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OBESITY AND AGGRESSION IN WOMEN

by

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Chapter I

Introduction and Overview

The area of obesity has been much discussed in the medical-nutritional literature and there has been a good deal of psychoanalytic and clinical thinking and writing about it (Bruch, 1957, 1961, 1971; Mayer, 1968; Rascovsky, Rascovsky, & Schlossberg, 1950). Conspicuously absent, however, are controlled experimental studies which attempt to validate the clinical and/or psychoanalytic speculation about psychological correlates of obesity.

Many clinical and theoretical studies of obese individuals have noted that these subjects have difficulties in the handling of aggression and in general express aggression in a more defensive manner than do normal weight individuals. Psychoanalytic theorists have related this observation to a developmental situation in infancy and childhood in which a dominating and overprotective mother (in tandem with a passive or emotionally absent father) discourages the direct, overt expression of aggression and uses feeding as a favored tension-reducing technique (Bruch, 1957, 1963, 1969; Deri, 1955; Kaplan & Kaplan, 1957). Other clinical authors have suggested that overeating and obesity themselves may in part be a means of canalizing aggression by individuals who have been unable to "develop the mechanisms to express and socialize ....

aggression at a more mature level (Rascovsky, Rascovsky, & Schlossberg, 1950)."

Few studies have directly examined in an experimental situation the handling of aggression by the obese. Glucksman, Hirsch, McCully, Barron, & Knittle (1968) did show increases of hostility and aggression following strict dieting by hospitalized obese subjects, and Feiner (1954) indicated that obese adolescent girls were more aggressive towards father figures than mothers when compared with control adolescents who were of normal weight. There have been no experimental or controlled studies which have examined whether there are in fact different methods of handling aggressiveness by the obese, as has been predicted by the clinical and psychoanalytic literature.

The present study examined the handling of aggression in obese and normal weight women. It was hypothesized that obese women would express significantly less aggression than would women of normal weight. It was also hypothesized that they would express a significantly greater proportion of their total aggression in indirect, intrapunitive and impunitive ways than would non-obese women.

Defensiveness in the handling of aggression by the obese was also explored. It was hypothesized that obese women would show significantly more conflict over

aggression and would give more ego-defensive responses than would non-obese women. Finally, it was hypothesized that obese women would over-control aggression significantly more than non-obese women.

Chapter II

Review of the Literature

The Importance of the Problem of Obesity

The issue of obesity as a physical and psychological problem is considered by many scientists and laymen to be of crucial importance (Bruch, 1957; United States Department of Health, Education and Welfare, 1966). Although it is difficult to find accurate statistics on the extent of obesity in this country, various estimates have indicated that between 5 and 15 million American men and women are more than 20 percent overweight (Bigsby & Munoz, 1962; Shipman & Plesset, 1963a; U.S. Department of Health, Education and Welfare, 1966). In a study of 5 million insurance policyholders which was completed in 1959 by the Society of Actuaries, it was estimated that 60 million individuals in this country exceed their best weight by 10 percent or more (Wyden, 1965; Wilson, 1969). It should be noted that the concept of best weights was developed by the Society of Actuaries by matching average weights for both sexes in all age groups against mortality tables. Best weights are those weights which seem to promise a maximum life span, and they range from 10 to 15 percent under average weights in America (Wyden, 1965, p. 5).

In England, Silverstone & Solomon (1965) found that about 21 percent of women between twenty and sixty years of age were obese and Craddock (1969) has said, "It is

likely that up to one half of the women over thirty in Great Britain are at least 10 percent overweight."

Studies of children and adolescents have also shown that obesity is a problem of major proportions for these age groups. In 1952 and 1953 it was found that more than 10 percent of the children examined in the public schools of Newton-Brookline, Massachusetts were obese (Johnson, Burke, & Mayer, 1956). For adolescents it has been estimated that at least ten million teenagers, representing 15 to 20 percent of the age group, are overweight (Maddox, 1963). Studies of a college student population in New York City showed that of 325 freshmen examined, approximately 29 percent of the men and 36 percent of the women might be classified as overweight (Young, 1961). In 1954 when over 3500 University of Chicago students were evaluated, it was found that 23.9 percent of the women and 29 percent of the men could be defined as obese (Szent-Gyorgi, 1957).

Obesity has been shown to increase considerably as a function of advancing age with the greatest increase occurring from the twenties to the thirties. The percentage of overweight men remains fairly constant after the thirties, however, while it continues to rise among women. "Only about one third of older men are overweight as compared with nearly one half of older women (U.S. Department of Health, Education & Welfare, 1966)."

There has been an enormous mass of literature in recent years relating to the health hazards of obesity. In 1959 Dr. Louis M. Orr, then president of the American Medical Association, commented, "Cancer is the most dreaded disease in the United States. But the greatest danger to the health of the American people is obesity (Stillman, 1967)."

