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AN EXPLORATORY INVESTIGATION OF THE APPRECIATION OF
HUMOR AND HOSTILE WIT AMONG ADOLESCENTS WITH
EMPHASIS ON PSYCHOANALYTIC CONCEPTUALIZATION

A Dissertation Presented

By

JULIE EILEEN McCARTHY

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

September 1980

Education



Julie Eileen McCarthy

1980

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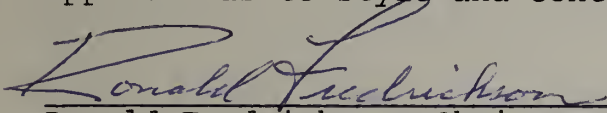
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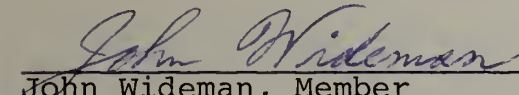
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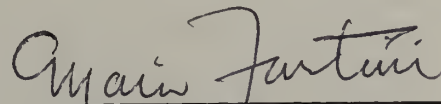
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With love and joy, I wish to recognize the two people with whom I most intimately share my life--Jerry, my husband, and Mary, my mother. Thank you both for sharing with me the many highs and lows of this experience.

ABSTRACT

An Exploratory Investigation of the Appreciation of
Humor and Hostile Wit Among Adolescents With
Emphasis on Psychoanalytic Conceptualization

(September 1980)

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Psychoanalytic conceptualization offers a comprehensive framework within which to consider humor and hostile wit. The purpose of this study was to explore appreciation of humor and hostile wit among adolescents, emphasizing psychoanalytic theory, and identify the interactive relationship between variables adjustment, sex, and intelligence and dependent measures of appreciation of humor and hostile wit.

The sample for this study was selected from a nine town regional junior and senior high school in rural western Massachusetts of primarily lower middle class socio-economic status. Subjects were 90 juniors and seniors, 45 males and 45 females, enrolled in high school psychology courses.

A Humor and Wit Appreciation Scale consisting of 12

humor and 12 hostile wit cartoons to be rated on a 6 point scale from "not funny at all" to "extremely funny" was developed by the researcher to assess humor and hostile wit appreciation. Cartoons were categorized as examples of "humor" and "hostile wit" by three trained raters. A pilot study was conducted to ensure that humor and hostile wit cartoons be as comparably funny, yet as discriminating as possible. An equal number of cartoons with a female and male central figure were included. Test-retest reliability at the five week interval was .64.

Personality adjustment, in terms of independent traits ascendancy, responsibility, emotional stability, sociability and total score, was measured by two instruments, the Gordon Personal Profile and a Teacher Rating Scale. The Gordon Personal Profile is a self report assessment of adolescent functioning recognized as reliable and valid. The Teacher Rating Scale is a teacher report assessment of adolescent functioning developed by the researcher and field tested for face and predictive validity. Intelligence was measured by previously administered Otis-Lennon Mental Ability Test Scores.

The Humor and Wit Appreciation Scale and Gordon Personal Profile were administered consecutively to students during regular class periods. Teachers were requested by the investigator to complete a Teacher Rating Scale with

instructions given on an individual basis. Otis-Lennon Mental Ability Test scores were collected from cumulative record files.

While Pearson correlations did not result in complete verification of psychoanalytic conceptualization of humor and hostile wit, it did appear that for adjustment, defined specifically in terms of Teacher Rating Scale traits ascendancy .2766, emotional stability .2461, sociability .2665, and total score .2930, a significant positive relationship existed between adjustment and humor appreciation. Although not statistically significant, the hypothesized inverse relationship between adjustment, defined most specifically in terms of Teacher Rating Scale-responsibility, and hostile wit appreciation did occur.

Multiple analysis of variance, 2x2x2 design, indicated that above average intelligence, frequently in combination with below average adjustment, significantly influenced humor appreciation and sex, particularly for female enjoyment of hostile wit cartoons with a male as butt, significantly influenced hostile wit appreciation.

Adolescents overall significantly preferred hostile wit to humor, $t(89) = 5.69$, $p < .000$. Specifically, hostile wit presenting a female as butt of aggressive or insulting joking was significantly preferred to hostile wit presenting a male in this role, $t(89) = 5.90$, $p < .000$. For humor,

cartoons presenting a male using light-hearted jest to overcome a stressful situation was significantly preferred to humor presenting a female in this role, $t(89) = 20.09$, $p < .000$.

It was concluded that humor appreciation, as presented in psychoanalytic conceptualization, was positively related to adjustment. The inverse relationship between hostile wit appreciation and adjustment, however, could not be significantly supported. When sex and intelligence were studied in combination with adjustment and humor and hostile wit were studied in terms of sex of the central cartoon character, significant differences in humor and hostile wit appreciation did exist.

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C H A P T E R I

INTRODUCTION

Background

Over the past 25 years, humor has secured an increasingly more prominent place in psychotherapy literature.

Humor is a singularly human, universal, and cross-cultural means of rich communication. It is as capable of conveying light-hearted amusement as it is of releasing hostile and sexual messages; contributing to group solidarity as it is fostering cliquish alliances; reducing anxiety as it is promoting anxiety. Human can make people laugh, blush, wince, or cry.

With the appropriate aid of humor in the therapeutic situation, the clinician is often able to reduce anxiety, suggest new perspectives, foster insight, or aid in client change. Human experience is for the most part a paradoxical mixture of comedy and tragedy. From time to time we need humor to redirect our focus to life's lighter side.

A healthy sense of humor is typically seen as socially desirable. People simply do not like to admit they lack a sense of humor. They will sooner admit to almost anything else. A good sense of humor is a quality frequently cited as essential in a friend, mate, teacher, therapist.

The New Practical Standard Dictionary (1956) defines humor as "a disposition of mind or feeling; caprice; freak whim. A facetious turn of thought; playful fancy; jocular-ity; drollery, specifically in literature, the sportive exercises of the imagination that delights in the incongruous, the ludicrous, and the droll" (p. 648).

Lynd, On Shame and the Search for Identity (1958), points out that humor, along with wonder, longing, self-respect, and other such human qualities, are oftentimes neglected by researchers because "Such experiences tend to elude codification. . . . They are inaccessible to certain kinds of methods of precision" (p. 16).

Lynd is quite accurate. Much of the humor investigation that has been done has been criticized as poorly conceptualized, inadequately operationalized, and imprecisely measured. "Our understanding remains in a highly fragmentary state, due to a continuing lack of any systematic, empirical and theoretical attack on humor" (Goldstein & McGhee, 1972, p. xix). Inadequate operational definitions and instrumentation have been two of the major obstacles facing humor investigators.

Humor is not the result of any one specific factor, but rather has multiple causality (Zigler, Levine, & Gould, 1967, p. 332). Due to the complex and rather elusive nature of humor, "No single definition of humor is acceptable to all researchers in this area (Goldstein & McGhee,

1972, p. xxi). As a result, operational definitions of humor vary from one study to the next. O'Connell put it succinctly, and quite humorously, when he said "Operational definitions of the comic, wit (jokes), and humor are as rare as unicorns" (Chapman & Foot, 1976, p. 314).

Despite its research limitations, observing humor as a dynamic clinical resource, adept at providing individuals with the means for both coping and communicating, justifies its investigative worth. Humor's contribution to diagnostic assessment appears to be a worthwhile consideration.

Clinical uses of humor. As Freud points out in Jokes and Their Relation to the Unconscious (1905/1960), humorous techniques provide novel accessibility to the unconscious. This suggests the diagnostic and prognostic value of humor. Psychoanalytic conceptualization of humor and hostile wit as distinct, yet with each capable of reducing tension in its own way, offers a comprehensive framework within which to consider the humorous response. Freud observed the discriminative aspects of differential humor and hostile wit appreciation. Humor provides relief from tension through the reduction of painful feelings. Hostile wit, on the other hand, accomplishes release through allowing the gratification of forbidden hostile and sexual impulses.

A therapist aware of humor's diagnostic and

prognostic capability would be as tuned in to humorous material as to a patient's more serious dialogue. The humor response is readily accessible, yet may offer clinically valuable information. A therapist can learn a great deal about a patient by observing what it is she or he finds amusing (Brill, 1940; Grossman, 1977; Redlich, Levine, & Sohler, 1951; Spiegel, Keith-Spiegel, Abrahams, & Kranitz, 1969; Yorukoglu, 1974; Zwerling, 1955). Is the humor masochistic, silly, hostile, liberating? What are the central themes and conflicts presented in the humor? Are certain jokes, or jokes around certain subjects, frequently repeated? Assessing that a patient is unable to show humor appreciation of any kind, for example, the chronically depressed (Nussbaum & Michaux, 1963; Redlich, Levine, & Sohler, 1951), may be a way of determining the depth of the depression and later of monitoring progress as humor slowly begins to reappear. A change from hostile wit to a more philosophical humor may likewise serve as a prognostic indicator of improvement to the observant therapist.

Diagnosis is central to clinical work. Therapists spend a great deal of time involved in initial and ongoing assessment of patients. Too little consideration has been given to the possible usefulness of humor in this process. It seems unlikely that humor would replace more traditional psychodynamic methods of assessment such as the Rorschach

and the Thematic Apperception Test, but might rather provide adjunctive projective information. Such data could be obtained in a relatively non-threatening manner during initial interviews by observing patient humor, asking patients to react to cartoons, or share favorite jokes with the therapist. This could be particularly valuable for the adolescent who may not be receptive to more customary psychological assessment methods. As a means of assessing the deadly serious versus more playful areas, releasing tension, and cutting through resistances, humor is unparalleled.

Purpose

The purpose of this exploratory study was to investigate the appreciation of humor and hostile wit among male and female adolescents. Appreciation of humor and hostile wit was examined by sex and intelligence in terms of personality adjustment, as measured by the Gordon Personal Profile (1963) and the Teacher Rating Scale.

Humor and hostile wit as conceptualized in psychoanalytic theory was considered. Humor was defined as follows: humor uses words or pictures to convey light-hearted, liberating escape from stress and problems. An insightful, broadened perspective on self, or man in general, may be generated. Humor uses no hostility. Hostile wit was defined as follows: hostile wit uses words or pictures to

convey some form of hostility, either directly or indirectly; for example, aggression, insult, sarcasm, belittlement. Hostile wit is usually at the expense of another, either physically or emotionally. Hostile wit does not allow for the clarity of vision, the insightful perspective afforded the appreciator of humor.

Much of the work of O'Connell (1960, 1962, 1964a, 1964b, 1969, 1976) focused on the distinction between humor and hostile wit as presented in psychoanalytic theory. This distinction, however, has not been as clearly delineated by other humor researchers.

Little research has been done toward testing the Freudian concepts of wit and humor. This dearth of studies is anomalous in light of the increased attention being given to humor as prerequisite for the psychotherapist, the diagnostician, and in general, the mature personality. Occasionally, humor has been mentioned by psychoanalytically-oriented investigators, but its connotation has been confused with those of wit, which has been somewhat more frequently studied (O'Connell, 1960, p. 263).

Further verification of this conceptualization was a primary focus of this study.

In addition, this investigation attempted to shed some light on the inconsistencies surrounding research related to the relationship of sex and intelligence to humor appreciation.

Psychology has often been described as the study of rats and College Sophomores. While research on humor has managed to avoid concentrating on the former . . . our understanding of humor continues to be based mainly on the behavior of

the College student, hardly a representative sample of mankind (Goldstein & McGhee, 1972, p. 265).

An adolescent population was selected for this inquiry with the intent of contributing to the generalizability of humor findings by broadening the sampling population.

C H A P T E R I I
REVIEW OF LITERATURE

Theoretical Perspectives on Humor

Humor, in its many forms, has been the focus of attention of philosophers, sociologists, and psychologists alike throughout the years. Views range from conceptualizing humorous laughter as primarily ridicule and derision to the ultimate in transcendence; from a masochistic weapon to the most adaptive of defenses. Contributing to theoretical divergency is the fact that humor is multi-faceted. Perhaps by definition no one theory can be encompassing enough to do justice to this complex dimension. Theoretical considerations of humor have been compiled by Eastman (1921), Goldstein and McGhee (1972), Grieg (1923), and Piddington (1963). The most comprehensive conceptualization of humor is found in psychoanalytic theory. Psychoanalytic, as well as other theoretical perspectives including superiority, social corrective, freedom and liberation, incongruity, gestalt, neurophysiological, and developmental will be reviewed.

Philosophical/social.

Superiority. The superiority or degradation theory of humor is perhaps best summarized in the famous words of Thomas Hobbes: "The possibility of laughter is nothing else but sudden glory arising from the sudden conceptualization of some eminency in ourselves by comparison with the infirmity of others or with our own formerly" (Kline, 1907, p. 422). Laughter, as a momentary sense of domination and power, resulting in pleasure, is central to the thinking of superiority theorists. Hobbes, Plato, Bain, Ludovici clearly recognize the notion of one-upmanship whereby triumph results from ridicule and enjoyment of the misfortunes of others, particularly a rival. Your ridiculousness, at this moment, affords me the opportunity to feel superior.

The greater the dignity of the victim, the greater the amusement. Mindess (1971) precisely defines humor as the "weapon of the underdog," stressing how adept we are at exposing the frailties of our opponents (p. 138).

We appreciate--let us not mince words--we love the misfortunes of others. There are limits, of course, to what we consider fun; if the sadistic element is cruder than our taste can tolerate, we begin to label the humor as "sick" and deny the savage joy it engenders. But within our limits and often despite them, we are frequently delighted by malicious and morbid jests (p. 69).

Ludovici (1932) labels humor that laughs at others as one of the main causes of social decadence. Aristotle

(1895) shares this view, highlighting the need for restraint so as not to abuse the power of humor. Aristotle spoke of a laughter not strong enough to offend decency. It is the "harmlessly ugly" that is laughable, that which is neither overly painful nor destructive to others.

Social corrective. George Meredith, a novelist, Essay on Comedy and the Uses of the Comic Spirit (1897) and Henri Bergson, a philosopher, Laughter: Essay on the Meaning of the Comic (1913) share the view of laughter functioning as a social corrective, the notion here being that spotlighting pretensions and deficiencies can be reformative. Implicit in this process is embarrassment, in the form of laughter, serving as a punishment for non-adaptive, mechanical behavior; that is, behavior less than naturally human. In laughter, we always find the unavowed intent to humiliate and consequently to correct our neighbor, if not in their will, at least in their deed (Bergson, 1913, p. 136). If laughter is to be effective, feelings, especially pity, must be put aside and appeal made to the intellect.

Bergson's social corrective comic techniques include rigidity, inversion, repetition, and prolonged exaggeration. Rigidity is best described as "something mechanical encrusted on the living" (Bergson, 1913, p. 21). Vanity, excessively proper manners, absent mindedness, clumsiness are inert ways of being less human, unnatural.

Laughter serves to make fun of this rigidity by converting it to something more pliable. Inversion or role reversal is exemplified by a robber getting robbed, a small animal engaged in a task more appropriate to a larger animal, a child acting adult-like. Illustration of repetition used humorously includes hiccups at a particularly inappropriate time, coincidences, jack-in-the-box games. As a technique, prolonged exaggeration is oftentimes, but not always, used deliberately. Examples include clowns engaged in mimicry and useless activity, caricature, words amplified through mispronunciation and intonation.

Meredith (1897) sees laughter as resulting in awareness and insight. Humor for Meredith is the ability to laugh at the things one loves, including oneself and all that pertains to oneself, and still love them.

Underlying the social corrective theory is the importance of seeing humor in terms of social significance. "To understand laughter, we must put it back into its natural environment, which is society, and above all we must determine the utility of its function, which is a social one" (Bergson, 1913, pp. 7-8). Laughter is not a solitary pursuit, but rather "appears to stand in need of an echo" (p. 5). One typically does not laugh alone.

Freedom and liberation. Freedom and liberation theory emphasizes the mechanization of life theme as did social corrective theory. Here, however, mechanization of

life refers to monotony and predictability versus unnaturalness. Humor's job is to break us free "from the ruts of our minds, inviting us to enjoy the exhilaration of escape" (Mindess, 1971, p. 82). "Once we have acquired the ability to take things seriously, we need to revive the ability to take them playfully" (p. 121).

Penjon (1893) portrays humor as a guardian standing at the dividing line between the free and mechanical mind. This is somewhat in contrast to Bergson's policeman role of humor.

Vitality, transcendence, enlivenment epitomize the freedom and liberation theory. Free from limiting restrictions we are more able to take a broader perspective, at least for the moment.

Liberation laughter strives toward a state of mind keenly aware of its contingency, its relativity, its fallibility. The insight that is devastating to my identity as an intellectual is liberating to my identity as a human being (Mindess, 1971, p. 82).

It is this uninhibited clarity and insight which has contributed to the prominence of the comic spirit in Zen. According to Hyers (1974), the profane and sacred are parallel in Zen, part of the unity of life. What could exemplify freedom more keenly than laughter in the face of misfortune. Masahide: "Since my store house burned down, I now have a better view of the rising moon" (p. 167).

Cognitive.

Incongruity. Best known of the incongruity or conflict theorists are Kant and Shopenhauer. With incongruity the mind is set for more than it gets. In Critique of Judgment (1790/1892), Kant expresses laughter as "an affection arising from the sudden transformation of a strained expectation into nothing" (p. 223). Friend: "Isn't there anything you'd like to say, Sam, before they pull the rope?" Sam: "Tell the judge that maybe he's done a good thing after all. This is gonna be a mighty good lesson to me" (Willmann, 1940). We are cognitively deceived, for a moment, and enjoy it. Shopenhauer expands Kant's definition to more specifically include the idea of norm/percept comparison. For example, we find apes humorous because they are human-like. Suddenness and paradoxicalness are central to the expression of laughter within the incongruity framework.

Gestalt. Resolved incongruity characterizes gestalt theory. That is, configurational change resulting in new meaning, insight, produces amusement. Fry (1963) speaks to this in terms of figure-ground reversal where rules are suspended and the seemingly unimportant, implicit, suddenly becomes central, explicit (p. 157). Reality is briefly re-defined. For example: A man and a dog are playing chess. A passing observer comments that it is the most remarkable thing he has ever seen. In response

he is told, "Oh, he isn't so good. I've beaten him two games out of three" (Wolfenstein, 1954, p. 151). Maier (1932) finds great similarity between humor and insight. Both are unprepared for, appear suddenly, and bring new meaning. Humor and insight are each composed of objective elements fitting together in a pattern. The point of difference, however, comes with the limited logic of humor. Humor, unlike insight, has its own logic, momentarily true within an attitude of playfulness. At any other time it would be ridiculous (pp. 70-72). To quote Kant, "Humor in good sense means the talent of being able to put oneself voluntarily into certain mental dispositions in which everything is judged quite differently from ordinary methods, and yet is in accordance with certain rationale principles in such a frame of mind" (1790/1892, p. 228).

Koestler's theory of bisociation describes the cognitive pattern underlying humor. In Insight and Outlook (1949), Koestler presents bisociation theory as dual association, that is, the intersection of two previously unconnected independent logical chains of thought. The point of intersection represents an abrupt clash, a change in orientation. It is here that discharge occurs. Whether it is comic or tragic depends on the quality of the emotion. For example, deformity is funny only when it is not real; a dwarf is funny only when pretending to be tall (pp. 82-83). After the first clash, however, the two streams of

thought become one. In terms of bisociation theory a joke is funny only once. Koestler's (1964) work is not limited to humor, but also includes the scientific and artistic domains of creativity as well. Humor, however, is the only one in which the new pattern results in a physiological discharge.

Neurophysiological. Neurophysiological theories of humor stress biological, instinctual rather than social or cognitive aspects. McDougall (1923) and Eastman (1948) speak of humor as an inherent trait to laugh, capable of overcoming unpleasantness and always benevolent. Mood playfulness is a prerequisite for comic perceptibility. "Everything that is tragic may be comic if you continue to take it playfully" (Eastman, 1948, p. 204).

Tickling is explained as pleasure-pain oscillation in contrast and intermittence theory. The laughter ensuing from tickling prolongs expiration, thus tending to restore normal blood pressure and correct anemia. Laughter is therefore seen as having a physiological survival value (Kline, 1907, p. 425).

Descartes, in emphasizing laughter as relaxation from anticipated stress, was the first to integrate the physiological and the psychological, the arousal and relief theory. Gregory (1924), Piddington (1963), Sidis (1913), and Sully (1902) share a similar view. Arousal refers to

neural stimulation, preparatory behavior, in the nervous system. This can be either positive, as in curiosity, surprise, humor or negative, as in fear. However, the relief experienced in a decrease in arousal state is always positive (McGhee, 1971a). "Arousal jag" is Berlyne's (1969) term for a rise followed by a fall in arousal. Relief from moderate arousal typically produces a pleasant effect, while very low or very high stimulation may respectively lead to either an indifferent or an unpleasant effect (Goldstein & McGhee, 1972, p. 246).

Spencer (1860) and Lipps (1898) focus primarily on the nervous energy produced during the period of arousal. When this energy becomes surplus, as it does in the instance of unnecessary or excessive states of preparedness, for example, a practical joke, laughter becomes the mechanism by which this surplus energy is discharged (Eastman, 1921). Freud, the best known of the relief theorists, constructed his principle of psychic energy around the work of Spencer and Lipps.

Psychological.

Psychoanalytic. Jokes and Their Relation to the Unconscious (1905/1960) and "Original Papers on Humor" (1928) have become the definitive word on psychoanalytic conceptualization of humor. Freud presents wit, comic, and humor as similar yet distinct dispositions serving the

common function of tension reduction by means of the principle of economy. The principle of economy refers to the releasing of psychic energy by allowing the gratification of forbidden impulses in wit, imaginative thought in comic, and reduction of painful feelings in humor.

Freud's interest in wit and dreams was sparked concurrently through an awareness of their shared attributes. Condensation, displacement, and indirect expression through allusion, representation by the opposite, analogy are techniques of disguise common to both. An example of condensation is the following. In an anonymous short story the Christmas season was described as the "alcoholidays." The words alcohol and holidays are fused. Brevity results in humor (Freud, 1905/1960, p. 22). In the technique of displacement a shift of focus is at work. Two Jews met in the neighborhood of a bath house. "Have you taken a bath?" asked one of them. "What?" asked the other in return, "is there one missing?" (p. 49). The following illustration is an example of indirect expression through representation by the opposite. "This lady resembles the Venus de Milo in many respects: she too is extraordinarily old, like her she has no teeth and there are white patches on the yellowish surface of her body" (p. 70).

Wit and dreams are oftentimes inaccessible to the conscious mind, being quickly forgotten and not easily retrieved from the unconscious after they have occurred.

Grotjahn (1957) sees this as the work of strict repressive censorship. Unconscious material may have slipped by once, but not a second time. The essential difference between wit and dreams, however, lies in wit's extremely social nature in contrast to the asocial dream. Wit is verbal, it must be shared; a dream is an individual's personal experience.

Wit is often described as an invitation to common regression as in the nonsense joke. "Life is a suspension bridge" said one man. "Why is that?" asked the other. "How should I know?" (Freud, 1905/1960, p. 139). At other times, wit is an invitation to common aggression by means of hostile or obscene joking. A doctor, as he came away from a lady's bedside, said to her husband with a shake of his head, "I don't like her looks." "I've not liked her looks for a long time" the husband hastened to agree (p. 37).

Freud (1905/1960) labels jokes as hostile when the "intended rebellious criticism" is directed against the subject himself or herself as well as against others (p. 111). He is making particular reference to Jewish wit here. "I do not know whether there are many instances of a people making fun to such a degree of its own characteristics" (p. 112). Jewish humor, a long tradition, has been described, in the extreme, as masochistic indulgence in a sadistic attitude (Mendel, 1970) and as transcendence symbolic of an

expanded perspective (Mindess, 1971). Mindess disagrees with Freud's depiction of Jewish wit as hostile. He prefers to see wit that allows for rising above one's deficiencies by admitting them, even enjoying them as the ultimate in humor (p. 132). The following is such an example.

Three men lay dying on a hospital ward. Their doctors, making rounds, went up to the first and asked him his last wish. The patient was Catholic. "My last wish," he murmured, "is to see a priest and make confession." The second patient was Protestant. When asked his last wish he replied, "My last wish is to see my family and say goodbye." The third patient was, of course, a Jew. "And what is your last wish?" the Doctor asked. "My last wish," came the feeble reply, "is to see another Doctor" (Goldstein, 1976, pp. 109-110).

Jokes may be either harmless, regressive as accomplished through the structural properties of the joke technique or tendentious, aggressive whereby humorous disguise permits the pushing aside of inhibitions and the momentary gratification of previously repressed sexual and aggressive impulses. Freud perceived wit as a pathological defense, an indication of maladjustment.

Freud's view of the comic is strikingly similar to Bergson's (1913) conceptualization. Unlike wit which is created, the comic is discovered in behavior by a process of comparison. "This is how he does it. I do it another way. He does it as I would as a child" (Freud, 1905/1960, p. 225). Comic involves a self/other comparison or a self now/former self comparison. Mechanisms of the comic

include imitation, caricature, parody. Unlike wit, which calls for a teller, listener, and victim, the comic does not need to be shared to be enjoyed.

Humor is presented by Freud (1905/1960) as the highest defense against pain, a coping mechanism associated with little repression (p. 223). Humor signifies tolerance for self and others (Freud, 1905/1960, 1928; Grotjahn, 1957; O'Connell, 1967), adjustment, adaptation (Freud, 1905/1960; O'Connell, 1960, 1964a, 1964b, 1969), the epitome of actualization and maturity (O'Connell, 1976b). In humor we laugh with others; in hostile wit we laugh at the expense of others.

The following is an example of Freud's crudest form of humor, gallows humor. A rogue, while being led to execution on a Monday, remarked, "Well, this week's beginning nicely" (1905/1960, p. 229). The message of this humor is "Save your pity, I don't need it." Obrdlik (1942) focused on the intentionality and powerfulness of humor, seeing it as working by bolstering the resistance of the victim while simultaneously undermining the morale of the oppressor (p. 713). Dooley (1934) and Bergler (1937), on the other hand, saw gallows humor as promoting escape from one's fears through illusion and denial and labeled it masochistic.

Freud's conceptualization of humor was not complete with gallows humor. In 1928 Freud published additional work on humor, "Original Papers on Humor." "The essence of

humor is that one spares self the affect which a situation would naturally give rise to and overrides with jest the possibility of such an emotional display" (p. 2). In humor, the ego and id are allowed to temporarily turn away from a hurtful objective stress and triumph. Stress is reacted to with jest rather than hostility or resignation (O'Connell, 1962, p. 271). Displacement of cathartic energy, negative affect, from the ego is accomplished by the superego assuming a comforting, protecting role. The result is a state of pleasure. "See here, this is the world that looks so dangerous. Child's play, the very thing to jest about" (Bergler, 1937, p. 52).

For the euphoria which we endeavor to reach by these means is nothing other than the mood of a period of life in which we were accustomed to deal with our psychical work in general with a small expenditure of energy--the mood of our childhood, when we were ignorant of the comic, when we were incapable of jokes and when we had no need of humor to make us feel happy in our life (Freud, 1905/1960, p. 236).

