MAACL form for each audio dialogue. Five of the most frequently endorsed adjectives were selected for the subjects' self-report form (see Appendix F).

The judges also rated the distressed protagonists' portrayed level of ego development on 23 bipolar adjective pairs using a Likert 7-point scale (See Appendix J). Selected from Loevinger and Wessler (1970), these adjective pairs contrasted preconformist and postconformist descriptions in a counterbalanced manner. Examples of adjective pairs include "Controlled-Impulsive," "superficial-Deep," and "Conventional-Dynamic." This rating technique is similar to the one reported in construct validity studies of the SCT (Loevinger, 1985).

Training the Research Assistants. A total of 9 experimenters conducted this study. The group of 2 male and 7 female experimenters included the principal investigator and advanced undergraduate students, who received academic credit for their research assistance. The experimenters met together on a weekly basis to review the week's testing, troubleshoot if necessary, and foster motivation.

Efforts were made to minimize experimenter bias. Although the undergraduate experimenters were familiar with the hypotheses in a broad sense, as per the debriefing form, they were unfamiliar with the scoring of the paper-and-
pencil forms and the significance of the dermograph measurements. In addition, subjects were scheduled for phase II appointments with an experimenter who was not present during the subjects' phase I session. To minimize the principal investigator's bias, he conducted only phase II sessions and was unaware of his subjects' responses to the paper-and-pencil forms.

To train the other experimenters, the principal investigator constructed a manual of the procedures, including comments on worst-case scenarios. The training period lasted a week. After reading the manual, each research assistant participated in a role-play of phases I and II. Research assistants who did not demonstrate a sufficient level of mastery of the procedures could not work with subjects until they rehearsed the procedures with another research assistant and demonstrated sufficient mastery to the principal investigator.

**Phase I.** Phase I, or the administration of the paper measures was conducted in a classroom with eleven small cubicles adjoining the classroom. During each week of the data collection, five to ten subjects were brought together for the first phase of their participation. After giving informed consent to participate in a study of "personal reactions" (See Appendix A), a research assistant reviewed the testing procedure, instructed subjects how to complete the forms, and queried for any questions or comments from the subjects. Following this orientation, each subject was
directed to a cubicle where the forms and a pen was laid out on a desk. The research assistant reviewed the instructions and assigned random subject i.d. numbers before closing the cubicle doors. While assigning the subject i.d. numbers, the research assistant reminded the subjects to use this number in lieu of their names to insure the confidentiality of their responses. Subjects worked on the forms in isolation, so as to minimize group effects.

As instructed, subjects completed, in order, the demographic information survey (See Appendix B), Form-81 of the Loevinger Sentence Completion Test (SCT) (Loevinger, 1985. See Appendices C & D), and the Interpersonal Reactivity Index (IRI) (Davis, 1980, see Appendix E). As each subject finished the forms and came out of his or her cubicle, the research assistant glanced over the subject’s protocols. If there were any omissions or incomplete information, the subject was asked for the missing information. Having completed the forms, the research assistant and the subject scheduled an appointment within a week for the second phase of the subject’s participation. To schedule appointments, subjects selected an available time slot, gave their phone numbers, and were given the first name of the experimenter who would conduct the appointment. Each subject was also given an "appointment slip" confirming the appointment and then was dismissed from the phase I session. Aside from information conveyed on the
informed consent form (see Appendix A), no other information was offered.

**Phase II.** The exposure to the audio dialogues, or phase II, was conducted in a room different from that of phase I. This room was a single room with a reclining chair, an adjoining table, and a one-way mirror. Although the same room was used for other research activities, the extraneous materials were placed so as to not interfere with this project. A soft-light table lamp lighted the room. During the evening before their appointments, subjects were phoned by their phase II experimenter to remind them of their appointment and its location.

As a subject entered the room, the experimenter greeted the subject by asking for his/her name and subject i.d. number. Next, the subject was directed to the reclining chair. Such miscellaneous items as backpacks, coats, and books were placed behind the chair. The experimenter proceeded to explain the physiological assessment procedure (See Appendix K). This explanation also informed the subject that the audio dialogues were recorded from subjects in a previous study of first impressions and that the supposed subjects met in pairs and talked for five minutes.

Next, each subject was given an alcohol-soaked gauze to wipe his or her palm and the top of his or her nonpreferred hand. Zinc electrodes lubricated with a conducting flux were strapped to these two areas of the subject’s nonpreferred hand. The electrodes were connected to
terminals leading through a porthole under a one-way mirror. On the other side of the wall, they were connected to the dermograph, which calibrated actual skin conductance on an analogue meter.

As a final instruction, the experimenter told the subject that although unlikely, should the subject become nervous or tense at anytime during the dialogues, he or she could remove the headphones, and the testing would be discontinued. Experimenters were prepared to enter the room, disconnect the electrodes and, if necessary, proceed to use relaxation techniques. Although this never happened, one subject complained of a slight shock from the electrodes. This subject was dismissed from the study after being debriefed and given an apology.

Having completed the orientation, the subject was fitted with a pair of headphones, a pen, and a clipboard containing the self-report forms. After this, the experimenter left the room. The experimenter then turned on the tape player and recorded the dermograph reading. The dialogues were presented in a counterbalanced order to the subjects. The phase II experimenters knew which dialogue to play first according to the first digit of the subject i.d. numbers.

The narrator on the tape, a soft male voice, guided the subject in completing the self-report form. The baseline self-report forms differed from the self-report forms presented after the stimulus exposure in that the adjectival
pairs (see Appendix F) were omitted. After a pause of 30 seconds, the voice informed the subject that there would be a five minute rest period, which signalled the beginning of the baseline period. After this five minute pause, the experimenter made a second recording of the dermograph, and the voice on the tape guided the subject through the second self-report form, which was identical to the first self-report form. Allowing another 30 seconds for the subject to complete the form, the dialogue began. One of the actresses made a coughing noise five seconds after the dialogue began. After this coughing noise, the experimenter made a third reading from the dermograph machine, which signalled the beginning of the stimulus exposure period for the dialogue.

At the end of the dialogue, the experimenter made a fourth reading from the dermograph machine. Five seconds after the last dyadic utterance, the narrator guided the subjects through two self-report forms. The first self-report form queried the subjects about how they felt during the dialogue. The second self-report form queried the subjects about how the distressed model felt.

Allowing 30 seconds to complete each of the two self-report forms, the narrator instructed the subjects to wait for the experimenter to enter the room. At this point, the experimenter turned off the tape player and proceeded to the listening room.

The experimenter described a need to set up for the second part of the session and gave the subject a five
minute break. During this time, subjects were permitted to use the restroom, to get a drink of water, and so forth. The only stipulation was that the subjects were to keep the electrode strap on their hand. Although giving the experimenter time to replace the self-report forms with fresh ones and to turn over the audiotape, the break also gave the subjects an opportunity to disengage from the dialogue.

On returning to the listening room, the subjects sat in the recliner and were told that the next part of the session was somewhat similar to the first part. The second audio dialogue commenced in an identical manner to that of the first audio dialogue, preceded by a 5 minute baseline period. After the subject finished the last self-report form, the experimenter entered the room and slowly turned up the room's lighting, giving the subject's eyes a chance to adjust. The electrodes were disconnected, and the subjects were directed to a wash basin in the back of the listening room to wash the residual conducting flux from their hands.

Afterwards, the experimenter beckoned the subject to have a seat at a long table in a different corner of the listening room. The process of turning on more lights, removing the electrodes, allowing the subjects to wash their hands, and sitting with the experimenter at a table heralded the end of the study. In this manner, the debriefing commenced. First, the experimenter assessed the influence of demand characteristics using a broad to narrow interview
schedule (See Appendix L). Next, the experimenter solicited the subject's impressions about the testing and then informed the subject about the study after gaining the subject's promise to not disclose details about the study to other undergraduates. Finally, subjects were thanked for their participation and dismissed from the study.

Figure 1 summarizes each subjects' participation in visual form.

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Insert Figure 1 Here

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Results

In chapter 4, hypotheses for the present study were presented. Preliminary analyses showed no relationship between the background variables (age, socioeconomic status, and gender) and the major variables (skin conductance, IRI, and SCT scores). Significant differences were found between males and females on the Self-report on mood during the first dialogue [Females: $M = -3.0$, s.d. = 3.8; Males: $M = -1.0$, s.d. = 4.9; $F(1,87) = 4.73$, $p < 0.05$]. This was an unanticipated finding. Before presenting the planned analyses, I will discuss preliminary analyses on the influence of demand characteristics, validity of the stimulus dialogues, reliabilities of major variables, and consistency of the procedures.

Influence of Demand Characteristics

Subjects aware of the study's purpose may have been influenced more by demand characteristics than by the stimuli (Tesch, 1977). These subjects were identified through the debriefing interview schedule (see Appendix L). The principal investigator determined susceptibility to demand characteristics from each subject's responses to the debriefing interview. The criteria for susceptibility was affirmative answers to interview questions indicating seriousness about the purpose of the study or comments that
the audio dialogues were "faked" or "staged." From a total sample of 127 subjects, 38 (or 30%) were suspected of giving socially desirable responses at various points of their participation. These subjects were excluded from the analyses. Post-hoc analyses showed that the means of this group did not significantly differ from the means of the nonexcluded subjects with respect to age, gender, socioeconomic status, level of ego development, and mood self-reports. Although the means for the IRI subscales Empathetic Concern, Fantasy, and Personal Distress were not significantly different, the nonexcluded subjects had significantly higher scores on the IRI Perspective-Taking subscale [Excluded: $M = 14.5$, s.d. = 5.5; Nonexcluded: $M = 17.5$, s.d. = 4.7; $t(123) = 2.88, p < 0.01$]. These significant differences between the nonexcluded subjects and the excluded subjects warranted the exclusion of the latter group from the planned analyses.

**Judges' Ratings on the Stimulus Dialogues**

A panel of 5 graduate students in clinical psychology judged the audio dialogues for affective content using the Multiple Affect Adjective Checklist (MAACL). No significant differences were found for each of the MAACL subscales (Depression, Hostility, and Anxiety) using a paired t-test on each of the MAACL subscale scores for the two stimulus dialogues.

The distressed model in each audio dialogue was also rated for portrayed level of ego development. The rating
scale for portrayed level of ego development was found to have strong internal consistency ($\alpha = 0.76$). A paired $t$-test on the ratings for portrayed level of ego development found that the reflective distressed model (To Judge a Book by Its Contents) was given a significantly higher rating ($M = 20.8, \text{s.d.} = 12.8$) than the superficial distressed model ($M = -22.2, \text{s.d.} = 7.8; p < 0.001$). Table 4 summarizes the results of the judges' ratings.

Insert Table 4 Here

Reliability of the Major Variables

Analyses were conducted to ascertain the reliability of the variables used in the planned analyses. Overall, the results found that the major variables represent reliable assessments.

The SCT Ratings. Since the ego development scores are one of the primary predictor variables, it was important to be confident in them. A research assistant prepared a sealed packet of ten SCT protocols scored previously by the principal investigator. These protocols were typed and assigned a packet i.d. number, hence limiting similarities to the original ten protocols. The list of packet i.d. numbers and actual subject i.d. numbers was placed in a sealed envelope. After the prepared protocols were scored, parallel-form reliability was checked for the paired total protocol ratings and the paired item-sum scores. An error
margin of a half-stage was used, which Loevinger reported as being an acceptable error of measurement (Loevinger, 1985). Both percentages of agreement and kappa coefficients were used in determining scorer reliability. For the paired total protocol ratings, the kappa coefficient was 0.86 ($p < 0.001$) and the percentage of agreement was 90%. For the paired item-sum scores, the correlation was 0.95 ($p < 0.001$). Collectively, these figures suggested high scorer reliability on the SCT.

The Mood Self-Reports. As discussed in chapter 5, the Mood Self-Report forms were derived from the judges’ most frequently endorsed MAACL adjectives. These adjectives were presented with contrasted adjectives on a 7-point Likert scale. The reliability of this rating form was checked for internal consistency. Kuder-Richardson alpha coefficients were computed for the forms on which the subjects reported their mood (Self-rating) and the distressed models’ mood (Other-rating). The Self-rating form had an alpha of 0.83 and the Other-rating form had an alpha of 0.90.

Construct validity for the mood-rating forms was suggested by modest correlations between the Self-rating and Other-rating forms. For the superficial dialogue, the two forms (Self & Other-rating) had a correlation of 0.27 ($p < 0.001$).

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2 Kappa coefficients are more robust for ordinal variables than percentages of agreement (Cohen, 1960), which are biased by the number of ratings and do not account for discrepant ratings.
0.01). For the reflective dialogue, the two forms had a correlations of 0.20 (p < 0.05).

The Skin Conductance Measurements. Post-hoc analyses were conducted on the skin conductance measurements to ascertain effects due to experimenter bias or to school-term of data collection. Analyses on the SC scores for the superficial dialogue suggested no significant differences between experimenters \( F(8,75) = 1.28, p > 0.05 \)\(^3\). The mean SC score for the superficial dialogue was also nonsignificant between experimenter gender and subject gender (same vs. opposite genders) \( F(1,75) = 0.04, p > 0.05 \).

Subjects were tested during two school terms with an intervening 12-week period. Because of the seasonal differences and indirect effects on the student population, school term of testing posed a concern regarding the skin conductance measurements. No significant difference was found for the mean SC scores for the superficial dialogue between school term of data collection \( F(1,87) = 3.13, p > 0.05 \). Although different experimenters were used and testing was conducted during different seasons of the year, these analyses suggested that effects related to experimenter bias, experimenter's gender, and season of the

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\(^3\) The experimenter(s) for 13 of the subjects was not identified on the skin conductance forms, thus explaining the discrepancy between total sample pool and degrees of freedom for these analyses.
year are negligible with respect to the skin conductance measurements.