Perhaps the most frequently cited and most reliable statistics concerning the physical dangers of obesity have been those of the New York Metropolitan Life Insurance Company (1960). Their findings indicate that the general mortality in the United States among obese men and women increases with each 10 percent above best weight until, "at 30 percent above, in the age groups 40 to 69, it averages 42 percent over average for men, and 36 percent over average for women. This increased mortality is brought about mainly by the increased incidence of hypertension and coronary artery disease (Craddock, 1969)." These statistics show that for many other diseases percentage of actual mortality (compared with expected mortality) in overweight adults who own life insurance is greater than for normal weight individuals. These syndromes include cardio-vascular and renal disease, diabetes, cirrhosis of the liver, appendicitis, gall stones, pneumonia and accidents (Craddock, 1969).

Definitions of Obesity

The problem of the definition and measurement of

obesity is not simple. Webster's Unabridged Dictionary (1969) and a concurring United States Department of Health, Education & Welfare report (1966) define obesity as "a bodily condition marked by the excessive generalized deposition and storage of fat." It is, however, the specification of what is excessive which leads in the literature to some confusion and conflict.

Some authors (Craddock, 1969) define clinical obesity as any weight that is 10 percent above the desirable weight shown by the Metropolitan Life Insurance Tables, and excessive obesity as weight 20 percent over the desirable weight. Others such as Bruch (1941, 1957, 1961) or Penick (1970) define obesity (or "pathological overweight") as any weight 20 percent over the standard height-weight norms. Bruch, however, feels that this definition is purely a pragmatic one and has little real relevance for the understanding of obesity as a syndrome (1957). Other authors have attempted to specify more precisely what they mean by obesity: thus Silverstone (1968) has indicated that normal weight is any weight less than 15 percent above the ideal; moderate obesity is 15 to 29 percent above the ideal; and marked obesity is 30 percent or greater than the ideal weight.

Several researchers have commented upon the necessity for description not only of the severity of obesity, but also of the chronicity or repetitive nature of the problem. Bruch (1957), for example, feels that "changes and fluctu-

ations in weight are a much better index of the severity of a weight problem than the percentage of weight excess." Rubin concurs with this opinion and implies that a crucial criterion for the establishment of true obesity is that it is of a cyclical nature (Roche Reports, 1971). Bruch (1957) also feels that it is clinically important to distinguish between the "active" and "stationary" phases of obesity since she supposes that different physiological and psychological mechanisms may be involved during different phases.

It should finally be noted that not all researchers in the field of obesity feel that body weight is the best criterion for the establishment of the presence of the syndrome. Mayer (1968) for example has pointed out that a 225 pound football player may be quite different in terms of obesity than a 225 pount sedentary man. He suggests that anthropometric measures of skinfold thickness may be a more accurate way of assessing obesity than more traditional methods.

Theoretical Formulations Relating to Obesity

Psychoanalytic Theories

In the analytic literature there are numerous comments about the development of the "oral character" but far fewer discussions relating to the ontogenesis of obesity. It has been assumed by many psychoanalytically oriented authors, however, that obesity and other disorders of

eating such as anorexia nervosa are either related to or result from pathological situations or disturbances during the oral stage of infantile development or are in some way connected to a fixation at an "oral" developmental level (Abraham, 1927; Alexander, 1934; Bruch, 1969; Bychowski, 1950; Deri, 1955; Guioria, 1967; Horney, 1937; Nunberg, 1955). Bychowski (1950) for example has proposed the concept of "autoplastic materialization" to help in the understanding of the development of obesity. Here it is suggested that some individuals may use their bodies as a favored medium for expression, and the body may be shaped by an instinctual drive. Thus, "neurotic obesity in women is an autoplastic manifestation of various unconscious impulses and ego-defenses. Among the former we find derivatives of oral drives aiming at partial incorporation and retention of both maternal and paternal love objects. This incorporation ... (expresses) early fixations (at the oral level) which become regressively increased as a result of early frustrations."

Abraham on the other hand has postulated the existence of two oral stages: a primary stage which involves intense but satisfied cravings, and a second, oral-sadistic stage in which there is a "tendency to destroy the object." Abraham suggests a possible relationship between fixation at an oral level and obesity when he concludes that oral character traints include, "a morbidly intense appetite for food ... (1927)."

Other psychoanalytically oriented theorists have postuated the development of an "oral ego" to explain the genesis of certain forms of obesity. Rascovsky, Rascovsky, & Schlossberg (1950), for example, feel that fixation at the oral level and the development of an intense oral ego are usually related to a primitive, overprotective mother-child relationship in which movement to more mature developmental levels is prevented by a simultaneous over-bounteousness vis-à-vis food and a rigid limitation in the use of other, more direct tension-reducing solutions or mechanisms in the child. Here, as is the case with numerous other psychoanalytic writers, it is understood or explicitly stated that food or oral activity in general may be a primary means of reducing tension or anxiety, and that either food or eating behavior may carry an enormous variety of symbolic connotations, satisfactions or solutions which have psychological significance far beyond the individual's basic need to eat for physiological sustenance (Bruch, 1969; Fenichel, 1945 (p. 240-242); Freud, 1938; Horney, 1937; Klein, 1948; Nunberg, 1955; Rascovsky, Rascovsky, & Schlossberg, 1950).