Developmental. Smiling begins soon after birth, possibly during the first week. For Freud (1905/1960), Wolfenstein (1954), and others (McGhee, 1971a, p. 329), humor follows developmentally from child's play. In psychoanalytic conceptualization, humor has served its purpose if it protects pleasurable play from reason (Freud, 1905/1960, p. 131) and provides for the acknowledgment of emotional and cognitive mastery. Emotional mastery includes overcoming disturbances and fears (Powell, 1974;

Wolfenstein, 1954, 1955); cognitive mastery includes successful developmental accomplishments (Piaget, 1951).

Piaget's infants, in the sensory-motor period, are seen as smiling in response to cognitive success, physical activity, tickling, familiar faces doing such funny things as making faces or playing peek-a-boo (Chapman & Foot, 1976). Lack of an appropriate smiling response by 3 months is seen as having potential diagnostic significance in terms of emotional disturbance (Grotjahn, 1957, p. 71; Levine, 1968, 1972). Smiling and laughing are distinct, but not independent responses. A principle difference being that the smile is voluntary while the laugh is not always totally under our control, as anyone who has ever tried to stop laughing and could not know.

Pure incongruity, perceptual discrepancy, is perceived as funny by the pre-operational child of 2-7 years (Goldstein & McGhee, 1972). A cat with an umbrella or a pregnant-looking man are humorous simply because they are judged to be incorrect, wrong. Words are played with, although the child is not yet capable of using them figuratively. Words are funny if they rhyme. In Children's Humor (1954) Wolfenstein focuses on the emotional impact and powerfulness of words, especially proper names, for the young child. Since the child of 5 is as yet unaffected by societal restrictions, the joke technique is meaningless at this age. It is unnecessary. Jokes are more rambling

anecdotes, dealing primarily with issues of curiosity than consistently repeated wit.

At 6-7, the transition stage between pre-operational and concrete operational thinking, improvisation is replaced by the learning and re-telling of ready-made jokes (Wolfenstein, 1954). It is not coincidental that this is also the onset of the latency period, a time during which sexual and aggressive impulses are strongly defended against. Riddles and moron jokes are typical of this age. Riddles, in Wolfenstein's psychoanalytic scheme, deal with emotional themes of castration, sibling rivalry, smartness/dumbness especially in terms of the omnipotent adult who cannot guess the correct answer. The moron is a key character for the child, making her or him feel smart by comparison with the invulnerable, yet consistently dumb, moron (Chapter 3). "The moron primarily represents the aspect of themselves which children are anxious to repudiate" (p. 132).

By ages 7-11, the concrete-operational period, children are capable of thinking logically. It is now resolvable incongruity that is perceived as humorous. Resolving or reversing incongruity requires abstract thinking to understand that something is funny because it is illogical, not merely incorrect (Shultz & Horibe, 1974). With the onset of logical thinking, arbitrary riddle answers will no longer do.

For some, adolescence signifies a return to the more free associative humor of the young child. Piaget and Wolfenstein share this perception of the young adult in the formal-operational period. In fact, it is in adolescence that Piaget sees the cognitive and the emotional as successfully integrated (Park, 1977). Use of mimicry and impersonation reflects the need for less dissociation of oneself from one's humor. Gross over- and under-exaggeration is a common technique.

Not all agree with this view of adolescent humor, however. Meredith (1897), for example, sees adolescence as a relatively humor-free period, suggesting that this may be the result of a lack of proportion about oneself, typically characteristic of the intensely serious adolescent. Similarly, Dooley (1934) and Hoeffding (Harms, 1943) describe full-fledged "real" humor as a post-adolescent phenomenon.

Ransohoff (1975) met with adolescent girls, 12-14 years of age, in bi-weekly tape recorded sessions for 7 months to observe their spontaneous humor. She found laughter serving a communication function, the message of which was "You are not alone." Typical developmental adolescent concerns regarding physical development, relationships with boys, sexual curiosity, and ambivalent feelings toward mother were frequently discussed in an attempt at light-hearted mastery.

Review of Literature Studies and
Research on Humor

"Researchers cannot yet be confident about the quantitative aspects of any measurement of amusement" (Sheehy-Skeffington, 1977, p. 447). Lack of adequate operational definitions and instrumentation are built in limitations plaguing humor researchers. Yet there have been numerous attempts to measure humor through a variety of techniques, including rating and ranking of jokes and cartoons, natural observation, and questionnaire.

Eysenck (1943) attempted to correlate the results of 5 humor appreciation tests, each consisting of 12 items to be ranked in order of funniness for 100 subjects, 50 males and 50 females. What he found was that no significant correlation could be found among the scores of the subjects on the five tests.

Babad (1974) took a critical look at a variety of humor assessment methods. He discovered that scores on a humor appreciation test where cartoons and jokes were rated on a 7 point scale did not correlate with self report and sociometric measurements classifying individuals as humor appreciators, humor producers, or joke tellers. In fact, the two invalidated each other. Babad concluded that humor cannot be adequately measured by a test, but rather must be assessed by more natural means such as self and peer ratings.

Even under ideal conditions humor is very difficult to measure. Overt responses may be misleading. There can be humor without laughter. The humor Charles Schultz generates by his Peanuts cartoons, for example, is more likely to leave one quietly amused than boisterously laughing. Tickling would be a case of there being laughter without humor.

Despite these obstacles, however, since 1950 there has been focus on an empirical approach to the study of humor, particularly in terms of appreciation and drive reduction.

Appreciation. Researchers have investigated personality traits, psychopathological states, sex, and intelligence as factors influencing humor preference.

Personality traits. Humor appreciation of the mature (Allport, 1937), self actualized (Maslow, 1954), adjusted (O'Connell, 1960) personality has been found to differ from humor appreciation of the maladjusted (O'Connell, 1960), aggressive (Dworkin & Efran, 1967; Grywok & Scodel, 1956; Hetherington & Wray, 1964; Maslow, 1954; Strickland, 1959) personality.

Epstein and Smith (1956), studying members of a college fraternity, found a statistically significant positive relationship between sense of humor and insight. Sense of humor was measured by scores obtained from cartoon

ratings and rankings, as well as spontaneous expression. The absolute discrepancy between one's own and another's rating of self, in terms of hostile behavior, was the operational definition of insight chosen. It was suggested by the investigators that rating cartoons correctly and assessing one's hostility accurately are related when the humor involved depicts the subject as the butt of the joke. "Presumably the person who is able to laugh at his limitations should be low in defensiveness and accordingly should be insightful" (p. 394).

Allport (1937), presenting the results of an unpublished study reported a $r=+.88$ correlation between ratings on humor and insight when subjects were asked to rate one another on a variety of personality traits (p. 222). This was the highest correlation in the series of traits. Allport's conceptualization of the mature personality includes humor. "The capacity for self-objectification is insight and it is bound in subtle ways with sense of humor, which as no one will deny, is in one form or another an almost invariable possession of cultivation and the mature personality" (p. 214).

Maslow's (1954) self actualized personality is described as having a sense of humor "not of the ordinary type." It is neither masochistic nor superior. It is more likely to produce a smile than a laugh as it pokes fun at people in general being foolish or forgetting their place

in the universe (p. 222).

O'Connell (1960) looked at the well adjusted and maladjusted personality, grouped according to self-ideal discrepancy on Worchel's Self Activity Inventory, in terms of hostile wit, nonsense wit, and humor appreciation, based on the psychoanalytic position that passive appreciation of wit and humor reflects the psychic state of the jest maker. The psychoanalytic position regarding wit is that the maladjusted individual should derive greater enjoyment from hostile wit than the well adjusted individual. Humor, described by Freud as an adaptive, nonpathological defense, involving little use of repression, should be appreciated more often by the well adjusted than the maladjusted personality. Results of his 332 subject study found such differences among the subject's ratings of 30 jokes of the Wit and Humor Appreciation Test. Maladjusted male subjects showed a significant preference for hostile wit as compared with the well adjusted subject, except under conditions of stress induced by an insulting examiner, when results were reversed ($F(1,128)=6.23$, $p<.05$). The well adjusted subjects showed significantly greater appreciation of humor than did maladjusted subjects ($F(1,128)=7.21$, $p<.01$). Males appreciated hostile wit significantly more than females ($t=2.63$, $p<.01$, one tailed test); females appreciated nonsense wit significantly more than males ($t=4.11$, $p<.001$).

In studying the humor preferences of selected

undergraduate populations some investigators have found that aggressive subjects showed greater appreciation of hostile wit than non aggressive subjects (Dworkin & Efran, 1967; Grzwock & Scodel, 1956; Heterington & Wray, 1964; Murray, 1934; Strickland, 1959).

Psychopathological states. Humor studies with disturbed populations have described a distorted, limited response to humor.

Marked deficits among chronic schizophrenic patients, in terms of appropriate humor, have been reported (Arieti, 1950; Kant, 1942; Levin, 1957; Levine & Rakusin, 1959; Levine & Redlich, 1960; Senf, Huston, & Cohen, 1956).

Levin (1957) and Senf, Huston, and Cohen (1956) corroborated a schizophrenic tendency to either explain away or be altogether blind to absurd exaggeration. The ability to accurately judge the humor of 10 cartoons was deficient for acute schizophrenics, but less markedly so than that of the chronic population.

Regressive thinking, characteristic of the schizophrenic, is displayed in their wit and laughter as well (Arieti, 1950; Kant, 1942).

Nussbaum and Michaux (1963) explored the humor of depressed patients and observed that the exhibited severe reduction in humor was indicative of "affect freeze" rather than disorganized thought processes, as with schizophrenic patients. Serious emotional disturbance inhibits one's

appreciation of humor.

Sex. Goldstein and McGhee (1972), in surveying 665 of the total number of empirical humor investigations completed during the period 1950-1971, found that "while nearly 50% of the studies sampled employed both males and females, meaningful and consistent sex differences remain to be found" (p. 265). An earlier literature review by Flugel (1954) supports Goldstein and McGhee's findings. Flugel and Victoroff (1969), however, do note a general tendency for men to enjoy bawdy humor more than women do.

Eysenck (1943) conducted an experimental analysis of five humor tests. Half of the 100 subjects were female, half male. Eysenck concluded, based on average rankings of cartoons, that no differences exist between females and males in terms of humor preference.

According to Mindess (1971), the male/female humor differences that do exist are not due as much to dissimilarities in the capacity for humor as they are to differences in preference (p. 194). He suggests that perhaps traditionally females have felt greater social restrictions against overt enjoyment of ribald or disparaging jokes than men.

Spiegel, Brodtkin, and Keith-Spiegel (1969) looked at the humor appreciation of 18-22 year old male and female subjects in terms of unacceptable impulses and anxiety. Unacceptable impulses and anxiety were assessed by means of

the Spiegel Personality Inventory, Sentence Completion, Taylor Manifest Anxiety Scale, and the Thematic Apperception Test. Cartoon appreciation was determined by preference for overtly sexual, mildly sexual, or non sexual cartoons. All testing was individually administered. In addition to an overall significantly greater humor appreciation for male subjects, results of the investigation showed males rating mildly and overtly sexual cartoons significantly funnier than the female subjects, $p < .01$.

Losco and Epstein (1975) inquired into the humor preferences of male and female undergraduates for cartoons depicting hostility by one sex against the other. A significant difference in humor preference was found based primarily on a cartoon portraying provoked hostility against a female target, $p < .01$. In this cartoon a pompous looking man is being deservedly put in his place by a woman he has previously been ordering about. Male subjects failed to see humor in this cartoon until the sex of the characters was reversed. The cartoon was then rated as "very funny." Both sexes preferred cartoons with females as the butt. Losco and Epstein suggest that humor preferences may be used as a subtle index of attitudes toward the same and opposite sex.

Based on reaction to jokes, it was determined that college men appreciated hostile wit significantly more than did college women, while women preferred nonsense wit

significantly more than did men (Landis & Ross, 1933; O'Connell, 1960).

Brodzinsky and Rubien (1976), in looking at sexual differences relative to humor production versus appreciation, found that college males generated funnier captions than college females to sexual and aggressive stimuli, but not to neutral stimuli ($F(1,80)=4.88, p<.05$).

Intelligence. With the exception of the retarded population (Zigler, Levine, & Gould, 1966b), most studies attempting to correlate humor and intelligence have been inconclusive. Flugel (1954) and Victoroff (1969), in reviewing the literature, reported that most investigators found no significant relationship between sense of humor and intelligence. Bird (1925), Kenderdine (1931), Laing (1939), Redlich, Levine, and Sohler (1951), however, found a statistically significant correlation existing between humor and intelligence.

Stump (1939) and Koppel and Sechrest (1970) looked at the relationship between scholastic aptitude of college students and sense of humor as assessed by scores on humor tests. In each case the finding was no significant correlation between sense of humor and intelligence.

Bird (1925) was able to show a $r=+.89$ correlation between scores on the Objective Humor Test for Children and intelligence for children ages 3-16. The Objective Humor Test for Children consists of 20 paired pictures of absurd

situations. The child is asked to mark the funnier picture of the two pairs. Correctness of choice is determined by the number of children marking a particular selection.

Kenderdine (1931) kept observational records of Vassar College Nursery School children for one hour periods, 5 times a week. What she found was that 10 children with an average IQ of 118.06 laughed 4.7 times during each period of observation, as compared with 10 exceptionally bright children having an average IQ of 140.6 who laughed an average of 13 laughs.

Laing (1939) asked 709 boys and girls, grouped according to three age ranges, 7-10, 11-13, and 14-18, to either tell their best joke or write down what it is that makes them laugh. From the results it was concluded that sense of humor develops parallel to general intelligence and emotional development. Younger children preferred incidents involving the discomfiture of others, while students in the 14-18 year bracket showed more appreciation of wit, and of what Laing described as "real comedy."

The relationship between a child's cognitive level and his or her comprehension and appreciation of humorous material has been researched by Zigler, Levine, and Gould (1966a), McGhee (1971b), Shultz and Horibe (1974). A child's level of cognitive development appears to affect comprehension, but not appreciation of humor.

Zigler, Levine, and Gould (1966a) individually

administered a revised version of the Mirth Response Test (Redlich, Levine, & Sohler, 1951), suitable for children of average ability in the 2nd, 3rd, 4th, and 5th grades. Cartoons were to be rated as funny or not funny and why. Any spontaneous mirth responses, as well as any extraneous verbal comments were recorded by the examiner. Results showed a general positive relationship between a child's cognitive level and comprehension of cartoons. A more complex relationship was found to exist between cognitive level and humor appreciation, however. The more cognitively challenging humor elicited a greater mirth response than did material comprehended with ease.

McGhee (1971b) had boys ages 5, 8, and 9 put cartoons in the proper sequence and select the funniest caption. Results revealed that a child's cognitive development plays an important role in the comprehension of humor. It is not, however, significantly related to humor appreciation.

Shultz and Horibe (1974) limited their research to the role of cognitive processing in the development of humor appreciation. Six year olds were described as appreciating the purely incongruous nonsense joke, while children 8, 10 and 12 years of age preferred resolvable incongruity. Resolvable incongruity requires abstract thinking to understand that something is funny because it is illogical, not merely incorrect. Children capable of thinking

logically are seen by Piaget as in the concrete-operational stage of cognitive development.

Redlich, Levine, and Sohler (1951) administered the Mirth Response Test to 83 subjects including neurotics, schizophrenics, psychotics, and normals and found: "There is an undeniable relationship between the intelligence of the subjects and the degree to which he can grasp the full meaning of a cartoon" (p. 725).

Additional research in the area of humor as it relates to intelligence is clearly needed.

Drive reduction. The tension releasing aspect of humor is central to psychoanalytic theory. This process has been observed in natural as well as laboratory conditions. Results support humor's contribution to tension reduction.

Kline (1907), Hayworth (1928), and Lowenberg (1952) looked at anxiety laden situations such as earthquakes and combat and found that humor functioned in a tension reducing capacity. Survivors of the San Francisco and Kern City, Kansas earthquakes and soldiers prior to battle expressed that they experienced a lowered threshold for laughter which in turn served to break surface tensions. Even the slightest provocation, while under extreme stress, was frequently capable of producing hypomanic exhilaration.

Mindess (1971) described a student demonstration in West Berlin where police were able to disperse the group, without damage or injury, by adopting quasi-humorous

approach.

While preparing to turn water cannons on demonstrators, the policeman in charge of the operation announced, "Please move on or be prepared to get your bathrobe and towels ready. We are now going to have to stage some unusual aquatics." His handling of the rest of his assignment was conducted in an equally jovial fashion, and the crowd eventually left without either side having inflicted damage or injury on the other (p. 186).

The effect of humor on induced states of aggression in young adults was studied and it was concluded that humor resulted in reduced hostility, either as the result of the incompatibility of the two responses (Baron & Ball, 1974; Landy & Mettee, 1969) or through catharsis (Prerost, 1976; Singer, 1968). Berkowitz (1970), on the other hand, reported humor to have a catalytic effect on aggression.

Baron and Ball's (1974) work involved exposing angered subjects to either non hostile cartoons or neutral pictures and asking for ratings of amusement or interest on a 7 point scale. They found that non hostile humor resulted in a marked reduction in the level of aggression of their subjects, as determined by a questionnaire, $p < .05$. Baron and Ball reported subjects actually saying that viewing certain cartoons made them feel better.

Dworkin and Efran (1967) had their subject population rate taped hostile humor, non hostile humor, and non humorous readings following experimentally induced states of anger. By means of the Mood Adjective Check List it was determined that both hostile and non hostile humor produced

a significant reduction in terms of anger scores, $p < .01$. A significant difference between the two humor tapes, however, was not supported, $t = 1.29$.

Landy and Mettee (1969) similarly found both hostile and non hostile cartoons effective in reducing mobilized aggression as compared to humor free photographs, but with no significant difference attributed to the type of humorous stimuli; that is, hostile versus non hostile humor.

Singer's (1968) strategy was to induce intense aggressive feelings toward segregationists in his black subjects, expose them to hostile anti-segregational humor, neutral humor and non humorous taped material and note the result. Singer observed what others before him (Dworkin & Efran, 1967; Landy & Mettee, 1969) had discovered, that both hostile and non hostile humor reduced aggression more effectively than the humor free stimulus. No significant difference was found between the two types of humor used.

Prerost's (1976) study incorporated a slight twist. He looked at the effect of sexual and non sexual humor on aggressive states. "The presentation of sexual humor produced not only a reduction in the induced aggressive mood, but replaced it with a euphoric mood" (p. 775). He therefore concluded that sexual and aggressive dispositions are similar (p. 776). Non sexual humor, however, was unsuccessful in diminishing feelings of hostility.

Berkowitz (1970) found humor to be stimulating

rather than inhibiting in terms of aggression. Berkowitz subjected aggressively aroused undergraduates to hostile Don Rickles and non hostile George Carlin humor tapes. The result was heightened hostility in those subjects exposed to the humorously aggressive stimulus. "If the hostile nature of the comic routine is very recognizable as was true in the present investigation, humor could well stimulate enhanced aggression" (p. 716). Berkowitz determined increases in his subjects' level of hostility by observing overtly aggressive responses to the examiner. In previous studies (Baron & Ball, 1974; Dworkin & Efran, 1967; Landy & Mettee, 1969; Singer, 1968), mood was not behaviorally measured, but rather assessed by an adjective checklist. This, in addition to diverse humor assessment methods, may have contributed to conflicting findings.

Observing the discriminative function of differential humor appreciation, in terms of the well adjusted versus the maladjusted individual, as well as the tension reducing role of humor, leads to a consideration of humor in the therapeutic process.

Review of Literature Studies and Research on Humor in Therapy

Humor may throw otherwise intolerable situations into new and managable perspectives. The neurotic who learns to laugh at himself may be on the way to self-management, perhaps to cure (Allport, 1950, p. 104).

Humor puts a distance between oneself and one's problems, a way of standing off and looking at one's problems with perspective (May, 1969, p. 54).

Because it raises us above our usual level of comprehension and allows us to accept what would ordinarily be unacceptable, spontaneous, genuine humor is a coping mechanism of the very highest caliber. It should, therefore, be one of the psychotherapist's goals to further its development (Mindess, 1971, p. 222).

Humor deserves a great deal more study, for it could become a powerful tool of psychiatry (Levine, 1956, p. 35).

Humor is described by some in terms of its curative value, a means of providing insight; by others as a coping mechanism and potential tool of psychiatry. Is there a place for humor in therapy and psychological services? The literature studies and research around this question will be looked at in terms of assessment, both diagnosis and prognosis, therapeutic relationship, patient's use, therapist's use, and interpretation.

Assessment.

Diagnosis. Humor as an adjunctive psychodiagnostic technique has warranted the legitimate consideration of investigators (Brill, 1940; Grossman, 1977; Haggard, 1942; Spiegel, Keith-Spiegel, Abrahams, & Kranitz, 1969; Yorukoglu, 1974; Zwerling, 1955). A central contribution to studies in this area is the well known work of Redlich, Levine, and Sohler (1951), the Mirth Response Test, providing a most thorough presentation of humor as a

psychodynamic index.

The Mirth Response Test is a comprehensive assessment of humor in terms of individual needs and defenses (Redlich, Levine, & Sohler, 1951). Cartoon themes include aggression against authority and social institutions, sexual aggression, aggression between males and females, homicide and suicide, insanity, distortion of body image, sibling relationships, parent-child relationships, nonsense and omnipotence. Mirth responses are described by Redlich and Bingham as "jibbing remarkably well" with personality probing of the Rorschach and the Thematic Apperception Test (1955, p. 7).

Humor appreciation and preferences of the subject population, comprised of neurotics, schizophrenics, psychotics, and normals was assessed in terms of free expression on a continuum from "no response" to "laughter"; "Like," "Indifferent," "Dislike" humor ratings; and inquiry as to "Why funny?" It is Redlich et al.'s position that strong laughter is indicative of an individual who is able to permit the release of aggressive, sexual feelings without much anxiety or guilt. "When an individual has difficulty giving free expression to humor, one may infer that other emotional areas, especially those which are more stressful are even less easily expressed" (1951, p. 719). Results showed that "All patients with psychopathic conditions revealed some aberration in humor response" (p. 721).

Categories of distortion included: (1) disturbances in mirth and other expressive behaviors characterized in the extreme by decompensating, uncontrolled laughter and very rigid ego control intolerant of any emotional response; (2) characteristics of cartoon preferences and rejections; (3) failures and misunderstandings of specific cartoons; (4) perceptual errors and distortions of cartoon details; (5) divergent personal references and associations (p. 722).

Blanchard, in critiquing the Mirth Response Test, saw its strength as lying in the ability to be quantitatively scored, while taking into account individual associations. A cited suggested weakness was the paucity of information regarding the humor response of normal subjects, something Redlich, Levine, and Sohler promised to look into in future work (Redlich, Levine, & Sohler, 1951, pp. 733-734).

Asking the patient, in the diagnostic interview, to tell their favorite joke, not the one most recently heard, and this is emphasized, is a technique frequently employed by therapists using humor diagnostically.

A favorite joke is not seen as an arbitrary selection, but rather as a repetitious attempt to come to grips with intra-psychic needs. One's favorite joke as an attempt to master one's "favorite anxiety." Yorukoglu (1974) inquired into the favorite joke of 650 children ages 7-16.

Of the resulting 150 jokes actually collected, Yorukoglu felt with certainty that in 75% of the cases the psychodynamic relationship between a patient's favorite joke and their emotional conflict could be established with confidence. Yorukoglu revealed that even well known jokes may be non humorously adapted in an attempt to resolve unconscious dilemmas (p. 687).

Zwerling (1955) stresses that while for more complex psychopathological categories it may be difficult for any one joke to be adequately central to the area of conflict, basic fears and anxieties would no doubt still surface (p. 111). Spiegel, Keith-Spiegel, Abrahams, and Kranitz (1969) share a concern with Zwerling as to whether jokes told really have personal significance or are just the most recent or the most socially reinforced.

While studies reported that the "Favorite Joke" did tend to reflect themes most provocative of patient anxiety, it was urged that this technique currently be used only as an adjunct to more reliable diagnostic procedures (Brill, 1940; Grossman, 1977; Spiegel, Keith-Spiegel, Abrahams, & Kranitz, 1969; Zwerling, 1955).

Grossman (1977) provides the therapist with an additional reminder. In spite of the psychodynamics revealed in the favorite joke, the therapist may still want to wait until the issues are brought up more directly by the patient.

Haggard (1942) devised an evaluative projective technique for use with children that involved comic strip characters. The child is asked to list his or her favorite comic strip character and describe what happens in the cartoon. Using this as an impetus, the child then becomes the "author" of his own story. Haggard found the "author" game to be enthusiastically received by his sample population of 24 clinic children, ages 9-13.

In addition to humor's contribution to the diagnostic process, it has also been observed as providing prognostic indications as well.

Prognosis. Humor may spotlight accessibility to treatment, readiness to reveal, and signs of change and improvement.

Nash (1971), with an adaptation of the Mirth Response Test, discovered a correlation between mirth response and the accessibility of children to treatment. Accessibility was defined here as the capacity for the development of trust in the therapeutic relationship. Such information, at the onset of therapy, could be beneficial in planning treatment.

Laughter spontaneously communicated during a therapy session should not be overlooked. It has been indicated by some (Pfouts, 1961; Reik, 1948; Zuk, 1964, 1966) that patient laughter may be suggestive of a heightened receptibility to the therapeutic process. "Laughter, even

at its most bizarre is always a sign of some degree of readiness to reveal thoughts which it seeks to disguise" (Zuk, 1964, p. 89).

Nussbaum and Michaux (1963) and Rosenheim (1976) see humor as indicative of a patient's capacity for change. In their work with depressives, Nussbaum and Michaux observed that as depression lifts humor improves. This led them to then postulate, "whether the reaction of depressive patients to humor could be utilized by clinics in charting the course of illness" (p. 527). They cite humor as useful in assessing the patient's ability to form the transference relationship, determining the depth of depression, pinpointing early signs of improvement, and indicating possible adverse drug reactions through manic episodes (pp. 536-537).

Harrelson and Stroud (1967) observed that over time the humor of the 10 schizophrenic patients in their study changed in nature, but not in volume. Initial anxious giggling was gradually replaced by a more warm, somewhat more spontaneous, response seen as perhaps signifying gains in self awareness and a readiness for a more personal level of encounter. A decrease in humor directed at imaginary things, as well as fewer instances of aggressive humor turned on self, were also noticed.

Prognosis may become more optimistic when a patient is once again able to appreciate humor. Spontaneous use of

humor by the patient may signify the onset of freer, fuller affective reactions (Kris, 1952; Rosenheim, 1974).

Pfouts (1961), in her work with children, observed that humor between child and caseworker is fairly common around termination, thus serving to reinforce the notion that the timing is right.

Relationship. Therapy is not a contest of wits, but neither need it always be a totally humorless interaction. Particularly during the initial and termination stages, humor may be a very significant technique for the therapist to incorporate into the therapeutic alliance. One of the key issues to be considered in the introduction of humor into the therapeutic relationship is timing.

Some clinical papers have stressed humor's usefulness as an initial tension reducing technique (Dewane, 1978; Pfouts, 1961).

Kubie (1971) and Mindess (1971), on the other hand, underscore the importance of not introjecting humor into the therapeutic relationship too early before trust has been firmly established. Kubie goes on to raise concerns about introducing humor at all, viewing it as potentially destructive even under ideal conditions. He speaks in particular in terms of the transference relationship. "Humor is perhaps the most seductive form of transfer wooing" (p. 864). Kubie sees humor as capable of enticing the

therapist out of her or his role.

This fear is shared by Poland (1971), who similarly has concerns regarding humor encouraging a symbolically erotic transference/countertransference interaction (p. 636).