In general, confidence was established in the consistency of the SC measurements, reliability of the major variables, validity of the stimulus dialogues, and exclusion of subjects susceptible to demand characteristics. Results of the planned analyses are now presented, starting with the initial hypothesis for multimethod assessment of empathetic arousal.

Assessing Empathetic Arousal

Correlations were computed for the SC scores and the Self- and Other-ratings on mood. These correlations were computed separately for each stimulus dialogue (superficial and reflective). Table 5 presents the correlational matrix for these variables.

As Table 5 shows, there was no relationship between the SC scores and either Self- or Other-ratings on mood. The correlations were extremely low and mostly negative, ranging from -0.10 to 0.08. These results do not support the immediate hypothesis of congruence of multi-method assessments of empathetic arousal. For the remaining analyses, the SC scores and mood self-reports were used as separate criterion variables for empathetic arousal.
Chapter 7 further examines the lack of support for the immediate hypothesis.

**Influence of Mediators of Empathy and Empathetic Arousal**

As suggested in chapter 4, empathetic mediators, quantified by the IRI subscales, should influence empathetic arousal. Stepwise multiple regressions ascertained the degree to which empathetic arousal can be predicted by mediators of empathy. Table 6 presents the multiple regressions on the SC scores.

As shown in Table 6, both Perspective-Taking (PT) and Personal Distress (PD) were entered in the regression on SC for the superficial dialogue ($F = 4.10, p < 0.05$). The negative beta coefficients for PT and PD ($-0.23$ and $-0.19$, respectively) are directly related to the SC scores, i.e., negative SC scores indicate higher levels of arousal. This suggests that for all subjects, PT and PD can predict up to 9% of the variance in SC for the superficial dialogue ($R = 0.30$). However, PD was conceived as a negative mediator, or detractor, of empathy. If conceived accurately, then it follows that SC is not necessarily a homogeneous measure of empathetic arousal.

Examining the SC scores for the reflective dialogue, dissimilar findings were found. None of the IRI subscales were entered in the regression equation, suggesting that
arousal during the reflective dialogue could not be predicted from mediators of empathy ($E = 1.46, p > 0.10$). However, the beta coefficients for PT and PD ($-0.22$ and $-0.23$, respectively) were roughly similar to the beta coefficients for PT and PD on the superficial SC regression. This suggested some difference underlying physiological arousal to the superficial and reflective dialogues and is examined in chapter 7.

Table 7 presents the stepwise multiple regressions on the Self-ratings on mood by the empathetic mediator variables.

As shown in Table 7, a discrepancy is found between stimulus dialogues. Empathetic Concern (EC) accounted for 5% of the variance of Self-ratings on mood during the superficial dialogue ($R = .22, F = 4.22, p < 0.05$). EC is shown to be directly proportional to these mood reports.

However, EC was not entered in the regression on Self-ratings on mood during the reflective dialogue. Rather, Fantasy (FS), conceived as an empathetic detractor, was the only variable entered in the regression model ($F = 5.87, p < 0.05$), accounting for 6% of the variance ($R = .25$). As found for the regressions on physiological arousal, the superficial and reflective dialogues elicit different aspects of empathetic arousal, as manifested by a
discrepancy between the influence of empathetic mediators (and detractors) on self-ratings on mood.

Table 8 presents the stepwise multiple regressions on the Other-ratings on mood by the empathetic mediator variables.

Insert Table 8 Here

As shown in Table 8, no IRI subscales were entered in the regression equations for the reported moods of the distressed model in each of the stimulus dialogues. The F-statistics for the two stimulus dialogues were 1.65 and 1.04 (superficial and reflective dialogues, respectively). These values are nonsignificant at the alpha level of 0.10. Variances in the reported moods of the distressed model cannot be determined by the empathetic mediators. This may suggest that the capability for identifying another's affect, which is an element of empathy, cannot be predicted by presence of empathetic mediators. However, a number of alternative explanations for this finding are available and are explored in chapter 7.

In sum, the regressions on empathetic arousal by the empathetic mediators were significant for the physiological and subjective reports of experienced affect. As suggested by the beta-coefficients, those mediators entered in the regression equations were directly proportional to empathetic arousal. However, the specific empathetic
mediators were not consistent between stimulus conditions, and empathetic detractors were unexpectedly related to empathetic arousal. In addition, empathetic mediators which were entered in the regression equations accounted for less than 10% of the variance in empathetic arousal, suggesting a maximum correlation of 0.32. Generally, the values for R across the equations provide, at best, modest support for the immediate hypothesis.

**Implications of the Development of Empathetic Mediators on Empathetic Arousal**

Before reviewing the results relating to the immediate hypothesis, analyses are discussed concerning the relationship between empathetic mediators and ego development. In this manner, congruence is demonstrated between this study and previous studies on empathetic mediators and ego development.

One way ANOVAS were performed on each of the IRI subscales using level of ego development as the predictor variable. A significant difference was found between the means of EC (Empathetic Concern) \[F(2,87) = 5.47, p < 0.01\]. A Post-hoc Duncan's Multiple Range Test suggested that the Preconformist EC mean (M = 17.0, s.d. = 5.34) was significantly lower than the EC mean scores for Conformists (M = 20.9, s.d. = 4.25) and Postconformists (M = 20.7, s.d. = 4.56). Table 9 presents the observed EC means and corresponding ANOVA table.
The means for the other IRI subscales were not significantly different between ego development levels. Although not congruent with theoretical expectations, these results are similar to the results reported by Carlozzi, Gaa, and Liberman (1983).

Stepwise multiple regressions of the IRI subscales were performed on the empathetic arousal variables (SC, Self-Mood, and Other-Mood) for each stimulus dialogue. This approach is similar to the approach used for the previous set of regressions. However, the regressions for the immediate hypothesis were done separately for each level of ego development. Table 10 presents the regressions on the SC scores.

As shown in Table 10, the relative contributions of empathetic mediators to physiological arousal was not consistent between stimulus dialogues and across ego development levels. For the superficial dialogue, none of the IRI subscales were entered in the regression equations for Preconformists, Conformists, and Postconformists ($F = 0.27, 1.70, 0.78$, respectively). Compared to the previous regression equation for the superficial SC scores, it appears that discrimination on the basis of level of ego
development mitigates the influence of perspective-taking and personal distress on physiological indications of empathetic arousal, i.e., within the context of distress attributed to superficial features.

These nonsignificant regressions on the superficial SC scores do not correspond to the regression equations on the reflective SC scores. Preconformist reflective SC scores were modestly influenced by PT (Perspective-Taking), which accounted for 18% of the variance ($R^2 = .43, F = 4.00, p < .10$). Conformist reflective SC scores were influenced by PD (Personal Distress), which accounted for 11% of the variance ($R^2 = .33, F = 5.60, p < .05$). For Postconformists, none of the empathetic mediators accounted for variance in reflective SC scores which was unanticipated. However, these findings do show the influence of ego development on the relationship between empathetic mediators and physiological indications of empathetic arousal. Although the configurations of empathetic mediators for levels of ego development was not as predicted, chapter 7 further discusses the portent of these findings.

Table 11 presents the regressions on Self-ratings of mood by ego development level.

As shown in Table 11, the previous findings of regressions on Self-ratings of mood are clarified by
demarcation of ego development level. For Preconformists, Empathetic Concern accounted for 28% of the variance in Self-rating of mood during the superficial dialogue ($R = 0.52$, $F = 6.83$, $p < 0.05$). Empathetic Concern also accounted for 19% of the variance in the Preconformist Self-rating of mood during the reflective dialogue ($R = 0.43$, $F = 4.17$, $p < 0.10$). This finding suggested that Preconformists' reactions to a distressed person are affected by how much affinity they feel towards the person. This is not an empathetic reaction, per se, but approaches empathy.

Examining the regressions on the Self-rating of mood for the other higher levels of ego development, it was found that Empathetic Concern was not entered in the regressions on experienced affect for either Conformists or Postconformists.

For Conformists, none of the empathetic mediators were entered in the regression on affect experienced during the superficial dialogue ($F = 0.64$, $p > 0.10$). However, Fantasy and Perspective-Taking were entered in the regression on Self-ratings of mood during the reflective dialogue, accounting for 12% of the variance ($R = 0.35$, $F = 3.26$, $p < 0.05$). This finding suggested that the Conformists' subjective interpretation of the reflective distressed model was significantly affected by their capacities to imagine how they would feel and to see how the distressed model felt. While these are partial qualities of empathy, the Conformists did not experience empathy, per se. Absent was
the influence of Empathetic Concern that was found for the Preconformists.

None of the empathetic mediators were entered in the regressions on Self-ratings of mood for Postconformists. The F-statistics for the two stimulus dialogues were 0.24 and 0.35 (superficial and reflective dialogues, respectively). Whereas the empathetic mediators affected the Preconformists' and Conformists' own moods in reaction to the distressed models, the Postconformists' moods were not accounted for by empathetic mediators.

Table 12 presents the regressions on Other-ratings of mood by ego development level.

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Insert Table 12 Here

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As shown in Table 12, the previous regressions on Other-ratings of mood change when differentiation is made for level of ego development. For Preconformists, Empathetic Concern modestly accounted for 19% of the variance in Other-ratings of mood of the reflective distressed model's mood ($R = .44, F = 4.26, p < 0.10$). Empathetic Concern, as well as the other IRI subscales, did not significantly account for the Preconformists' Other-ratings of mood of the superficial distressed model's mood ($F = 1.07, p > 0.10$). This finding approximates the finding for Preconformist Self-ratings of mood, which also were affected by Empathetic Concern.
Conformists' Other-ratings of the distressed models' moods was affected by Fantasy, and to a similar extent between the two stimulus dialogues. Fantasy accounted for 10% of the variance in the Conformists' identification of the superficial distressed model's mood \( (R = .32, F = 5.29, p < 0.05) \). Similarly, Fantasy accounted for 7% of the reflective distressed model's mood \( (R = .27, F = 3.80, p < 0.10) \). This finding suggested that how Conformists view another's distress is affected by how Conformists imagine they would feel. Without perspective-taking, the accuracy of the Conformists' identifications may be lowered.

For Postconformists, none of the empathetic mediators were entered in the regressions on their ratings of the distressed models' moods. The \( F \)-statistics were 0.79 and 0.48 for the stimulus dialogues (superficial and reflective, respectively). This finding is similar to the findings on Postconformist Self-ratings of mood. With respect to Postconformists, this is an unexpected finding that is discussed further in chapter 7.

Although supporting the immediate hypothesis, the separate regressions on the empathetic arousal variables for each level of ego development suggested that the influence of empathetic mediators on empathy is not as uniform as suggested by other studies. In fact, for some levels of ego development or for some aspects of empathetic arousal, empathetic mediators appear to have no influence on empathy. The immediate hypothesis is supported by the differences
between regressions on the empathetic arousal variables performed for all subjects (See Tables 6, 7, and 8) and for each level of ego development (See Tables 10, 11, and 12). The findings suggested that the influence of empathetic mediators on empathetic arousal is contingent on the attribution of the distress (superficial vs. reflective) and ego development level, except for the Postconformist level. For Postconformists, the findings suggested that empathetic mediators do not influence empathetic arousal, irrespective of attribution of the distress and form of empathetic arousal (SC and self-reports). For Preconformists, empathetic concern has a strong affective component, however, the necessary cognitive qualities are absent. For Conformists, the influence of empathetic mediators is contingent on the character of another person and form of empathetic arousal.

Influence Of Ego Development On Empathetic Arousal

Separate repeated-measure ANOVAS were performed on the empathetic arousal variables (SC, Self- and Other-ratings of mood) using a 3 (ego development level) x (2) design (superficial x reflective stimulus dialogue). Table 13 presents the repeated-measure ANOVA table for SC scores.

| Insert Table 13 Here |

The repeated-measure ANOVAS yielded a trend for the interaction of stimulus dialogue and levels of ego
development on SC scores $[F(2,86) = 2.55, p < 0.10]$. This provides modest support of the immediate hypothesis with respect to physiological indices of empathetic arousal. Table 14 lists the means and standard deviations used in the ANOVAs on SC scores.

As shown in Table 14, the Postconformists had the lowest SC scores for both stimulus dialogues with the reflective dialogue being the lowest of the two (Postconformist superficial: $M = -3.53$, $s.d. = 1.1$; Postconformist reflective: $M = -4.09$, $s.d. = 1.1$). There is an inverse relationship between SC scores and physiological arousal. From these means, it was found that the Postconformists experienced the most physiological arousal for each stimulus dialogue. Moreover, Postconformists experienced greater physiological arousal during the reflective dialogue than during the superficial dialogue $[t(18) = 3.3, p < 0.01]$ which corresponds to the predicted results.

An unexpected finding is suggested for the Preconformist SC scores. It was predicted that Preconformists would experience more arousal for the superficial dialogue than for the reflective dialogue. Although the mean Preconformist reflective SC score ($M = -3.46$, $s.d. = 0.7$) was lower than the mean Preconformist
superficial SC score (M = -3.41, s.d. = 0.8), the difference between the Preconformists' SC scores was not significantly different [t(19) = 0.26, p > 0.10]. The Conformist mean scores also do not correspond to the predicted results. The Conformist mean SC score for the superficial dialogue (M = -3.45, s.d. = 1.1) was similar to the Conformist mean SC score for the reflective dialogue [M = -3.43, s.d. = 1.1, t(49) = -0.09, p > 0.10]. These results suggest that Preconformists and Conformists generally experienced the same amount of physiological arousal for the superficial and reflective dialogues.

Table 15 shows the repeated-measure ANOVA table for the Self-ratings of mood by level of ego development.

As shown in Table 15, the mean Self-ratings of mood were not significantly different between levels of ego development [F(2,86) = 0.08, p > .10] and stimulus dialogues [F(1,86) = 0.36, p > .10]. Since there was a nonsignificant within-subject effect for ego development level [F(2,86) = 1.44, p > .10], no support for the immediate hypothesis was found with respect to Self-ratings of mood.