Family Constellation Theories

Numerous psychoanalytic theorists have indicated their sense that there is a relationship between the development of obesity and particular dynamic family constellations (Abraham, 1927; Bacon, 1934; Bruch, 1957, 1963, 1971;

Bychowski, 1950; Deri, 1955; Feiner, 1954; Fromm, 1958; Holt & Winick, 1961; Kaplan & Kaplan, 1957; Mayer, 1968; Mayo Clinic, 1960; Rascovsky, Rascovsky, & Schlossberg, 1950). Special attention in particular has been given to the relationship between mother and child and its effect on later patterns of obesity. There is a large body of literature which suggests that mothers of the obese feel a fundamental rejection of their children and compensate for this both by overprotective, restrictive and domineering behavior and excessive feeding (Bruch, 1957, 1971; Holt & Winick, 1961). In these families food becomes a crisis-solving mechanism which is of primary importance and may be endowed and charged with "an exaggerated emotional value, and (serve) as a substitute for love, security, and satisfaction (Bruch, 1971)." Bruch has also pointed to the lack of real gratification and security in the early life of the obese individual and has described a continuing, oral demandingness or uncontrollable greed which may occur as an unsuccessful attempt to solve various inter- or intra-personal problems or frustrations later in life (Bruch, 1957). Thus voracity is seen by Bruch and others as a regressive means of communication between feeder and eater (Berblinger, 1969). Bruch also notes in several studies of family transactions in eating disorders that the fat individual is typically expected to compensate the parents for disappointments in

their own lives (Bruch, 1957, 1961, 1963, 1971). She is also impressed withtthe symbiotic (or more accurately, mutually parasitic) relationship between these parents and children and comments that this is closely dynamically associated with the processes which occur in the development of schizophrenia (Bruch, 1957, 1971).

Deri has emphasized the domineering and ambivalent nature of the mother of the obese individual. She notes that these mothers are themselves frustrated in their own childhoods and marriages and consistently act to suppress the individuality of their children; overfeeding them and showing pride in their "well-fed" offspring, while later being most critical of their fatness and inability to control themselves (Deri, 1955).

The passivity of the fathers of the obese has often been commented upon in the psychoanalytic and clinical literature. Several authors, for example, have noted that these fathers are often psychologically or physically absent and this absence both increases the difficulty of identification with them and leaves the child with few supports in his struggle for autonomy from the domineering mother (Bruch, 1957, 1971; Deri, 1955; Rascovsky, Rascovsky, & Schlossberg, 1950).

One of the clearest statements of psychoanalytic thought related to obesity is one made by Deri (1955 who says,

> "The significance of the infant's food intake, as a simultaneous means of self-preservation as well as obtaining pleasure, has been recognized since the early work of Freud and Abraham. In the later oral stage, biting can express the ambivalent wish of love and aggressive incorporation of the frustrating love object simultaneously. Oral incorporation of the love object is a primitive prototype of identification. Consequently eating later can symbolize getting love as well as the wish to destroy the person (or rather the breast) on whom the earliest feeding depended. This (points) out the close connection between appetite, eating habits, and emotional relationship between mother (the earliest feeder) and child. In later development, disturbances of food intake can reflect pathological emotional relationship with either or both parents ... Not all orally fixated patients become either obese or extremely thin. Probably this happens if an oral fixation coincides with a certain hormonal constitution."

Other psychoanalytic views of obesity emphasize varying aspects of the syndrome. Some consider compulsive eating a direct result of separation anxiety and conceive of it as a cannibalistic attempt to incorporate the mother (Bychowski, 1950). Maslow and Mittleman (1941) are concerned with the aggressive and consoling aspects of overeating. They suggest that the obese individual wishes to be both the "feeder and the fed one, the lover and the loved one, at the same time, attempting thereby a fantastic self-sufficiency and independence of the frustrating love object." And finally, other authors have commented upon their sense that the obese individual is basically anxious and weak, and uses his bulk to achieve a spurious sense of safety and power, and as a protective shield against a hostile outer world (Bruch, 1957, 1963). To

summarize these psychoanalytic views, "obesity is not only an autistic symptom at a deep level of oral regression but a symptom representing an autoplastic method of discharge to the point of distorting the shape of one's own body in order to symbolically satisfy unconscious motivation (Deri, 1955)."