For some, humor is seen as capable of strengthening the patient-therapist relationship (Mindess, 1971; Rosenheim, 1976).

Rosenheim (1976) shares a personal example of humor fostering rapport. In working with a sullen, overly serious male patient the therapist told the joke of two therapists meeting on the street corner. "I know how you feel, but how do I feel?" Subsequent to this the therapist asked the patient if he ever wondered how well therapists managed their lives. In response, the patient reported that he had and that this was the first time he had ever seen a person in authority being witty about themselves, describing it as "damn healthy." According to Rosenheim, this encounter proved mobilizing. "Humorous engagement can thus break through the walls of affect guardedness by virtue of its direct, benevolently humane quality" (pp. 587-588).

In an attempt to help bridge the gap between patient and therapist, Greenwald (1977) reports that he may tell a joke about himself to a patient. If the patient is experiencing difficulties with mother, for example, the joke may specifically be about Greenwald and his own mother.

Pfouts (1961) too participates in this view of humor as a potential equalizer in the therapeutic relationship.

Grotjahn (1971), focusing on group therapy, indicates that "Something is very wrong in the group in which there is no laughter" (p. 234). Yet he warns the therapist and group members against allowing the use of unmonitored superiority laughter at unconscious unmasking, for example, slips of the tongue, uncontrolled clownish behavior designed to entertain, and individuals becoming scapegoated through joking. Such outbursts serve only to divide, not bind, and should be criticized (pp. 236-238). Grotjahn stresses the importance and desirability of the therapist presenting herself or himself as fully human.

While a number of convincing studies cite humor as a positive tool in terms of the therapeutic relationship, those in the opposing camp present a powerful message as well. Whether or not to incorporate humor into the relationship must be a well thought out decision on the therapist's part.

Patient use. In therapy, patients use humor in a variety of ways, some healthy, some not so healthy. Focusing on the intent of patient humor during a session may be a most legitimate and worthwhile use of therapeutic time.

Rosenheim (1976) coined the term "humorization" to refer to laughter defensively used by the patient in an

attempt to avoid taking one's illness seriously or to please the therapist by not appearing boring (p. 62). Kubie (1971), McGoldrick Orfanidis (1972), and Pfouts (1961) have similarly pointed out the distinction between defensive and creative use of humor.

Humor can serve as a means of indirectly expressing hostile feelings toward the therapist (Pfouts, 1961; Rosenheim, 1976). Pfouts highlights how easy it might be for the therapist, in such a situation, to sit back and bask in "jolly rapport," not dealing with the underlying message of such humor (p. 46).

A humorous disguise allows the patient to disclose without full responsibility for what is said (Vargas, 1961). Humor can thus help a patient reveal sensitive material. Dewane (1978) cites such an example. The fact that the patient's prescribed medication, Phenothiazine, was causing impotence was conveyed to the therapist in the following manner: "It takes the lead out of my pencil!" (p. 509). It was this humorous analogy that opened the way for a more uninhibited discussion of the patient's marital difficulties.

Zuk, Boszormenski-Nagy, and Heiman (1963) and Zuk (1966), working with schizophrenics and their families, found laughter serving the dichotomous functions of revealing and concealing. They reported laughter to be reflective of a complementary family pattern of communication,

rather than a purely individual expression.

Additional investigation into the laughter of three families of schizophrenics during therapy sessions showed there to be secret lines of communication among family members serving to reaffirm allegiance to a symbiotic relationship, negate verbal statements, and convey the appearance of being at ease (Zuk, 1964).

Domash (1975) shares the case of a borderline psychotic child using humor as a natural defense while exploring impulses seen as overwhelming. Over a period of three years, Domash reports humor to have served to strengthen the ego by allowing the boy to form a satisfactory relationship with the therapist, providing an acceptable release for aggressive feelings, and helping the patient gain a sense of mastery.

Mastery (Grotjahn, 1969; McGoldrick, 1969; Mindess, 1971; Tolor, 1966; Wolfenstein, 1955) and communication (Zuk, Boszormenzi-Nagy, & Heiman, 1963; Zuk, 1964, 1966) are two themes found in the literature on patients' use of the humorous facade in therapy.

A patient of Grotjahn's (1969), concerned about his small stature, was helped to gain a sense of mastery by drawing an exaggeratedly small cartoon of himself with the caption, "I too was designed to be 6'4". A similar use of mastery humor by a patient is reported by Mindess. "My problem's simple. I'm a total mess" (1971, p. 29).

Tolor (1966) describes jokes in therapy as common from his experience with children ages 7-13. He sees their function as an ego-integrative one of mastery over affect-laden material, yet notes that humor used in such a coping capacity only surfaces after the child is comfortable with the therapist and making gains in personal confidence.

From the tapes of the therapy sessions of 10 children being seen at a clinic, McGoldrick (1969) was able to characterize the central purpose of the children's spontaneous humor as mastery. Johnny, a boy with intellectual deficiencies, began to work through some of his feelings of inadequacy by "making fun" of his "dumb" therapist (p. 43). An 8 year old named Jerry, the family scapegoat since the time of a brother's automobile accident, frequently engaged in humorous dialogue and giggling about being an ambulance driver (p. 46).

Wolfenstein (1955), working with a severely emotionally disturbed child, made the observation that "In making himself master of his laughter, he may have been demonstrating his control over loss of control" (p. 387).

Patients' use of humor in therapy is complex and multi-purpose. It is the therapist's task to sort out the disguising and revealing, avoiding and mastering functions of patient humor.

Therapist use. A therapist, comfortable with the use of humor in his or her daily life, may find it intuitive and natural to bring humor into the therapy session. In fact, it may be less than authentic not to do so. Humor may be integrated into therapy by the therapist as an attitude, a spontaneous expression, or a specific humorous intervention.

Foster (1978) takes the position that humor has a place in counseling, despite a review of the literature that he states depicts counseling as an essentially humorless process. He goes on to present a hierarchical design of therapist use of humor. At Level 1, therapist humor is unhealthy and counter-therapeutic. The humor is aggressive, sexual, and injurious to the client. Level 2 is characterized by humor intended to disguise therapist anxiety or humor interjected at the wrong moment. At best these humorous remarks are ignored by the client, at worst they distract him or her. Level 3 humor is appreciated by the client, but does not result in insightful gains. At Levels 4 and 5, humor aids the therapeutic process by strengthening the relationship, helping the client explore in a more relaxed manner, and actually providing the client with a transcending, broadened perspective (pp. 48-49). Reflection on Foster's model allows the therapist considering the use of humor in therapy to see humor in a full range of possibilities from retarding the therapeutic

process to mobilizing it and finally to producing insight.

The following are two examples of therapist use of humor. According to the therapists' own admissions, one was successful, the other was not.

Poland (1971): A noticeable shift in attitude was observed in a patient from overly enthusiastic about therapy to overly critical, continually analyzing the analyst's flaws. "I used to hang on your every word." With laughter, Poland spontaneously responded, "And now I hang on my every word." The patient laughed and an interpretation of the ongoing process was possible (p. 636).

Rosen (1963): A woman with phobic and obsessive symptoms complained of fatigue and expressed that she felt present "in body alone and not in spirit." "I will see you tomorrow if I am still alive." Rosen's reply was "And if you're not, come in spirit and leave your body home." The patient became very angry, seeing this response as callous and depersonalizing (p. 719).

Should humor automatically be integrated into the therapy of every patient? The answer is an unqualified "no." Mindess (1971) would not use humor with a patient who himself overdid the use of humor. In such a case humor may be a key defense, and depending on the degree, one to be broken through, not reinforced. Greenwald (1977) does not introduce humor with a patient he does not genuinely like, sensing its potential for abuse. Avoidance of humor

with the paranoid individual is stressed by MacKinnon and Michels (1971) and Dewane (1978), based on the paranoid's inability to fully appreciate humor's subtle, oftentimes ambiguous intent. The possibility of interpreting humor as self-directed and derisive is therefore present with such patients. Dewane also suggests that humor with the psychotic patient may be non-productive. "Humor may also have an adverse effect with the overtly psychotic patient whose preoccupation with self or psychotic fantasy usually results in a noticeable lack of humor" (p. 508).

The question of whose needs are being met, patient's or therapist's, becomes focal to any discussion of humor as a therapeutic technique. Pfouts (1961) and Rosenheim (1976) stress that humor must not be serving the purpose of therapist ego enhancement.

It may be necessary for the therapist to directly explore with a patient her or his feelings about humor in order to prevent the patient from inadvertently feeling confused or mocked (Rosenheim, 1976).

It is a risky game to make fun of someone else's anguish, even with the best of intentions. You can never be sure your humor won't be interpreted as derision. In fact, you can be sure it will unless, and this is the key, the patient unequivocally perceives you as his or her ally (Mindess, 1971, p. 219).

A therapist cannot give a patient a sense of humor, but it can be encouraged by appreciating and reinforcing it when it does appear (Domash, 1975; Miller, 1970; O'Connell,

1976a). The therapist can serve as a model for the genuine, spontaneous integration of humor into one's life (Grotjahn, 1969). It is therefore unlikely that the therapist who has not been able to acknowledge the tragic-comic paradox in her or his own life would be able to liberate and enliven the life of a patient.

O'Connell (1976a) has fully incorporated humor into his therapeutic practice. He has adopted the phrase "natural high" to describe his underlying theory. For O'Connell, a humorous perspective allows for the reconciliation of paradoxes. Conflict is resolved particularly through re-labeling. "A sudden shift in discovering a different, simultaneously appropriate, but non threatening, meaning takes place: 'Everything can be everything else'" (p. 322).

A therapist skilled at practicing humorous interventions can effectively use humor with patients to further insight and awaken latent emotionality (Rosenheim, 1976), as well as to expand a patient's awareness to include the more ironic, ambiguous dimensions of a total life perspective (Hershkowitz, 1977; Rosenheim, 1976).

A review of the literature indicates that certain therapists are utilizing therapeutic techniques embracing a specific humorous approach or style.

Ventis (1973) speaks of incorporating humor into systematic desensitization, citing an example of a young

woman, apprehensive about attending a social function to which her old boy friend had likewise been invited. Ventis demonstrates how relaxation, coupled with humorous imagery, was successful in rapid problem solving in this particular case.

The introduction of cartoons into the ongoing routine of therapy is considered a legitimate, beneficial technique by some. Uses of visual humor might include presenting patients with cartoons as a potentially insightful, yet non threatening stimulus for discussion; lending out pre-selected cartoons for reflective homework assignments; encouraging patients to bring into therapy sessions cartoons they feel they identify with in hopes of developing a more humorous perspective by seeing their problem in a new light; and having patients write their own captions to cartoons. These techniques are seen as tension releasing devices, allowing the patient to then deal more freely and directly with troublesome issues (O'Brien, Johnson, & Miller, 1978). Kadis and Winick (1973) report that age and sex did not appear to be significantly related to the ability to react with insight to cartoons (p. 123).

Various other techniques include exaggeration (Greenwald, 1967; Van Den Aardweg, 1972), paradoxical instruction (Frankl, 1966; Haley, 1963; Jackson, 1963; O'Connell, 1976a), bantering (Coleman, 1962; Roncoli, 1974), and reversal (Whitaker, Felder, Malone, & Warhenton, 1962).

Exaggeration. Exaggeration therapy is essentially just that. A patient over-exaggerates his or her symptoms to the point of ridiculousness. Anxiety, physiologically incompatible with laughter, is destroyed. The result is emotional insight.

Greenwald (1967), in an article entitled "Play Therapy for Children Over 21," advised a chronic hypochondriac, concerned with being ill on a vacation ride from New York City to Cape Cod, to mark every hospital along the route and call ahead. The patient's laughter resulted in directly facing the absurdity of his fears. Responding to a patient's depression with depression is another example of Greenwald's (1977) use of the exaggeration technique to bring about symptom relief through the incompatibility of laughter and the symptom response.

VanDenAardweg (1972) has used exaggeration with homosexuals, hyperdramatizing an infantile "poor me" self concept. He finds such a technique successful, but stresses that actual treatment may take years.

Paradoxical instruction. Paradoxical instruction has its roots in Frankl's logotherapy or existential psychiatry. Symptoms are ridiculed through prescription. For example, with paradoxical instruction the patient is instructed to intensify the presenting behavior, to do it more effectively. A paranoid is taught to be extra suspicious (Jackson, 1963), a fighting couple to go home and

fight "better" (Haley, 1963). Change the rules and you re-label the symptom. When the patient feels more in control of his or her own actions, even if in somewhat of a contrived manner, there is less likelihood of a power struggle developing with the therapist or of undermining the therapeutic process (Frankl, 1966).

Adlerian action therapy employs paradoxical instruction to "trap" the patient in the dilemma of either holding on to a symptom which has now lost its useless value; for example, re-defining insomnia to keep it going strong so the patient can think of ways to help others, including the therapist, or giving up the symptom completely (O'Connell, 1976a, p. 323). Maintaining the symptom simply becomes too much work.

A 17 year old with a stuttering problem of 4 years was told to begin the day by saying "Today I'll stutter through the whole alphabet for a change" (Frankl, 1966, p. 232).

Jackson (1963) cites an example where a therapist joined a paranoid patient in searching the office for a supposedly concealed microphone. In fact, the therapist insisted that the room be thoroughly examined (p. 306). Intentionality results in greater control.

Paradoxical instruction and exaggeration appear to be the same techniques under different labels.

Bantering. Bantering is defined as the "non

threatening provocation of healthy aggression" (Roncoli, 1974, p. 74).

Humorous depreciation is more often used in time limited therapy where the patient may be more interested in symptom relief than insight (Coleman, 1962, p. 74). Here, as in the exaggeration technique, exaggeration and impersonation are used to point out absurdity by means of laughter. In bantering, the therapist, as well as the patient and group members, "humorously belittle" the patient. For example, "You're the worst patient I've ever had. Why did I have to get stuck with you?" (p. 72).

"If the therapist uses bantering for the purpose of seducing the patient into liking him, covering up anxiety or hostility, or for positive or negative countertransference, then it could be potentially destructive as Kubie suggested" (Roncoli, 1972, p. 175). With a technique as potent as bantering this point bears reiteration.

Reversal. Whitaker, Felder, Malone, and Warkentin (1962) present four techniques that essentially attempt to make fun of a patient's delusional system, presenting "craziness" as laughable, a disguise, a game. Deliberate affect flip technique is exemplified in the following. Patient: "I appreciate your interest in me." Therapist: "Time's up." With the contrived double bind technique the therapist provokes the patient to anger, encourages its expression, and when it surfaces, responds: "What are you

mad at me for? All I'm trying to do is help." Periodic admission of impotence technique might sound like this: "You have defeated me. Perhaps continued psychotherapy would be a mistake." Reversal of the double bind technique: Therapist: "What do you want me to do that for?" Patient: "It might help me." Therapist: "I'm not interested in helping you" (pp. 147-158).

Specific humor techniques are most commonly employed during short term therapy in an attempt to bring about emotional, rather than intellectual, insight. They involve a well informed professionalism and extreme sensitivity in their execution. Anything less than this could result in a patient feeling misunderstood, even ridiculed.

Interpretation. Humor may have a place in therapeutic interpretation. How many insightful observations go unheard due to defensiveness or a lack of readiness? Perhaps humor could be used to reduce some of this resistance when used by the right therapist with the right patient at the right time.

Humor and laughter are seen by Rose (1969) as well matched in helping to make interpretation more palatable. When an interpretation is protected by a humorous disguise it has been maintained that it may be possible to interject it earlier into the therapeutic process than if the interpretation were to be made more directly (Grotjahn, 1950).

Patient's readiness is respected by leaving understanding of the message to the patient (Mendel, 1970, p. 62).

Kadis and Winick (1973) suggest that therapists consider humor as an alternative means of communicating insight since individuals in therapy can develop an "immunization to words" over time. Humorous interpretation might be particularly beneficial with patients who have a limited capacity for insight (Miller, 1970).

How does a therapist know for certain that an interpretation has been insightful? Freud (1905/1960): "Many of my neurotic patients who are under psychoanalytic treatment are regularly in the habit of confirming the fact by a laugh when I have succeeded in giving a faithful picture of their hidden unconscious to their conscious perception; and they laugh even when the content of what is unveiled would by no means justify this" (p. 170, n. 1).

Fenichel agrees, seeing a laugh in response to psycho-interpretation as far better evidence of a correct interpretation than a seemingly straightforward "yes" or "no" (Levine & Redlich, 1955, p. 570).

Not everyone, however, sees humorous interpretation as beneficial.

When an interpretation is couched in humorous terms as it is presented to the patient, humor tends in general to constrict the range of patient's response, because for the patient to undertake to treat the therapist's humor seriously, by associating to it freely, is tantamount to correcting the

therapist by taking seriously that which the therapist has taken lightly (Kubie, 1971, p. 862).

Whether or not humor is seen by a therapist as having a legitimate role to play in interpretation, it is an interesting notion to consider. As is true of therapy in general, the effect of any intervention is patient receptibility and response. A certain amount of risk is therefore always present. The therapist's responsibility then becomes one of maximizing patient growth through creative, yet professionally and ethically sound techniques.

Summary of Findings

The beneficiality and facilitativeness of incorporating humor into the therapeutic process seems promising despite a paucity of adequate empirical studies. Clinical papers have focused on humor's contribution to assessment, relationship, patient and therapeutic use, and interpretation, presenting both endorsements and warnings for consideration.

Theoretical investigation into the complex nature of humor is important before engaging in humorous dialogue and techniques in therapy. Theoretical perspectives on humor provide the therapist with a framework within which to consider the humorous style of both the therapist and patient. Psychoanalytic conceptualization of humor is most inclusive, incorporating assumptions from superiority,

freedom and liberation, and neurophysiological theories. Hostile wit, from the psychoanalytic perspective, is similar to superiority laughter, with both considering the humorous response as aggressive. Humor, from the psychoanalytic perspective, is similar to freedom and liberation humor, with both perceiving the humorous response as an uplifting, transcending reaction to life's stresses. Central to psychoanalytic and neurophysiological theories is the concept of the tension reducing capability of humor, the release of surplus energy.

In psychoanalytic thinking, the humorous response is divided into the three distinct dispositions of wit, comic, and humor. Humor and hostile wit are, in fact, described by Freud as antithetical responses with humor labeled adaptive and hostile wit as pathological. Humor allows for a triumphant temporary turning away from objective stress through jest. In hostile wit, it is repressed aggressive and sexual impulses that are given momentary gratification.

A review of literature studies and research on humor suggests: (1) differences in humor appreciation exist in terms of personality factors with the more well adjusted personality tending to appreciate humor and the more mal-adjusted, aggressive personality tending to appreciate hostile wit; (2) differences in humor appreciation exist in terms of psychopathological states with schizophrenics

tending to respond to humor atypically due to disorganized thought processes and depressives tending to show little or no response to humor due to "affect freeze"; (3) no consistently significant relationship exists between sex and humor, although men appear to appreciate hostile and sexual humor more than women do; (4) no consistently significant relationship exists between intelligence and humor, although stages of cognitive development have been shown to affect humor comprehension, but not humor appreciation; and (5) humor functions in a tension reducing capacity.

A review of literature studies and research on humor in therapy suggests: (1) humor offers diagnostic potential when used projectively; (2) humor may serve as a prognostic indicator particularly in terms of accessibility to treatment and the monitoring of progress; (3) humor may contribute to the therapeutic relationship by reducing initial tension and fostering rapport, as well as by distracting, confusing or harming the therapeutic relationship by encouraging transference/countertransference complications. Trust and timing are important; (4) patients may use humor as avoidance, communication, and means of gaining mastery; (5) therapists may use humor to awaken latent emotionality in patients and help provide patients with a broadened perspective or new way of coping with problems. Humor can be incorporated into therapy as a spontaneous attitude or a planned specific intervention; and (6) humor may allow for

more palatable therapeutic interpretation particularly with patients having limited capacity for insight or may indicate to a therapist whether an interpretation has been "heard" or not. Humor may also interfere with therapeutic interpretation by confusing the patient as to the seriousness of the therapist's message.

The intentional incorporation of humor into the therapeutic process is a relatively recent consideration. Reviewing literature studies and research on the psychodynamic aspects of humor reveals inconsistencies and strong arguments for and against its therapeutic justification. Humor can be a creative, dynamic technique, but its use must be based on a professionally and ethically sound rationale within a theoretical framework.

CHAPTER III

METHOD

This exploratory study was an investigation of the appreciation of humor and hostile wit among adolescents.

The dependent variables were humor and hostile wit as measured by the Humor and Wit Appreciation Scale developed by the author. The independent variables were personality adjustment as measured by the Gordon Personal Profile (1963a) and the Teacher Rating Scale developed by the author, sex, and intelligence as measured by the Otis-Lennon Mental Ability Test (1967a). The purpose of this inquiry was to identify the interactive relationship between the variables adjustment, sex, and intelligence and dependent measures of appreciation of humor and hostile wit.

Hypotheses

The questions addressed in this study were asked specifically in five hypothetical statements:

Hypothesis 1

A statistically significant positive relationship will exist between ratings on independent personality adjustment traits of ascendancy, responsibility, emotional stability, sociability, and total score (measured by Gordon's Personal Profile, 1963a

and a Teacher Rating Scale) and measures of appreciation of humor (measured by the Humor and Wit Appreciation Scale).

Hypothesis 2

A statistically significant negative relationship will exist between ratings on personality adjustment traits of ascendancy, responsibility, emotional stability, sociability, and total score (measured by Gordon's Personal Profile, 1963a and a Teacher Rating Scale) and measures of appreciation of hostile wit (measured by the Humor and Wit Appreciation Scale).

Hypothesis 3

No statistically significant difference will exist between below average and above average intelligence (measured by the Otis-Lennon Mental Ability Test, 1967a), sex, and interaction of intelligence and sex and measures of appreciation of humor (measured by the Humor and Wit Appreciation Scale).

Hypothesis 4

No statistically significant difference will exist between below average and above average intelligence (measured by the Otis-Lennon Mental Ability Test, 1967a), sex, and interaction of intelligence and sex and measures of appreciation of hostile wit (measured by the Humor and Wit Appreciation Scale).

Hypothesis 5

No statistically significant relationship will exist between the variables personality adjustment (measured by Gordon's Personal Profile, 1963a and a Teacher Rating Scale), sex, and intelligence (measured by the Otis-Lennon Mental Ability Test, 1967a), and dependent measures of appreciation of humor and hostile wit (measured by the Humor and Wit Appreciation Scale).

Subjects

A regional junior and senior high school in rural western Massachusetts, with a representative student body

in terms of sex and intelligence, was selected to participate in this study. Approximately 820 students, of primarily lower middle class socio-economic status families, from nine towns attend this school, grades 7 through 12.

Initial permission to conduct this investigation was obtained following a written proposal presented to the Superintendent and School Committee. At the request of high school administration, and with the consent of classroom teachers, instruments used in this study were administered during three psychology class periods specifically. Psychology is one course offered in fulfillment of a Social Science requirement.

Subjects consisted of 90 juniors and seniors, 45 males and 45 females, enrolled in high school psychology courses at the participating school. Generalizability of results is therefore limited to a similar population.

Instrumentation

Humor and Wit Appreciation Scale. Humor was assessed by means of a Humor and Wit Appreciation Scale (Appendix A). Twenty-four captioned cartoons were rated on a 6 point scale: "not funny at all" - 1, "not very funny" - 2, "mediocre" - 3, "funny" - 4, "very funny" - 5, "extremely funny" - 6.

Humor and Wit Appreciation Scale cartoons were selected from familiar current magazines and newspapers to

reflect themes of humor and hostile wit. In the initial stages of development, three raters, two females and one male, were trained to identify cartoons as examples of either humor or hostile wit. Each rater was presented with printed cards operationally defining humor and hostile wit. "Humor uses words or pictures to convey light-hearted, liberating escape from or rising above stress and problems. Humor uses no hostility." "Hostile wit uses words or pictures to convey some form of hostility, either directly or indirectly, for example, aggression, insult, sarcasm, belittlement. Hostile wit is usually at the expense of another, either physically or emotionally." In addition to printed definitions, three examples of humor cartoons and three examples of hostile wit cartoons were given. These sample cartoons were selected as representing the categories of humor and hostile wit by unanimous agreement of 100 professional school counselors, psychologists, and administrators attending a workshop at the 1979 Annual New England Personnel and Guidance Conference.

The three raters were then asked to categorize 54 cartoons, 28 humor and 26 hostile wit, as "humor," "hostile wit," or "questionable." Only those cartoons exhibiting a 100% concensus were considered for piloting.

Whether the central cartoon character is a male or female figure may affect appreciation depending on sex of the reader (Loscoe & Epstein, 1975). For this reason, the

39 cartoons selected for piloting, 18 humor and 21 hostile wit, presented both males and females light-heartedly rising above a stressful situation in humor and being the butt of aggressive or insulting joking in hostile wit. A paucity of cartoons portraying females using humor to cope with distress was observed. It is also interesting to note that for those cartoons giving the first and last name of the author it was extremely rare to find a woman cartoonist.

Cartoons were then randomly distributed for compilation in individual booklets to control for the effects of sequence, fatigue, and rater set.

The Humor and Wit Appreciation Scale was piloted on a representative sample of 26 male and female students aged 13-17 years attending a regional high school in western Massachusetts. A pilot study was conducted since it was important that cartoons on the Humor and Wit Appreciation Scale be as comparably funny, yet as discriminating as possible. Means and standard deviations for humor and hostile wit cartoons were therefore as closely matched as possible.

Five weeks following administration of the instrument, the Humor and Wit Appreciation Scale was re-administered to the same students to assess stability of the scale over time. Test-retest reliability coefficients ranged from a high of .82 to a low of .38. The mean reliability coefficient was .62, median was .64.

The Humor and Wit Appreciation Scale, in its final form, consists of 24 randomly distributed cartoons, 12 humor and 12 hostile wit. In 7 of the 12 humor cartoons, central male figures used light-hearted escape from stress, in the remaining 5 it was central female figures using humor. An equal number of males and females were portrayed as being the butt of aggressive or insulting joking in the hostile wit cartoons.

Overall appreciation of humor and overall appreciation of hostile wit was indicated by separate cumulative total scores ranging from 12 to 72 on the Humor and Wit Appreciation Scale.

Gordon Personal Profile. Personality adjustment factors were assessed by two instruments, the Gordon Personal Profile (1963a) and a Teacher Rating Scale. The Gordon Personal Profile provides a measure of four "relatively independent and psychologically meaningful traits which have been found to be important in determining the adjustment and effectiveness of an individual in many social, educational, and industrial situations" (1963b, p. 3). These selected aspects of personality include ascendancy, responsibility, emotional stability, sociability, and a total score. The revised 1978 manual includes a Total Score, routinely obtained in the 1953 manual, but not in the 1963 revised edition. This total score, re-labeled self esteem,

is the sum of the four scale scores and is used primarily for research and counseling purposes. The total score "represents a set of characteristics identified in clinical literature as constituting the more important determiners of self esteem" (Gordon, 1978, p. 23).