Table 16 presents the mean Self-ratings of mood by ego development level.
Examining Table 16, it is seen that, on average, the subjects were somewhat saddened and/or angered in listening to both distressed models. The possible range of mood report scores is -15 to +15. Negative scores suggest depressive and/or hostile affect. Examining the magnitude of the scores in Table 15 (Aggregate superficial: $M = -2.0$, s.d. = 4.4; Aggregate reflective: $M = -1.8$, s.d. = 3.9), it is shown that the subjects believed they were not greatly affected, as compared to the possible range of scores.

Table 17 shows the repeated-measure ANOVA on Other-ratings of the distressed models' moods by ego development level.

As shown in Table 17, the mean Other-ratings of the distressed models' moods were not significantly different with respect to level of ego development [$F(2,86) = 1.08, p > 0.10$]. However, the aggregate means between stimulus dialogues were significantly different [$F(1,87) = 12.88, p < 0.001$]. Although this may suggest a perceptible difference between the affective qualities of the stimulus dialogues, the judges' ratings of the distressed models' mood were not significantly different (See Table 4). Not only does this finding fail to support expectations for Other-ratings, a
discrepancy between the subjects' and the judges' ratings of the distressed models' moods is suggested. This difference and lack of support for the immediate hypothesis is discussed in chapter 7.

Table 18 presents the mean Other-ratings of the distressed models' moods by ego development level.

Insert Table 18 Here

As shown in Table 18, subjects at each level of ego development gave lower ratings to the superficial distressed model. This suggests that all subjects viewed the superficial distressed model (Aggregate: $M = -12.3$, s.d. = 4.6) more depressed and angry than the reflective model (Aggregate: $M = -10.7$, s.d. = 4.1). Although the Preconformists' mean rating for the superficial model ($M = -13.8$, s.d. = 1.6) was lower than those ratings for the superficial model by the other levels of ego development (Conformist: $M = -11.6$, s.d. = 5.7; Postconformist: $M = -12.4$, s.d. = 2.6), this was a nonsignificant difference.

In sum, modest support for the immediate hypothesis was found in examining empathetic arousal on the basis of physiological indications but not on the basis of Self or Other mood ratings. While Postconformists showed the greatest arousal for both stimulus dialogues, both Preconformists and Postconformists showed greater arousal for the reflective dialogue. Conformists showed roughly
equal arousal for the superficial dialogue. Figures 2 and 3 illustrate these results in graphic form for each stimulus dialogue.

Insert Figures 2 & 3 Here
Discussion

In general, level of ego development seemed to be unrelated to arousal of empathy. However, the present study had a number of methodological and conceptual problems, which are reviewed in this chapter. Hence, a conservative discussion of the results ensues without dismissing a possible relationship between ego development and empathetic arousal.

Without regard for ego development, the findings nevertheless advance an understanding of affectivity, as represented by empathy. After reviewing implications of the findings, limitations of these findings are discussed. Future directions and concluding remarks end the present chapter.

Review and Implications of the Findings

Discordance between modes of assessing empathy. The lack of association between physiological activation and the mood self-reports paradoxically confirmed using both for studies on affectivity. The low and insignificant correlations may suggest that physiological signals and mood self-reports assess different phenomena. However, this suggestion may be too presumptious, if physiological activation and mood self-reports are construed as components of psychophysics.
Cacioppo and Tassinary (1990) suggested that physiological signals are related to psychological events in a one-to-many relationship. Consistent with Cacioppo and Tassinary (1990), thoughts, feelings, and actions collectively activate physiological signals. In this manner, physiological changes represent changes in experience, as reflected by thoughts, feelings, and actions. Physiological changes dovetail with the psychophysical notion of noise. Measuring affective arousal via physiological activations is associated with assessing affective noise.

Subjective awareness of affectivity requires an interpretation of affective noise (Schacter and Singer, 1962). As a tone must be audible to be heard as a sound, so too must affective noise reach a threshold to be comprehended. For this study, the subjects reported moods using self-report forms.

Relating to the discordance of physiological activation and mood self-reports, the stimuli conditions may have induced weak or subthreshold affective noise. Post-hoc analyses on the skin conductance scores supported this notion. For the superficial dialogue, the change in baseline skin conductance ($M = -.09, s.d. = 0.67$) was not significantly different from the change in stimulus skin conductance ($M = -.08, s.d. = .37; t(88) = -.14, p > 0.10$). For the reflective dialogue, the change in stimulus skin conductance ($M = -.11, s.d. = .54$) was modestly lower than
the change in baseline skin conductance ($M = 0.00$, $s.d. = 0.00$; $t(88) = 1.88$, $p < 0.10$).

In addition, the fixed-choice format of the self-report forms may have been too narrow. Izard and Read (1986) suggested post-hoc instruments typically constrain respondents' recall of a priori mood states. Reflecting on the present study, the subjects' mood self-reports likely omitted or obscured some moods the subjects felt during the stimulus presentation.

Given subthreshold affective noise, the variance in physiological signals expectedly would be scattered. The variance in mood scores would be restricted by instrumentation limitations of the self-reports. Hence, the correlations between physiological activation and self-report moods would be minimal. These low correlations would not suggest different constructs but rather would suggest that different aspects of the same experience did not profoundly affect the subjects.

**Capacity for and experience of empathy.** The next set of results examined the relationship between the capacity for and the experiencing of empathy. Capacity for empathy was represented by IRI scores. Empathetic experiences were indicated by physiological activation and the mood self-reports.

In general, a discrepancy was found between capacity for and experiencing of empathy. Although high levels of capacity for empathy were found, these capacities could not
account for interpretations of another’s mood. Similarly, these capacities were only mildly related to other indications of empathetic arousal (physiological activation and mood reports on self). Hence, one interpretation of this finding was that capacity for empathy may predispose for but does not assure empathetic experiences. The implication is that capacity for empathy is a necessary but insufficient condition for the experiencing of empathy. Alternatively, this finding reflected the stimuli’s subthreshold influence on the subjects’ affectivity.

The latter interpretation could account for the former. For the present study, although high levels of capacity were found, the impact of the stimuli was -- at best -- mild. If the relationship between capacity for and experiencing of empathy was necessary and sufficient, then the IRI variables would have been strongly related to the indices of empathetic arousal, which was not the case. If there was no relationship between capacity for and experiencing of empathy, then there would have been no relationship between the variables, which was also not the case. From these suppositions, it seemed that the subthreshold to mild influence of the stimuli mitigated the relationship between capacity for and experiencing of empathy. Clarification of the necessary but insufficient relationship follows.

Personal distress and perspective-taking, as operationalized by two scales of the IRI, partially accounted for physiological indications of empathetic
arousal. While the relationship to perspective-taking was consistent with the findings, personal distress was unexpected. The implication was that affective noise is not homogenous in composition. Rather, affective noise could be related to such empathetic and nonempathetic factors as perspective-taking and distress. Viewing affective noise as comprised of heterogeneous factors corresponds to the psychophysic notion of noise (Levine and Shefner, 1981).

The influence of perspective-taking and personal distress on skin conductance was similar for both stimulus presentations. Since the affective tone (distressed and demoralized) was similar between the two presentations, perspective-taking and personal distress were most likely to be affected by affective tone. The implication would be that affective noise is stimulated by affective tone to a degree corresponding to attainment of perspective-taking and personal distress.

However, perspective-taking and personal distress did not account for the mood self-reports. The findings suggested that either empathetic concern or fantasy were related to the self-reports on mood. Empathetic concern was related to the moods reported during the superficial stimulus. Fantasy was related to the moods reported during the reflective stimulus.

Although the affective tone was similar, the stimulus presentations were different in content. The superficial stimulus presented an attribution based on a concrete and
specific quality (unattractiveness). Empathetic concern apparently was prompted by superficial and identifiable reasons for distress.

However, the content of the reflective stimulus was intended to be pensive and abstract. Arguably, more mature individuals present themselves in this manner. However, fantasy was prompted by nonspecific internal qualities attributed to distress. Fantasy represents a form of projective identification (Davis, 1983a), and is likely during the presentation of ambiguous stimuli (Bellack, 1975). Apparently, the vagueness of the reflective dialogue prompted responses affected by how the subjects would have responded to the same distress.

**Developmental aspects of capacity for and experience of empathy.** The next set of results examined capacity for and the experience of empathy among levels of ego development. Carlozzi, Gaa, and Liberman (1983) reported that Postconformists have a higher capacity for empathetic concern than do Preconformists and Conformists. This study found a similar relationship.

However, Preconformists and Conformists did not have a significantly lower capacity for perspective-taking, which departed from the theory of ego development. Either the assessment of perspective-taking was inaccurate, or the theory of ego development underestimates perspective-taking. Previous studies (see Davis, 1983a, 1983b, and 1983c) suggested excellent, though not entirely compelling,
construct validity for the measure of empathetic mediators. No available research on the relationship between social cognition and ego development was found. Given these considerations, a combination of both instrumentation problems and theoretical underestimation of capacity most likely explain insignificant differences in perspective-taking among ego development levels.

Preconformist perspective-taking mildly accounted for physiological activation during the reflective stimulus presentation. Empathetic concern accounted for Preconformists' reports on mood experienced during both stimulus presentations. The Preconformist findings clearly suggested that Preconformists' capacity for and experience of empathy were initially underestimated. These findings suggested that Preconformists felt warmth and affinity in response to the distressed tone related to social rejection while trying to understand the reflective models' perspective.

Social rejection is a plausible result of the Preconformists' impulsive and narcissistic interpersonal style. The affective tone of the stimulus presentations prompted empathetic concern, but this warmth was not shared with the Preconformists' view of the distressed model, as indicated by the findings for self-reports on the distressed models' mood. Compared to other levels of ego development, there is a stronger relationship between Preconformists' capacity for and experiencing of empathy. The empathetic
mediators (perspective-taking and empathetic concern) accounted for empathetic arousal (physiological activation and mood self-reports). Also, the empathetic detractors (fantasy and personal distress) were not related to empathetic arousal. Previously, it was suggested that the stimuli had a mild influence on the subjects' affectivity. The findings on Preconformist capacity for and experiencing of empathy suggested that Preconformists have a lower threshold for, or exhibit more sensitivity to, affectivity than do Conformists and Postconformists.

Evidence for the Conformists' egocentricity was found by the Conformist-specific results. Fantasy accounted for the Conformist self-reports on the distressed models' moods. Fantasy was construed as a projective identification with another, i.e., "How I would react." This suggested that the interpretation of negative affective tone brings out Conformists' expectations of how they would feel. In addition, the Conformists neglected the models' perspective, as suggested by the lack of an association between perspective-taking and the Conformists' self-reports on the models' moods. Similarly, personal distress accounted for the Conformist physiological arousal, suggesting that the stimulus presentations were repulsive to the Conformists. The relationship between personal distress and Conformist physiological activation could suggest that Conformists prefer to avoid unpleasant experiences. Congruent with their superficial and banal interpersonal style, Conformists
could be motivated by avoidance of negativity. In comparison to the other levels of ego development, these implications suggest that Conformists would be the least empathetic with a distressed person. Since the Conformist level is the middle level of ego development, further research could confirm that the experience of empathy is curvilinear with respect to ego development.

The necessary but insufficient relationship between capacity for and the experience of empathy was suggested by the Postconformist findings. None of the empathetic mediators or detractors accounted for indications of empathetic arousal, physiological activation, or self-reports on own or other's moods. This could indicate a lack of relationship between Postconformists' capacity for and their experiences of empathy. However, this would be a premature conclusion since necessary or sufficient factors of the experience of empathy could not be determined by the present study. Without such evidence, a necessary and insufficient relationship is suggested as a guiding orientation.

Alternatively, it was previously recognized that the impact of the stimuli mitigated the relationship between capacity for and experiencing of empathy. Perhaps the stimuli's influence on Postconformist affectivity was too mild or weak. As compared to the Preconformist findings, the Postconformist findings could suggest that
Postconformists have a higher threshold for experiencing affectivity than Preconformists.

Reactions to Affective Content between Ego Development Levels. The final set of results examined differences in empathetic arousal between the stimulus presentations by level of ego development. Among ego development levels, Postconformists had the highest amount of physiological elevation (interpreted here as affective noise) with higher arousal during the reflective presentation than during the superficial presentation. Affective noise does not solely indicate empathetic arousal, and the Postconformist mood self-reports did not correspond to the physiological activations. As noted above, the stimuli's emotional impact may have been subthreshold, which would explain the lack of correspondence between Postconformist physiological activation and Postconformist mood self-reports. Moreover, Postconformists exhibited the least sensitivity to affective noise, which further impedes congruent mood self-reports.

While the Postconformist results may resemble the expected findings, weak evidence at best was found for a relationship between ego development and the experiencing of empathy.

In addition, subjects at all levels of ego development did not view themselves as affected by the stimulus presentations. Disregarding influences on themselves may suggest a reaction to the aversive tone, a form of self-bias that excludes dissonant information, or a combination of both. This unexpected finding is supported by previous
studies. For example, Cialdini, Kenrick, and Bauman (1982) reviewed evidence that exposure to a distressed model induced a negative-state.

Subjects at all levels of ego development also rated the superficial model as more depressed and angry than the reflective model. Possibly, this finding would suggest that concrete or specified contents accompanying distress are more likely to be viewed as distressing than vague or ambiguous contents. The implication would be that empathy entails an understanding of the nature of the distress and the distressed individual. However, the judges rated neither model as significantly more depressed or angry. This discrepancy between the subjects' and the judges' ratings is examined in reviewing limitations of the findings.