Cross-Cultural and Historical Views of the Etiology of Obesity

The problem of the etiology of obesity or the psychological salience of obesity once it has developed must be considered within a cultural and historical context. Holland, Masling, & Copley (1970), for example, suggest that a basic and consistent error in clinical and research studies of obesity has been the over-generalization of findings. Thus, most data have been collected from a middle or upper class subject pool, yet "conclusions have been applied generally to obese persons of all classes (and the obesity) ... is often assumed to have the same meaning for all individuals irrespective of their social group."

Bruch has also cogently suggested tha the salience of obesity as a problem for the individual depends to a large extent on the social attitudes within his culture. For example, she notes that in primitive cultures obesity may be highly valued, and that this may also be the case for poor immigrants within a society. Bruch has also related societal deprivation to obesity in a fairly direct causal rela-

tionship. In commenting about obesity in modern American society Bruch has noted that an already complicated psychobiological reaction pattern (overweight) becomes, "complicated beyond recognition by the cultural attitude which regards even a mild degree of overweight as ugly and abnormal and condemns it as a sign of greedy self-indulgence (1957, p. 410)." Feiner (1954) has also proposed that societal values of slenderness may have an impact on the obese and questions whether there may not be differences among families who use food as a symbol of security and those who do not.

Several other authors have noted the importance of cultural and social class patterns in the genesis of obesity. Goldblatt, Moore, & Stunkard (1965), for example, showed that in New York City only 5 percent of upper class women were obese, compared to 30 percent of lower class women. Trends in men were similar but less marked. These authors suggest that social pressures were the determining factors here rather than racial groupings since those who rose in socio-economic status showed a decreased incidence of obesity (12 percent), compared with 22 percent of those who moved downward in social status. Mayer (1968) has shown in a study of Swedish women that in the highest income group weight did not increase after 35, while weight continued to increase until after 60 years of age in those women from lower income groups.

Another study (within the United States) found that Negro women tended to be heavier across all age groups than white women. The authors suggest here too that this trend may be less genetic and racial and more related to economic and educational background. Thus they cite related research in which it was shown that obesity is less prevalent in those households in which the homemaker went beyond a high school education and state, "there is an inverse correlation between the socioeconomic status of a group and the prevalence of obesity in that group (U.S. Department of Health, Education, & Welfare, 1966)."

An interesting sociological viewpoint vis-a-vis obesity has been propounded by Cahnman (1968). He suggests that in antithesis to the psychoanalytic approach which considers obesity to be a kind of residual symptomatic deviance which demands an individual psychogenic explanation, it can be examined more heuristically from the sociogenic point of view. Thus he says, "the fault, to a considerable degree, lies within the situational field within which the obese person is currently moving and from which he or she needs to be extricated ... (This) situational field is marked by stigmatization ... (by which is meant) the rejection and disgrace that are connected with what is viewed as "physical deformity and behavioral aberration." Cahnman details in clear and cogent simplicity the psychological and sociological pressures to which the obese are

subjected as a consequence of social stigmatization and concludes that they are at one and the same time discriminated against, made to understand that they deserve it, and come to "accept their treatment as just." This has behavioral sequelae which will be amplified upon later in this discussion.

Hereditary vs Environmental Theories of the Etiology of Obesity

In support of the influence of heredity on the development of obesity are such studies as those conducted under the auspices of the U.S. Department of Health, Education, & Welfare (1966). This monograph on obesity clearly indicates that heredity is a major etiologic factor in this syndrome, pointing out that a high correlation exists for weight of identical twins despite environmental differences. Craddock (1969) also supports this finding. Shields (1962) has shown that monozygotic twins reared apart were closer in body weight than dizygotic twins reared together, and Withers (1964) has pointed to the fact that weights of adopted children show no correlation with those of the adopting parents, whereas weights of natural children correlate positively with those of their parents. Fellows (1931) too has suggested that a study of almost 300 Metropolitan Life Insurance workers which showed no relationship between age of onset of obesity of children and the physical build of their parents throws doubt on the envir-

onmental hypothesis which states that it is early food habits which predispose many children to obesity. In the same paper he also indicates that positive evidence substantiating a hereditary cause for obesity is the fact that parents of obese subjects show an incidence of overweight ten times greater than normal. The same trend is indicated by Mayer (1957) and Wilson (1969) who both point to evidence that suggests that if one parent is overweight there is a 50 percent chance that the child will be obese; this probability is increased to 80 percent when both parents are overweight.

Medical Theories

The medical-physiological literature concerning the etiological development and maintenance of the obese state is overwhelming: except in summary, however, the complexities and details do not seem relevant here. Some indication of the variety of causes for obesity which have been postulated and for the most part later rejected, may be seen in Feiner's (1954) summary of the literature. He cites popular medical theories as including: (a) a built-intendency to fat conservation, (b) differences in the absorption, assimilation or metabolism of food by the obese, (c) constitutional differences, (d) cerebral damage of various sorts, and (e) endocrinological difficulties. Feiner feels, however, that all these theories may be rejected on various grounds.