High and low scores on each of the Gordon Personal Profile scales were interpreted as follows. Ascendancy: those individuals who are verbally ascendant, who adopt an active role in the group, who are self-assured and assertive in relationship with others, who tend to make independent decisions, score high on this scale. Those who play a passive role in the group, who listen rather than talk, who lack self confidence, who let others take the lead, and who tend to be overly dependent on others for advice, normally make low scores. Responsibility: individuals who are able to stick to any job assigned them, who are persevering and determined, and who can be relied on, score high on this scale. Individuals who are unable to stick to tasks that do not interest them, and who tend to be flighty or irresponsible, usually made low scores. Emotional Stability: high scores on this scale are generally made by individuals who are well-balanced, emotionally stable, and relatively free from anxieties and nervous tension. Low scores are associated with excessive anxiety, hypersensitivity, nervousness, and low frustration tolerance. Generally, a very low score reflects poor emotional adjustment.

Sociability: high scores are made by individuals who like to be with and work with people, and who are gregarious and sociable. Low scores reflect a lack of gregariousness, a general restriction in social contacts and, in the extreme, an actual avoidance of social relationships. Total Score: high scores are reflective of individuals having generalized judgments of self worth. Individuals with low scores tend to view themselves overall in a less than favorable to inferior light.

The Profile consists of 18 sets of four descriptive phrases representing each of the four personality traits. Two phrases are of similar high average preference value and two are of similar low average preference value. The Gordon Personal Profile uses a forced choice technique requiring the subject to mark the one item "Most Like" herself or himself and the one item "Least Like" herself or himself for each phrase. While an individual inclined to make a good impression based on scores on this instrument may do so, she or he cannot respond favorably to all items and reliable discriminations among trait scores are therefore still possible. The four personality trait scales are separately scored with each item marked "Most" contributing 2 points, each item unmarked 1 point, and each item marked "Least" 0 points. The maximum possible score on each personality scale is 36. The total score is the sum of scores on ascendancy, responsibility, emotional stability and

sociability.

Individual trait scores can be converted to percentile rank equivalents and means and standard deviations for high school students by sex. A high score, above the 75th percentile, and a low score, below the 25th percentile, is determined for each trait.

Percentile norms, means and standard deviations are based on sampling 3180 regional high school males and 3096 regional high school females from 27 high schools located in 19 states, primarily in the northeast and mid-west sections of the United States. Grades 9 through 12 are about equally represented. All normative data is presented separately by sex.

Test-retest reliability at the 3 month interval, based on 88 high school students, is .80 for ascendancy, .84 for responsibility, .87 for emotional stability, and .86 for sociability. Split-half reliability was based on two studies at the high school level: ascendancy .70-.75, responsibility .68-.70, emotional stability .70-.78, and sociability .77-.83. The standard error of measurement of an individual score is approximately 2.5 points.

Validity of the Gordon Personal Profile was assessed by peer and counselor ratings and individual interview (Gordon, 1963b, pp. 13-14, 17-18). Descriptive validity was evidenced by the results of two studies, one involving 55 male and 53 female dorm students rating one

another on the four traits represented on the Gordon Personal Profile, the other, a study conducted by John Gawne of Boston University's Counseling Center, involving counselor ratings of 27 clients. In each case the outcomes were significantly correlated with individual performance on the Profile personality traits. Over 100 individuals exhibiting highly deviant scores on one or more scales of the Gordon Personal Profile were personally interviewed to evaluate predictive validity of the instrument. Gordon cites examples of high school students correctly identified as disturbed based on their percentile rank scores.

The 1978 revised manual cites three Gordon total score validity studies. In one study, 657 Boston University applicants were administered the Gordon Personal Profile and a standardized academic aptitude battery. In addition, a letter of recommendation from the high school principal was reviewed. Reference letters of students scoring at or below the 5th percentile on total score of the Gordon Personal Profile were compared with a random sample. "It was noted that a very large proportion of the low total score group had statements reflecting maladjustment" as opposed to the randomly selected applicants (Gordon, p. 25). In an investigation using 527 junior and senior high school students in New Mexico, school counselors' records of students scoring at or below the 5th percentile on the total score were compared with a random

sample and a substantially greater proportion of problem cases were found to exist. The relationship between Gordon Personal Profile total score and counselor impressions were also considered in a third study involving 54 individuals requesting counseling at a University Counseling Center. Here a .57 correlation was reported between total score and counselor dichotomous classification of clients as either "relatively adjusted" or "relatively maladjusted."

Gordon suggests one rationally defensible low score cutoff point as those scores 72 and below (p. 26). Sampling students in the upper high school grades indicated that approximately 15% of the students had total scores in this range.

The Gordon Personal Profile has been found to correlate with other such personality instruments as the Guilford-Zimmerman Temperament Survey (ascendancy .58, emotional stability .46, sociability .65), Survey of Interpersonal Values, Edwards Personal Preference Schedule, and the California Psychological Inventory (Gordon, 1963b, pp. 23-24). Substantial correlations exist between scores on the Gordon Personal Profile total score and Coopersmith's Self Esteem Inventory, .75 based on the scores of 92 male college students and .77 based on the scores of 81 female college students (Gordon, 1978, p. 25).

Overall reliability and predictive and concurrent validity, as represented in Gordon's Personal Profile

Manual (1963b) has been supported by reviews in the fifth and sixth Mental Measurement Yearbook (Buros, 1959, 1965). Reliability is "satisfactorily high" (1965, p. 230). "Reliability suggests internal consistency and stability over time" (p. 231). "Validity data are above average" (1959, p. 129). "Validity data are thoroughly and conscientiously presented" (1965, p. 230). "If there is an interest in a short convenient measure of a limited number of salient personality traits, the Profile is about as good as you can do. It is carefully conceived, reliable, adequately normed and has received at least suggestive validation" (p. 232).

The Gordon Personal Profile, a reliable and valid self report instrument assessing adolescent functioning, was determined to satisfactorily meet the purposes of this investigation, namely measurement of adolescent adjustment.

Teacher Rating Scale. Teacher ratings can provide very important information regarding student behavior. Teachers interact with students on a daily basis, thereby having the natural opportunity to observe and compare the uniqueness of the individual with the more normative, "typical" behavior of the group. Oftentimes teacher ratings can be the single most useful index of student adjustment. For this reason student adjustment, as measured in this study, was assessed by a Teacher Rating Scale (Appendix B), in addition to the Gordon Personal Profile (1963a).

The Teacher Rating Scale consists of 10 descriptive statements of behavior to be rated on a scale from "not at all" typical to "extremely" typical ("not at all," "not very," "typical," "very," "extremely") for individual students. Individual items carry variable weight 1 to 5 with 1 reflecting lowest adjustment and 5 highest adjustment in each case.

The Teacher Rating Scale was constructed based on a consideration of the constructs of ascendancy, responsibility, emotional stability, and sociability commonly recognized as related to adjustment on the Gordon Personal Profile (1963a), Adjective Check List (Gough & Heilbrun, 1965), and the 16 Personality Factor Questionnaire (Cattell & Eber, 1962). In addition, a total score, the mean of ascendancy, responsibility, emotional stability, and sociability, was included.

The Teacher Rating Scale was piloted for understandability, ease of administration, user acceptability and ability to discriminate among students in terms of face and predictive validity. Three teachers and a school psychologist were asked to rate four students using the Teacher Rating Scale. All four students were evaluated by at least two of the school personnel.

All raters described Teacher Rating Scale directions as clear and sufficient. The use of double negatives in two of the statements was raised as a concern. This

point was well taken and those items re-written. Time required to complete the instrument, approximately 5 minutes per student, was seen as not excessive.

Limited contact with students was expressed by one respondent as causing difficulty in answering some of the scale items. "Forty-five minutes a day, with activities varying daily, makes it difficult to see where a student is in terms of some of these statements. Often your class becomes the refuge." Another issue raised was inconsistent student behavior. "Behavior is not consistent across the board. I find that my students so often seem to be erratic almost on a daily basis in their moods and attitudes." However, when questioned as to whether the scale was relevant and worthwhile, school personnel stated that it was. Feedback from one rater: "Overall I see this instrument as useful in the screening of students." From another: "Questions seem to be the type classroom teachers could respond to easily to help in screening student behavior."

Comparing school personnel ratings on individual students on the Teacher Rating Scale revealed total agreement between or among raters on individual items 25% of the time; one response category discrepancy, for example, "not at all" versus "not very," 62.5% of the time; and two response categories discrepancy, for example, "not at all" versus "typical," 12.5% of the time. The school psychologist, being the one rater knowing all four students, was

asked to rank the four in terms of overall personal adjustment. High to low adjustment ranking by the school psychologist correlated perfectly with high to low total scores on the Teacher Rating Scale.

Results of piloting this instrument suggest satisfactory face and predictive validity. The Teacher Rating Scale was determined to meet the purposes of this investigation, namely to provide measurement of student adjustment from the perspective of the teacher.

Following data collection, in an attempt to lend further support to the legitimate consideration of the Teacher Rating Scale as a measure of adjustment, correlations were done between subjects' scores on the Gordon Personal Profile, a recognized, reliable, valid instrument, and scores on the Teacher Rating Scale. As observed in Table 58 (Appendix C), correlations were, for the most part, statistically significant and of low to moderate magnitude. Means and standard deviations for adjustment trait ratings on each of the two instruments are presented in Table 59 (Appendix C).

Otis-Lennon Mental Ability Test. The Otis-Lennon Mental Ability Test (1967a), with parallel forms J and K, covers six grade levels: Kindergarten, 1.0-1.5, 1.6-3.9, 4-6, 7-9, 10-12. According to the manual, the test's stated purpose is prediction of academic success, not measurement of

innate mental ability. The Otis-Lennon Mental Ability Test is "designed to provide comprehensive, carefully articulated assessment of the general mental ability, or scholastic aptitude, of pupils in American schools" (1967b, p. 4). Broad reasoning ability, specifically involving the manipulation of ideas expressed in verbal, numerical, figural or symbolic form, comprise the 80 itemed test with items arranged in increasing difficulty. Time allotted is 45-50 minutes. This is a power, not a speed test, so time limits are generous. A total overall score reflects individual performance.

The standardization sample consisted of approximately 200,000 pupils in 117 school systems drawn from all 50 states, averaging 12,000 pupils actually tested in grades Kindergarten through 12. Normative data, deviation IQ, percentile rank, and stanine is provided by age, three month interval, and grade, September-January and February-June. The deviation IQ is a normalized standard score with a mean of 100 and a standard deviation of 16. It, in turn, may be converted to a corresponding percentile rank and stanine equivalent. "It should be emphasized that the deviation IQ or any other test score must be considered not as a specific point on a score scale, but as falling within a band or range of scores" (1967b, p. 18). The standard error of measurement for pupils ages 5-9 years is about six deviation IQ points, for pupils aged 9 and above, about

five deviation IQ points.

Reliability data by grade, Kindergarten through 12, and age, 6 to 17, is represented in terms of split-half, Kuder-Richardson, and alternate-forms correlation coefficients and standard error of measurement. Range of correlation coefficients by grade: split-half, Form J, .89-.96, Kuder-Richardson, Form J, .88-.95, alternate-forms, combined Form J-1, K-2 and Form J-2, K-1 sequences, .83-.94. Range of correlation coefficients by age: split-half, form J, .89-.96, Kuder-Richardson, Form J, .88-.96, alternate-forms, combined Form J-1, K-2 and Form J-2, K-1 sequences, .85-.94. As stated in the Otis-Lennon Mental Ability Test Technical Handbook, "The median split-half reliability coefficient for all age and grade groups was .95 while the median alternate-forms coefficient was .92" (1969, p. 23). Alternate-forms reliability beyond grade 4, and above age 10, were all .90 or better.

Standard errors of measurement were computed based on alternate-forms coefficient correlations. Range of standard error of measurement, Form J, in raw score points by grade, is 3.1-5.3. Range of standard error of measurement, Form J, in points of deviation IQ by age, is 3.9-6.2.

Two-thirds of the obtained scores fall within ± 1 standard error of measurement from their underlying 'true' scores. Ninety-five percent of the obtained scores fall within ± 2 standard errors of measurement from the underlying 'true' scores (1967b, p. 22).

One year followup comparisons of two administrations of the Otis-Lennon, Form J, by grades 1-10, produced correlation coefficients ranging from .80-.94.

Content, criterion-related, and construct validity studies have been conducted. In test construction, the power of general abstract reasoning was assumed to be more important than speed of performance. This hypothesis was supported by analysis of timed test scores with essentially untimed test scores. Correlations of .98 and .99 were reported. To ensure that reading ability was not a determining factor in test scores, a reading level analysis of words in the Otis-Lennon Mental Ability Test, Elementary II, Intermediate, and Advanced Levels, Form J, was completed. Results indicate that "Reading ability, beyond a minimal level, is not of primary importance in responding to the test items" (1969, p. 28).

Criterion-related validity studies show the correlation between general scholastic aptitude, as measured by the Otis-Lennon Mental Ability Test, and scores on standardized tests of academic achievement, Iowa Test of Basic Skills, Ohio Survey Test, California Metropolitan, and Stanford Achievement Tests and teacher grades in various academic subjects. As emphasized in the handbook, however, "these validity data are specific to the particular school system from which they were obtained and may not necessarily apply to school systems with characteristics

which differ markedly from those of the school systems participating in the reported studies" (1969, p. 29).

Attempts at determining construct validity of the Otis-Lennon Mental Ability Test involved obtaining correlations between the Otis-Lennon Mental Ability Test and other relevant measures, for example, Stanford-Binet Intelligence Scale, California Test of Mental Maturity, Lorge-Thorndike Intelligence Tests, Differential Aptitude Test designed to assess similar aspects of the same trait, namely general scholastic aptitude.

Buros Mental Measurement Yearbook (1972) provides a critique of the Otis-Lennon Mental Ability Test. Construction and norming are described as adhering to the "highest level of current standards" (p. 690). Design of the test booklets, as well as administration and scoring of the test itself, is seen as a positive feature. Particular mention is made of Otis-Lennon Mental Ability Test efforts to control for reliability levels, thus not handicapping the individual with reading difficulties. Standardization is felt to be broad and representative. Test-retest reliability, after one year, is reported as "promising" (p. 691). In general, alternate-forms and split-half reliability techniques are satisfying enough to warrant the statement "substantial evidence is provided to indicate that the Otis-Lennon is highly reliable" (p. 692).

One reviewer criticizes the claimed construct

validity of the Otis-Lennon Mental Ability Test, suggesting that the correlation data used to support such validity is inconclusive. Other critiques present validity correlation coefficients as within "expected magnitudes" with some indicating "substantial relationships with composite or total scores" (p. 692).

The validity research was wide-ranged and abundant data are provided. The test relates adequately with educational criteria and with other measures of general scholastic aptitude. The Otis-Lennon test should perform well the function it is intended to serve (p. 691).

Administration of the Otis-Lennon Mental Ability Test takes place in seventh grade. Therefore, while these scores could be considered neither recent nor precise measures of mental ability, they were seen as useful indicators of intelligence for purposes of this study.

Procedure

A representative regional junior and senior high school in rural western Massachusetts participated in this study. The Humor and Wit Appreciation Scale booklet was distributed to subjects as a group during a regular classroom period. Administration was approximately 15-20 minutes, although the instrument was untimed. Subjects were instructed as follows:

Different people find different things amusing.

The purpose of this activity is to find out what

each of you, as individuals, finds funny and not funny.

Please rate each cartoon on a scale of 1 to 6. A rating of 1 would mean that you found the cartoon "not funny at all," 2 - "not very funny," 3 - "mediocre," 4 - "funny," 5 - "very funny," and 6 - "extremely funny." Circle only one number rating for each cartoon in your booklet. There are no right or wrong responses so mark your spontaneous reaction. There is no time limit, but people usually take about 15 minutes.

Please be sure to indicate your name, month, day, year of birth and whether you are male or female on the test booklet. Information gathered from this study will be coded and used for research purposes only and all data and names will be kept confidential.

The Gordon Personal Profile (1963a) was administered to subjects as a group during a regular classroom period. It is essentially self administered with directions printed on the test booklet. Subjects were instructed as follows:

This is not like a usual test. There are no right or wrong answers, each person just tells about himself or herself. You are to mark, by blackening in, the one item in each group of four that is most

like you and the one item least like you. Two statements will be left unmarked in each group. Do this for every set. There is no time limit, but people usually take about 15 minutes.

Please be sure to indicate your name, month, day, and year of birth and whether you are male or female on the test booklet. Information gathered from this study will be coded and used for research purposes only and all data and names will be kept confidential.

Appropriate school personnel were requested by the investigator to complete a Teacher Rating Scale based on contact with students. Instructions were given on an individual basis as follows:

Please respond to the statements on the Teacher Rating Scale as best you can based on your knowledge of the student. Consider each statement in terms of how typical it is of the particular student as you know her or him. If the statement is not at all typical of the student put an X in front of "not at all." If the statement is not very typical mark "not very." If the statement is typical mark "typical." If the statement is very typical mark "very." If the statement is extremely typical mark "extremely." Please respond to all statements. Please indicate the

student's name, month, day, year of birth and whether the student is male or female on the top of the page. Information gathered from this study will be coded and used for research purposes only and all data and names will be kept confidential.

Otis-Lennon Mental Ability Test (1967a) deviation IQ scores were collected from student cumulative record files.

Analysis of Data

Hypotheses 1 and 2 were analyzed by pearson correlation. One-tailed test of statistical significance, universally applied to each pearson correlation coefficient in SPSS programming, was selected due to investigator expectations regarding direction of the hypothesized relationship.

Hypotheses 2 and 3 were analyzed by a 2x2 multiple analysis of variance design. Subjects' scores were divided at the median into intelligence groups, below average and above average. Overall intelligence scores ranged from 78 to 138 with a median of 105. Individuals scoring 78 to 105 comprised the below average intelligence group; individuals scoring 107 to 138 the above average intelligence group. The mean intelligence score was 106 with a standard deviation of 13.584. Modes were 105, 118, 121.

For purposes of this study overall below and above average intelligence groupings were selected rather than standard deviation or percentile rank groupings based on more stringent requirements. Sample size 90, as well as a positively skewed distribution, did not allow for more rigid below and above average groupings, eliminating consideration of average scores, nor was this the intent. That is, if Otis-Lennon Mental Ability Test scores were interpreted "below average" - 87 and below and "above average" - 112 and above (1967b, p. 16), there would be 8 below average scores and 34 above average scores based on data collection from this sample population. The interest of this investigation was the exploration of humor and hostile wit appreciation differences existing between generally below average and generally above average intelligence groups. The focus was on differences within essentially average, rather than more extreme "low"/"high," score groupings.

Hypothesis 5 was analyzed by multiple regression analysis, stepwise regression method. This statistical technique was chosen due to the correlational nature of this study since neither random assignment of subjects to experimental treatments nor equal group size was possible.

Following leads suggested in hypothesis testing, two additional questions were asked of the data and analyzed by a 2x2x2 multiple analysis of variance design.

Levels of adjustment were introduced and studied independently and in combination with intelligence and sex to determine the effect on humor and hostile wit appreciation. In addition, humor and hostile wit cartoons were broken down by sex of the central cartoon character to determine the effect on humor and hostile wit appreciation. As with intelligence, independent Gordon Personal Profile and Teacher Rating Scale traits ascendancy, responsibility, emotional stability, sociability, and total score were divided at the median into below average and above average groups. These dichotomous groupings seemed appropriate due to the flexible nature of Gordon Personal Profile scoring and the fact that the focus of this study was on differences within essentially average, rather than more extreme "low"/"high," score groupings.

In an attempt to control for unequal group size, independent variables were entered into the equation with the most predictive variable listed last. That is, based on results of hypothesis 5 testing, humor appreciation was analyzed by sex, adjustment, and intelligence and hostile wit appreciation was analyzed by intelligence, adjustment, and sex, since intelligence was shown to be most highly related to humor appreciation and sex to hostile wit appreciation.

Two-tailed test of statistical significance was applied to all independent and paired t-test comparisons.

Only the conventional .05 significance level, or less, was considered acceptable when analyzing results in terms of statistical significance.

Statistical package for the Social Sciences (SPSS), CDC cyber 175, version 8.0 - June 1979, was the system of computer programming used to analyze all data at the University of Massachusetts Computing Center. Data was given to SPSS on computer cards and read through a card reader.

C H A P T E R I V

RESULTS

This exploratory study was designed to (1) provide data on the relationship between personality adjustment traits and measures of appreciation of humor and hostile wit as conceptualized in psychoanalytic theory and (2) provide data on the independent and interactive relationship between the variables personality adjustment, sex, and intelligence and dependent measures of appreciation of humor and hostile wit.

Hypothesis 1

The first hypothesis stated: a statistically significant positive relationship will exist between ratings on independent personality traits ascendancy, responsibility, emotional stability, sociability, and total score (measured by Gordon Personal Profile, 1963a and a Teacher Rating Scale) and measures of appreciation of humor (measured by the Humor and Wit Appreciation Scale).

An inspection of pearson correlation coefficients, presented in Table 1, indicates that this hypothesis could be supported in part. In terms of statistically significant correlations, measures of appreciation of humor were

TABLE 1

CORRELATIONS OF GORDON PERSONAL PROFILE AND TEACHER
RATING SCALE ADJUSTMENT TRAITS WITH
HUMOR APPRECIATION

Adjustment Traits	Humor Appreciation
Gordon Personal Profile	
Ascendancy	.0510
Responsibility	-.0886
Emotional Stability	.0075
Sociability	.0667
Total Score	.0154
Teacher Rating Scale	
Ascendancy	.2766**
Responsibility	.1364
Emotional Stability	.2461*
Sociability	.2665*
Total Score	.2930**

* $\underline{p} < .01$, one-tailed test

** $\underline{p} < .005$, one-tailed test

most highly related to Teacher Rating Scale traits: ascendancy .2766, emotional stability .2461, sociability .2665, and total score .2930. High scores on adjustment corresponded with high scores on humor appreciation and low scores on adjustment corresponded with low scores on humor appreciation. However, despite statistical significance, the extent to which specific adjustment ratings on the Teacher Rating Scale were correlated with measures of appreciation of humor was rather weak. With the strongest common factor variance between adjustment ratings and humor appreciation being only 8%, it was suggested that only a small amount of the variance in humor appreciation could be accounted for by variation in adjustment. Specifically, knowing how an individual scored on Teacher Rating Scale adjustment ratings ascendancy, emotional stability, sociability, and total score contributed to the prediction of how that individual would score on humor appreciation measures, but this determination, while not unimportant, was somewhat limited.

Hypothesis 2

The second hypothesis stated: a statistically significant negative relationship will exist between ratings on independent personality traits ascendancy, responsibility, emotional stability, sociability, and total score (measured by Gordon Personal Profile, 1963a and a Teacher

Rating Scale) and measures of appreciation of hostile wit (measured by the Humor and Wit Appreciation Scale).

It can be seen from an examination of Table 2 that this hypothesis could not be supported. Only slight tendencies toward a negative relationship existed between the following adjustment traits and hostile wit appreciation: Gordon Personal Profile--ascendancy $-.0433$, responsibility $-.1061$, emotional stability $-.1042$, total score $-.0748$; Teacher Rating Scale--responsibility $-.1233$, emotional stability $-.0377$, total score $-.0032$. While certain expected negative correlation coefficients were observed, they were very weak and inconsistent.

Hypothesis 3

The third hypothesis stated: no statistically significant difference will exist between below average and above average intelligence (measured by the Otis-Lennon Mental Ability Test, 1967a), sex, and interaction of intelligence and sex and measures of appreciation of humor (measured by the Humor and Wit Appreciation Scale).

Hypothesis 3 could not be rejected. Table 3 presents results of analysis of variance for the main and interactive effects of intelligence and sex and measures of appreciation of humor. Examination of F ratios reveals that no significant between group differences ($p > .05$) existed for the independent variables intelligence and sex

TABLE 2

CORRELATIONS OF GORDON PERSONAL PROFILE AND TEACHER
RATING SCALE ADJUSTMENT TRAITS WITH
HOSTILE WIT APPRECIATION

Adjustment Traits	Hostile Wit Appreciation ^a
Gordon Personal Profile	
Ascendancy	-.0433
Responsibility	-.1061
Emotional Stability	-.1042
Sociability	.0261
Total Score	-.0748
Teacher Rating Scale	
Ascendancy	.1192
Responsibility	-.1233
Emotional Stability	-.0377
Sociability	.0409
Total Score	-.0032

^aNo results were significant ($p > .05$).

TABLE 3
 ANALYSES OF VARIANCE OF HUMOR BY
 INTELLIGENCE AND SEX

Group ^a	df	MS	F ^b
IQ	1	127.620	1.876
Sex	1	1.164	.017
IQ by Sex	1	70.522	1.037
Error	86	68.020	

^aIQ = Intelligence

^bNo results were significant ($p > .05$).

in terms of appreciation of humor.

Means and standard deviations are presented in Table 4.

Hypothesis 4

The fourth hypothesis stated: no statistically significant difference will exist between below average and above average intelligence (measured by the Otis-Lennon Mental Ability Test, 1967a), sex, and interaction of intelligence and sex and measures of appreciation of hostile wit (measured by the Humor and Wit Appreciation Scale).

Hypothesis 4 could not be rejected, as indicated by non significant ($p > .05$) F ratios presented in Table 5. No significant between group differences therefore existed for the independent variables intelligence and sex in terms of measures of appreciation of hostile wit.

Data offered in Table 6 allow for an examination of the means and standard deviations for the four groups. Mean hostile wit scores are observed to be quite similar in each case.

Hypothesis 5

The fifth hypothesis stated: no statistically significant relationship will exist between the variables personality adjustment (measured by Gordon Personal Profile, 1963a and a Teacher Rating Scale), intelligence

TABLE 4
MEAN HUMOR BY INTELLIGENCE AND SEX

Intelligence	Sex		
	Male	Female	
Below ^a	37.1 (23)	38.6 (25)	37.88 ^b
Above	41.3 (22)	39.2 (20)	40.30
	39.15	38.87	

Note: Maximum Score = 72.

^aBelow refers to scores at and below the median, above to scores above the median.

^bMarginal means calculated from table means.

TABLE 5
ANALYSES OF VARIANCE OF HOSTILE WIT BY
SEX AND INTELLIGENCE

Group ^a	df	MS	F ^b
IQ	1	17.851	.319
Sex	1	119.921	2.142
IQ by Sex	1	68.737	1.228
Error	86	55.994	

^aIQ = Intelligence

^bNo results were significant ($p > .05$).

TABLE 6
MEAN HOSTILE WIT BY INTELLIGENCE AND SEX

Intelligence	Sex		
	Male	Female	
Below ^a	43.6 (23)	44.2 (25)	43.91 ^b
Above	42.8 (22)	47.0 (20)	44.80
	43.21	45.44	

Note: Maximum Score = 72.

^aBelow refers to scores at and below the median, above to scores above the median.

^bMarginal means calculated from table means.

(measured by the Otis-Lennon Mental Ability Test, 1967a), and sex and dependent measures of appreciation of humor and hostile wit (measured by the Humor and Wit Appreciation Scale).

As evidenced by multiple regression, stepwise method, F ratios did not reach statistical significance, $p > .05$. Hypothesis 5 could not be rejected. Data is reported in Tables 7 and 8. No statistically significant relationship was found to exist between independent and dependent measures. Personality adjustment, intelligence, and sex were found to be inadequate contributors to appreciation of humor and hostile wit. While intelligence and sex were found to have the strongest relationship with appreciation of humor and hostile wit, respectively, these relationships were weak and inconsistent and in each case accounted for only a small amount, 2%, of the differences between the two variables. Knowing whether an individual was below average or above average on intelligence, in the case of humor appreciation, or whether an individual was male or female, in the case of hostile wit appreciation, was important, but by itself insufficient predictive information. There were other contributory factors, that is, other independent variables than personality adjustment measured by the Gordon Personal Profile and Teacher Rating Scale, intelligence, and sex determining humor and hostile wit appreciation.