**Potential Limitations of the Findings**

The Influence of Demand Characteristics. Subjects for the current study were screened for the influence of demand characteristics via a structured interview at the end of their participation. The inclusion criteria were based on Tesch's suggestions (1977). Nearly 30% of the subjects were eliminated from the data analyses because of positive indications of biased responses. Although 30% may be viewed as a relatively high proportion, hence discrediting the robustness of the procedures, this was not viewed as a limitation.
With the exception of studies involving subject
deception, a large number of published studies do not
systematically ascertain the influence of demand
characteristics. In fact, none of the reviewed studies
accounted for demand characteristics. The 30% exclusion rate
may be acceptable, since a comparable figure cannot be
ascertained from published studies in this field.

Differences in Affective Tone of the Dialogues. As
previously mentioned, The subjects rated the superficial
model as more depressed and angry than the reflective model.
However, there were no significant differences between the
judges' affective ratings of the two distressed models. One
explanation relates to instrumentation differences. While
the judges used the original form of the MAACL, the subjects
used an abbreviated form derived from the judges' ratings.

A different explanation implicates the stimulus value
of the dialogues and the judges' expertise. The judges may
have attended to the affective tone of the dialogues, since
their ratings of the dialogues were not significantly
different. However, the subjects may have attended more to
the affective content than to the affective tone of the
dialogues. As discussed earlier, the superficial model's
specific attributions may have enhanced the subjects'
impression of the model while the reflective model's
ambiguous attributions may have impeded the subjects'
impressions.
If it is accepted that the dialogues are dissimilar in affective tone, then the conclusion would be that the subjects were more sensitive to differences in affectivity than the judges. However, if it is accepted that the dialogues are similar in affective tone, then the findings must suggest that experience cultivates a distinction between attending to the tone and content of affectivity.  

**Weak to Modest Significance of the Findings.**

The heuristic value of the findings is undermined by weak to modest levels of significance. Customarily, this limits the generalizability of the findings. However, statistical significance between an alpha-level of 0.05 and 0.10 is often regarded as a generalizable trend. Accounting for modest significance levels, the limited impact of the stimulus presentations may have reduced the strength of the relationships among the major variables.

It was previously suggested that the subjects' interpretation of the models' distress was content-based. Since both models expressed distress in reaction to social rejection, subjects could have understood the social rejection as an tenuous reason for distress. During the debriefing interviews, some of the subjects described either or both models as "whiners." Such descriptions suggested disregard for the models' distress.

An alternative account for the modest significance levels also implicates the content of the distress: social rejection may not have stimulated affectivity as much as
more striking contents would. As noted above, affective noise, manifested by physiological activation, was elevated to a subthreshold level, thus not affecting the subjects' mood interpretations as much as threshold levels would.

Psychometrically, unintended reactions gives rise to greater scatter of scores. Nonuniform scatter weakens associativity, as implicated in the discussion on discordance of physiological activation and the mood self-reports. Hence, the weak to modest findings may also reflect unintended reactions to the content of the distress. Although these findings were interpreted as evidence for indirect relationships among the major variables, these interpretations are tentative and must be treated as hypotheses.

Suggestions for Further Research

In chapters 2 and 4, appeals were made for additional research on affectivity. The first set of suggestions guides efforts to replicate and build on the present study. The second set of suggestions recognizes potentially fruitful endeavors that are related to the present study yet expand the scope of investigations.

Replications of the current study. Future replications should concentrate on amplifying the emotional impact of the stimulus presentations. Two ways of accomplishing this were previously suggested.

First, the content of the distress needs to be considered. Although commonly experienced, social rejection
may not be viewed as distressful as other potential precipitants. In fact, some subjects indicated disdain for the models' distress about social rejection. Also, social rejection is a less severe stressor than more somber events (Holmes and Rahe, 1967). These more somber events include job dismissal, school expulsion, contracting a terminal illness, or the death of a significant other (Holmes and Rahe, 1967). Stimuli incorporating these stressors would increase the emotional impact, conceivably raising affective noise above threshold levels.

A second way of amplifying the results would be to consider sensory processes. The stimuli were presented orally. Perhaps consideration should be given to combined visual and oral presentations of the stimuli. Traditional studies on psychophysiological responses involve slides or videotapes that accompany sounds related to the stimuli (Ray and Raczynski, 1981).

A third suggestion for amplifying the results involves using measures of the latency of response to the stimulus presentations. Time-series analyses are possible when more measurements are made during the stimulus presentations. While soliciting repeated mood ratings may interrupt the flow of the stimuli, skin conductance recordings (or recordings of other forms of physiological activation) are amenable to nonintrusive repeated measures.

In addition to enriching the present findings, response latency adds useful information not available to the present
study. Relationships between latency and gradients of affective tone can be investigated. A careful reading of the dialogue scripts (see Appendices G and H) shows that the affective tone increases as the script progresses. The present study cannot ascertain whether the subjects' skin conductance was congruent with the stimuli's rise in affectivity and whether arousal preceded or succeeded the distressful expressions. This information would have been helpful in assessing the degree to which physiological activation did reflect mood.

**Brazing New Horizons.** Ideas for a number of additional manipulations and perspectives were posed as the present study was conducted. Previously, affective content was differentiated from affective tone. Future directions could examine discriminations between affective tone and affective contents. It is believed that the judges were able to discriminate affective content and affective tone while the subjects were unable to make the same discrimination. One hypothesis was that the judges' clinical experience facilitated this ability. Similarly, this ability may reflect an aspect of cognitive development, i.e., separating structure and content of the stimuli.

Unlike sympathy, empathy is not restricted to negative affect (Kalliopuska, 1986). Although sympathy for someone who is happy would be bizarre, empathy for the same person would be admirable. However, previous studies on empathy have focused exclusively on negative affect (depression,
anxiety, and hostility). The characteristics of empathetic arousal to presentations of such affects as joy, surprise, and exhuberance are unknown.

Resiliency of affective tone should also be studied. Affective resiliency addresses volatility of one's moods in response to another person. In the current study, stimuli were presented after a baseline period that some subjects regarded as "relaxing." In future studies mood inductions could precede the stimulus presentation to measure the relationship between affective resiliency and empathy. In this manner, stimulus conditions would manipulate the congruence between the mood induction and affective tone of the stimulus presentations. For example, one condition would be a positive mood induction and a negative stimulus presentation, and another condition would be a negative mood induction and a negative stimulus presentation.

The previous suggestions are structural in nature, i.e., attention is given to the relationship between variables comprising or influencing empathy. Two additional suggestions for future research examine empathy from a different approach.

First, signal detection theory could be applied to the experiencing of empathy. Previously, physiological activation and the mood self-reports were integrated in accordance with psychophysics. Following this adaptation, signal detection theory would enable assessments of threshold levels. Previously, it was surmised that
Postconformists had the highest thresholds for affectivity and Preconformists had the lowest thresholds. Admittedly, this finding was tentative and circumspect.

A final suggestion for future research concerns the current debate on motivation for prosocial behavior. Recent studies on prosocial behavior suggest that empathy precedes and induces prosocial behavior. A debate has arisen over whether empathy is prompted by altruistic or egoistic motivations (See Dovidio, 1984). The former, studied by Batson and Coke (1981), suggests that altruistic motivations precede helping behaviors. Egoistic empathy suggests that helping behaviors are self-motivated, i.e., are an attempt to relieve oneself of negative feelings in reaction to another's distress (Cialdini, Kenrick, and Baumann, 1976).

The rationale for egoistic empathy, i.e., relief from negative affect, resembles personal distress, an empathetic detractor. The current study found that Preconformist physiological arousal was accounted for by personal distress. The correspondence between the theory that empathy is egoistic empathy and the findings of the current study suggests that prosocial behavior may be related to ego development.

Concluding Remarks

The underlying goal of this study was to place empathy within the context of ego development. As a by-product, it was proposed that Hoffman’s final stage of empathetic development could be elaborated.
The current study provided limited support for Hoffman's theory in that Preconformist and Postconformist subjects experienced empathy in some form, as indicated by physiological activation, affect-matching, and affect identification. This contrasts with the findings of Carlozzi, Gaa, and Liberman (1983), which were limited to assessing capacity for empathy.

Although theory alone placed empathy within the context of ego development, shortcomings of the design limited the findings. The study should be replicated with changes designed to increase the magnitude of the subjects' affective responses and assessments of the latency and resiliency of the subjects' responses.

In closing, empathy was found to be a nebulous phenomenon in which cognition, affect, and experiential factors interact. The use of physiological indices and subjective self-reports generated comprehensive findings. However, the price for the comprehensive approach to assessing facets of empathy was contradictory and inconsistent results which were frequently difficult to interpret. Adapting the multifaceted assessment of empathetic arousal to psychophysics was fruitful and suggested additional studies. Ego development and capacity for empathy are necessary but insufficient conditions for empathetic arousal, though this is a tenuous statement awaiting replication.
As an afterthought, consideration is given to the Aristotelian teaching, "The more we learn, the less we know." Although empathy is vital in daily functioning, the present study attests to the need for more understanding about empathy. As a foray in the study of affectivity, the current study suggested a number of methodological and theoretical problems. Issues relating to necessary and sufficient conditions for affectivity remain undetermined. The development of affectivity is similarly unclear, though the current study suggested a curvilinear relationship between ego development and affectivity. By increasing research on these issues, not only is knowledge advanced about one of the most intrinsic qualities of interpersonal adjustment, efforts to stimulate prosocial behavior can begin.


Table 1: Milestones of Ego Development

<table>
<thead>
<tr>
<th>Stage</th>
<th>Character Style</th>
<th>Interpersonal Style</th>
<th>Conscious Preoccupations</th>
<th>Cognitive Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbiotic (I-1)</td>
<td>Impulsive, fear</td>
<td>Receiving, dependent, exploitive</td>
<td>Bodily feelings especially sexual and aggressive</td>
<td>Stereotypy, conceptual confusion</td>
</tr>
<tr>
<td>Impulsive (I-2)</td>
<td>Fear of being caught, externalizing blame, opportunistic</td>
<td>Wary, manipulative, exploitive</td>
<td>Self-protection, wishes, things, advantages, control</td>
<td></td>
</tr>
<tr>
<td>Self-Protective(I-Delta)</td>
<td>Autistic, symbiotic</td>
<td>Self vs. nonself</td>
<td>Bodily feelings especially sexual and aggressive</td>
<td>Stereotypy, conceptual confusion</td>
</tr>
<tr>
<td>Transition From Self-Protective To Conformist (I-Delta/3)</td>
<td>Obedience and conformity to social norms are simple and absolute rules</td>
<td>Manipulative, obedient</td>
<td>Concrete aspects of traditional sex roles, physical causation as opposed to psychological causation</td>
<td>Conceptual simplicity, stereotypes</td>
</tr>
<tr>
<td>Conformist (I-3)</td>
<td>Conformity to external rules, shame guilt for breaking rules</td>
<td>Belonging, helpful, superficial niceness</td>
<td>Appearance, social acceptability, banal feelings, behavior</td>
<td>Conceptual simplicity, stereotypes, clichés</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-----------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Self-Awareness (I-3/4)</td>
<td>Dawning realization of standards, contingencies, self-criticism</td>
<td>Being helpful, deepened interest in interpersonal relations</td>
<td>Consciousness of the self as separate from the group, recognition of psychological causation</td>
<td>Awareness of individual differences in attitudes, interests and abilities; expressed in broad terms</td>
</tr>
<tr>
<td>Conscientious (I-4)</td>
<td>Self-evaluated standards, self-criticism</td>
<td>Intensive, responsible mutual concern for communication</td>
<td>Differentiated feelings, motives for behavior, self-respect, achievements, traits, expression</td>
<td>Conceptual complexity, idea of patterning</td>
</tr>
<tr>
<td>Transition From Conscientious To Autonomous (I-4/5)</td>
<td>Individuality, coping with inner conflict</td>
<td>Cherishing of interpersonal relations</td>
<td>Communicating, expressing ideas and feelings, process and change</td>
<td>Toleration for paradox and contradiction</td>
</tr>
<tr>
<td>Stage</td>
<td>Add:</td>
<td>Add:</td>
<td>Vividly conveyed feelings, integration of physiological and psychological causation of behavior, development, role conception, self-fulfillment, self in social context</td>
<td>Increased conceptual complexity; complex patterns, tolerance for ambiguity, broad scope, objectivity</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------------</td>
<td>-------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Autonomous (I-5)</td>
<td>Add: Coping with conflicting inner needs</td>
<td>Add: Respect for autonomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated (I-6)</td>
<td>Add: Reconciling inner conflicts, renunciation of unattainable</td>
<td>Add: Cherishing of individuality</td>
<td>Add: Identity</td>
<td></td>
</tr>
</tbody>
</table>

Note: "Add" means in addition to the above.
From: Hauser (1976).
Table 2: Sample Characteristics by Ego Level

<table>
<thead>
<tr>
<th></th>
<th>Preconformists</th>
<th>Conformists</th>
<th>Postconformists</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cellsiz</strong>e</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>20</td>
<td>50</td>
<td>19</td>
<td>89</td>
</tr>
<tr>
<td>%</td>
<td>22</td>
<td>56</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td><strong>Gender(%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>25</td>
<td>64</td>
<td>47</td>
<td>52</td>
</tr>
<tr>
<td>Males</td>
<td>75</td>
<td>36</td>
<td>53</td>
<td>48</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>19.3</td>
<td>19.1</td>
<td>19.2</td>
<td>19.2</td>
</tr>
<tr>
<td>(SD)</td>
<td>(0.98)</td>
<td>(1.10)</td>
<td>(0.92)</td>
<td>(1.03)</td>
</tr>
<tr>
<td><strong>Duncan Socio-Economic Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>64.3</td>
<td>67.0</td>
<td>67.8</td>
<td>66.5</td>
</tr>
<tr>
<td>(SD)</td>
<td>(15.81)</td>
<td>(16.09)</td>
<td>(12.80)</td>
<td>(15.27)</td>
</tr>
</tbody>
</table>