Gastineau (Mayo Clinic Proceedings, 1960) and Kaplan & Kaplan (1957) also support the position that no theory of abnormal metabolism or endocrinological misfunction has been convincingly proven as a cause for obesity.

After a most thorough literature survey Mayer (1968), on the other hand, concludes that slight brain lesions may play a role in the development of obesity (in parallel to the experimental studies which have demonstrated the causation of obesity in animals by the creation of bilateral lesions of the ventromedial nuclei of the hypothalamus - summarized in Schachter (1970, 1971a,b). Mayer nevertheless feels that it is most likely that obesity in humans is a symptom of a large number of different conditions and that to examine only its medical etiology is not a sufficiently sophisticated approach.

Bruch (1957) also implies that much medical research into obesity is overly simple, is complicated by measurement artifacts, and in general is too limited in scope. She suggests the possibility of the coordinated study of psychological experiences with possible associated changes in metabolic or endocrinological patterns (1957, p. 164). The U.S. Department of Health, Education, & Welfare report on obesity supports this view and after suggesting that obese individuals may be more characterized by disorders of satiety than by other disorders states, "the mechanism for regulating food intake is a very complicated one and vulnerable to many neurologic, metabolic, and psychologic dis-

turbances (1966, p. 38)." The same summary also suggests that for most individuals obesity represents a stable condition which is likely to be regulated by homeostatic mechanisms (physical and psychological) and comments, "It is clear that obesity is an integrated process, not an alien aspect of the body or psyche, and as such is part of an equilibrium. It cannot easily or for any length of time be altered without the establishment of a new equilibrium (1966, p. 64)."

Other Etiological Theories

Some of the most experimentally valid and interesting work in the area of the ontogenesis, development, and maintenance of obesity has been done in recent years by Schachter (1964, 1967, 1968, 1970, 1971a,b) and his associates (Nisbett, 1968a,b; Nisbett & Kanouse, 1969; Schachter, Goldman, & Gordon, 1968). Schachter has collected clear experimental evidence which indicates that the bodily sensations a subject defines as "hunger" differ for normal and obese subjects and in fact the process of eating in the obese is little related to any internal, visceral or other physiological state, but rather is almost wholely determined by external, food-relevant cues such as the salience and impact of the smell, sight, and taste of food. He has also provided some (more equivocal) evidence in his own work and in his reviews of that of others which indicates that for the obese, eating is but a part of a more

general state: i.e. the obese are externally controlled or stimulus bound along many dimensions and given an adequately high level of stimulus prominence, will be more reactive than normal weight individuals in other areas than food consumption (1970).

Schachter has also compared his own experimental work with obese humans to studies completed by physiological psychologists and physiologists on infrahuman species (particularly the rat) which have bilateral lesions of the ventromedial nuclei of the hypothalamus (1970). He suggests (more speculatively) that this work indicates that obesity in rats and man has a common physiological locus in the ventromedial hypothalamus which, in agreement with Mrosovsky (1971), he postulates may be functionally quiescent.

Summary of Etiological Theories

There have been many different clinical and experimental approaches to the search for the etiology of obesity in humans, ranging from Goldblatt, Moore, and Stunkard's (1965) statistical and demographic study of patterns of incidence, to Schachter's (1968, 1970, 1971) work on stimulus boundedness and the behavioral parallels between hypothalamically-lesioned rats and obese humans, to Bruch's (1957, 1969, 1971) studies of the relationship between the psychoanalytic theory of orality, family constellations, and obesity.

Many authors have cautioned, however, against a search for an overly simplistic, unitary "cause" for obesity, for example Kaplan & Kaplan (1957) note that "obesity as an abnormality ... is multicausal in origin" and Rome (Mayo Clinic Proceedings, 1960) has criticized "one explanation for all people" hypotheses and indicated his thinking that clusters of characteristics exist in the obese. Bruch too speaks strongly for a multicausal approach to etiology and has noted repeatedly (1957, 1969, 1971a,b) that both physical and psychological mechanisms may be involved. Thus she has said that metabolic changes may occur in response to emotional upsets and the "perception of and reaction to hunger undergoes change ... one may conceive of the insatiable craving for food from which obese people suffer in periods of emotional crisis as a hypersensitive response to hunger (1957, p. 410)." Also, "There are individuals in whom the genetic patterns combine in such a way that they lead to what might be called an obligatory manifestation of overweight. In others, the inherited endowment becomes manifest only if there are conditioning environmental factors working in the same direction and under the influence of particularly stressful events (Ibid., p. 88)." And finally in a most lucid presentation of the complexity of this area as a field for study she notes, "In each case of obesity we are dealing with at least three elements: the constitutional endowment, the conditioning psychodynamic life experiences, and the precipitating traumatic events.

In addition, there is the effect of the hostile response of the environment, and the self-contempt of being fat, which may turn into a continuous repetition of traumatic experiences (1957, p. 258)."