TABLE 7
 SUMMARY TABLE OF INDEPENDENT MEASURES WITH
 DEPENDENT MEASURE HUMOR

Variable ^a	Multiple R	R Square	Simple R	F ^b
Intelligence	.163	.027	.163	2.416
GPP-Responsibility	.181	.033	-.089	1.475
Gordon Total Score	.205	.042	.015	1.258
GPP-Ascendancy	.213	.045	.051	1.005
GPP-Emotional Stability	.213	.045	.008	.800

^aGPP = Gordon Personal Profile

^bNo results were significant ($p > .05$).

TABLE 8

SUMMARY TABLE OF INDEPENDENT MEASURES WITH
DEPENDENT MEASURE HOSTILE WIT

Variable ^a	Multiple R	R Square	Simple R	F ^b
Sex	.152	.023	.152	2.073
TRS-Ascendancy	.206	.042	.119	1.928
TRS-Responsibility	.261	.068	-.123	2.103
GPP-Responsibility	.276	.076	-.106	1.752
Intelligence	.294	.087	-.073	1.591
GPP-Ascendancy	.298	.089	-.043	1.349
Gordon Total Score	.304	.093	-.075	1.194
Teacher Total Score	.307	.094	-.003	1.054
TRS-Emotional Stability	.310	.096	-.038	.945
TRS-Sociability	.317	.101	.041	.886

^aTRS = Teacher Rating Scale. GPP = Gordon Personal Profile.

^bNo results were significant ($p > .05$).

Additional Data Questions

In an attempt to follow up and clarify leads suggested in hypothesis testing, two additional questions were asked of the data.

Ratings on Gordon Personal Profile and Teacher Rating Scale independent personality adjustment traits ascendancy, responsibility, emotional stability, sociability, and total score were divided into two groups at their respective medians to examine if below and above average adjustment, in combination with intelligence and sex, was a determining factor in humor and hostile wit appreciation. In addition to overall humor and hostile wit categorization, Humor and Wit Appreciation Scale cartoons were subdivided by sex of the central character as either a female or male rising above a stressful situation in humor or being the butt of aggressive or insulting joking in hostile wit to examine if sex of the central cartoon character was a determining factor in humor and hostile wit appreciation. The simultaneous interaction of intelligence, sex, and adjustment groupings was analyzed by a 2x2x2 analysis of variance design in terms of dependent measures of humor and hostile wit appreciation broken down by sex of the central cartoon character.

Question 1. Question 1 stated: does a statistically significant difference exist between sex; below and above

average ratings on Gordon Personal Profile and Teacher Rating Scale independent personality adjustment traits ascendancy, responsibility, emotional stability, sociability, and total score; below and above average intelligence; interaction of sex, adjustment and intelligence and measures of appreciation of overall humor; humor, female rising above stress; and humor, male rising above stress?

With the introduction of below and above average independent adjustment trait groups, as well as the division of humor by sex of the central cartoon figure, significant group differences for certain variable combinations were observed.

A comparison of the individual and combined humor appreciation group means for sex, below and above average Gordon Personal Profile-ascendancy and Gordon total score ratings, and below and above average intelligence, indicated a statistically significant main effect difference for intelligence groups respectively, $F(1,82) = 3.915$, $p < .05$ and $F(1,82) = 3.939$, $p < .05$. Individuals of above average intelligence showed significantly greater appreciation of humor, male rising above stress, than individuals of below average intelligence in each case. Tables 9-12 present data to support this finding.

Below and above average adjustment groups, as measured by Teacher Rating Scale-ascendancy, contributed significantly to differences in both humor, male rising above

TABLE 9

ANALYSES OF VARIANCE OF HUMOR, MALE RISING
ABOVE STRESS, BY SEX, GORDON PERSONAL
PROFILE--ASCENDANCY, AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	26.643	
Sex	1	37.378	1.403
GPP-A	1	8.795	.330
IQ	1	104.308	3.915*
Sex by GPP-A	1	13.148	.493
Sex by IQ	1	15.580	.585
GPP-A by IQ	1	31.543	1.184
Sex by GPP-A by IQ	1	1.133	.043

^aGPP-A = Gordon Personal Profile-Ascendancy. IQ = Intelligence.

^bp<.05.

TABLE 10
 ANALYSES OF VARIANCE OF HUMOR, MALE RISING
 ABOVE STRESS, BY SEX, GORDON TOTAL SCORE,
 AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	26.895	
Sex	1	37.378	1.390
GTS	1	3.990	.148
IQ	1	105.949	3.939*
Sex by GTS	1	1.036	.039
Sex by IQ	1	20.037	.745
GTS by IQ	1	22.789	.847
Sex by GTS by IQ	1	.086	.003

^aGTS = Gordon Total Score. IQ = Intelligence.

^b $p < .05$.

TABLE 11
 MEAN HUMOR, MALE RISING ABOVE STRESS, BY SEX,
 GORDON PERSONAL PROFILE-ASCENDANCY,
 AND INTELLIGENCE

Sex	GPP-Ascendancy ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	23.1 (13)	27.7 (7)	24.0 (10)	25.7 (15)
Female	23.5 (13)	25.8 (9)	22.7 (12)	23.0 (11)
	23.29 ^c		25.35	

Note: Maximum Score = 42.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means. 23.29 is the Below Intelligence group mean. 25.35 is the Above Intelligence group mean.

TABLE 12

MEAN HUMOR, MALE RISING ABOVE STRESS, BY SEX,
GORDON TOTAL SCORE, AND INTELLIGENCE

Sex	GPP-Ascendancy ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	23.5 (15)	27.9 (7)	23.5 (8)	25.7 (15)
Female	23.1 (15)	25.3 (10)	23.0 (10)	23.2 (10)
			23.27 ^b	25.38

Note: Maximum Score = 42.

^aBelow refers to scores at and below the median, above to scores above the median.

^bMarginal means calculated from table means. 23.27 is the Below Intelligence group mean. 25.38 is the Above Intelligence group mean.

stress, and overall humor appreciation respectively, $F(1,82) = 5.377, p < .05$ and $F(1,82) = 4.228, p < .05$. Tables 13 and 14 this data.

Furthermore, as represented in Tables 15 and 16, it was consistently the above average Teacher Rating Scale-ascendancy group, rather than the below average group, displaying the greater appreciation.

When the independent and interactive effects of sex, below and above average Gordon Personal Profile-sociability, and below and above average intelligence were analyzed, a statistically significant adjustment-intelligence interactive effect occurred in terms of both overall humor appreciation and humor, female rising above stress, appreciation respectively, $F(1,82) = 6.108, p < .05$ and $F(1,82) = 8.195, p < .05$. This data is reported in Tables 17 and 18.

In each case, looking further into the data, Tables 19 and 20 reveal that the greatest difference in appreciation existed between the groups below average adjustment, above average intelligence and below average adjustment, below average intelligence. Again, as previously reported, it was specifically the above average intelligence group showing greater humor appreciation than the below average intelligence group.

As seen in Table 21, the simple interactive effect of adjustment-intelligence once more proved a significant

TABLE 13

ANALYSES OF VARIANCE OF HUMOR, MALE RISING
 ABOVE STRESS, BY SEX, TEACHER RATING
 SCALE-ASCENDANCY, AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	25.945	
Sex	1	37.378	1.441
TRS-A	1	139.507	5.377*
IQ	1	47.793	1.842
Sex by TRS-A	1	15.291	.589
Sex by IQ	1	4.844	.187
TRS-A by IQ	1	20.400	.786
Sex by TRS-A by IQ	1	3.925	.151

^aTRS-A = Teacher Rating Scale-Ascendancy. IQ = Intelligence.

*p < .05.

TABLE 14
 ANALYSES OF VARIANCE OF HUMOR BY SEX,
 TEACHER RATING SCALE-ASCENDANCY,
 AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	68.008	
Sex	1	2.500	.037
TRS-A	1	287.525	4.228*
IQ	1	53.035	.780
Sex by TRS-A	1	4.564	.067
Sex by IQ	1	44.587	.656
TRS-A by IQ	1	55.725	.819
Sex by TRS-A by IQ	1	24.361	.358

^aTRS-A = Teacher Rating Scale-Ascendancy. IQ = Intelligence.

* $p < .05$.

TABLE 15
 MEAN HUMOR, MALE RISING ABOVE STRESS, BY SEX,
 TEACHER RATING SCALE-ASCENDANCY,
 AND INTELLIGENCE

Sex	TRS-Ascendancy ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	22.8 (13)	22.8 (5)	24.4 (10)	27.4 (17)
Female	22.7 (15)	23.1 (9)	23.6 (10)	25.2 (11)
	22.83 ^c		25.48	

Note: Maximum Score = 42.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means.

TABLE 16
 MEAN HUMOR BY SEX, TEACHER RATING SCALE-ASCENDANCY,
 AND INTELLIGENCE

Sex	TRS-Ascendancy ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	36.8 (13)	36.2 (5)	37.6 (10)	42.8 (17)
Female	37.6 (15)	37.1 (9)	40.0 (10)	40.8 (11)
	37.08 ^c		40.68	

Note: Maximum Score = 72.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means.

TABLE 17
 ANALYSES OF VARIANCE OF HUMOR BY SEX,
 GORDON PERSONAL PROFILE-SOCIABILITY,
 AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	65.582	
Sex	1	2.500	.038
GPP-S	1	63.088	.962
IQ	1	105.281	1.605
Sex by GPP-S	1	30.837	.470
Sex by IQ	1	53.384	.814
GPP-S by IQ	1	400.569	6.108*
Sex by GPP-S by IQ	1	15.577	.238

^aGPP-S = Gordon Personal Profile-Sociability. IQ = Intelligence.

* $p < .05$.

TABLE 18

ANALYSES OF VARIANCE OF HUMOR, FEMALE RISING
ABOVE STRESS, BY SEX, GORDON PERSONAL
PROFILE-SOCIABILITY, AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	16.196	
Sex	1	20.544	1.269
GPP-S	1	.719	.044
IQ	1	2.328	.144
Sex by GPP-S	1	17.450	1.077
Sex by IQ	1	14.280	.882
GPP-S by IQ	1	132.723	8.195*
Sex by GPP-S by IQ	1	7.039	.435

^aGPP-S = Gordon Personal Profile-Sociability. IQ = Intelligence.

* $p < .05$.

TABLE 19
 MEAN HUMOR BY SEX, GORDON PERSONAL
 PROFILE-SOCIABILITY, AND
 INTELLIGENCE

Sex	GPP-Sociability ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	34.9 (14)	42.0 (9)	40.6 (9)	40.8 (13)
Female	36.2 (13)	42.1 (9)	41.1 (12)	36.7 (11)
	35.53 ^c	42.05	40.89	38.92

Note: Maximum Score = 72.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means.

TABLE 20
 MEAN HUMOR, FEMALE RISING ABOVE STRESS,
 BY SEX, GORDON PERSONAL PROFILE-
 SOCIABILITY AND INTELLIGENCE

Sex	GPP-Sociability ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	12.1 (14)	16.2 (9)	16.0 (9)	14.0 (13)
Female	15.0 (13)	16.4 (9)	16.0 (12)	13.6 (11)
	13.49 ^c	16.30	16.00	13.81

Note: Maximum Score = 30.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means.

TABLE 21

ANALYSES OF VARIANCE OF HUMOR, FEMALE RISING
 ABOVE STRESS, BY SEX, GORDON PERSONAL
 PROFILE-ASCENDANCY, AND INTELLIGENCE

Group ^a	df	MS	F
Error	82	17.006	
Sex	1	20.544	1.208
GPP-A	1	.345	.020
IQ	1	3.034	.178
Sex by GPP-A	1	23.192	1.364
Sex by IQ	1	13.745	.809
GPP-A by IQ	1	67.989	3.999*
Sex by GPP-A by IQ	1	.220	.013

^aGPP-A = Gordon Personal Profile-Ascendancy. IQ = Intelligence.

* $\underline{p} < .05$.

combination, this time for Gordon Personal Profile-ascendancy and measures of humor, female rising above stress, $F(1,82) = 3.999$, $p < .05$.

Upon examining Table 22, it becomes apparent that again the most discriminating group difference was between the below average adjustment, above average intelligence group and the below average adjustment, below average intelligence group rather than between any of the other possible combinations. Precisely, it was above average intelligence groups who displayed greater appreciation for humor, female rising above stress, than below average intelligence groups.

Question 2. Question 2 stated: does a statistically significant difference exist between below and above average intelligence; below and above average ratings on independent personality adjustment traits ascendancy, responsibility, emotional stability, sociability, and total score; and sex; and interaction of intelligence, adjustment, and sex and measures of appreciation of overall hostile wit; hostile wit, female as butt; and hostile wit, male as butt?

For independent variable groupings intelligence, all Gordon Personal Profile and Teacher Rating Scale adjustment trait ratings, except responsibility, that is, ascendancy, emotional stability, sociability, and total score, and sex, a significant main effect sex difference

TABLE 22

MEAN HUMOR, FEMALE RISING ABOVE STRESS, BY SEX,
GORDON PERSONAL PROFILE-ASCENDANCY,
AND INTELLIGENCE

Sex	GPP-Ascendancy ^a			
	Below ^b		Above	
	Intelligence		Intelligence	
	Below	Above	Below	Above
Male	12.6 (13)	15.9 (7)	15.0 (10)	14.5 (15)
Female	15.3 (13)	16.6 (9)	15.7 (12)	13.5 (11)
	13.95 ^c	16.29	15.38	14.08

Note: Maximum Score = 30.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means.

was indicated for measures of appreciation of hostile wit, male as butt, $F(1,82) = 4.404$, $p < .05$. Tables 23-30 contain data supporting significant sex group variance.

An examination of hostile wit appreciation means for males and females, Tables 31-38, indicates that it was females consistently demonstrating greater appreciation of hostile wit, male as butt, as compared to males.

When below and above average ratings on intelligence, below and above average ratings on Teacher Rating Scale and Gordon Personal Profile--responsibility, and sex were analyzed in terms of hostile wit, male as butt, and overall hostile wit appreciation, it was no longer sex alone that contributed to significant group differences, but rather the interaction of adjustment and sex. As presented in Tables 39-42, significant differences in appreciation of hostile wit, male as butt, were determined for the combined effect Teacher Rating Scale-responsibility and sex and Gordon Personal Profile-responsibility and sex, respectively, $F(1,82) = 3.848$, $p < .05$ and $F(1,82) = 3.955$, $p < .05$. Similarly, for overall appreciation of hostile wit, significant group differences resulted from the interaction Gordon Personal Profile-responsibility and sex and Teacher Rating Scale-responsibility and sex, respectively, $F(1,82) = 4.843$, $p < .05$ and $F(1,82) = 3.791$, $p < .05$.

Inspecting hostile wit appreciation means in Tables 43-46 reveals that in three of the four instances it was

TABLE 23

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, GORDON PERSONAL
PROFILE-ASCENDANCY, AND SEX

Group ^a	df	MS	F
Error	82	17.057	
IQ	1	28.051	1.645
GPP-A	1	20.393	1.196
Sex	1	101.930	5.976*
IQ by GPP-A	1	18.846	1.105
IQ by Sex	1	.004	.000
GPP-A by Sex	1	.547	.032
IQ by GPP-A by Sex	1	54.714	3.208

^aGPP-A = Gordon Personal Profile-Ascendancy. IQ = Intelligence.

* $p < .05$.

TABLE 24

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, GORDON PERSONAL PROFILE-EMOTIONAL
STABILITY, AND SEX

Group ^a	df	MS	F
Error	82	17.673	
IQ	1	28.051	1.587
GPP-E	1	2.500	.141
Sex	1	102.767	5.815*
IQ by GPP-E	1	15.150	.857
IQ by Sex	1	.008	.000
GPP-E by Sex	1	25.347	1.434
IQ by GPP-E by Sex	1	.115	.007

^aGPP-E = Gordon Personal Profile-Emotional Stability.
IQ = Intelligence.

* $p < .05$.

TABLE 25

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
 BY INTELLIGENCE, GORDON PERSONAL PROFILE-
 SOCIABILITY, AND SEX

Group ^a	df	MS	F
Error	82	17.726	
IQ	1	28.051	1.582
GPP-S	1	.033	.002
Sex	1	105.459	5.950*
IQ by GPP-S	1	30.345	1.712
IQ by Sex	1	.380	.021
GPP-S by Sex	1	1.060	.060
IQ by GPP-S by Sex	1	4.266	.241

^aGPP-S = Gordon Personal Profile-Sociability. IQ = Intelligence.

* $p < .05$.

TABLE 26

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, GORDON TOTAL SCORE, AND SEX

Group ^a	df	MS	F
Error	82	17.783	
IQ	1	28.051	1.577
GTS	1	12.448	.700
Sex	1	101.426	5.703*
IQ by GTS	1	4.426	.249
IQ by Sex	1	.001	.000
GTS by Sex	1	15.923	.895
IQ by GTS by Sex	1	2.614	.147

^aGTS = Gordon Total Score. IQ = Intelligence.

* $\underline{p} < .05$.

TABLE 27

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, TEACHER RATING SCALE-ASCENDANCY,
AND SEX

Group ^a	df	MS	F
Error	82	17.838	
IQ	1	28.051	1.572
TRS-A	1	6.481	.363
Sex	1	113.812	6.380*
IQ by TRS-A	1	.021	.001
IQ by Sex	1	.826	.046
TRS-A by Sex	1	9.383	.526
IQ by TRS-A by Sex	1	1.792	.100

^aTRS-A = Teacher Rating Scale-Ascendancy. IQ = Intelligence.

*p < .01.

TABLE 28

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, TEACHER RATING SCALE-EMOTIONAL
STABILITY, AND SEX

Group ^a	df	MS	F
Error	82	17.287	
IQ	1	28.051	1.623
TRS-E	1	48.172	2.787
Sex	1	76.136	4.404*
IQ by TRS-E	1	8.213	.475
IQ by Sex	1	.695	.040
TRS-E by Sex	1	.934	.054
IQ by TRS-E by Sex	1	43.407	2.511

^aTRS-E = Teacher Rating Scale-Emotional Stability.
IQ = Intelligence.

* $\underline{p} < .05$.

TABLE 29

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, TEACHER RATING SCALE-SOCIABILITY,
AND SEX

Group ^a	df	MS	F
Error	82	17.525	
IQ	1	28.051	1.601
TRS-S	1	1.839	.105
Sex	1	106.555	6.080*
IQ by TRS-S	1	26.429	1.509
IQ by Sex	1	.054	.003
TRS-S by Sex	1	13.782	.786
IQ by TRS-S by Sex	1	9.372	.535

^aTRS-S = Teacher Rating Scale-Sociability. IQ = Intelligence.

* $p < .05$.

TABLE 30

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, TEACHER TOTAL SCORE, AND SEX

Group ^a	df	MS	F
Error	82	17.853	
IQ	1	28.051	1.571
TTS	1	11.077	.620
Sex	1	96.683	5.416*
IQ by TTS	1	3.413	.191
IQ by Sex	1	.005	.000
TTS by Sex	1	2.335	.131
IQ by TTS by Sex	1	17.629	.987

^aTTS = Teacher Total Score. IQ = Intelligence.

* $p < .05$.

TABLE 31

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
GORDON PERSONAL PROFILE-ASCENDANCY, AND SEX

Intelligence	GPP-Ascendancy ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	18.7 (13)	21.9 (13)	20.0 (10)	20.7 (12)
Above	23.0 (7)	22.7 (9)	19.1 (15)	22.6 (11)
			19.79 ^c	21.91

Note: Maximum Score = 36.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means. 19.79 is the male mean. 21.91 is the female mean.

TABLE 32
 MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
 GORDON PERSONAL PROFILE-EMOTIONAL STABILITY,
 AND SEX

Intelligence	GPP-Emotional Stability ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	19.5 (10)	20.5 (14)	19.1 (13)	22.3 (11)
Above	22.4 (9)	22.6 (12)	19.6 (13)	22.8 (8)
			19.99 ^c	21.91

Note: Maximum Score = 36.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means. 19.99 is the male mean. 21.91 is the female mean.

TABLE 33

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
GORDON PERSONAL PROFILE-SOCIABILITY, AND SEX

Intelligence	GPP-Sociability ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	18.8 (14)	20.9 (13)	20.0 (9)	21.8 (12)
Above	21.6 (9)	23.0 (9)	19.5 (13)	22.4 (11)
			19.80 ^c	21.93

Note: Maximum Score = 36.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means. 19.80 is the male mean. 21.93 is the female mean.

TABLE 34
 MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
 GORDON TOTAL SCORE, AND SEX

Intelligence	Gordon Total Score			
	Below ^a		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	19.5 (15)	21.2 (15)	18.8 (8)	21.5 (10)
Above	22.0 (7)	22.6 (10)	19.6 (15)	22.7 (10)
			19.80 ^b	21.91

Note: Maximum Score = 36.

^aBelow refers to scores at and below the median; above to scores above the median.

^bMarginal means calculated from table means. 19.80 is the male mean. 21.91 is the female mean.

TABLE 35

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
TEACHER RATING SCALE-ASCENDANCY, AND SEX

Intelligence	TRS-Ascendancy ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	18.5 (13)	21.3 (15)	20.3 (10)	21.3 (10)
Above	19.4 (5)	22.3 (9)	20.6 (17)	22.9 (11)
			19.79 ^c	21.89

Note: Maximum Score = 36.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means. 19.79 is the male mean. 21.89 is the female mean.

TABLE 36

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
TEACHER RATING SCALE-EMOTIONAL STABILITY,
AND SEX

Intelligence	TRS-Emotional Stability ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	18.8 (13)	21.9 (18)	19.9 (10)	19.9 (7)
Above	22.4 (7)	22.7 (14)	19.4 (15)	22.5 (6)
			19.80 ^c	21.92

Note: Maximum Score = 36.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means. 19.80 is the male mean. 21.92 is the female mean.

TABLE 37

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
TEACHER RATING SCALE-SOCIABILITY, AND SEX

Intelligence	TRS-Sociability ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	18.7 (12)	20.8 (16)	19.9 (11)	22.3 (9)
Above	21.5 (11)	22.2 (9)	19.3 (11)	23.0 (11)
			19.82 ^c	21.92

Note: Maximum Score = 36.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means. 19.82 is the male mean. 21.92 is the female mean.

TABLE 38

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
TEACHER TOTAL SCORE, AND SEX

Intelligence	Teacher Total Score			
	Below ^a		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	19.1 (15)	21.5 (17)	19.6 (8)	21.0 (8)
Above	22.2 (5)	22.5 (11)	19.8 (17)	22.9 (9)
			19.80 ^b	21.94

Note: Maximum Score = 36.

^aBelow refers to scores at and below the median; above to scores above the median.

^bMarginal means calculated from table means. 19.80 is the male mean. 21.94 is the female mean.

TABLE 39

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS
 BUTT, BY INTELLIGENCE, TEACHER RATING
 SCALE-RESPONSIBILITY, AND SEX

Group ^a	df	MS	F
Error	82	16.748	
IQ	1	28.051	1.675
TRS-R	1	54.715	3.267
Sex	1	83.167	4.966*
IQ by TRS-R	1	6.892	.412
IQ by Sex	1	1.437	.086
TRS-R by Sex	1	64.444	3.848*
IQ by TRS-R by Sex	1	11.090	.662

^aTRS-R = Teacher Rating Scale-Responsibility. IQ = Intelligence.

*p<.05.

TABLE 40

ANALYSES OF VARIANCE OF HOSTILE WIT, MALE AS BUTT,
BY INTELLIGENCE, GORDON PERSONAL PROFILE-
RESPONSIBILITY, AND SEX

Group ^a	df	MS	F
Error	82	16.290	
IQ	1	28.051	1.722
GPP-R	1	19.532	1.199
Sex	1	105.363	6.468**
IQ by GPP-R	1	65.559	4.025*
IQ by Sex	1	.094	.006
GPP-R by Sex	1	64.434	3.955*
IQ by GPP-R by Sex	1	4.323	.265

^aGPP-R = Gordon Personal Profile-Responsibility. IQ = Intelligence.

** $\underline{p} < .01$.

* $\underline{p} < .05$.

TABLE 41

ANALYSES OF VARIANCE OF HOSTILE WIT, BY INTELLIGENCE,
GORDON PERSONAL PROFILE-RESPONSIBILITY, AND SEX

Group ^a	df	MS	F
Error	82	52.112	
IQ	1	17.857	.343
GPP-R	1	57.052	1.095
Sex	1	120.097	2.305
IQ by GPP-R	1	194.971	3.741
IQ by Sex	1	62.445	1.195
GPP-R by Sex	1	252.402	4.843*
IQ by GPP-R by Sex	1	44.026	.845

^aGPP-R = Gordon Personal Profile-Responsibility. IQ = Intelligence.

* $p < .05$.

TABLE 42

ANALYSES OF VARIANCE OF HOSTILE WIT BY INTELLIGENCE,
TEACHER RATING SCALE-RESPONSIBILITY, AND SEX

Group ^a	df	MS	F
Error	82	52.943	
IQ	1	17.857	.337
TRS-R	1	211.634	3.997*
Sex	1	73.398	1.386
IQ by TRS-R	1	25.360	.479
IQ by Sex	1	23.827	.450
TRS-R by Sex	1	200.728	3.791*
IQ by TRS-R by Sex	1	127.864	2.415

^aTRS-R = Teacher Rating Scale-Responsibility. IQ = Intelligence.

*p<.05.

TABLE 43

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
TEACHER RATING SCALE-RESPONSIBILITY, AND SEX

Intelligence	TRS-Responsibility ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	19.9 (15)	21.2 (16)	18.0 (8)	21.6 (9)
Above	24.2 (5)	22.5 (12)	19.2 (17)	22.9 (8)
	20.98 ^c		18.82	22.21

Note: Maximum Score = 36.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means.

TABLE 44

MEAN HOSTILE WIT, MALE AS BUTT, BY INTELLIGENCE,
GORDON PERSONAL PROFILE-RESPONSIBILITY, AND SEX

Intelligence	GPP-Responsibility ^a					
	Below ^b		Above			
	Sex		Sex			
	Male	Female	Male	Female		
Below	19.6 (12)	20.3 (12)	18.9 (11)	22.2 (13)	19.95 ^c	20.69
Above	23.0 (10)	22.9 (10)	18.2 (12)	22.4 (10)	22.95	20.11
	21.15	21.48	18.53	22.29		

Note: Maximum Score = 36.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median, above to scores above the median.

^cMarginal means calculated from table means. 19.95 is Below Intelligence, Below GPP-Responsibility group mean. 20.69 is the Below Intelligence, Above GPP-Responsibility group mean. 22.95 is the Above Intelligence, Below GPP-Responsibility group mean. 20.11 is the Above Intelligence, Above GPP-Responsibility group mean.

TABLE 45

MEAN HOSTILE WIT BY INTELLIGENCE, GORDON
PERSONAL PROFILE-RESPONSIBILITY, AND SEX

Intelligence	GPP-Responsibility ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	44.0 (12)	42.6 (12)	43.1 (11)	45.8 (13)
Above	47.9 (10)	46.8 (10)	38.6 (12)	47.2 (10)
	45.77 ^c	44.51	40.75	46.41

Note: Maximum Score = 72.