4 $\chi^2 = 8.88$, df = 2; $p < 0.05$
5 $F < 1$, df = 2.86; $p < 1.00$
6 $F < 1$, df = 2.86; $p < 1.00$
Table 3: Sample Characteristics by Gender

<table>
<thead>
<tr>
<th></th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cellsizes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>46</td>
<td>43</td>
<td>89</td>
</tr>
<tr>
<td>%</td>
<td>52</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td><strong>Ego Level (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preconformist</td>
<td>11</td>
<td>35</td>
<td>22</td>
</tr>
<tr>
<td>Conformist</td>
<td>70</td>
<td>42</td>
<td>56</td>
</tr>
<tr>
<td>Postconformist</td>
<td>19</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>18.8</td>
<td>19.5</td>
<td>19.2</td>
</tr>
<tr>
<td>(SD)</td>
<td>(0.98)</td>
<td>(0.96)</td>
<td>(1.03)</td>
</tr>
<tr>
<td><strong>Duncan Socio-Economic Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>66.6</td>
<td>66.5</td>
<td>66.5</td>
</tr>
<tr>
<td>(SD)</td>
<td>(15.33)</td>
<td>(15.40)</td>
<td>(15.27)</td>
</tr>
</tbody>
</table>

---

7 & 8 = 12.59, df = 1.87; p < 0.001
8 = 1, df = 1.87; p < 1.00
Table 4: Judges Ratings of the Affective Tone and Portrayed Level of Ego Development for the Audio Dialogues

<table>
<thead>
<tr>
<th>Affective Tone: MAACL Subscale T-scores</th>
<th>Superficial Dialogue</th>
<th>Reflective Dialogue</th>
<th>T-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAACL Subscale</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Depression</td>
<td>77.4</td>
<td>7.7</td>
<td>78.2</td>
</tr>
<tr>
<td>Hostility</td>
<td>79.2</td>
<td>3.4</td>
<td>74.4</td>
</tr>
<tr>
<td>Anxiety</td>
<td>72.4</td>
<td>5.8</td>
<td>72.0</td>
</tr>
<tr>
<td>Portrayed Level of Ego Development</td>
<td>-22.2</td>
<td>8.0</td>
<td>20.8</td>
</tr>
</tbody>
</table>

Note: n = 5.

ns: p > 0.10
***: p < 0.001

Table 5: Correlations between the Skin Conductance scores (SC) and the Self- and Other-ratings of Moods

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Depressed</th>
<th>Hostile</th>
<th>Total</th>
<th>Depressed</th>
<th>Hostile</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>.01</td>
<td>.08</td>
<td>-.09</td>
<td>-.07</td>
<td>-.08</td>
<td>-.06</td>
</tr>
</tbody>
</table>

Note: n = 89.
Table 6: Stepwise Multiple Regressions of the IRI Subscales on the Skin Conductance Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Superficial Dialogue</th>
<th>R</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PT</td>
<td>- .23</td>
<td>.23</td>
<td>.05</td>
<td>4.88*</td>
</tr>
<tr>
<td>2</td>
<td>PD</td>
<td>- .19</td>
<td>.30</td>
<td>.09</td>
<td>4.10*</td>
</tr>
<tr>
<td>R</td>
<td>EC</td>
<td>.09</td>
<td></td>
<td>.02</td>
<td>0.46ns</td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>.10</td>
<td></td>
<td>.07</td>
<td>0.78ns</td>
</tr>
</tbody>
</table>

Note: n = 89.

ns: p > 0.10
*: p < 0.05

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Reflective Dialogue</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>PD</td>
<td>-.23</td>
<td></td>
<td>3.66t</td>
</tr>
<tr>
<td>R</td>
<td>EC</td>
<td>-.02</td>
<td></td>
<td>0.02ns</td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>.06</td>
<td></td>
<td>0.27ns</td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>-.22</td>
<td></td>
<td>2.63ns</td>
</tr>
</tbody>
</table>

Note: n = 89.

ns: p > 0.10
*: p < 0.10

d "Step" is the step number in which corresponding variable was selected for entry in the regression model. Step "R" are the variables and corresponding values that were removed from the model because of nonsignificant partial F criteria.

β is the beta coefficient for the mediator.

F is for the change in R² after the mediator was entered. For variables that were removed from the regression model, F is the partial F criterion.

All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 1.46 (p > 0.1).
Table 7: Stepwise Multiple Regressions of the IRI Subscales on the Self-Ratings of Mood

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Superficial Dialogue</th>
<th>Reflective Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>R</td>
</tr>
<tr>
<td>1</td>
<td>EC</td>
<td>-.22</td>
<td>.22</td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>-.08</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PD</td>
<td>-.03</td>
<td></td>
</tr>
</tbody>
</table>

Note: n = 89.

ns: p > 0.10
*: p < 0.05

ns: p > 0.10
*: p < 0.05
Table 8: Stepwise Multiple Regressions of the IRI Subscales on the Other-Ratings of Mood

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Superficial Dialogue</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>PD</td>
<td>.14</td>
<td>.61</td>
<td>3.97*</td>
</tr>
<tr>
<td>R</td>
<td>EC</td>
<td>-.01</td>
<td>.04</td>
<td>0.04ns</td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>-.19</td>
<td>.02</td>
<td>3.26t</td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>.21</td>
<td>.02</td>
<td>2.39ns</td>
</tr>
</tbody>
</table>

Note: n = 89.

ns: p > 0.10
*: p < 0.05

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Reflective Dialogue</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>PD</td>
<td>.07</td>
<td>.08</td>
<td>1.46ns</td>
</tr>
<tr>
<td>R</td>
<td>EC</td>
<td>-.02</td>
<td>.02</td>
<td>0.02ns</td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>-.18</td>
<td>.02</td>
<td>2.80t</td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>.17</td>
<td>.02</td>
<td>1.59ns</td>
</tr>
</tbody>
</table>

Note: n = 89.

ns: p > 0.10
t: p < 0.10

---
a All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 1.65 (p > 0.1).
b All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 1.04 (p > 0.1).
Table 9: Means and ANOVA Table on Empathetic Concern by Ego Development Level

<table>
<thead>
<tr>
<th></th>
<th>Preconformist</th>
<th>Conformist</th>
<th>Postconformist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>20</td>
<td>50</td>
<td>19</td>
</tr>
<tr>
<td><strong>M</strong></td>
<td>17.00</td>
<td>20.90</td>
<td>20.74</td>
</tr>
<tr>
<td><strong>(SD)</strong></td>
<td>5.34</td>
<td>4.25</td>
<td>4.56</td>
</tr>
</tbody>
</table>

ANOVA Table

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>229.78</td>
<td>2</td>
<td>114.89</td>
<td>5.47**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1784.17</td>
<td>85</td>
<td>20.99</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2013.95</td>
<td>87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**: p < 0.01
Table 10: Stepwise Multiple Regressions of the IRI Subscales on the Skin Conductance Scores across Ego Development Levels

<table>
<thead>
<tr>
<th>Step Variables Loaded</th>
<th>Superficial Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \beta )</td>
</tr>
</tbody>
</table>

**Preconformist (n = 20)^a:**
- PD | .20 | 0.06ns
- EC | -.15 | 0.10ns
- FS | -.02 | 0.01ns
- PT | -.12 | 0.10ns

**Conformist (n = 50)^b:**
- PD | -.24 | 3.12t
- FS | -.07 | 0.02ns
- EC | .01 | 1.04ns
- PT | -.35 | 3.78t

**Postconformist (n = 19)^c:**
- PD | -.08 | 0.13ns
- FS | .05 | 1.40ns
- PT | -.47 | 1.04ns
- EC | -.22 | 0.40ns

ns: \( p > 0.10 \)
t: \( p < 0.10 \)

---

^a All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.27 (\( p > 0.1 \)).

^b All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 1.70 (\( p > 0.1 \)).

^c All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.78 (\( p > 0.1 \)).
### Table 10 (cont.)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Reflective Dialogue</th>
<th>B</th>
<th>R</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Preconformist (n = 20)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>PT</td>
<td></td>
<td>-.43</td>
<td>.42</td>
<td>.18</td>
<td>4.00t</td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td></td>
<td>.31</td>
<td></td>
<td></td>
<td>1.79ns</td>
</tr>
<tr>
<td></td>
<td>FS</td>
<td></td>
<td>.19</td>
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<td>0.82ns</td>
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<td>PD</td>
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<td>.22</td>
<td></td>
<td></td>
<td>0.53ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Conformist (n = 50)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>PD</td>
<td></td>
<td>-.33</td>
<td>.33</td>
<td>.11</td>
<td>5.60*</td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td></td>
<td>-.12</td>
<td></td>
<td></td>
<td>0.73ns</td>
</tr>
<tr>
<td></td>
<td>PT</td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td>0.01ns</td>
</tr>
<tr>
<td></td>
<td>FS</td>
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<td>-.11</td>
<td></td>
<td></td>
<td>0.58ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Postconformist (n = 19)\textsuperscript{a}</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.91ns</td>
</tr>
<tr>
<td></td>
<td>FS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.46ns</td>
</tr>
<tr>
<td></td>
<td>PT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.29ns</td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.02ns</td>
</tr>
</tbody>
</table>

\textsuperscript{a} All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 1.20 (p > 0.1).
### Table 11: Stepwise Multiple Regressions of the IRI Subscales on the Self-Ratings of Mood across Ego Development Levels

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Superficial Dialogue</th>
<th>B</th>
<th>R</th>
<th>R^2</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Superficial Dialogue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Preconformist (n = 20)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>EC</td>
<td>-.52</td>
<td>.52</td>
<td>.28</td>
<td>6.83*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PT</td>
<td>.07</td>
<td></td>
<td></td>
<td>0.11ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FS</td>
<td>-.17</td>
<td></td>
<td></td>
<td>0.52ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PD</td>
<td>-.05</td>
<td></td>
<td></td>
<td>0.05ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Conformist (n = 50)(^a)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Postconformist (n = 19)(^b)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ns: p &gt; 0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*: p &lt; 0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.64 (p > 0.1).

\(^b\) All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.24 (p > 0.1).
Table 11 (cont.)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Reflective Dialogue</th>
<th>( B )</th>
<th>( R )</th>
<th>( r^2 )</th>
<th>( F )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EC</td>
<td></td>
<td>-.43</td>
<td>.43</td>
<td>.19</td>
<td>4.17t</td>
</tr>
<tr>
<td>R</td>
<td>FT</td>
<td></td>
<td>.04</td>
<td></td>
<td></td>
<td>0.03ns</td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td>0.01ns</td>
</tr>
<tr>
<td>R</td>
<td>PD</td>
<td></td>
<td>.02</td>
<td></td>
<td></td>
<td>0.01ns</td>
</tr>
</tbody>
</table>

Preconformist \((n = 20)\)

| 1    | FS               |                     | -.25   | .25    | .06    | 3.15t  |
| 2    | PT               |                     | .27    | .35    | .12    | 3.26*  |
| R    | EC               |                     | .09    |        |        | 0.28ns |
| R    | PD               |                     | -.03   |        |        | 0.05ns |

Conformist \((n = 50)\)

| 1    | FS               |                     | -.27   | .27    | .07    | 0.18ns |
| R    | PD               |                     | -.05   |        |        | 0.16ns |

Postconformist \((n = 19)\) \(^a\)

\( *: p < 0.05 \)

\( ns: p > 0.10 \)

\( t: p < 0.10 \)

\(^a\) All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.35 \((p > 0.1)\).
Table 12: Stepwise Multiple Regressions of the IRI Subscales on the Other-Ratings of Mood across Ego Development Levels

| Step | Variables Loaded | Superficial Dialogue |  |  |  |
|------|------------------|----------------------|  |  |  |
|      |                  |                      | B  | R  | R² | F   |
|      |                  |                      |    |    |    |     |
|      | Preconformist (n = 20)³ |                      |    |    |    |     |
| R    | PD               |                      | .01|     | 0.86ns |
| R    | EC               |                      | -.16|    | 2.23ns |
| R    | FS               |                      | .57|     | 3.77t |
| R    | PT               |                      | -.08|    | 0.05ns |
|      | Conformist (n = 50) |                      |    |    |    |     |
| 1    | FS               |                      | -.32| .32| .10 | 5.29* |
| R    | EC               |                      | -.04|    | .07ns |
| R    | PT               |                      | .15|     | 1.03ns |
| R    | PD               |                      | .17|     | 1.61ns |
|      | Postconformist (n = 19)² |                      |    |    |    |     |
| R    | PD               |                      | 0.05|     | 0.54ns |
| R    | FS               |                      | 0.12|     | 0.12ns |
| R    | PT               |                      | 0.49|     | 2.52ns |
| R    | EC               |                      | -.11|     | 0.11ns |

ns: p > 0.10

t: p < 0.10

*: p < 0.05

---

a All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 1.07 (p > 0.1).