Theories of Aggression

Drive and Instinct Theories

Historically, many psychoanalytic theorists accepted the notion of an aggressive instinct. Here aggression was viewed generally as an unlearned response to some internal excitation. Freud considered the role of aggression to be subordinate to that of libido in his early theories, and focused on aggression as an "ego instinct" whose general aim was self-preservation (1925, Vol. 4, p. 81). This view emphasized the reactive nature of aggression: i.e. there is a self-preservative tendency of the ego to defend or strike back at whatever threatens it. Later Freudian theory, however, conceptualized aggression as impelled by a constant drive whose energy demanded release in one form or another. This drive he felt was related to the "death instinct," or a fundamental tendency to return to the quiescence of inorganic matter. Impulses to self-destruction constantly arise but are prevented from occurring by the turning of aggression outwards onto others, either directly or indirectly (Freud, 1959b).

Other psychoanalytic theorists deny the concept of a

death instinct, but do accept aggression as an instinct that is in some way somatically rooted. Hartmann, Kris, & Loewenstein (1949) thus consider that physiological processes lead to an increase of aggressive energy over time and attacked objects do not instigate aggressive impulses but do invite the discharge of this aggressive energy. Adler too saw aggression as a drive (or an instinct) towards fighting for satisfaction of all needs: a drive not limited to a single organ or organ system. It might be directed into numerous channels and expressed in either modified or naked and intense forms. Later formulations by Adler, however, increasingly viewed aggression as less a drive and more a reactive tendency towards overcoming obstacles. "It was seen as subordinate to a general striving for superiority and power, aggression being a pathological form of the more general tendency to 'overcome' (Buss, 1961, p. 192)."

Buss (Ibid., p. 196) has summarized the various psychoanalytic arguments for an instinct of aggression. These include (1) the pervasiveness and universality of aggression, much of which cannot be explained on a reactive basis, (2) psychotic acts of murder, suicide, or long-awaited revenge, (3) "innate" pleasure in inflicting pain on the self or others, (4) the unlearned physiological pattern for rage - the predecessor of attack, and (5) the earliness in development of the appearance of aggression. Buss comments, however, that recent experimental evidence casts

doubt on instinctual theories of aggression. He thus cites Beach (1955, p. 405) who writes,

> "the degree of assurance with which instincts are attributed to a given species is inversely related to the extent to which that species has been studied, particularly from the developmental view. Before the development of complex behavior in human infants had been carefully analyzed, it was as we have seen, a common practice to describe many human instincts. Longitudinal studies of behavior have reduced the "unlearned" components to three or four simple responses not much more complex than reflexes."

Buss feels that the weight of experimental evidence indicates that unlike an internally-stimulated drive state like hunger, aggression does require an external stimulus for its initiation. He also notes that the seeming irrationality and senselessness of such acts as psychotic murder and suicide (or to a lesser degree, sadism and masochism) cannot logically lead, a priori, to the postulation of an instinct or drive to account for them. A more parsimonious explanation might be the extreme conditionability of humans in which "virtually any stimulus can become a reinforcer with appropriate conditioning, including the stimuli of others' pain (sadism) and one's own pain (masochism) (Ibid., p. 197)." Finally Buss notes that neither the pervasiveness nor the earliness of the appearance of aggression speak for its instinctive nature and comments, "attacking behavior occurs no earlier than talking or walking; like them, it requires some maturation, and, like them

aggressive responses must be learned (Ibid., p. 197)."

Berkowitz concurs with the view that it is unnecessary and in some ways misleading and non-heuristic to view aggression as an instinct. Thus he says, "it is unnecessary to postulate the existence of a closed, entirely self-contained internal system impelling the organism to aggression. The behavior apparently has to be elicited by stimuli ultimately originating outside the organism (1962, p. 17)."

Frustration-Aggression Theory

Standing in opposition to psychoanalytic theories of aggression as an instinct or drive which in some way is innate in the organism and which automatically builds up pressure for release, is Dollard, Doob, Miller, & Mowrer's frustration-aggression theory. These authors clearly stated the following proposition,

> "This study takes as its point of departure the assumption that aggression is always a consequence of frustration. More specifically the proposition is that the occurrence of aggressive behavior always presupposes the existence of frustration and, contrariwise, the existence of frustration always leads to some form of aggression (1939, p. 4)."

Later this generalization was amended to read, "Frustration produces instigations to a number of different types of response, one of which is an instigation to aggression (Miller, 1941, p. 338)." This latter view limits the notion that frustration must of necessity lead

to aggression and leaves open the possibility that other mediating variables may intervene.

Berkowitz (1962) has carefully delineated some of the various complexities and alternatives to the original simplistic model. He notes, for example, that some aggressive acts are not directly instigated by frustrations and cites the instance of "instrumental aggression" (such as bombing raids during a war) in which the behavior is, for the individual, oriented primarily in the direction of attaining a goal, rather than doing injury (Ibid., p. 31).