^aGPP = Gordon Personal Profile.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means.

TABLE 46

MEAN HOSTILE WIT BY INTELLIGENCE, TEACHER
RATING SCALE-RESPONSIBILITY, AND SEX

Intelligence	TRS-Responsibility ^a			
	Below ^b		Above	
	Sex		Sex	
	Male	Female	Male	Female
Below	44.5 (15)	44.6 (16)	41.8 (8)	43.7 (9)
Above	50.8 (5)	46.3 (12)	40.5 (17)	48.1 (8)
	46.08 ^c	45.33	40.92	45.77

Note: Maximum Score = 72.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means.

females scoring above average on responsibility showing greatest appreciation for both overall hostile wit and hostile wit, male as butt, as compared to males scoring above average on responsibility. The one exception was the statistically significant Teacher Rating Scale-responsibility by sex combination where greatest differences in overall appreciation of hostile wit occurred between the high group, males scoring below average on responsibility, and the low group, males scoring above average on responsibility. Males scoring below average on adjustment demonstrated a preference for overall hostile wit not shown by males scoring above average on adjustment.

A closer look at Table 40 reveals that in addition to the statistically significant interaction Gordon Personal Profile-responsibility by sex, another significant interaction, intelligence by Gordon Personal Profile-responsibility, occurred for appreciation of hostile wit, male as butt, $F(1,82) = 4.025$, $p < .05$. Referring to Table 44 shows that in particular it was individuals scoring above average on intelligence, below average on responsibility showing greatest appreciation for hostile wit, male as butt. Individuals scoring below average on intelligence, below average on responsibility displayed least appreciation for this specific hostile wit. In this one case, as in the case of humor appreciation, it was the above average intelligence group showing greater

appreciation than the below average intelligence group.

For the independent variable groupings intelligence, Teacher Rating Scale-ascendancy, and sex, significant differences existed in terms of appreciation of hostile wit, female as butt. Overall mean differences existed for the interaction intelligence and sex, $F(1,82) = 3.950$, $p < .05$. More precisely, it was both below average intelligence males and above average intelligence females exhibiting greater appreciation of hostile wit, female as butt, than either above average intelligence males or below average intelligence females. Data supportive of these findings is offered in Tables 47 and 48.

Additional Information

Means and standard deviations for individual cartoons and cartoon groupings on the Humor and Wit Appreciation Scale are presented in Tables 49-51. There was little differentiation among cartoons in terms of mean funniness ratings, with 19 out of 24 cartoons receiving an average rating of "mediocre." Despite lack of discrimination among individual cartoons, however, significant differences did exist between cartoon groupings. Within the humor group, cartoons with males rising above stress were rated significantly funnier than cartoons with females rising above stress, $t(89) = 20.09$, $p < .0000$. Within the hostile wit group, cartoons with females as butt were rated

TABLE 47

ANALYSES OF VARIANCE OF HOSTILE WIT, FEMALE AS
 BUTT, BY INTELLIGENCE, TEACHER RATING
 SCALE-ASCENDANCY, AND SEX

Group ^a	df	MS	F
Error	82	18.689	
IQ	1	1.146	.061
TRS-A	1	49.783	2.664
Sex	1	2.551	.137
IQ by TRS-A	1	.000	.000
IQ by Sex	1	73.828	3.950*
TRS-A by Sex	1	4.057	.217
IQ by TRS-A by Sex	1	14.582	.780

^aTRS-A = Teacher Rating Scale-Ascendancy. IQ = Intelligence.

* $\underline{p} < .05$.

TABLE 48

MEAN HOSTILE WIT, FEMALE AS BUTT, BY INTELLIGENCE,
TEACHER RATING SCALE-ASCENDANCY, AND SEX

Intelligence	TRS-Ascendancy ^a				Marginal Mean	Marginal Mean
	Below ^b		Above			
	Sex		Sex			
	Male	Female	Male	Female		
Below	23.8 (13)	22.2 (15)	25.0 (10)	24.0 (10)	24.32 ^c	22.92
Above	19.6 (5)	23.9 (9)	23.3 (17)	24.7 (11)	22.46	24.34

Note: Maximum Score = 36.

^aTRS = Teacher Rating Scale.

^bBelow refers to scores at and below the median; above to scores above the median.

^cMarginal means calculated from table means. 24.32 is the Below Intelligence, Male group mean. 22.92 is the Below Intelligence, Female group mean. 22.46 is the Above Intelligence, Male group mean. 24.34 is the Above Intelligence, Female group mean.

TABLE 49
 MEAN AND STANDARD DEVIATION FUNNINESS RATINGS OF
 INDIVIDUAL HUMOR CARTOONS ON THE HUMOR AND
 WIT APPRECIATION SCALE

Cartoon	M	SD
#1	3.467	1.134
2	2.644	1.074
3	3.411	1.170
4	3.222	1.099
5	3.300	1.328
6	3.389	1.224
7	2.800	1.182
8	3.256	1.277
9	3.478	1.163
10	3.944	1.266
11	3.211	1.213
12	2.867	1.163

Note: Maximum Score = 6. Not in same order in scale.

TABLE 50

MEAN AND STANDARD DEVIATION FUNNINESS RATINGS OF
INDIVIDUAL HOSTILE WIT CARTOONS ON THE HUMOR
AND WIT APPRECIATION SCALE

Cartoon	M	SD
#13	3.756	1.248
14	3.344	1.172
15	3.811	1.357
16	4.167	1.164
17	3.989	1.259
18	3.200	1.210
19	3.356	1.266
20	3.956	1.111
21	4.067	1.130
22	3.722	1.227
23	3.167	1.274
24	3.800	1.173

Note: Maximum Score = 6. Not in same order in scale.

TABLE 51

WITHIN-GROUP COMPARISONS FOR HUMOR AND HOSTILE
WIT CARTOON GROUPINGS ON THE HUMOR AND WIT
APPRECIATION SCALE

Cartoons	n	M	SD	t
Humor				
Female rising above stress	90	14.744	4.137	
Male rising above stress	90	24.244	5.189	-20.09*
Hostile Wit				
Female as Butt	90	23.478	4.343	
Male as Butt	90	20.856	4.271	5.90*
Overall				
Humor	90	38.989	8.244	
Hostile Wit	90	44.333	7.512	-5.69*

Note: Maximum Score for female rising above stress = 30.
 Maximum Score for male rising above stress = 42.
 Maximum Score for female as butt = 36.
 Maximum Score for male as butt = 36.
 Maximum Overall Score = 72.

* $p < .000$, two-tailed test.

significantly funnier than cartoons with males as butt, $t(89) = 5.90$, $p < .000$. Overall hostile wit was rated significantly funnier than overall humor, $t(89) = 5.69$, $p < .000$.

Between group comparisons of independent measures for humor and hostile wit appreciation are presented in Tables 52 and 53. The only significant difference reported was between the humor appreciation scores of below and above average Teacher Rating Scale-ascendancy groups, $t(88) = 2.10$, $p < .05$. The more adjusted, verbal, self assured individuals showed significantly greater appreciation of humor than did the less adjusted, more passive, insecure individuals.

Within group comparisons of independent measures for humor and hostile wit appreciation proved significant at or beyond the .05 level with the exception of the group above average Teacher Rating Scale-responsibility, whose scores on humor and hostile wit appreciation did not differ significantly. In every other case hostile wit was preferred to humor to a statistically significant degree. Data is presented in Tables 54-57.

Summary

Results indicated that a statistically significant, though weak, positive relationship existed between adjustment, measured specifically by Teacher Rating Scale traits

TABLE 52
 BETWEEN-GROUP COMPARISONS OF INDEPENDENT
 MEASURES FOR HUMOR APPRECIATION

Variable ^a	n	M	SD	t
Sex				
Male	45	39.156	7.822	
Female	45	38.822	8.732	.190
IQ				
Below Average	48	37.875	8.335	
Above Average	42	40.282	8.049	-1.380
GPP-Ascendancy				
Below Average	42	39.381	8.887	
Above Average	48	38.646	7.717	.420
GPP-Responsibility				
Below Average	44	39.318	7.133	
Above Average	46	38.674	9.252	.370
GPP-Emotional Stability				
Below Average	45	38.067	8.346	
Above Average	45	39.911	8.129	-1.060
GPP-Sociability				
Below Average	45	38.156	8.952	
Above Average	45	39.822	7.478	-.960
Gordon Total Score				
Below Average	47	39.192	8.123	
Above Average	43	38.767	8.465	.240
TRS-Ascendancy				
Below Average	42	37.071	7.276	
Above Average	48	40.667	8.738	-2.100*
TRS-Responsibility				
Below Average	48	38.125	7.946	
Above Average	42	39.976	8.561	-1.060
TRS-Emotional Stability				
Below Average	52	38.173	7.501	
Above Average	38	40.105	9.150	-1.100
TRS-Sociability				
Below Average	48	38.208	7.646	
Above Average	42	39.881	8.887	-.960
Teacher Total Score				
Below Average	48	37.896	7.560	
Above Average	42	40.238	8.889	-1.35

^aGPP = Gordon Personal Profile. TRS = Teacher Rating Scale.

* $p < .05$, two-tailed test.

TABLE 53

BETWEEN-GROUP COMPARISONS OF INDEPENDENT
MEASURES FOR HOSTILE WIT APPRECIATION

Variable ^a	n	M	SD	t^b
Sex				
Male	45	43.200	7.381	
Female	45	45.467	7.552	-1.440
IQ				
Below Average	48	43.917	8.235	
Above Average	42	44.810	6.656	-.560
GPP-Ascendancy				
Below Average	42	44.762	8.278	
Above Average	48	43.958	6.838	.500
GPP-Responsibility				
Below Average	44	45.136	7.226	
Above Average	46	43.565	7.776	.990
GPP-Emotional Stability				
Below Average	45	44.956	7.382	
Above Average	45	43.711	7.671	.780
GPP-Sociability				
Below Average	45	44.422	8.044	
Above Average	45	44.244	7.030	.110
Gordon Total Score				
Below Average	47	44.383	7.303	
Above Average	43	44.279	7.820	.070
TRS-Ascendancy				
Below Average	42	43.167	7.783	
Above Average	48	45.354	7.192	-1.390
TRS-Responsibility				
Below Average	48	45.625	7.637	
Above Average	42	42.857	7.172	1.760
TRS-Emotional Stability				
Below Average	52	44.654	6.456	
Above Average	38	43.895	8.828	.450
TRS-Sociability				
Below Average	48	44.021	7.664	
Above Average	42	44.691	7.410	-.420
Teacher Total Score				
Below Average	48	44.542	7.287	
Above Average	42	44.095	7.842	.280

^aGPP = Gordon Personal Profile. TRS = Teacher Rating Scale.

^bNo results were significant ($p > .05$).

TABLE 54

WITHIN-GROUP COMPARISONS OF SEX AND INTELLIGENCE
FOR HUMOR AND HOSTILE WIT APPRECIATION

Appreciation	n	M	SD	t
Males				
Humor	45	39.156	7.822	
Hostile Wit	45	43.200	7.381	-3.16*
Females				
Humor	45	38.822	8.732	
Hostile Wit	45	45.467	7.552	-4.88**
Below Average Intelligence				
Humor	48	37.875	8.335	
Hostile Wit	48	43.917	8.235	-4.81**
Above Average Intelligence				
Humor	42	40.262	8.049	
Hostile Wit	42	44.810	6.656	-3.21*

* $p < .005$.

** $p < .000$.

TABLE 55

WITHIN-GROUP COMPARISONS OF GORDON PERSONAL PROFILE
INDEPENDENT ADJUSTMENT TRAITS FOR HUMOR AND
HOSTILE WIT APPRECIATION

Appreciation	n	M	SD	t
Below Average GPP-Ascendancy ^a				
Humor	42	39.381	8.887	
Hostile Wit	42	44.762	8.278	-3.86***
Above Average GPP-Ascendancy				
Humor	48	38.646	7.717	
Hostile Wit	48	43.958	6.838	-4.14***
Below Average GPP-Responsibility				
Humor	44	39.318	7.133	
Hostile Wit	44	45.136	7.226	-5.66***
Above Average GPP-Responsibility				
Humor	46	38.674	9.252	
Hostile Wit	46	43.565	7.776	-3.13**
Below Average GPP-Emotional Stability				
Humor	45	38.067	8.346	
Hostile Wit	45	44.956	7.382	-5.56***
Above Average GPP-Emotional Stability				
Humor	45	39.911	8.129	
Hostile Wit	45	43.711	7.671	-2.74*
Below Average GPP-Sociability				
Humor	45	38.156	8.952	
Hostile Wit	45	44.422	8.044	-5.53***
Above Average GPP-Sociability				
Humor	45	39.822	7.478	
Hostile Wit	45	44.244	7.030	-2.95**

^aGPP = Gordon Personal Profile.

* $p < .05$.

** $p < .005$.

*** $p < .000$.

TABLE 56

WITHIN-GROUP COMPARISONS OF TEACHER RATING SCALE
INDEPENDENT ADJUSTMENT TRAITS FOR HUMOR AND
HOSTILE WIT APPRECIATION

Appreciation	n	M	SD	t
Below Average TRS-Ascendancy ^a				
Humor	42	37.071	7.276	-4.36****
Hostile Wit	42	43.167	7.783	
Above Average TRS-Ascendancy				
Humor	48	40.667	8.738	-3.68***
Hostile Wit	48	45.354	7.192	
Below Average TRS-Responsibility				
Humor	48	38.125	7.946	-7.20****
Hostile Wit	48	45.625	7.637	
Above Average TRS-Responsibility				
Humor	42	39.976	8.561	-1.86
Hostile Wit	42	42.857	7.172	
Below Average TRS-Emotional Stability				
Humor	52	38.173	7.501	-5.53****
Hostile Wit	52	44.654	6.456	
Above Average TRS-Emotional Stability				
Humor	38	40.105	9.150	-2.49*
Hostile Wit	38	43.895	8.828	
Below Average TRS-Sociability				
Humor	48	38.208	7.646	-4.88****
Hostile Wit	48	44.021	7.664	
Above Average TRS-Sociability				
Humor	42	39.881	8.887	-3.22**
Hostile Wit	42	44.691	7.410	

^aTRS = Teacher Rating Scale.

* $p < .05$.

** $p < .005$.

*** $p < .001$.

**** $p < .000$.

TABLE 57

WITHIN-GROUP COMPARISONS OF GORDON PERSONAL PROFILE
AND TEACHER RATING SCALE TOTAL SCORE ADJUSTMENT
TRAIT FOR HUMOR AND HOSTILE WIT APPRECIATION

Appreciation	n	M	SD	t
Below Average GPP-Total Score ^a				
Humor	47	39.192	8.123	-4.29***
Hostile Wit	47	44.383	7.303	
Above Average GPP-Total Score				
Humor	43	38.767	8.465	-3.76**
Hostile Wit	43	44.279	7.820	
Below Average TRS-Total Score ^b				
Humor	48	37.896	7.560	-5.57***
Hostile Wit	48	44.542	7.287	
Above Average TRS-Total Score				
Humor	42	40.238	8.889	-2.64*
Hostile Wit	42	44.095	7.842	

^aGPP = Gordon Personal Profile.

^bTRS = Teacher Rating Scale.

* $p < .01$.

** $p < .001$.

*** $p < .000$.

ascendancy, emotional stability, sociability, and total score, and humor appreciation lending some support for psychoanalytic conceptualization of humor as an indication of adjustment. However, no statistically significant negative relationship was discovered for adjustment and hostile wit appreciation, although inconsistent inverse correlations did occur.

No statistically significant differences existed between intelligence and sex and measures of appreciation of humor and hostile wit. Nor was there a statistically significant predictive relationship between the variables personality adjustment, sex, and intelligence and dependent measures of appreciation of humor and hostile wit.

Certain differences in humor appreciation, as determined by sex, adjustment, and intelligence, proved significant. Individuals scoring above average on intelligence showed significantly greater appreciation of humor depicting a male rising above stress than did individuals scoring below average on intelligence when adjustment was measured by Gordon Personal Profile or Teacher Rating Scale-ascendancy or Gordon total score traits. This differentiation was further upheld for those individuals scoring below average on Gordon Personal Profile-ascendancy and sociability as well, in terms of both overall appreciation of humor and appreciation of humor specifically depicting a female rising above stress. In addition,

individuals scoring above average on Teacher Rating Scale ascendancy showed significantly greater appreciation of both overall humor and humor specifically depicting a male rising above stress than did individuals scoring below average on adjustment. This finding concurred with results of hypothesis 1 testing.

Certain differences in hostile wit appreciation, as determined by intelligence, adjustment, and sex proved significant, particularly for cartoons depicting a male as the butt of aggressive or insulting joking. Females showed significantly greater appreciation of hostile wit, male as butt, than did males when adjustment was measured by Gordon Personal Profile or Teacher Rating Scale traits ascendancy, emotional stability, sociability, and total score. This differentiation was further upheld for those individuals scoring above average on Gordon Personal Profile and Teacher Rating Scale responsibility as well, in terms of both overall appreciation of hostile wit and appreciation of hostile wit specifically depicting a male as butt.

Significant main effect sex differences influenced hostile wit appreciation more clearly and consistently than significant main effect intelligence differences influenced humor appreciation. In each instance, however, these differences were significant for only those cartoons having a male central figure. Significant Gordon Personal Profile ascendancy and sociability by intelligence

interaction effect differences influenced humor appreciation. Significant Gordon Personal Profile and Teacher Rating Scale responsibility by sex interaction effect differences influenced hostile wit appreciation.

In Chapter V these results will be discussed.

C H A P T E R V

DISCUSSION

The purpose of this exploratory study was to (1) investigate the relationship between personality adjustment and measures of appreciation of humor and hostile wit as conceptualized in psychoanalytic theory and to (2) identify the independent and interactive relationship between the variables personality adjustment, sex, and intelligence and dependent measures of appreciation of humor and hostile wit.

Hypotheses 1 and 2

Partial support for the first hypothesis, that a positive relationship would exist between personality adjustment ratings and humor appreciation measures, contributed somewhat to the verification of psychoanalytic conceptualization of humor. No significant support for the second hypothesis, that a negative relationship would exist between personality adjustment ratings and hostile wit appreciation measures, could be gathered, however.

Freud (1905/1960) presents humor and hostile wit as serving the common function of tension reduction, but doing so quite distinctly. In humor, stress is temporarily

avoided. Jest replaces pain with a state of pleasure. In hostile wit, previously repressed sexual and aggressive impulses are allowed momentary gratification. Humorous disguise permits the pushing aside of inhibitions. According to Freud, humor is the highest defense against pain, the epitome of adjustment, while hostile wit is perceived as a pathological defense, an indication of maladjustment.

Hypotheses 1 and 2 evolved from psychoanalytic assumptions. Namely, for humor, that individuals scoring high on humor appreciation measures would also score high on personality adjustment ratings and individuals scoring low on humor appreciation measures would also score low on personality adjustment ratings. For hostile wit, it followed that an inverse relationship would exist with individuals scoring high on hostile wit appreciation measures scoring low on personality adjustment ratings and individuals scoring low on hostile wit appreciation scoring high on personality adjustment ratings. These assumptions were substantiated, although minimally, for humor appreciation and specific Teacher Rating Scale adjustment traits.

While neither Gordon Personal Profile nor Teacher Rating Scale personality adjustment ratings proved to be strongly related to measures of humor appreciation, total score on the Teacher Rating Scale, as well as the independent traits of ascendancy, sociability, and emotional stability were shown to be positively correlated with humor.

Teacher perception of student adjustment was therefore more related to student appreciation of humor than student self perception of adjustment. Although the Gordon Personal Profile is seen as a valid self report measure of adolescent adjustment, perhaps for research purposes at least, teacher ratings were more appropriate.

It was interesting to observe that all Teacher Rating Scale indices were related to humor appreciation with borderline correlation coefficients of .2930 or lower except for responsibility, which was so low at .1364 as to be inappropriate to discuss. Although responsibility has been identified by factorial studies of personality as a "psychologically meaningful trait found to be important in determining the adjustment and effectiveness of an individual in many social, educational, and industrial situations" (Gordon, 1963b, p. 3), it may just be that reliability and perseverance (responsibility), while indicators of adjustment, just do not go hand in hand with spontaneous light-hearted appreciation of jest as much as other independent indicators of adjustment, that is, self assurance (ascendancy), gregariousness (sociability), well-balancedness (emotional stability).

No statistically significant relationship could be reported for personality adjustment and hostile wit appreciation; however, the hypothesized negative correlation between the two did surface. While correlation coefficients

were discouragingly small and did not reach statistical significance, they did hint at the possibility that with improved instrumentation the inverse relationship postulated in psychoanalytic theory might be able to be supported statistically. What is offered here is a lead.

Hypotheses 3 and 4

Lack of support for the third and fourth hypotheses, that independent and interactive differences would exist between male and female and below and above average intelligence groups in terms of appreciation of humor and hostile wit, failed to shed any light on the inconsistencies surrounding research in these areas. Uniform differences remain to be found.

Reviews of empirical humor investigations by Flugel (1954) and Goldstein and McGhee (1972), and a 100 subject study by Eysenck (1943) failed to find support for clear sex differences based on appreciation of humorous stimuli. According to Landis and Ross (1933) and O'Connell (1960), however, college males rating jokes showed significantly greater appreciation for hostile wit than did college females. It was curious to note that in the present inquiry, it was females, not males, showing a preference for hostile wit. Hostile wit appreciation mean for females was 45.47, for males it was 43.20. As reported, however, these mean differences did not meet required statistical levels of

significance. Mindess (1971) has suggested that traditionally females have felt greater social restrictions than males against overt enjoyment of disparaging jokes. Perhaps this is changing.

Comparing mean humor and mean hostile wit appreciation scores on the Humor and Wit Appreciation Scale for males and females, showed significant preference for hostile wit over humor for both sexes. It is possible that despite efforts to match individual humor and hostile wit cartoons on the scale by mean and standard deviation, thus hoping to control for "funniness" to some degree, the hostile wit cartoons were more clever than the humor cartoons. Another possible explanation might be that adolescents enjoy their humor with a bit of an aggressive, insulting bite to it. Research studies and clinical papers discussing adolescent humor disagree even as to its very existence. For some, adolescence signifies a return to the freer, more spontaneous humor of the younger child (Park, 1977; Wolfenstein, 1954); for others, adolescence represents a relatively humor-free period (Dooley, 1934; Harms, 1943; Meredith, 1897).

Investigation of the relationship between intelligence and humor appreciation has been, for the most part, contradictory, with some studies reporting they found no significant correlation (Koppel & Sechrest, 1970; Stump, 1939) and others reporting they did (Bird, 1925; Kenerdine,

1931; Laing, 1939; Redlich, Levine, & Sohler, 1951). Literature reviews too have described inconclusive findings (Flugel, 1954; Victoroff, 1969). It is important to note that these studies, as most, did not investigate the humor-hostile wit dichotomy as did this exploration and therefore the word "humor" is being used here to include hostile wit rather than to distinguish humor from hostile wit.

Data from this piece of research, although not significant overall, does suggest that for both humor and hostile wit it was the above average, rather than the below average intelligence group, that displayed the greater appreciation of either type of humorous stimuli. Below and above average intelligence means for humor appreciation are 37.88 and 40.28 respectively, means for hostile wit appreciation are 43.92 and 44.81. Differences existed within both below and above average intelligence groups paired in terms of humor and hostile wit appreciation, with hostile wit significantly preferred in each case.

In summary, when comparing mean humor and hostile wit appreciation scores on the Humor and Wit Appreciation Scale for the four groupings; male, female, below average intelligence, and above average intelligence, two overall tendencies were noted: (1) individuals in the above average group demonstrated greatest appreciation of humor

compared with males, females, or individuals in the below average intelligence group; (2) females demonstrated greatest appreciation of hostile wit compared with males or individuals in either the below or the above average intelligence group. These tendencies, however, could not be significantly supported.

Hypothesis 5

Lack of support for the fifth hypothesis, that a relationship would exist between the variables personality adjustment, sex, and intelligence and dependent measures of appreciation of humor and hostile wit suggested that personality adjustment, sex, and intelligence were not necessarily good predictors of humor and hostile wit appreciation. The fact that intelligence was more highly correlated with humor appreciation than sex or any of the Gordon Personal Profile and Teacher Rating Scale independent adjustment traits, and likewise sex with hostile wit appreciation, does bear mentioning, however.

One can conjecture about the possible relationship between intelligence and humor appreciation by considering humor as a subtle, oftentimes thought provoking state of pleasure. Peanuts cartoons, for example, do not necessarily produce boisterous laughter, but rather may promote emotional insight.

Hostile wit, by contrast, tends to be crudely

blatant in its message. Central to hostile wit appreciation is the notion of enjoyment of the frailties and misfortunes of others. Hostile wit is always at the expense of someone. One could therefore hypothesize that sex might be a factor influencing appreciation of hostile wit in terms of identification with sex of the aggressor or the butt of hostile joking. Loscoe and Epstein (1975) discovered that enjoyment of hostile wit varied in terms of sex of the targeted central cartoon character and sex of the appreciator. It was interesting to identify the relationship between intelligence and humor and between sex and hostile wit hinted at here, as it tended to lend support to tentative findings generated by an analysis of the data for hypotheses 3 and 4.

Since only a negligible, non significant 2% of the variance in humor and hostile wit appreciation could be accounted for by intelligence and sex, respectively, it was evident that there were other factors influencing humor and hostile wit appreciation that should have been included for this adolescent population, perhaps a sociogram questionnaire regarding drug and alcohol usage, program of academic study, participation in extracurricular and free time activities.

Overall appreciation of humor and hostile wit appears to be a multi-faceted, rather elusive phenomenon. While neither strong statistically significant relation-

ships nor statistically significant differences were found to exist between personality adjustment, sex, intelligence and appreciation of humor and hostile wit the influence of Teacher Rating Scale traits ascendancy, emotional stability, sociability, and total score and intelligence, specifically above average intelligence, on humor appreciation and the influence of sex, specifically being female, on hostile wit appreciation was observed.

Question 1

Upon completion of analysis of the data addressing the preceding five hypothetical statements, two additional questions were asked. Findings generally followed from and lent support to the leads suggested in hypotheses 1 to 5.

Dividing personality adjustment traits into below and above average groupings and taking a closer look at humor appreciation in terms of sex of the central cartoon character, produced significant differences for certain variable combinations. These differences, not significant when studied in terms of sex and intelligence alone, hypotheses 3 and 4, were significant when coupled with the differential effect of adjustment.

Humor, when examined in terms of the simultaneous effect of sex, adjustment, and intelligence, lent support for the consideration of intelligence as a key factor in

humor appreciation. Data analysis of hypothesis 5 hinted at this relationship. While findings were neither strongly conclusive nor highly consistent across Gordon Personal Profile and Teacher Rating Scale independent adjustment traits, it appeared that above average intelligence, more specifically above average intelligence coupled with below average adjustment, was a legitimate factor contributing to humor appreciation differences.

Cartoons depicting a male using humor to rise above stress were rated funnier by individuals of above average as compared to below average intelligence.