b All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.79 (p > 0.1).
Table 12 (cont.)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Loaded</th>
<th>Reflective Dialogue</th>
<th>B</th>
<th>R</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Preconformist (n = 20)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>EC</td>
<td>-.44</td>
<td>.44</td>
<td>.19</td>
<td>4.26t</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>.24</td>
<td></td>
<td></td>
<td>1.09ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>.01</td>
<td></td>
<td></td>
<td>0.01ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PD</td>
<td>.05</td>
<td></td>
<td></td>
<td>0.06ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Conformist (n = 50)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>FS</td>
<td>-.27</td>
<td>.27</td>
<td>.07</td>
<td>3.80t</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>EC</td>
<td>.08</td>
<td></td>
<td></td>
<td>0.26ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>.06</td>
<td></td>
<td></td>
<td>0.13ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PD</td>
<td>.11</td>
<td></td>
<td></td>
<td>0.66ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Postconformist (n = 19)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PD</td>
<td>-.17</td>
<td></td>
<td></td>
<td>0.05ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>FS</td>
<td>.07</td>
<td></td>
<td></td>
<td>0.11ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>PT</td>
<td>.36</td>
<td></td>
<td></td>
<td>1.16ns</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>EC</td>
<td>-.05</td>
<td></td>
<td></td>
<td>0.02ns</td>
<td></td>
</tr>
</tbody>
</table>

ns: p > 0.10

* t: p < 0.10

---
a All variables were removed from the equation. These F-statistics are the partial F criterion. The F-statistic for the regression model is 0.48 (p > 0.1).
Table 13: Repeated-Measures ANOVA Table for Stimulus Dialogue on Skin Conductance Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ego Development (E)</td>
<td>4.10</td>
<td>2</td>
<td>2.05</td>
<td>1.21</td>
</tr>
<tr>
<td>Dialogue (D)</td>
<td>1.41</td>
<td>1</td>
<td>1.41</td>
<td>3.18&lt;sup&gt;t&lt;/sup&gt;</td>
</tr>
<tr>
<td>E x D</td>
<td>2.26</td>
<td>2</td>
<td>1.13</td>
<td>2.55&lt;sup&gt;t&lt;/sup&gt;</td>
</tr>
<tr>
<td>Error 1</td>
<td>146.13</td>
<td>86</td>
<td>1.70</td>
<td></td>
</tr>
<tr>
<td>Error 2</td>
<td>38.18</td>
<td>86</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>192.08</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>t</sup>: p < 0.10

Table 14: Mean Skin Conductance Scores by Ego Development Level

<table>
<thead>
<tr>
<th></th>
<th>Superficial</th>
<th>Reflective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preconformist (n = 20)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-3.41</td>
<td>-3.46</td>
</tr>
<tr>
<td>(SD)</td>
<td>(0.79)</td>
<td>(0.74)</td>
</tr>
<tr>
<td><strong>Conformist (n = 50)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-3.45</td>
<td>-3.43</td>
</tr>
<tr>
<td>(SD)</td>
<td>(1.11)</td>
<td>(1.08)</td>
</tr>
<tr>
<td><strong>Postconformist (n = 19)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-3.53</td>
<td>-4.09</td>
</tr>
<tr>
<td>(SD)</td>
<td>(1.08)</td>
<td>(1.13)</td>
</tr>
<tr>
<td><strong>Aggregate (n = 89)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-3.46</td>
<td>-3.58</td>
</tr>
<tr>
<td>(SD)</td>
<td>(1.03)</td>
<td>(1.05)</td>
</tr>
</tbody>
</table>
Table 15: Repeated-Measures ANOVA Table for Stimulus Dialogue on Self-Ratings of Mood

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ego Development (E)</td>
<td>4.04</td>
<td>2</td>
<td>2.02</td>
<td>0.08ns</td>
</tr>
<tr>
<td>Dialogue (D)</td>
<td>3.46</td>
<td>1</td>
<td>3.46</td>
<td>0.36ns</td>
</tr>
<tr>
<td>E x D</td>
<td>27.60</td>
<td>2</td>
<td>13.80</td>
<td>1.44ns</td>
</tr>
<tr>
<td>Error 1</td>
<td>2197.86</td>
<td>86</td>
<td>25.56</td>
<td></td>
</tr>
<tr>
<td>Error 2</td>
<td>821.97</td>
<td>86</td>
<td>9.56</td>
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</tr>
<tr>
<td>Total</td>
<td>3054.93</td>
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</tr>
</tbody>
</table>

ns: p > 0.10

Table 16: Mean Self-Ratings of Mood by Ego Development Level

<table>
<thead>
<tr>
<th>Dialogue</th>
<th>Superficial</th>
<th>Reflective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>M</td>
<td>(SD)</td>
</tr>
<tr>
<td>Preconformist (n = 20)</td>
<td>-2.5</td>
<td>(6.2)</td>
</tr>
<tr>
<td>Conformist (n = 50)</td>
<td>-2.0</td>
<td>(3.7)</td>
</tr>
<tr>
<td>Postconformist (n = 19)</td>
<td>-1.5</td>
<td>(4.2)</td>
</tr>
<tr>
<td>Aggregate (n = 89)</td>
<td>-2.0</td>
<td>(4.4)</td>
</tr>
</tbody>
</table>
**Table 17: Repeated-Measures ANOVA Table for Stimulus Dialogue on Other-Ratings of Mood**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ego Development (E)</td>
<td>61.76</td>
<td>2</td>
<td>30.88</td>
<td>1.08ns</td>
</tr>
<tr>
<td>Dialogue (D)</td>
<td>117.78</td>
<td>1</td>
<td>117.78</td>
<td>12.88***</td>
</tr>
<tr>
<td>E x D</td>
<td>13.88</td>
<td>2</td>
<td>6.94</td>
<td>0.76ns</td>
</tr>
<tr>
<td>Error 1</td>
<td>2469.73</td>
<td>86</td>
<td>28.72</td>
<td></td>
</tr>
<tr>
<td>Error 2</td>
<td>786.13</td>
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<td>9.14</td>
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<tr>
<td>Total</td>
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</table>

ns: p > 0.10

***: p < 0.001

**Table 18: Mean Other-Ratings of Mood by Ego Development Level**

<table>
<thead>
<tr>
<th>Group</th>
<th>Superficial</th>
<th>Reflective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dialogue</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preconformist (n = 20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-13.8</td>
<td>-11.4</td>
</tr>
<tr>
<td>(SD)</td>
<td>(1.6)</td>
<td>(2.4)</td>
</tr>
<tr>
<td>Conformist (n = 50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-11.6</td>
<td>-10.5</td>
</tr>
<tr>
<td>(SD)</td>
<td>(5.7)</td>
<td>(4.5)</td>
</tr>
<tr>
<td>Postconformist (n = 19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-12.4</td>
<td>-10.5</td>
</tr>
<tr>
<td>(SD)</td>
<td>(2.6)</td>
<td>(4.6)</td>
</tr>
<tr>
<td>Aggregate (n = 89)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-12.3</td>
<td>-10.7</td>
</tr>
<tr>
<td>(SD)</td>
<td>(4.6)</td>
<td>(4.1)</td>
</tr>
</tbody>
</table>
Figure 1: Timeline of Each Subject's Participation

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informed Consent</td>
<td>Skin Conductance</td>
</tr>
<tr>
<td>Demographic Information Form</td>
<td>5&quot; Baseline</td>
</tr>
<tr>
<td>Interpersonal Reactivity Index</td>
<td>Skin Conductance</td>
</tr>
<tr>
<td>Loevinger Sentence Completion Test</td>
<td>First Stimulus Presentation</td>
</tr>
<tr>
<td></td>
<td>Skin Conductance</td>
</tr>
<tr>
<td></td>
<td>Mood Reports on Self &amp; Other</td>
</tr>
<tr>
<td></td>
<td>*** 10&quot; Break ***</td>
</tr>
<tr>
<td></td>
<td>Skin Conductance</td>
</tr>
<tr>
<td></td>
<td>5&quot; Baseline</td>
</tr>
<tr>
<td></td>
<td>Skin Conductance</td>
</tr>
<tr>
<td></td>
<td>Second Stimulus Presentation</td>
</tr>
<tr>
<td></td>
<td>Skin Conductance</td>
</tr>
<tr>
<td></td>
<td>Mood Reports on Self &amp; Other</td>
</tr>
<tr>
<td></td>
<td>Screen for Response Bias</td>
</tr>
<tr>
<td></td>
<td>Debriefing</td>
</tr>
</tbody>
</table>
Figure 2: Physiological Arousal by Ego Development Level
(Superficial Dialogue)

Skin Conductance by Ego Development
(Superficial Dialogue)
Figure 3: Physiological Arousal by Ego Development Level (Reflective Dialogue)
Appendix A

Subject Form for Informed Consent
Informed Consent Form

"The Experience of Personal Reactions During the Undergraduate Years"

Principal Investigator: Richard G. Rasulis, Jr.
University of Montana - Clinical Psychology Program

I understand that this study is designed to assess variables relating to college undergraduates' personal reactions. In signing my name below, I give my informed consent to participate in this study.

1. The procedures to be followed include (a) completing a form about your background and your family, (b) completing two widely-recognized psychological tests, and (c) listening to an audiotape while having a biofeedback monitor record your reactions. During your listening to the tape, there is also a form for reporting personal reactions. The total time commitment for participating in this study is between two and three hours, which is scheduled in two sessions. The second session includes a debriefing after your participation.

2. Any information you furnish is confidential. So as to insure confidentiality, you will be provided with a "Subject Number," which will be randomly-generated. Use this Subject Number instead of your name on the forms. By doing so, any references to your forms will be done without the knowledge of your identity.

3. There are no side effects or inconveniences associated with listening to the tape or completing the paper-and-pencil forms, other than frustration which might occur in answering some of the questions, and tiredness which might occur due to the length of testing.

4. There are no known benefits to you for participating in the study.

5. You will receive one experimental-participation credit for each half-hour that you participate.

6. You may refuse to participate or discontinue participation in the study at any point, without prejudice to you and without jeopardy to any benefit to which you are entitled: you will still receive full credit for your participation.

7. Opportunity exists for you to have your questions answered to your satisfaction. If you have any additional questions about the study, you can call the principal investigator at 406/243-4523.

8. If you are interested in seeing the final results of this study, please inform the experimenter at the conclusion of the experiment. Because of confidentiality, no information can be provided about you or any other participating individual.

I HAVE READ AND UNDERSTAND THE ABOVE AND AGREE TO PARTICIPATE IN THIS STUDY

Participant ___________________________ Date ___________________________

Principal Investigator ___________________________ Date ___________________________
Appendix B

Demographic Information Survey
Directions: On the following pages, you are asked to complete a number of questions about you and your family. I appreciate your taking time to complete this form. The information you provide here is, of course, confidential, as well as all other forms you are given during your participation in this study.

Today's Date: ____________

Information About You

1. Your Gender: Female / Male
2. Your Date of Birth: __/__/______ Month Day Year
3. Are you a U.S. Citizen? Yes / No
   If No, what country are you a citizen of ____________
4. Your Age: _______
5. Your Religion:
   _ Catholic
   _ Jewish
   _ Protestant
   _ Not-Affiliated
   _ Other, Please describe ____________
6. With whom do you live?
   _ Self
   _ Friends / Roommates
   _ Parents
   _ Relatives, Please specify ____________
7. How long have you lived at your current address: _______
8. If you are living on your own, how many times have you moved since you lived with your parents?
   ____________
9. If you are currently working, what kind of a job is it?
   ____________
10. Undergraduate class you are currently enrolled:
   - Freshman
   - Sophomore
   - Junior
   - Senior
   - Graduate Student, ___ th year

11. Are you adopted? Yes / No
    If Yes, date of adoption: __________/________/______
       Month    Day    Year

12. Have you ever lived in a foster home or group home? Yes / No

13. Have you ever had any involvement with the police or court? Yes / No

Medical Information

1. Have you ever been diagnosed by a physician as having any of the following:

<table>
<thead>
<tr>
<th>Problem</th>
<th>No</th>
<th>Yes</th>
<th>Yes, but not a problem now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Sugar Problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilepsy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Head Injury</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ulcers</td>
<td></td>
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<td></td>
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<tr>
<td>Heart Problems</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Kidney Disorder</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Liver Problems</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hypertension</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hearing Loss</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cancer</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Allergies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acne</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other Skin Problems</td>
<td></td>
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</tbody>
</table>
2. Are any of the following problems frequent or severe for you?

<table>
<thead>
<tr>
<th>Problem</th>
<th>No</th>
<th>Yes</th>
<th>Yes, but not a problem now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headaches</td>
<td></td>
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<td></td>
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<tr>
<td>Dizziness</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Black-out spells</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ringing in ears</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blurred vision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nose problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortness of breath</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid breathing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Racing heart</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irregular heart beats</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Heart flutters</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Loss of interest in sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constipation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Butterflies in stomach</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Gas</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Stomach cramps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle aches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nail biting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backaches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other aches &amp; pains</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specify:___________________</td>
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<td></td>
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</tbody>
</table>

3. Have you ever been in counseling or psychotherapy?  
Yes / No

4. Have you ever been hospitalized for a psychiatric reason?  
Yes / No
For Women Only

5a. Have you begun to menstruate? Yes / No
   If yes, at what age did you begin? ________________

For Men Only

5b. Have you reached puberty (growth spurt, growth of body hair, etc.)? Yes / No
   If yes, at what age did you begin? ________________
1. Please list all of your brothers and sisters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Sex</th>
<th>DOB</th>
<th>Age</th>
<th>Biological, Adopted, Foster, Step, or Half?</th>
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</table>

2. How many times have you and your family moved since your birth? ________________

3. Have any of your brothers or sisters had any major illnesses? Yes / No

4. Have any of your brothers or sisters died? Yes / No

5. Have any of your brothers or sisters ever had any involvement with the police or court? Yes / No

6. Has anyone in your family had any direct contact with a social agency? Yes / No

7. Has anyone in your family been in counseling or psychotherapy? Yes / No

8. Has any of your brothers or sisters ever been hospitalized for a psychiatric reason? Yes / No
Information about your Mother

1. Her Date of Birth: __________/________/________  
   Month    Day    Year

2. Is she a U.S. Citizen? Yes / No
   If No, What country is she a citizen of ______________

3. Her Age: __________

4. Her Religion:
   __ Catholic
   __ Jewish
   __ Protestant
   __ Not-Affiliated
   __ Other, Please describe ______________

5. Her Marital Status:
   __ Single
   __ Single, Living with Partner. How long? __
   __ Married. How long? ______________
   __ Separated
   __ Divorced
   __ Widowed

6. If she has been separated/previously married, please complete the following

<table>
<thead>
<tr>
<th>Date of Separated, Divorced, or Married/Widowed?</th>
<th>Date</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

7. Which category best describes her highest level of education?
   __ Grade school (up to 6th grade)
   __ Junior High School (7th - 9th Grade)
   __ Some High School (10th - 11th Grade)
   __ High School Graduate
   __ Some College or 2-Year Degree
   __ 4-Year College Graduate (B.A., B.S.)
   __ Graduate Training (M.A., Ed.D., Ph.D., M.D.)