Berkowitz, in the same text, also specifies the relationship between anger and aggression, while noting that Dollard et al. (1939) and Miller (1941) simply handled frustration and aggression in a simple stimulus-response framework and failed to cope at all with anger as a mediating, intervening variable. Berkowitz states that anger (defined as an emotional state) "serves as a drive-heightening the liklihood of aggressive behavior (Ibid., p. 32)." He notes, however, that there seems to be no simple, direct relationship between anger intensity and aggressive response strength and maintains that "drives such as anger do not lead to the drive-specific behaviors (aggression in this case) unless there are appropriate cues or releasers (Ibid., p. 33)."

Berkowitz is also quite clear generally about the role of past experience in frustration-aggression theory and

says,

> "prior experiences can determine whether there are any response tendencies that are stronger than the frustration-produced aggressive inclinations, and if so, the nature of these non-aggressive reactions ... Aggression may be the innately determined response to anger, but the exact form of this aggression, and perhaps even its vigor and intensity, may be affected if not molded entirely by past experiences. This previous learning also will govern the form and strength of the behavioral reactions to the nonanger emotions elicited in the frustration situation (1962, p. 47)."

A Behavioral Theory of Aggression

Buss (1961) conceives of aggressiveness as a personality variable which is both enduring and pervasive. He is concerned with the crucial role of habit in aggressiveness and in fact defines aggression as "the habit of attacking (1961, p. 198)." Buss states that he is unwilling to speculate about the innate (e.g. instinctive) vs learned origin of aggressiveness and suggests that the behavior itself may be more validly and heuristically examined. Thus Buss suggests that aggressive response strength is determined by four generic variables: "antecedents of aggression, reinforcement history, social facilitation, and temperament (Ibid., p. 198)."

Orality, Overeating, and Aggression

In the clinical and theoretical psychoanalytic literature there are numerous comments delineating the relationship between orality and aggression. Nunberg (1955) for

example points to the connection between the oral phase of psychic or libidinous organization and aggression when he describes the infant's "cannibalistic" urge to incorporate or destroy the breast, and Abraham (1927) even earlier described the "close connection of the component of cruelty in infantile instinctual life with oral erotism ..." He has distinguished two separate oral stages and their behavioral sequelae and comments, "phenomena of very intense craving and effort (may be traced) back to the primary oral stage ... but the desires derived from that earliest stage are still free from the tendency to destroy the object - a tendency which is characteristic of the impulses of the next stage."

The relationship between overeating itself and aggression has also been much noted in the psychoanalytic literature. Fromm (1958) discusses a case of obesity in which he finds the overeating to be a symbolically oral-aggressive act and says, "the hostile meaning became clear in (her) cheating on her diet after every quarrel with her mother." Holt and Winick (1961) describe their experiences with the analytic group psychotherapy of obese women and indicate their concurring sense that overeating was in and of itself probably a symbolic expression of hostility which could not be handled directly for various reasons. Kotkov (1953) too worked with obese women in a group setting and concurs that in overeating these patients "can

express their aggression against the introjected victim." Bruch (1957), Kaplan & Kaplan (1957), and Rascovsky, Rascovsky, & Schlossberg (1950) have all indicated a clinical and metapsychological position in agreement with that of Bigsby & Munoz (1962) who state that uncontrollable food intake may symbolize or canalize (among other things) "uncontrollable aggressive impulses, hostility, resentfulness, anger, and envy. Food provides an image of the enemy which ... has to be subjected or destroyed (p. 37)."

Developmental Roots of the Handling of Aggression

In the above descriptions of the meaning of overeating (or food) itself for the obese, it is implicitly assumed that the overeating itself serves as an indirect means of expressing aggression that cannot otherwise be vented more appropriately and directly. Numerous clinical writers have supported this view and have described the familial-developmental precursors of such a situation.

Bruch (1957, 1971), Feiner (1954), MacKenzie (1971), and Rascovsky, Rascovsky, & Schlossberg (1950) have all commented upon a typical family structure in which a dominant, controlling mother in tandem with a more passive, psychologically or physically absent father forces the child to surrender his autonomy and compensates for this (and for a fundamental emotional rejection) by overprotective measures and excessive feeding. Here food is endowed with inordinate emotional significance while at the same

time muscular activity, aggressiveness, or hostile feelings in general are squelched, punished, or disallowed, and submissiveness and non-assertive passivity are rewarded. Rascovsky, Rascovsky, & Schlossberg describe the situation thusly,

> "the fundamental element in the home set-up of the obese consists of an overprotective mother or substitute who bestows an exaggerated cargo of affection on the child ... She prolongs excessively her primitive relationship with her son and simultaneously prevents his liberation or passage to the following periods. She imposes on him a reality circumscribed to herself, and promotes the organization of an oral ego in all its strength. This situation is lived by the individual as a reality which always provides him with milk, breast, food, and later, as a mother who encourages him to overcome any frustration by eating, while she simultaneously limits his psychomotor activity involving the more integrated systems of expressions of aggressivity (1950, p. 147)."