In addition, these cartoons were also rated funnier by independent, self-assured individuals, that is, individuals with above average ratings on Teacher Rating Scale ascendancy rather than individuals with below average ratings, thus lending some support for the postulated relationship between high scores on humor appreciation and Teacher Rating Scale measures suggested by data analysis of hypothesis 1. Such a finding was congruent with psychoanalytic conceptualization of humor appreciation as an indication of adjustment as well as the research of O'Connell (1960), who discovered significantly greater appreciation of humor among well adjusted versus poorly adjusted persons. It is interesting that significant appreciation differences were observed only for individuals with above average ratings on Teacher Rating Scale ascendancy trait

versus other responsibility, emotional stability, sociability traits. Conjecture might suggest that individuals possessing more traditional male qualities of independence and self assurance would show appreciation for cartoons presenting a male figure triumphing over stress through humor.

Cartoons depicting a female using humor to rise above stress were rated funniest by individuals scoring above average on intelligence and below average on Gordon Personal Profile ascendancy and sociability traits. More precisely, it was individuals of above average intelligence, who were in addition somewhat insecure and socially restricted, that showed the greatest enjoyment of this type of humor. Appearing discrepant in terms of psychoanalytic theory and previous research (O'Connell, 1960) was the notion of below average adjustment positively influencing humor appreciation. In an attempt to reconcile these differences, it is being offered that psychoanalytic conceptualization refers to the actual use of humor by an individual under stress. O'Connell's work refers to humor appreciation following experimentally induced stress. In this exploratory study, it was humor appreciation, independent of either of the above conditions being investigated. Being both above average in intelligence and having a perception of yourself as somewhat of an underdog resulted in one showing a significant appreciation of humor

representing a female rising above stress. For those individuals associating female with second class citizenship, a traditional yet rapidly changing notion, the relationship between humor appreciation and adjustment might be one of identification with the central cartoon figure.

It was not particularly surprising that Gordon Personal Profile traits ascendancy and sociability (Gordon, 1963b, p. 22) were both found to contribute to significant appreciation differences for cartoons whose central character was a female using humor to rise above stress, and furthermore were found to contribute in the same way, that is, for below average adjustment scores in combination with above average intelligence, since these two traits, while independent, are reported to be highly correlated (Gordon, 1963b, p. 22).

Question 2

Hostile wit, when examined in terms of the simultaneous effect of intelligence, adjustment, and sex, resulted in support for the consideration of sex as a significant factor influencing hostile wit appreciation. Hypothesis 5 data analysis hinted at this relationship. Females consistently showed greater appreciation of hostile wit presenting a male as the butt of aggressive or insulting joking than did males. Interestingly enough, the reverse was not necessarily true, that is that males would

show greater appreciation of hostile wit with a female as butt than would females. Females enjoying cartoons putting down males may reflect social climate. Humorous stimuli can be a powerfully deceptive means of communication.

Males scoring below average on adjustment, as specifically measured by the trait responsibility on the Teacher Rating Scale, displayed a preference for overall hostile wit not shown by males scoring above average on adjustment. This was an important finding lending some support to psychoanalytic conceptualization of hostile wit appreciation as related to poor adjustment as well as to the research of O'Connell (1960), who reported significantly greater appreciation of hostile wit among maladjusted males as compared to well adjusted males. Seeing responsibility as a keenly school related measure of adjustment, it may be that male high school students who tended to be irresponsible and unable to stick to tasks, that is, individuals scoring below average on Teacher Rating Scale responsibility, enjoyed "put down" hostile wit more than reliable, persevering male students, that is, individuals scoring above average on Teacher Rating Scale responsibility, who may not have needed such an outlet for possible frustration.

Additional Findings

Since any discussion of cartoons on the Humor and Wit Appreciation Scale thus far has focused on either dichotomous humor/hostile wit categorization or specific breakdown in terms of sex of central cartoon character, a brief look at individual cartoon findings seems appropriate at this point.

Six of the eight lowest rated cartoons, in terms of funniness, were humor. The cartoon seen as least funny overall, cartoon #2, reflected the theme of getting old. Not one of the ninety subjects rated it in the highest category, "extremely funny." Perhaps aging is of so little concern to an adolescent as to be irrelevant and therefore incapable of engendering a humorous response.

All four Peanuts cartoons, #4, #7, #11, and #12, were among the lowest rated in terms of humor appreciation. All dealt with unsatisfactory classroom performance in one way or another. During administration of the Humor and Wit Appreciation Scale, a student spontaneously offered, "I don't like Peanuts cartoons. I'm not even going to read them. I'll just mark them 'not funny at all'." Following completion of the task, the student was asked about his remarks. His response was that the cartoons were usually about school "and there's nothing funny about school." Perhaps a blatant, even though lighthearted, depiction of

not matching up academically is too painful for the oftentimes overly sensitive adolescent to find amusing. It may have hit too close to home. Or maybe Peanuts cartoons are simply more enjoyable to younger and older "children." For whatever the reason, they were consistently rated among the lowest.

Six of the seven highest rated cartoons were hostile wit. The cartoon seen as most funny overall, #16, clearly portrayed put down of a mother figure. If hostile wit is as Freud suggested, a momentary gratification of forbidden sexual and aggressive impulses (1905/1960), a joke of this type might very well have appealed to a population in the throngs of at least some parental authority conflict, by mere definition of adolescence.

Cartoons #15, #20, and #21, rated among the highest in terms of hostile wit appreciation, all refer to body image and sex appeal. This again is an area of prime concern for the maturing young adult. It may be that allowing oneself the enjoyment of such hostile wit offers the tension release suggested in psychoanalytic conceptualization.

With the exception of Teacher Rating Scale ascendancy, independent intelligence, sex, and adjustment, groups did not differ in terms of either humor appreciation or hostile wit appreciation on the Humor and Wit Appreciation Scale. Paired groups did differ on these dependent

measures, however. Humor and hostile wit appreciation, in this context, were therefore identified as truly distinct responses as postulated in psychoanalytic theory.

There was significantly greater overall preference for hostile wit cartoons compared to humor cartoons. Running contrary to previous research (Landis & Ross, 1933; O'Connell, 1960), however, female appreciation of hostile wit was even greater than male appreciation of hostile wit, although not significantly so. Specifically, hostile wit cartoons with a female as butt of the joke were rated significantly funnier than hostile wit cartoons with a male as butt. This finding supported previous research. Loscoe and Epstein (1975) inquired into the cartoon choices of male and female undergraduates for themes depicting hostility by one sex against the other. What they discovered was that both sexes showed a preference for humorous material with females portrayed as butts of jokes. They concluded that cartoon appreciation could perhaps be used as a subtle index of attitudes toward same and opposite sex. Cartoons with a male using humor to rise above stress were rated significantly funnier than cartoons presenting a female in this role. This conclusion, in addition to the fact that it was difficult to even find newspaper and magazine cartoons portraying a female using humor to rise above stress, seemed to support the more traditional image of the male humorist--female comedians are the exception, as

apparently are cartoons depicting females in this role.

The following contributions have resulted from this exploratory study: (1) while complete verification of psychoanalytic conceptualization of humor and hostile wit was not accomplished, it did appear that (a) for adjustment, defined in terms of Teacher Rating Scale traits ascendancy, emotional stability, sociability, and total score, a positive relationship existed between adjustment and humor appreciation, (b) there was a slight tendency suggesting the possibility of an inverse relationship existing between adjustment, defined most specifically in terms of Teacher Rating Scale trait responsibility, and hostile wit appreciation. (2) While resolution of inconsistencies surrounding the effect of sex and intelligence on humor and hostile wit appreciation was not accomplished, it did appear that when below and above adjustment was introduced (a) above average intelligence, frequently in combination with below average adjustment, influenced humor appreciation and (b) sex influenced hostile wit appreciation, particularly for female enjoyment of hostile wit cartoons with a male as butt. (3) Adolescents overall significantly preferred hostile wit to humor, specifically (a) humor presenting a male using lighthearted jest to overcome a stressful situation was significantly preferred to humor presenting a female in this role and (b) hostile wit presenting a female as butt of aggressive or insulting

joking was significantly preferred to hostile wit presenting a male in this role.

Some overall findings included: (1) when examining the effect of sex and intelligence on humor the inclusion of adjustment appeared important; (2) when investigating humor and hostile wit, breaking it down by sex of the central cartoon figure appeared important.

Implications

Psychoanalytic conceptualization of humor and hostile wit offers a comprehensive theory for the consideration of these humorous dispositions.

Freud (1905/1960) presents humor and hostile wit as tension reducing defenses. Humor, accomplishing tension reduction by allowing the individual to temporarily turn away from stress through light-hearted jest, is labeled a healthy, well adjusted means of coping. Hostile wit, in contrast, accomplishing tension reduction by allowing the individual to temporarily enjoy the release of hostile or sexual impulses, is labeled a pathological, maladjusted means of coping.

This exploratory study was primarily designed to provide verification of humor and hostile wit conceptualization presented in psychoanalytic theory, as related to personality adjustment in anticipation of the development of a clinical instrument to aid (a) diagnostic evaluation

of teenage patients and (b) monitor and contribute to their therapeutic progress. In addition, this study was designed to contribute to the resolution of inconsistencies surrounding humor and hostile wit research as related to sex and intelligence factors. A secondary focus of this study was to provide data on adolescent appreciation of humor and hostile wit.

While the results of this study provided neither sound verification of psychoanalytic conceptualization of humor and hostile wit nor contributed significantly to inconsistencies surrounding sex and intelligence in terms of humor and hostile wit investigation, they were not without contribution. When adjustment was specifically defined in terms of the traits ascendancy, emotional stability, and sociability, legitimate independent measures of adjustment (Cattell & Eber, 1962; Gordon, 1963a; Gough & Heilbrun, 1965), a relationship did exist between humor appreciation and adjustment. Furthermore, when sex and intelligence factors were studied in combination with adjustment factors and humor and hostile wit were studied in terms of sex of the central cartoon character, differences did exist between groups on humor and hostile wit appreciation by intelligence and sex respectively.

Implications of these results unfortunately have more to say to humor investigators about future research than they do to therapists about immediate practical

application. However, all is not bleak. This study offers that humor and hostile wit appreciation differences do exist. Humor and hostile wit are idiosyncratic human experiences. Just because this particular piece of investigation was unable to more clearly identify the independent and interactive relationship between adjustment, sex, and intelligence and humor and hostile wit appreciation does not mean that such a relationship does not exist. In fact, results of this study imply that under certain conditions adjustment, sex, and intelligence do contribute to an understanding of humor and hostile wit appreciation. This should serve as encouragement rather than disheartenment to future humor researchers.

Results of this study provided some much needed information regarding adolescent appreciation of humor and hostile wit. Since this exploration dealt specifically with passive appreciation rather than the more active, spontaneous process of generation and usage, statements regarding adolescent humor and hostile wit must be seen within the framework of appreciation as measured by cartoons on the Humor and Wit Appreciation Scale. As a group, adolescents preferred hostile wit to humor, with particular lack of appreciation evidenced for Peanuts cartoons depicting school-oriented themes. While mean funniness ratings for 19 of the 24 cartoons on the Humor and Wit Appreciation Scale were "mediocre," adolescents, as individuals, did

differ from one another in terms of humor and hostile wit preferences. In general, however, extreme ratings, that is "not funny at all" and "extremely funny," were avoided. Based on the results of this study, it can be said that adolescents demonstrated an appreciation for humor and hostile wit cartoons on the Humor and Wit Appreciation Scale although this enjoyment was somewhat restricted.

Implications of this research suggest that adolescents are more than willing to participate as subjects in humor and hostile wit data gathering. The Humor and Wit Appreciation Scale was well received and seemed to be responded to in an open, relaxed spirit of enjoyment by everyone involved. Experience therefore offers some evidence to suggest that focusing on humor and hostile wit, in the many aspects of therapeutic work with adolescents, may be both legitimate and beneficial. Adolescents may be surprisingly receptive to a therapy incorporating humorous perspective.

Limitations and Suggestions for Further Research

As has been suggested, the investigation of humor and hostile wit is accompanied by some rather serious built in research limitations, particularly related to definition and measurement (Goldstein & McGhee, 1972; Lynd, 1958; Chapman & Foot, 1976; Zigler, Levine, & Gould, 1967).

This empirical exploratory study, being an example of ex post facto research, has in addition some specific limitations by definition; namely the inherent weakness of loss of control of independent variables, either through experimental manipulation or random assignment to groups. The relationship between independent and dependent variables can be measured, but causal differences cannot be determined with total assurance. With the inclusion of an experimentally manipulatable independent variable, for example a stress factor (O'Connell, 1960), this limitation might have been eliminated. An investigator might deliberately antagonize or frustrate a group and then note any coping reactions in terms of spontaneous use of humor or hostile wit. Further research might do well to take this into consideration.

The particular focus of this study was humor and hostile wit appreciation. This emphasis was chosen as a beginning for humor work that will continue beyond this investigation. Perhaps this concentration may have been a limitation, however, and more significant findings would have occurred if emphasis had been placed on humor and hostile wit production despite the complexity involved in such an exploration. Passive enjoyment of cartoons, possibly varying in inherent funniness, may have been less indicative of one's true sense of humor than spontaneous generation of humor and hostile wit. When considering

humor and hostile wit in terms of adjustment/maladjustment this distinction may become particularly important. Subsequent research involving humorous stimuli might consider having subjects write captions for cartoons, keep a "humor diary," share a favorite joke or recount an amusing incident. Perhaps therapy sessions, class meetings, or other group gatherings could be taped and reviewed for humorous dialogue, since it seems to follow that the more natural the setting, the more genuine the measurement of humor and hostile wit. Another suggestion might be to conclude paper and pencil assessment of humor and hostile wit appreciation with a questionnaire or direct personal inquiry as to "why was this cartoon funny/not funny to you?" "With which cartoon character did you identify most?" The combination of appreciation, creation, and usage offers the most comprehensive picture of individual humorous style.

The Humor and Wit Appreciation Scale, developed by this investigator, was an additional limitation of this study. Despite efforts to construct a reliable, valid instrument, humor and hostile wit cartoon preferences were perhaps not discriminating enough. Future studies may want to include more severe examples of hostile wit than those in popular magazines and newspapers or possibly even consider incorporating "sick" humor, a category of humor about which very little has been written. The healthy versus pathological humor/hostile wit dichotomy, presented

in psychoanalytic theory, might then become more pronounced and subject to empirical investigation.

Contemporary ch'an Master Hsuan Hua, following a week of intensive meditation:

Now we have finished. Everyone stand and we will bow to the Buddah three times to thank him, because even if we did not have a great enlightenment, we had a small enlightenment. If we did not have a small enlightenment, at least we didn't get sick. If we got sick, at least we didn't die. So let's thank the Buddah.

Vajra Bodhi Sea I, 3, p. 40

(Hyers, 1974, Epilogue)

REFERENCES

- Allport, G.W. Personality--a psychological interpretation. New York: Henry Holt & Co., 1937.
- Allport, G.W. The individual and his religion. New York: The Macmillan Company, 1950.
- Arieti, S. New views on the psychology and psychopathology of wit and comic. Psychiatry, 1950, 13, 43-62.
- Aristotle. The poetics. In S.H. Butcher (Ed. and Trans.), Aristotle's theory of poetry and fine art. New York: Macmillan, 1895.
- Babad, E.Y. A multi-method approach to assessment of humor: a critical look at humor tests. Journal of Personality, 1974, 42, 618-631.
- Baron, R.A., & Ball, R.L. Aggression-inhibiting influences of nonhostile humor. Journal of Experimental Social Psychology, 1974, 10, 23-33.
- Bergler, E. Clinical contributions to the psychogenesis of humor. Psychoanalytic Review, 1937, 24, 34-53.
- Bergson, H. Laughter: essay on the meaning of the comic. New York: The Macmillan Company, 1913.
- Berkowitz, L. Aggressive humor as stimulus to an aggressive response. Journal of Personality and Social Psychology, 1970, 16, 710-717.
- Berlyne, D.E. Laughter, humor and play. In G. Lindzey & E. Aronson (Eds.), Handbook of Social Psychology (2nd ed., Vol. 3). Reading, Massachusetts: Addison-Wesley, 1969.
- Bird, G.E. An objective humor test for children. Psychological Bulletin, Jan.-Dec. 1925, 22, 137-138.
- Brill, A.A. The mechanisms of wit and humor in normal and psychopathic states. The Psychiatric Quarterly, 1940, 14, 731-749.

- Brodzinsky, D.M. & Rubien, J. Humor production as a function of sex of subject, creativity, and cartoon content. Journal of Consulting and Clinical Psychology, 1976, 44(4), 597-600.
- Buros, O.K. (Ed.). The fifth mental measurement yearbook. Highland Park, New Jersey: Gryphon Press, 1959.
- Buros, O.K. (Ed.). The sixth mental measurement yearbook. Highland Park, New Jersey: Gryphon Press, 1965.
- Buros, O.K. (Ed.). The seventh mental measurement yearbook. Highland Park, New Jersey: Gryphon Press, 1972.
- Cattell, R.B. & Eber, H.W. Manual for forms A and B, Sixteen Personality Factor Questionnaire. Champaign, Illinois: Institute for Personality and Ability Testing, 1962.
- Chapman, A.J., & Foot, H.C. (Eds.). Humor and laughter: theory, research, and applications. London: John Wiley and Sons, 1976.
- Coleman, J.V. Banter as a psychotherapeutic intervention. American Journal of Psychoanalysis, 1962, 22, 69-74.
- Dewane, C.M. Humor in therapy. Social Work, 1978, 23(6), 508-510.
- Domash, L. The use of wit and the comic by a borderline psychotic child in psychotherapy. American Journal of Psychotherapy, 1975, 29, 261-270.
- Dooley, L. A note on humor. Psychoanalytic Review, 1934-36, 21-23, 49-58.
- Dworkin, E.S., & Efran, J.S. The angered: their susceptibility to varieties of humor. Journal of Personality and Social Psychology, 1967, 6, 233-236.
- Eastman, M. The sense of humor. New York: Charles Scribner's Sons, 1921.
- Eastman, M. Enjoyment of laughter. New York: Simon & Schuster, 1948.
- Epstein, S., & Smith, R. Repression and insight as related to reaction to cartoons. Journal of Consulting Psychology, 1956, 20, 391-395.

- Eysenck, H.J. An experimental analysis of 5 tests of appreciation of humor. Educational and Psychological Measurement, 1943, 3, 191-214.
- Flugel, J.C. Humor and laughter. In G. Lindzey (Ed.), Handbook of social psychology (Vol. 2). Cambridge, Massachusetts: Addison-Wesley Publishing Co., 1954.
- Foster, J.A. Humor and counseling: close encounters of another kind. The Personnel and Guidance Journal, 1978, 57(1), 46-49.
- Frankl, V.E. The doctor and the soul. New York: Alfred A. Knopf, 1966.
- Freud, S. Original papers--humor. International Journal of Psycho-Analysis, 1928, 9, 1-6.
- Freud, S. [Jokes and their relation to the unconscious.] (J. Strachey, Ed. and Trans.). New York: W.W. Norton and Co., Inc., 1960. (originally published, 1905.)
- Fry, W.F., Jr. Sweet madness. Palo Alto, California: Pacific Books, Publishers, 1963.
- Funk, C.E. (Ed.). New practical standard dictionary. New York: Funk & Wagnalls Company, 1956.
- Goldstein, J.H. Theoretical notes on humor. Journal of Communication, Summer 1976, 26(3), 104-112.
- Goldstein, J.H., & McGhee, P.E. (Eds.). Psychology of humor. New York: Academic Press, 1972.
- Gordon, L.V. Gordon Personal Profile (Rev. Ed.). New York: Harcourt Brace & World Inc., 1963a.
- Gordon, L.V. Gordon Personal Profile manual (Rev. Ed.). New York: Harcourt Brace & World Inc., 1963b.
- Gordon, L.V. Gordon Personal Profile--inventory manual (Rev. Ed.). New York: Harcourt Brace Jovanovich Inc., 1978.
- Gough, H.G., & Heilbrun, A.B. The Adjective Check List manual. Palo Alto, California: Consulting Psychologists Press, 1965.
- Greenwald, H. Play therapy for children over 21. Psychotherapy, Feb. 1967, 4, 44-46.

- Greenwald, H. Humor in psychotherapy. In A.J. Chapman, & H.C. Foot (Eds.), It's a funny thing humor. Oxford: Pergamon Press, 1977.
- Gregory, J.C. The nature of laughter. London: Kegan Paul, 1924.
- Greig, J.Y.T. Psychology of laughter and comedy. London: George Allen & Unwin, Ltd., 1923.
- Grossman, S.A. The use of jokes in psychotherapy. In A.J. Chapman, & H.C. Foot (Eds.), It's a funny thing humor. Oxford: Pergamon Press, 1977.
- Grotjahn, M. Laughter and psychoanalysis. In S. Lorand (Ed.), Yearbook of psychoanalysis (Vol. VI). New York: International University Press, Inc., 1950.
- Grotjahn, M. Beyond laughter--humor and the subconscious. New York: McGraw-Hill Book Co., 1957.
- Grotjahn, M. Laughter in psychotherapy. Voices, Summer 1969, 5, 4-7.
- Grotjahn, M. Laughter in group psychotherapy. International Journal of Group Psychotherapy, 1971, 2, 234-238.
- Grzwock, R., & Scodel, A. Some psychological correlates of humor preference. Journal of Consulting Psychology, 1956, 20, 42.
- Haggard, E.A. A projective technique using comic strip characters. Character and Personality, June 1942, 10, 289-295.
- Haley, J. Strategies of psychotherapy. New York: Grune & Stratton, 1963.
- Harms, E. Development of humor. Journal of Abnormal and Social Psychology, 1943, 38, 351-369.
- Harrelson, R.W., & Stroud, P. Observations of humor in chronic schizophrenics. Mental Hygiene, 1967, 51, 458-461.
- Hayworth, D. Social origin and function of laughter. Psychological Review, Jan.-Nov. 1928, 35, 367-384.
- Hershkowitz, A. Essential ambiguity of, and in, humor. In A.J. Chapman, & H.C. Foot (Eds.), It's a funny thing humor. Oxford: Pergamon Press, 1977.

- Hetherington, E.M., & Wray, N.P. Aggression, the need for social approval, and humor preference. Journal of Abnormal and Social Psychology, 1964, 68-69, 685-689.
- Hyers, M.C. Zen and the Comic Spirit. London: Rider & Co., 1974.
- Jackson, D.D. Suggestions for the technical handling of paranoid patients. Psychiatry, 1963, 26, 306-307.
- Kadis, A.L., & Winick, C. The cartoon as a therapeutic catalyst. In H.H. Mosak (Ed.), Alfred Adler: his influence on psychology today. Parkridge, New Jersey: Noyes Press, 1973.
- Kant, I. [Kritik of judgment]. (J.H. Bernard, Trans.). London: Macmillan and Company, 1892. (originally published 1790.).
- Kant, O. Inappropriate laughter and silliness in schizophrenics. Journal of Abnormal and Social Psychology, 1942, 37, 398-402.
- Kenerdine, M. Laughter in pre-school children. Child Development, 1931, 2, 228-230.
- Kline, L.W. The psychology of humor. American Journal of Psychology, 1907, 18, 421-441.
- Koestler, A. Insight and outlook. Lincoln, Nebraska: U. of Nebraska Press, 1949.
- Koestler, A. The act of creation. New York: Dell Publishing Company, Inc., 1964.
- Koppel, M.A., & Sechrest, L. A multitrait-multimethod matrix analysis of sense of humor. Educational and Psychological Measurement, Spring 1970, 30, 77-85.
- Kris, E. Psychoanalytic explorations in art. New York: International Universities Press, Inc., 1952.
- Kubie, L. The destructive potential of humor in psychotherapy. American Journal of Psychiatry, 1971, 127, 861-866.
- Laing, A. The sense of humor in childhood and adolescence. British Journal of Educational Psychology, 1939, 9, 201.

- Landis, C., & Ross, J.W.H. Humor and its relation to other personality traits. Journal of Social Psychology, Feb.-Nov. 1933, 4, 156-175.
- Landy, D., & Mettee, D. Evaluation of an aggressor as a function of exposure to cartoon humor. Journal of Personality and Social Psychology, 1969, 11-13, 66-71.
- Levin, M. Wit and schizophrenic thinking. American Journal of Psychiatry, 1957, 113, 917-923.
- Levine, J. Response to humor. Scientific American, Feb. 1956, 194(2), 31-35.
- Levine, J. Humor. International Encyclopedia of Social Sciences, 1968, 7, 1-8.
- Levine, J. From infant's smile to mastery of anxiety: the developmental role of humor. Sept. 1972. (ERIC Document Reproduction Service No. ED 073 851).
- Levine, J., & Rakusin, J. Sense of humor of college students and psychiatric patients. Journal of General Psychology, 1959, 60, 183-190.
- Levine, J., & Redlich, F.C. Failures to understand humor. The Psychoanalytic Quarterly, 1955, 24, 560-572.
- Levine, J., & Redlich, F.C. Intellectual and emotional factors in the appreciation of humor. Journal of General Psychology, 1960, 62-63, 25-35.
- Loewenberg, M.D. Correspondence: psychological reaction in emergency (earthquake). American Journal of Psychiatry, Nov. 1952, 109, 384-385.
- Losco, J., & Epstein, S. Humor preferences as subtle measures of attitude toward same and opposite sex. Journal of Personality, 1975, 43, 321-334.
- Ludovici, A.M. The secret of laughter. London: Constable Press, 1932.
- Lynd, H.M. On shame and the search for identity. New York: Harcourt Brace and World, Inc., 1958.
- MacKinnon, R.A., & Michels, R. The psychiatric interview in clinical practice. Philadelphia: W.B. Saunders Company, 1971.

- Maier, N.R.F. A gestalt theory of humor. British Journal of Psychology, 1932, 23, 69-74.
- Maslow, A.H. Motivation and personality. New York: Harper & Brothers, 1954.
- May, R. Man's search for himself. New York: Random House, 1969.
- McDougall, W. An outline of psychology. London: Methuen, 1923.
- McGhee, P.E. Development of humor response. Psychological Bulletin, 1971a, 76, 328-348.
- McGhee, P.E. The role of operational thinking in the child's comprehension and appreciation of humor. Child Development, Mar.-Sept. 1971b, 42, 733-744.
- McGoldrick, M. Children's use of humor in psychotherapy. Unpublished doctoral dissertation, Smith College for Social Work, 1969.
- McGoldrick Orfanidis, M. Children's use of humor in psychotherapy. Social Casework, Mar. 1972, 53, 147-155.
- Mendel, W.M. (Ed.). A celebration of laughter. Los Angeles: Mara Books, Inc., 1970.
- Meredith, G. An essay on comedy and uses of the comic spirit. London: Constable Press, 1897.
- Miller, L.D. Humor as a projective technique in occupational therapy. American Journal of Occupational Therapy, Apr. 1970, 24, 201-204.
- Mindess, H. Laughter and liberation. Los Angeles: Nash Publishing, 1971.
- Murray, H.A. Psychology of humor. Journal of Abnormal and Social Psychology, 1934, 29, 66-81.
- Nash, L. Implications of the humor response of children and therapists for children's accessibility to treatment. Unpublished doctoral dissertation, Smith College for Social Work, 1971.
- Nussbaum, K., & Michaux, W.W. Response to humor in depression: a predictor and evaluator of patient change? Psychiatric Quarterly, 1963, 37, 527-539.