8. What is her current job or occupation? ______________

   Please Give a brief description of her duties:
   ______________
   ______________

9. Has she ever served in the military? Yes / No

   If Yes, please give her date of discharge __________
10. If she has any brothers or sisters, please list each one, their age, and whether they are male or female.
Information about your Father

1. His Date of Birth: _____/_____/_____
   Month   Day   Year

2. Is he a U.S. Citizen? Yes / No
   If No, What country is he a citizen of

3. His Age: ________

4. His Religion:
   __ Catholic
   __ Jewish
   __ Protestant
   __ Not-affiliated
   __ Other, Please describe __________________________

5. His Marital Status:
   __ Single
   __ Single, Living with Partner. How long? ______
   __ Married. How long? ________
   __ Separated
   __ Divorced
   __ Widowed

6. If he has been separated/previously married, please complete the following

<table>
<thead>
<tr>
<th>Date of Separated, Divorced, or Marriage Widowed?</th>
<th>Date</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

7. Which category best describes his highest level of education?
   __ Grade school (up to 6th grade)
   __ Junior High School (7th - 9th Grade)
   __ Some High School (10th - 11th Grade)
   __ High School Graduate
   __ Some College or 2-year Degree
   __ 4-Year College Graduate (B.A., B.S.)
   __ Graduate Training (M.A., Ed.D., Ph.D., N.D.)

8. What is his current job or occupation?
   ____________________________
   Please Give a brief description of his duties:

   ____________________________________
9. Has he ever served in the military? Yes / No

   If Yes, please give his date of discharge ________________

10. If he has any brothers or sisters, please list each one, their age, and whether they are male or female

    ______________________________________________________
    ______________________________________________________
    ______________________________________________________
History of Your Step-Parent (if Applicable)

This information is being filled out for:
1. Step-Father
2. Step-Mother

1. His/Her Date of Birth: ________ / ________/ ________
   Month   Day   Year

2. Is s/he a U.S. Citizen? Yes / No
   If No, What country is s/he a citizen of ________

3. His/Her Age: ________

4. His/Her Religion:
   _ Catholic
   _ Jewish
   _ Protestant
   _ Not-affiliated
   _ Other, Please describe ________

5. His/Her Marital Status:
   _ Single
   _ Single, Living with Partner. How long? ________
   _ Married. How long? ________
   _ Separated
   _ Divorced
   _ Widowed

6. If s/he has been separated or previously married, please complete the following

<table>
<thead>
<tr>
<th>Date of Separated, Divorced, or Widowed?</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

7. Which category best describes his/her highest level of education?
   _ Grade school (up to 6th grade)
   _ Junior High School (7th - 9th Grade)
   _ Some High School (10th - 11th Grade)
   _ High School Graduate
   _ Some College or 2-Year Degree
   _ 4-year College Graduate (B.A., B.S.)
   _ Graduate Training (M.A., Ed.D., Ph.D., M.D.)

8. What is his/her current job or occupation? ________
   Please give a brief description of his/her duties: ________
9. Has s/he ever served in the military? (Yes / No)
   If Yes, please give his/her date of discharge __________

10. If s/he has any brothers or sisters, please list each one, their age, and whether they are male or female

                                       
                                       
                                       
                                       
                                       

Thank you for completing this form
Appendix C

The Sentence Completion Test (Female Form)
Instructions: Please complete the following sentences.

1. When a child will not join in group activities

2. Raising a family

3. When I am criticized

4. A man's job

5. Being with other people

6. The thing I like about myself is

7. My mother and I

8. What gets me into trouble is

9. Education

10. When people are helpless

11. Women are lucky because

12. A good father

13. A girl has a right to

14. When they talked about sex, I

15. A wife should

16. I feel sorry
17. A man feels good when

18. Rules are

19. Crime and delinquency could be halted if

20. Men are lucky because

21. I just can't stand people who

22. At times she worried about

23. I am

24. A woman feels good when

25. My main problem is

26. A husband has a right to

27. The worst thing about being a woman

28. A good mother

29. When I am with a man

30. Sometimes she wished that

31. My father

32. If I can't get what I want

33. Usually, he felt that sex

34. For a woman a career is
35. My conscience bothers me if

36. A woman should always
Appendix D

The Sentence Completion Test (Male Form)
Instructions: Please complete the following incomplete sentences.

1. When a child will not join in group activities
2. Raising a family
3. When I am criticized
4. A man's job
5. Being with other people
6. The thing I like about myself is
7. My mother and I
8. What gets me into trouble is
9. Education
10. When people are helpless
11. Women are lucky because
12. A good father
13. A girl has a right to
14. When they talked about sex, I
15. A wife should
16. I feel sorry
17. A man feels good when
18. Rules are
19. Crime and delinquency could be halted if
20. Men are lucky because
21. I just can't stand people who
22. At times he worried about
23. I am
24. A woman feels good when
25. My main problem is
26. A husband has a right to
27. The worst thing about being a man
28. A good mother
29. When I am with a woman
30. Sometimes he wished that
31. My father
32. If I can't get what I want
33. Usually, he felt that sex
34. For a woman a career is
35. My conscience bothers me if

36. A man should always
Appendix E

Interpersonal Reactivity Index
Interpersonal Reactivity Index

Directions: The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. Read each item carefully before responding. Answer as honestly as you can. Thank you.

Answer Scale:

A-------- B --------- C ------------ D -------------- E
Does Not Describe Describes
Describe Me Well
Me Very Well

Answer Statement

_____ 1. I daydream and fantasize, with some regularity, about things that might happen to me.

_____ 2. I often have tender, concerned feelings for people less fortunate than me.

_____ 3. I sometimes find it difficult to see things from the "other guy's" point of view.

_____ 4. Sometimes I don't feel very sorry for other people when they are having problems.

_____ 5. I really get involved with the feelings of the characters in a novel.

_____ 6. In emergency situations, I feel apprehensive and ill-at-ease.

_____ 7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

_____ 8. I try to look at everybody's side of a disagreement before I make a decision.
Answer Scale:

A-------------B--------------C-------------D-------------E

Does Not Describe Describes Me Very Well

9. When I see someone being taken advantage of, I feel kind of protective toward him.

10. I sometimes feel helpless when I am in the middle of a very emotional situation.

11. I sometimes try to understand my friends better by imagining how things look from their perspective.

12. Becoming extremely involved in a good book or movie is somewhat rare for me.

13. When I see someone get hurt, I tend to remain calm.

14. Other people’s misfortunes do not usually disturb me a great deal.

15. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.

16. After seeing a play or movie, I have felt as though I were one of the characters.

17. Being in a tense emotional situation scares me.

18. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.

19. I am usually pretty effective in dealing with emergencies.

20. I am often quite touched by things that I see happen.

21. I believe that there are two sides to every question and try to look at them both.

22. I would describe myself as a pretty soft-hearted person.

23. When I watch a good movie, I can very easily put myself in the place of the leading character.
Answer Scale:

A------------- B ------------- C -------------- D ------------- E
Does Not Describe Describes
Describe Me Very
Me Well Well

24. I tend to lose control during emergencies.

25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

27. When I see someone who badly needs help in an emergency, I go to pieces.

28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
Appendix F

Mood Rating Form
Please give a word or two that best describes how you felt while watching the videotape:

On a scale of 1-5, rate how strong that feeling was for you:

Very Weak

1 2 3 4 5

Very Strong

Below are some words other people have used to describe how they felt while listening to the audiotape. Please rate how these words described how you felt.

Low

Bitter

Discouraged

Angry

Unhappy

Neither

Pleasant

Enthusiastic

Peaceful

Neither

Happy

Neither

Neither

Neither

Neither
Please give a word or two that best describes how the woman in the videotape felt:

On a scale of 1-5, rate how strong that feeling was for her:

<table>
<thead>
<tr>
<th>Very Weak</th>
<th>Very Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Below are some words other people have used to describe how the woman felt. Please rate how these words described how she felt.

- Angry
- Neither
- Peaceful

- Discouraged
- Neither
- Enthusiastic

- Low
- Neither
- High

- Unhappy
- Neither
- Happy

- Bitter
- Neither
- Pleasant
Appendix G

Script for "To Judge a Book by its Cover"
Script #1: To Judge a Book by Its Cover

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Cast

Na(R)rator
Male with smooth, yet assertive voice.

(P)eggy
girl, late teens. Less immature than Betty in script #2: banal, socially-concerned, gregarious.

(N)ancy
girl, late teens. Neutral, passive towards Peggy.

Dialogue

Pre-Baseline
R: Using the top sheet of your clipboard, please give a word or two that describes how you are feeling right now, using the space provided.

[ 10 sec. pause ]
R: Now, rate how strong this feeling is for you, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]
R: Now you will have a 5 minute rest period. During this time, nothing is asked of you. You may use this time to relax or "wind down." The dialogue will begin in 5 minutes.

[ 5 min. pause ]
R: On the next sheet of your clipboard, please give a word or two that describes how you are feeling right now, using the space provided.
R.G. Rasulis, Jr.

R: Now, rate how strong this feeling is for you, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]

N: I wonder what we're supposed to do now.

P: Did he say he was recording this?

N: Um-hm, I think so.

P: He said that we just have to sit here and talk for awhile. Funny thing to do for two credits.

N: Yeah. I agree, { coughs } oh, you never did tell me how your weekend went.

P: { gloomily } Oh, don't ask.

N: Why? What happened?

P: I was really bummed. Tina and I were gonna go out Friday night, right?

N: Yeah...

P: { increase tempo } to that movie at the mall -- I think I told you about it. { slow down tempo } Tina called Friday afterschool. She said she couldn't go out.

N: How come?

P: Well she said she was really ill with a fever and all that. { pause } I couldn't believe it. I planned for it all week. It was this really great movie. Everyone's been talking about it, you know. I wanted to see it real bad. And I heard in English class that Chris was going to be there with his friends.

N: Isn't he the one you have a crush on?

P: Yeah.

N: So, did you go anyway?

P: No. I don't like going by myself. Besides, I was hoping Chris would see me there with Tina, like she's just so popular. And if Chris saw us together, he'd think I was popular. { pause } I found out this morning that Tina wasn't really sick in bed.
N: What do you mean?

P: She told me she couldn't go to the movies 'cuz she was sick. But she wasn't really ill. She went to Bruce's frat party.

N: Huh?

P: She lied to me!

N: How do you know?

P: Well, Steve told me this morning. He saw Tina at Bruce's frat party. And you know what? She was there with Chris, and they left together. Steve's pretty straight with me, so like, it must be true. When he told me that -- I started getting the chills. Tina didn't want to go out with me, so like she could be with Chris. Chris. I've been waiting so long for him to take notice of me, you know, to call me up or, maybe, ask me out. You know what?

N: What?

P: I got screwed. They did a real number on me. And it isn't the first time.

N: Huh?

P: Well, last month, I was gonna do some stuff with Carla. But she told me she didn't want to go out with me. I felt left out. She's just like so cool, so popular. I dunno, just feel like she's probably ashamed to be seen with me.

N: Whaddya mean?

P: It's my looks. (pause) The way I look. Everybody else here looks great, but deep down, I know I don't. My nose is too big, and my eyes are too small. And people don't treat me right because of that. (pause) I don't know. I'm just, I just really hate the way I look, okay? I really feel left out, like when everybody goes shopping. Everytime I go to the mall, I always see a group there, and we all have the same last class, but they never ask me to come along. Jesus, every Saturday night, I'm watching t.v. while everybody's out on dates or at parties. It's like I'm always calling, but they never call me. (pause) And I feel hurt by my looks. Something's wrong with my looks. I look plain and dull. (pause) And it's really hurting to be home alone. I mean I've tried all kinds of things. I spend over an hour in front of the mirror every morning trying to fix myself up. But it don't help.

N: Hm.
P: I spend a ton of money on new clothes, you know, whatever's in fashion, and a new hair style, even. Can you believe it? Well, nobody notices, not even Steve. I work my butt off, and for what? I still don't get asked out. { pause } It just seems like the same thing over and over. I do my hardest to look good and I can never fit in. And you've got to look right so that everybody will accept you. My parents keep telling me { sarcastically } "beauty's skin deep." and "beauty's in the eye of the beholder" and junk like that. Fuck, that's total shit. They just don't understand. Things are different these days. I'm not going for no beauty show or nothing like that, I just want to be part of the group. And you know what gets me even sadder?

N: What?

P: I was born this way, and I'm gonna look terrible for the rest of my life. I just can't win { sigh } it's just so hopeless. I get up in the morning, look in the mirror, and there I am. Same old dull-looking me. Nobody wants to hang out with me because of the way I look. And nobody's ever gonna want to hang out with me.

N: Huh.

P: You know, I look at myself when I get dressed. I start with the basics, add a few accessories, then some jewelry. But, nothing seems to change my looks. Diets, exercise, nothing. No change in my looks; no change in friends. It's, well, frustrating, and I feel bad. I'm really in despair. A never-winning battle. Like, when a new guy checks me out, all he sees is that I'm homely and tries to look the other way. Everyday is nothing more than studying or doing little junk. All the time. I fell so, well, like doing nothing and I feel like I gotta do something. It takes too much energy getting going. About all I can do is make it to the store and buy some ice cream or stuff. And just getting to the front door is a major effort. I might try to make plans, but never do more than watch t.v. I can't even get going to do homework.

N: Um-hm.