- Obrdlik, A. Gallows humor: a sociological phenomenon. American Journal of Sociology, 1942, 47(5), 709-716.
- O'Brien, C.R., Johnson, J., & Miller, B. Cartoons in counseling. The Personnel and Guidance Journal, Sept. 1978, 57(1), 55-56.
- O'Connell, W.E. The adaptive function of wit and humor. Journal of Abnormal and Social Psychology, 1960, 61, 263-270.
- O'Connell, W.E. An item analysis of the wit and humor appreciation test. Journal of Social Psychology, Apr. 1962, 56, 271-276.
- O'Connell, W.E. Multidimensional investigation of Freudian humor. Psychiatric Quarterly, 1964a, 38, 97-108.
- O'Connell, W.E. Resignation, humor, and wit. Psychoanalytic Review, 1964b, 51, 49-56.
- O'Connell, W.E. Freudian humor: the eupsychia of everyday life. In A.J. Chapman, & H.C. Foot (Eds.), Humor and laughter: theory, research, and applications. London: John Wiley and Sons, 1976a.
- O'Connell, W.E. Humor for actualization and survival. Sept. 1976b. (ERIC Document Reproduction Service No. ED 137 644).
- O'Connell, W.E., & Covert, C. Death attitudes and humor appreciation among medical students. Existential Psychiatry, Winter 1967, 6, 433-442.
- O'Connell, W.E., Rothaus, P., Hanson, P.G., & Moyer, R. Jest appreciation and interaction in leaderless groups. International Journal of Group Psychotherapy, Oct. 1969, 19, 454-462.
- Otis, A.S., & Lennon, R.T. Otis-Lennon Mental Ability Test. New York: Harcourt, Brace & World, Inc., 1967a.
- Otis, A.S., & Lennon, R.T. Otis-Lennon Mental Ability Test manual for administration. New York: Harcourt, Brace & World, Inc., 1967b.
- Otis, A.S., & Lennon, R.T. Otis-Lennon Mental Ability Test technical handbook. New York: Harcourt, Brace & World, Inc., 1969.

- Park, R. Study of children's riddles using Piaget-derived definitions. Journal of Genetic Psychology, 1977, 130, 57-67.
- Penjon, A. La rire et la liberte. Revue philosophique, 1893, 36, 113-140.
- Pfouts, J.H. Laughter as an element in the counseling relationship. Social Work, July 1961, 6, 43-50.
- Piaget, J. Play, dreams and imitation in childhood. New York: Norton, 1951.
- Piddington, R. Psychology of laughter. New York: Gamut Press, Inc., 1963.
- Poland, W.D. The place of humor in psychotherapy. American Journal of Psychiatry, Nov. 1971, 128, 635-637.
- Powell, B. Laughter and healing: uses of humor in hospital treating children. Chicago, Ill.: presented at the annual meeting of the Association for the Care of Children in Hospitals, May 1974. (ERIC Document Reproduction Service No. ED 100 521).
- Prerost, F.J. Reduction of aggression as a function of the related content of humor. Psychological Reports, June 1976, 38, 771-777.
- Ransohoff, R. Some observations on humor and laughter in young adolescent girls. Journal of Youth and Adolescence, 1975, 4(2), 155-169.
- Redlich, F.C., & Bingham, J. The inside story. New York: Alfred A. Knopf, 1955.
- Redlich, F.C., Levine, J., & Sohler, T. Mirth response test: preliminary report on a psychodiagnostic technique utilizing the dynamics of humor. American Journal of Orthopsychiatry, 1951, 21, 717-734.
- Reik, T. Listening with the third ear. New York: Farrar, Strauss & Company, 1948.
- Roncoli, M. Bantering--a therapeutic strategy with obsessional patients. Perspectives in Psychiatric Care, 1974, 12, 171-175.

- Rose, G.J. King Lear and the use of humor in treatment. Journal of the American Psychoanalytic Association, July 1969, 17, 927-940.
- Rosen, V.H. Variants of comic caricature and their relationship to obsessive-compulsive phenomena. Journal of the American Psychoanalytic Association, 1963, 11, 704-724.
- Rosenheim, E. Humor in psychotherapy: an interactive experience. American Journal of Psychotherapy, 1974, 28, 584-591.
- Rosenheim, E. Humor in psychotherapy. In J.H. Masserman (Ed.), Current psychiatric therapies (Vol. 16). New York: Grune & Stratton, 1976.
- Senf, R., Huston, P.E., & Cohen, B.D. Use of comic cartoons for the study of social comprehension in schizophrenics. American Journal of Psychiatry, July 1956, 113, 45-51.
- Sheehy-Skeffington, A. Measurement of humor appreciation. In A.J. Chapman, & H.C. Foot (Eds.), It's a funny thing humor. Oxford: Pergamon Press, 1977.
- Shultz, T.R., & Horibe, F. The development of the appreciation of verbal jokes. Developmental Psychology, 1974, 10, 13-20.
- Sidis, B. The psychology of laughter. New York: Appleton, 1913.
- Singer, D.L. Aggression, arousal, hostile humor, catharsis. Journal of Personality and Social Psychology, 1968, 8, 1-14.
- Spiegel, D., Brodtkin, S.G., & Keith-Spiegel, P. Unacceptable impressions, anxiety, and the appreciation of cartoons. Journal of Projective Techniques and Personality Assessment, Apr. 1969, 33, 154-159.
- Spiegel, D., Keith-Spiegel, P., Abrahams, J., & Kranitz, L. Humor and suicide. Journal of Consulting and Clinical Psychology, 1969-70, 33, 504-505.
- Strickland, J.F. Effect of motivational arousal on humor preferences. Journal of Abnormal and Social Psychology, July 1959, 59, 278-281.

- Stump, N.F. Sense of humor and its relationship to personality, scholastic aptitude, emotional maturity, height, and weight. Journal of General Psychology, 1939, 20, 25-32.
- Sully, J. Essay on laughter. New York: Longmans Green, 1902.
- Tolor, A. Observations on joke-telling by children in therapy. Mental Hygiene, 1966, 50, 295-296.
- VanDenAardweg, G.J.M. Grief therapy of homosexuality. American Journal of Psychotherapy, Jan. 1972, 26, 52-68.
- Vargas, M.J. Use of humor in group psychotherapy. Group Psychotherapy, 1960-61, 13-14, 198-202.
- Ventis, W.L. A case history: the use of laughter as an alternative response in systematic desensitization. Behavior Therapy, 1973, 4, 120-122.
- Victoroff, D. New approaches on psychology of humor. Impact of Science and Society, Sept. 1969, 19, 291-298.
- Whitaker, C.A., Felder, R.C., Malone, T.P., & Warkentin, J. 1st stage techniques in experimental psychotherapy of chronic schizophrenic patients. In J.H. Masserman (Ed.), Current psychiatric therapies (Vol. II). New York: Grune & Stratton, 1962.
- Willmann, J.M. An analysis of humor and laughter. American Journal of Psychology, Jan. 1940, 53, 70-85.
- Wolfenstein, M. Children's humor. Glencoe, Ill.: The Free Press, 1954.
- Wolfenstein, M. Mad laughter in a 6-year-old boy. The Psychoanalytic Study of the Child, 1955, 10, 381-394.
- Yorukoglu, A. Children's favorite jokes and their relation to emotional conflicts. American Academy of Child Psychiatry, 1974, 13(4), 677-690.
- Zigler, E., Levine, J., & Gould, L. Cognitive processes in the development of children's appreciation of humor. Child Development, 1966a, 37, 507-518.

- Zigler, E., Levine, J., & Gould, L. The humor response of normal, institutionalized retarded, and non-institutionalized retarded children. American Journal of Mental Deficiency, Nov. 1966b, 71, 472-480.
- Zigler, E., Levine, J., & Gould, L. Cognitive challenge as a factor in children's humor appreciation. Journal of Personality and Social Psychology, 1967, 6, 332-336.
- Zuk, G.H. A further study of laughter in family therapy. Family Process, Mar. 1964, 3, 77-89.
- Zuk, G.H. On theory and pathology of laughter in psychotherapy. Psychotherapy, Aug. 1966, 3, 97-101.
- Zuk, G.H., Boszormenyi-Nagy, I., & Heiman, E. Some dynamics of laughter during family therapy. Family Process, Sept. 1963, 2, 302-314.
- Zwerling, I. Favorite joke in diagnostic and therapeutic interviewing. Psychoanalytic Quarterly, 1955, 24, 104-114.

A P P E N D I X A

HUMOR AND WIT APPRECIATION SCALE

Developed by: Julie E. McCarthy

Date: Winter 1979

HUMOR AND WIT APPRECIATION SCALE

Directions

Different people find different things amusing. The purpose of this activity is to find out what each of you, as individuals, finds funny and not funny.

Please rate each cartoon on a scale of 1 to 6. A rating of 1 would mean that you found the cartoon "not funny at all," 2 - "not very funny," 3 - "mediocre," 4 - "funny," 5 - "very funny," and 6 - "extremely funny." Circle only one number rating for each cartoon in your booklet. There are no right or wrong responses so mark your spontaneous reaction. There is no time limit, but people usually take about 15 minutes.

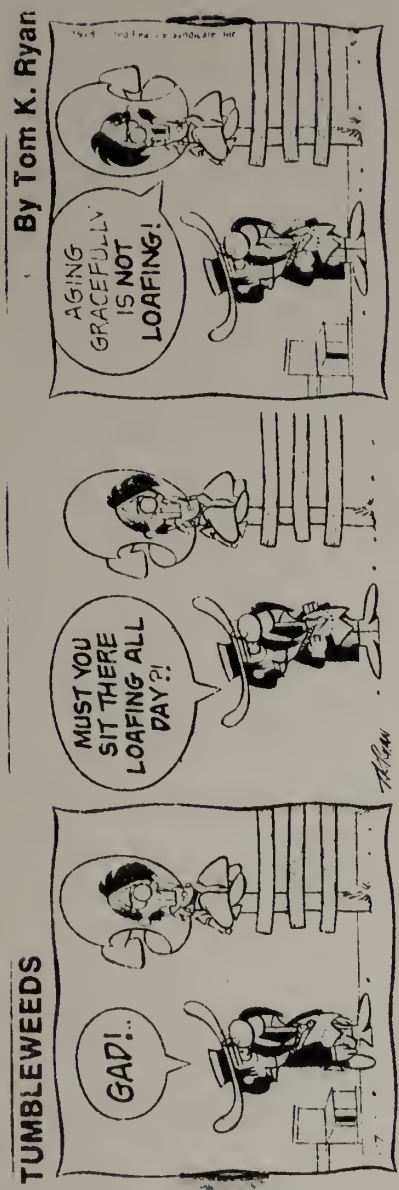
Please be sure to indicate your name, month, day, year of birth, and whether you are male or female on the test booklet. Information gathered from this study will be coded and used for research purposes only and all data and names will be kept confidential.

Cartoon #1



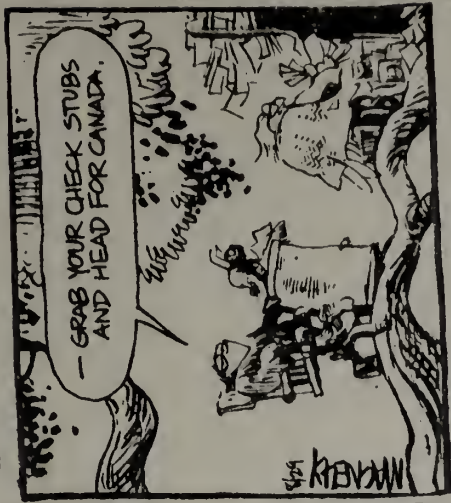
not funny at all 1 not very funny 2 mediocre 3 funny 4 very funny 5 extremely funny 6

Cartoon #2



<u>not funny at all</u>	<u>not very funny</u>	<u>mediocre</u>	<u>funny</u>	<u>very funny</u>	<u>extremely funny</u>
1	2	3	4	5	6

Cartoon #3



S H O E

not funny at all

very funny

extremely funny

mediocre

funny

not very funny

1

2

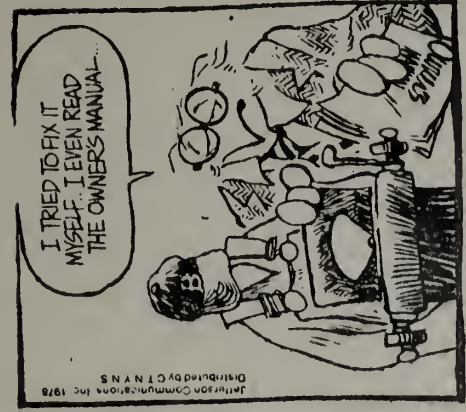
3

4

5

6

Cartoon #6



not funny at all

not very funny

mediocre

funny

very funny

extremely funny

1

2

3

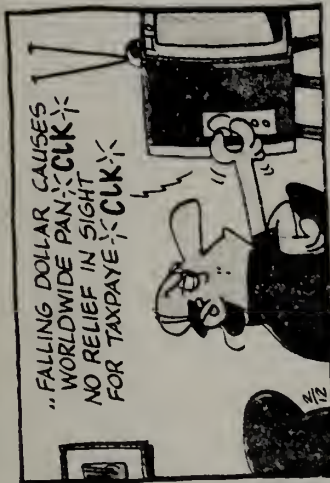
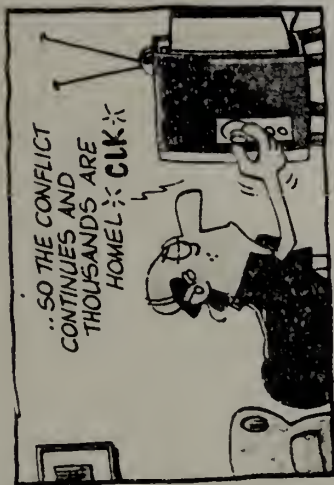
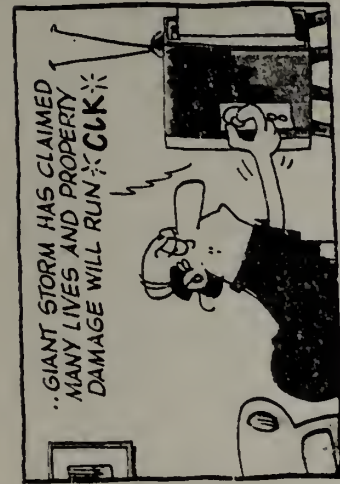
4

5

6

Cartoon #8

MOTLEY'S CREW



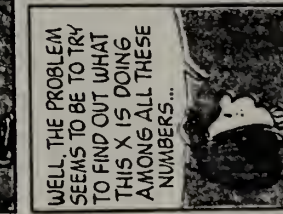
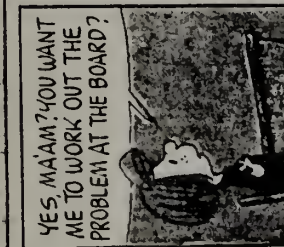
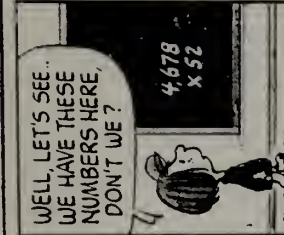
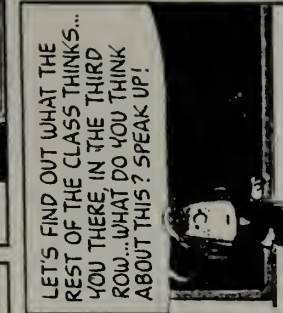
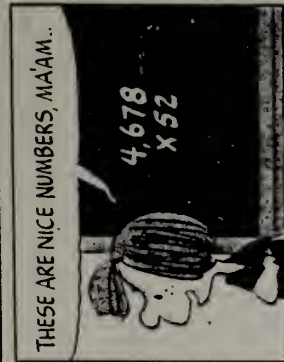
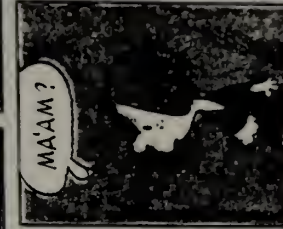
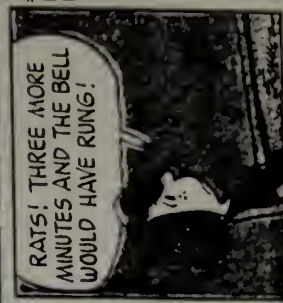
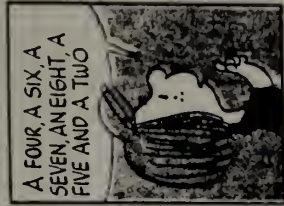
not funny at all	not very funny	mediocre	funny	very funny	extremely funny
1	2	3	4	5	6

Cartoon #11



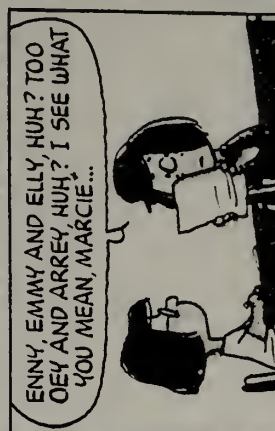
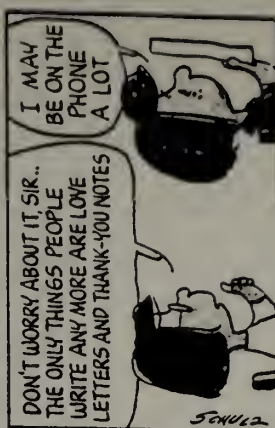
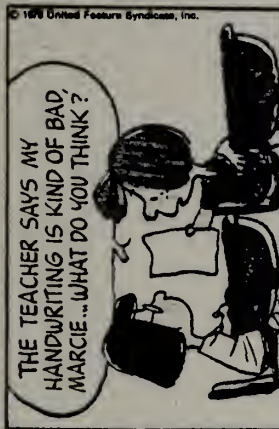
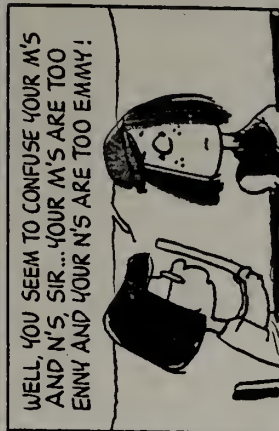
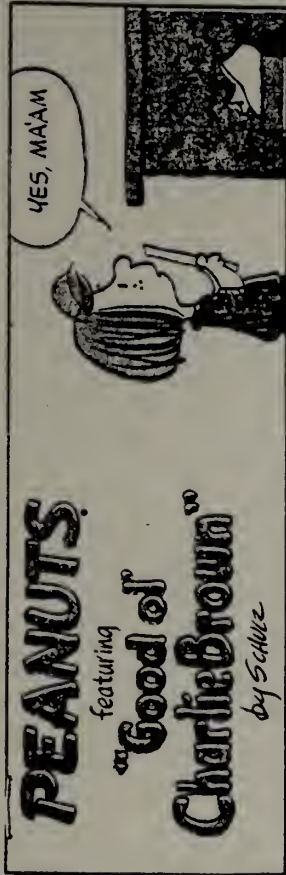
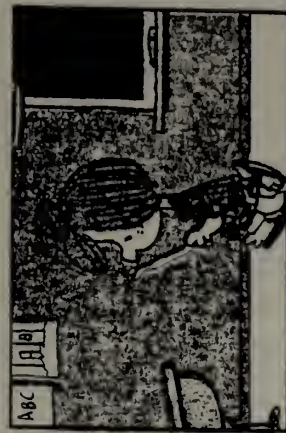
PEANUTS
 featuring
"Good ol' Charlie Brown"
 by SCHULZ

12879
1A



not funny at all 1 not very funny 2 mediocre 3 funny 4 very funny 5 extremely funny 6

Cartoon #12



not funny at all

not very funny

mediocre

funny

very funny

extremely funny

1

2

3

4

5

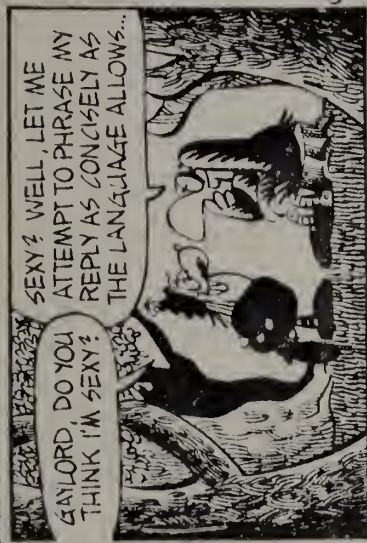
6

Cartoon #15

By R. Myers



BROOM HILDA



extremely funny

very funny

funny

mediocre

not very funny

not funny at all

6

5

4

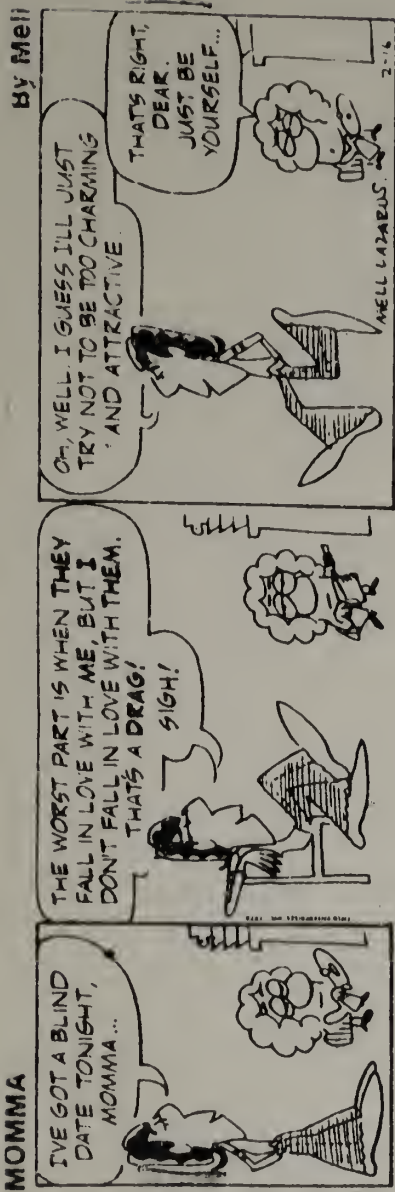
3

2

1

1

Cartoon #19



not funny at all 1 not very funny 2 mediocre 3 funny 4 very funny 5 extremely funny 6

Cartoon #21



extremely funny

very funny

funny

mediocre

not very funny

not funny at all

6

5

4

3

2

1

Cartoon #22

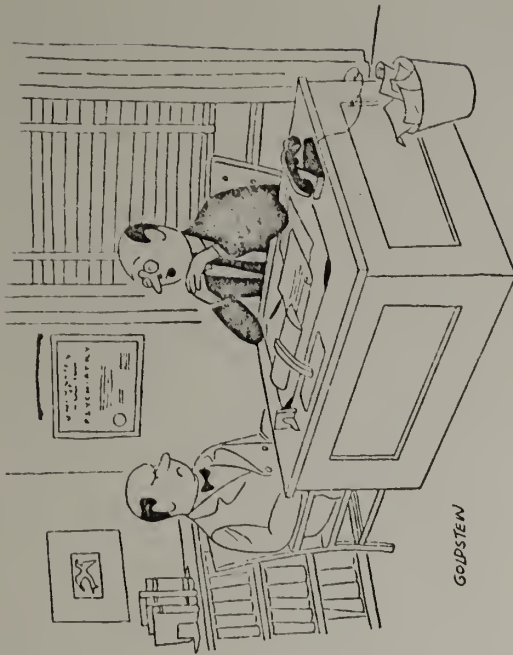


"A penny for your thoughts, dear."

MARVIN G. UNITED NEWSPAPERS MAGAZINE CORP.

<u>not funny at all</u>	<u>not very funny</u>	<u>mediocre</u>	<u>funny</u>	<u>very funny</u>	<u>extremely funny</u>
1	2	3	4	5	6

Cartoon #23



"Yours is a common enough personality problem, Mr. Rankley—you're obnoxious."

Goldstew © Saturday Evening Post

<u>not funny at all</u>	<u>not very funny</u>	<u>mediocre</u>	<u>funny</u>	<u>very funny</u>	<u>extremely funny</u>
1	2	3	4	5	6

Cartoon #24



"Watch this, I just switched the signs."

Lesson 10 Saturday Evening Post

- not funny at all 1
- not very funny 2
- mediocre 3
- funny 4
- very funny 5
- extremely funny 6

A P P E N D I X B

TEACHER RATING SCALE

Developed by: Julie E. McCarthy

Date: Winter 1979

TEACHER RATING SCALE FOR RESEARCH PURPOSES

Student _____ Date of Birth _____ Sex _____

1. Appears to be a relatively adjusted, emotionally stable personality.
___ not at all ___ not very ___ typical ___ very ___ extremely
2. Approaches tasks with perseverance and determination.
___ not at all ___ not very ___ typical ___ very ___ extremely
3. Directs hostile, sarcastic wit at others.
___ not at all ___ not very ___ typical ___ very ___ extremely
4. Listens more than talks in a group, preferring others to take the lead.
___ not at all ___ not very ___ typical ___ very ___ extremely
5. Appears to have a limited number of social contacts.
___ not at all ___ not very ___ typical ___ very ___ extremely

6. Uses insightful, light-hearted humor to deal with stress.
___ not at all ___ not very ___ typical ___ very ___ extremely
7. Displays self confidence in interpersonal relationships.
___ not at all ___ not very ___ typical ___ very ___ extremely
8. Is generally an unreliable, irresponsible personality.
___ not at all ___ not very ___ typical ___ very ___ extremely
9. Tends to become upset when faced with difficulties.
___ not at all ___ not very ___ typical ___ very ___ extremely
10. Relates to others in an outgoing manner.
___ not at all ___ not very ___ typical ___ very ___ extremely

A P P E N D I X C

SUPPLEMENTARY TABLES

TABLE 58

CORRELATIONS BETWEEN GORDON PERSONAL PROFILE AND
TEACHER RATING SCALE ADJUSTMENT TRAITS

Adjustment Traits ^a	Teacher Rating Scale				
	A	R	E	S	T.S.
Gordon Personal Profile					
A	.4030****	.1937*	.2064*	.3348****	.3572****
R	.1336	.2826***	.0815	-.0076	.1484
E	.0138	.2184*	.1717*	-.0298	.1112
S	.3420****	.0939	-.0467	.3311****	.2407**
T.S.	.3041***	.2639	.1361	.2176*	.2908***

^aA = Ascendancy, R = Responsibility, E = Emotional Stability, S = Sociability, T.S. = Total Score.

* $p < .05$, one-tailed test.

** $p < .01$, one-tailed test.

*** $p < .005$, one-tailed test.

**** $p < .001$, one-tailed test.

TABLE 59

MEANS AND STANDARD DEVIATIONS FOR ADJUSTMENT TRAITS
ON THE GORDON PERSONAL PROFILE AND
TEACHER RATING SCALE

Adjustment Traits	M	S.D.
Gordon Personal Profile		
Ascendancy	19.633	5.418
Responsibility	20.211	5.305
Emotional Stability	19.956	5.810
Sociability	21.622	6.101
Total Score	81.422	16.635
Teacher Rating Scale		
Ascendancy	2.789	1.070
Responsibility	3.433	1.074
Emotional Stability	3.083	.972
Sociability	3.800	1.024
Total Score	3.273	.810

Note: Maximum score for Gordon Personal Profile-Ascendancy, Responsibility, Emotional Stability, and Sociability = 36.

Maximum score for Gordon Total Score = 144.

Maximum score for Teacher Rating Scale = 5.