Sometimes, { tears welling, sniffling } I feel like t.v. is my only friend. It's there when I want it, and it keeps me company. No wonder nobody likes me; I'm just so dreadful looking. { full crying: sobbing, voice changes, etc. } 

[ 5 sec. pause ]

R: Using the next sheet of your clipboard, please give a word or two that describes how you just felt, using the space provided.
[ 10 sec. pause ]
R: Now, rate how strong this feeling was for you, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]
R: Below are some pairs of words other people have used to describe how they felt while listening to this dialogue. Read each pair carefully. Use the rating scale to indicate which word describes how you felt.

[ 30 sec. pause ]
R: On the next sheet of your clipboard, please give a word or two that describes how the woman who talked about herself was feeling, using the space provided.

[ 10 sec. pause ]
R: Now, rate how strong you think this feeling was for her, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]
R: Below are some pairs of words other people have used to describe how she may have felt while talking to her friend. Read each pair carefully. Use the rating scale to indicate which word describes how she felt.

[ 30 sec. pause ]
R: This concludes this part of the session. Please take off your headphones and wait for the experimenter to enter the room.
Appendix H

Script for "To Judge a Book by its Contents"
Script #2: To Judge a Book by Its Contents

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Cast

Na(R)rator
Male with smooth, yet assertive voice.

(B)etty
girl, late teens. More mature than Peggy in Script #1: introspective, socially-conscious, conscientious.

(N)ancy
girl, late teens. Neutral, passive towards Betty.

Dialogue

Pre-Baseline
R: Using the top sheet of your clipboard, please give a word or two that describes how you are feeling right now, using the space provided.

[ 10 sec. pause ]
R: Now, rate how strong this feeling is for you, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]
R: Now you will have a 5 minute rest period. During this time, nothing is asked of you. You may use this time to relax or "wind down." The dialogue will begin in 5 minutes.

[ 5 min. pause ]
R: On the next sheet of your clipboard, please give a word or two that describes how you are feeling right now, using the space provided.
[ 10 sec. pause ]

R: Now, rate how strong this feeling is for you, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]

[ Fade up Dialogue ]

N: Have you ever done these psych experiments before?

B: Yeah, but it was nothing like this. We just had to fill out some forms.

N: Um-hm, me too. But this one is different

N: It's kind of a weird thing to do.

B: Yeah. I mean all we have to do for 2 credits is sit and talk, like we do anyways.

N: Funny, huh? (pause) I didn't get to ask you how your vacation was.

B: (gloomily) Oh, was okay, sort of.

N: Why? What happened?

B: I had some plans with Judy, (increase tempo) you know Judy? (decrease tempo)

N: Yeah.

B: Well, I overheard her talking about going out with some friends one night, and I said I could come along," and she kind of said alright. There was also going to be a party at Todd's house that night. Seemed like a lot of people were going.

N: Oh yeah? How was it?

B: Well, (pause) I didn't get to go.

N: What happened?

B: When I called her up, she had already left. Then I called some other people to find out where she was. But nobody knew where Judy was. What's more, no one would tell me about the party. They all sort of went, "Party? There's a party at Todd's?" Seemed like people thought he was out of town.

N: What about Judy?
B: I saw her the next day at the mall and asked her what happened.

N: Oh?

B: Well, there was a party, and I asked her why she didn’t wait for me. She said she felt uncomfortable inviting me along. And she told a lot of people that I might be coming.

N: Why’s that?

B: It’s kind of like people don’t want to be with me, don’t wanna hang around with me. And Judy said, "I’m too dull." Too dull, can’t relate. My interests are so different I can’t fit in with a lot of other people. They seem to be, I dunno, I just don’t like to talk about the same things they talk about. You remember when Mark first came here and was new?

N: Um-hm.

B: Well, at first we used to talk a lot. I thought, "Gee, here’s someone who likes me for me." But when he met Judy and the others, he started hanging out more with them. One time, he got Judy to have me come along for pizza. It was excruciating. We just sat there and didn’t really connect. Judy and he would talk about some of the songs on the jukebox, you know, Top-40’s. I wanted desperately to be a part of the group, so I tried to be interested. I just couldn’t make it work. They saw right through my act. I think that’s why I don’t ever get invited to go to any parties. I guess people think I’m boring because I don’t like the same things they do. And when I pretend to be interested, I just can’t cut it. (pause) It’s really getting me down.

N: How come?

B: I dunno. It’s like I see things differently then they do. I think about things a lot, And they’ll say something and I’ll understand what they’re saying, but I really see it much differently. Maybe I’m being snobby when I say that, but, it’s sorta like just because I have some different ideas about life. People seem to treat me differently. The others, all they talk about is boys, makeup, and clothes. And I can do that, but it really wears on me.

N: Hm.

B: I can’t understand why they avoid me, like I have some personality defect. I would hope that they can accept me for who I am. I feel ashamed and mad at the same time, because they feel they are better than me. I don’t feel they are. And this happens all the time. I can’t help
R.G. Basulis, Jr.

think it's me, not them. I'm the one who looks at things beyond the surface. (pause) The world is so doomed. Yet, others can, like, go out to parties and stuff. But as soon as I hear something about the economy or the environment -- and it's always dreadful -- I just think, like, what's the point? (pause) Ha, I remember my folks telling me, "You think too hard, lighten up." I'm so lost in thought, I can't bring myself to their level. Here I am in a world on the brink of collapse. Even if the world can make it into the next century, I'll still feel bogged down. I just feel like it's a facade. But, the world has gotten this far and people -- I'd imagine -- always coped. I guess I just don't fit in.

N: Hm.

B: Maybe if I faked liking some of the things they like, or tried to ignore the way things are. But I don't think it'll work. Sooner or later, like another part of me would say, "Hey, what's all this B.S.?" I can't let myself go. I sometimes feel trapped within myself. A part of me sees the world as it really is. Another part wants to just let go and have a good time. And the two parts are strong. I'm torn. It's really getting me down. (pause) I spend endless nights trying to see a way out of this existential dilemma. The answer is clear; it's hopeless -- there is no way out. When I go to bed, my room seems to get bigger, and I just feel like I'm getting smaller. Here I am, meek, small, and it's such a lost cause. Then I just end up laying there till I fall asleep. And when I get up -- I've been getting up early -- I'm already tired. I dunno why, just tired and hard to get moving. Some days, I'll even stay in bed the whole day. Too down on myself to get motivated. And if I make it to class, everybody's around, but I feel alone, like being in the center of a whirlpool of commotion. (tears welling, sniffing)

N: Um-hm.

B: Well, it just keeps coming back to me and I feel like crying, because that's what's my life's like. Do I have to give up the inner me and be some cardboard phoney to get by in this world? Do I have to? (full crying: sobbing, voice changes, etc.)

[ 5 sec. pause ]

R: Using the next sheet of your clipboard, please give a word or two that describes how you just felt, using the space provided.
[ 10 sec. pause ]
R: Now, rate how strong this feeling was for you, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]
R: Below are some pairs of words other people have used to describe how they felt while listening to this dialogue. Read each pair carefully. Use the rating scale to indicate which word describes how you felt.

[ 30 sec. pause ]
R: On the next sheet of your clipboard, please give a word or two that describes how the woman who talked about herself was feeling, using the space provided.

[ 10 sec. pause ]
R: Now, rate how strong you think this feeling was for her, using the scale. 1 is "very weak," and 5 is "very strong."

[ 10 sec. pause ]
R: Below are some pairs of words other people have used to describe how she may have felt while talking to her friend. Read each pair carefully. Use the rating scale to indicate which word describes how she felt.

[ 30 sec. pause ]
R: This concludes this part of the session. Please take off your headphones and wait for the experimenter to enter the room.

[ End of Script ]
Appendix I

The Multiple Affect Adjective Checklist
The Multiple Affect Adjective Checklist

Directions. On this sheet you will find words which describe different kinds of moods and feelings. Mark an X beside the words which describe how the main character was feeling. Some of the words may sound alike, but we want you to check all the words that describe the main character's feelings. Work rapidly.
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Appendix J

Judge’s Rating Form for Audio Dialogues
Personality

Instructions: You just finished listening to a five minute presentation of a woman talking to another woman. On the following rating scales, you are presented with contrasting adjectives. Although the adjectives may seem to be synonymous, they are actually connotatively different. Read each pair and decide which best describes the protagonist and to what degree. Your rankings (-3 to +3) will give me an idea of the protagonist's personality in terms of character, impulse control, cognitive style, and interpersonal style.

Controlled

Neither

Impulsive

Unbidden

Neither

Regulated

Unashamed

Neither

Shameful

Conventional

Neither

Dynamic

Guilty

Neither

Unpremeditated
Habitual
-3 -2 -1 0 +1 +2 +3

Neither Flexible

Nonconforming
-3 -2 -1 0 +1 +2 +3

Neither Conforming

Exploitive
-3 -2 -1 0 +1 +2 +3

Neither Tactful

Solicitous
-3 -2 -1 0 +1 +2 +3

Neither Manipulative

Guileful
-3 -2 -1 0 +1 +2 +3

Neither Considerate

Wise
-3 -2 -1 0 +1 +2 +3

Neither Spurious

Feigned
-3 -2 -1 0 +1 +2 +3

Neither Perceptive

Straightforward
-3 -2 -1 0 +1 +2 +3

Neither Surreptitious

Shallow
-3 -2 -1 0 +1 +2 +3

Neither Profound
Abtruse
-3 -2 -1 0 +1 +2 +3
Neither
Deep
Superficial
-3 -2 -1 0 +1 +2 +3
Neither
Deep
Thoroughness
-3 -2 -1 0 +1 +2 +3
Neither
Cursory
Trivial
-3 -2 -1 0 +1 +2 +3
Neither
Heavy
Yearning
-3 -2 -1 0 +1 +2 +3
Neither
Wishful
Stereotypical
-3 -2 -1 0 +1 +2 +3
Neither
Reflective
Complex
-3 -2 -1 0 +1 +2 +3
Neither
Simple
Concrete
-3 -2 -1 0 +1 +2 +3
Neither
Abstract
Shades of Grey
-3 -2 -1 0 +1 +2 +3
Neither
Black & White
Appendix K

Familiarizing Subjects with Measuring Skin Conductance
Last quarter, we were conducting a study on social communications, trying to learn how people get acquainted. We had 110 subjects meet in pairs and talk to each other for 5 minutes or so. In many cases, the pairs knew each other, and that biased our results. We've selected a couple of these dialogues and are asking people to listen to the two friends talking so that we can better understand first impressions and personal reactions. A voice on the audio tape will guide you through the session. At different times during the dialogues, the narrator will ask you to record your reactions on this [hands subject a clipboard with the self-report forms (See Appendix E) and a pen]. Notice that you are asked to indicate your feelings during the part of the tape you have just listened. Although I won't be in the room at the time, I'll be observing you through the one-way mirror [points to the one-way mirror]. We will be in contact during the whole time by use of this intercom [shows intercom and how to operate]. So that I can measure your reactions, as they happen, these sensors will be attached to your palms [shows electrodes]. These are used to measure electrical changes on the surface of your skin. This is done by passing a small electrical charge to the skin's surface and recording the amount of resistance to this charge. The charge is very small, so you won't feel anything. Do you have any questions?

[If subject has any questions, answer. Then proceed to attach electrodes]
Appendix L

Interviewing Schedule for Subject Debriefing
Post-Experimental Inquiry & Debriefing

I. Open-Ended Questions

1. What did you think about the study?

2. Was there anything about the study you particularly liked?

3. Was there anything about the study you particularly disliked?

4. Did you feel that there was something about the study meant to trick you or catch you off guard?

   4a. If so, what?

If 4 is answered "no," skip to section III.

II. Assessing Demand Characteristics

1. What did you think was the purpose of the study?

2. What about procedures or way things were done? What did you believe was the reason for the way things were done?

   1a. If needed, remind subject of the procedure

3. What kind of things were you thinking about while you were filling in the paper and pencil forms?
4. Of the paper and pencil forms, what did you think they were trying to get at?

Forms: Demographic - SCT - IRI

5. What kind of things were you thinking about while you were listening to the tapes and filling out the rating scales?

6. In the two tapes you heard.

6a. How were they alike or similar?

6b. How were they not alike or different?

III. Debriefing Outline

1. Plead for "secrecy," to not tell other Psy110 students about the study until after the quarter
   Impress that if other subjects knew about this study, that may contaminate their reactions.

2. Who you are and why this study is being done.
   Your Name. This is the project for socio-affective development, a collective of students who are interested in studying developmental psychology. The principal investigators are Richard Rasulis & Paul Silverman.

3. State Purpose: Social & Affective Development
   Scientific studies have shown that as people become more mature in their ways of dealing with others, they begin to share emotional experiences. The studies have shown that social development must reach a threshold before understanding another's emotional experience. However, some theories have been advanced that understanding another's moods does not have to reach a certain level of social maturity. For example, generally, everyone feels sympathetic when someone they know has lost something valuable or is having a rough time. Resolving this dilemma between empiricism and theory, this study attempts to show that while the theories are correct, the studies had overlooked the context of emotional experiences. What is it
about others that makes it easy for one to share that emotional experience?

4. **State Hypothesis**

   The primary hypothesis is that the context of emotional experiences is what makes one likely to share another’s emotions. To feel sad when a friend is sad. The hypothesized context is "relatability." Relatability is when you and someone else have common interests, views of the world, and so forth. Whether you had a lot in common with either of the tapes is not so much the factor as which of the tapes you had the most in common.

5. **The Procedures**

   The paper and pencil measures gave us a reference point in which we could predict which of the tapes you would have the most in common with. The tapes themselves were not actually Psych-110 students, but were actresses who role-played two students having a rough time. The two role-playings presented you with two women who had a similar problem and had similar problems, but were opposingly different in terms of how they see themselves and how they see others. You may wonder why the biofeedback and rating forms were needed. This was done this way so as to have data that is similar to published studies.

6. **Availability of Results**

   If A Subject Spontaneously, i.e., without your prompting, asks for the results, ask for the person’s name and summer address. Jot this down & leave for Rich.

6. **Thanks for their participation & Sign credit slip**