Overt vs Unconscious Aggression

Clinicians thus seem to agree for the most part that the direct, undistorted expression of aggression is unlikely to occur in the obese. Bychowski (1950) has noted that the obese use primitive defenses and are "too soft to strike (the environment) efficiently with their aggression (p. 318)." Bergler (1957), Kaplan & Kaplan (1957), Kotkov & Murawski (1952), Mayer (1968), and Shopback & Matthews (1945), have described the obese as passive, non-assertive, and helpless to express aggression directly and effectively. Rascovsky et al. (1950) describe an individual case as having been unable "to develop the mechanisms to express

and socialize ... aggression at a more mature level ..." and Rubin (Roche Report, 1971) comments that repression, voluminous eating, or other defensive maneuvers may be resorted to by obese persons "rather than exhibiting a direct, angry reaction ... they repress anger because they are afraid of it." Hughes and Reuder (1968) suggest (in one of the rare experimental studies in this area) that the obese may overcontrol emotions in general (and aggression particularly) and finally Bruch (1957, 1971) has on many occasions commented upon the overt placidity and submissiveness of the obese.

Clinicians have also described the turning inward of aggression by the obese: Bacon (1934) speaks of the masochistic handling of oral aggressiveness in one case and Bergler (1957) makes the generalization that the obese are likely to be "injustice collectors" or psychic masochists in whom anger is turned "against the self and a masochistic elaboration takes place ..."

It must be noted here that several clinicians and theorists have suggested that although the overt expression of aggression by the obese tends to be indirect, turned inward, or otherwise distorted; unconscious aggression may be pronounced and potent in its psychological impact (Abraham, 1927; Kaplan & Kaplan, 1957). Bychowski, (1950) for example has noted that obesity can serve as a protection against an unconscious aggressive wish for cannibalistic incorporation or masculine aggression while the overt, conscious

behavior is soft, submissive and apparently unhostile. Bruch (1963) has also noted the discrepancy between unconscious and behavioral aggression in the obese, thus she indicates that behind a facade of placidity are hidden, "the turmoils of rage and hostility, but also megalomanic daydreams of success and aggressive self-assertion."

In the present study we were concerned with behavioral rather than unconscious aggression. The primary reason for this is that there appear to be no effective methods for the assessment of deep, 'unconscious' aggression. Projective techniques, for example, apparently reveal only those aggressive trends (in normal subjects) that could be verbalized if the opportunity were presented (Buss, 1961, p. 155). Although the foregoing summary presents clinical speculations about increased unconscious rage, most of the clinical descriptions of behavior suggest reduced levels of aggression.

Conflict and Guilt over Aggression

Many clinicians have thus suggested that aggression is for the overweight a highly charged, conflictual, and guilt-laden area (Alexander, 1934; Bacon, 1934; Bruch, 1957; Kaplan & Kaplan, 1957). Kotkov (1953) for example has described his patients as unable to acknowledge that they feel threatened by hostile thoughts and Rascovsky et al. (1950) state, "the limitation on the development of the mature forms of sadistic expression keeps the obese always full

of anxiety (about the expression of aggression) ... oral mechanisms constitute for the obese the best psychic solution for the conflict which creates in them the intense aggressive accumulation."

Aggression Towards the Obese

The fact that obese persons in this society often are the butt of much hostility, overt aggression, or more subtle ridicule, exclusion or stigmatization has been much noted in the literature (Brosin, 1959; Bruch, 1957, 1971; Cahnman, 1968; Dublin & Marks, 1958; Pennington, 1953; Rubin, 1967). Thus, Dublin & Marks (1958) have indicated their sense that social pressures on the obese adolescent girl may lead to "passivity, withdrawal, and the expectation of rejection" and Monello & Mayer (1963) have described the same clinical population as an "unrecognized minority group." Cahnman (1968) too cites evidence to show that the obese may be discriminated against to the extent that they are condemned to a lower socio-economic status, simply as a function of the stigmatization of the obesity itself. Far from reacting to this stigmatization or frustration with direct aggression or other forms of protest, however, the obese subject has come, through a long traineeship in the family (Bruch, 1957, 1971) and without (Cahnman, 1968), to accept his position as a well-deserved one "because of a sense of shame or guilt of which he cannot free (himself) ... as a result, he is unable to

escape his condition and settles down to live with it. He becomes timidly withdrawn, or eager to please, or tolerant of abuse ... he responds to expectation (Cahnman, 1968)."

Summary and Conclusions

The clinical and metapsychological literature point to a close connection between obesity and specific patterns of handling aggression. No studies have examined this hypothesized connection in a controlled fashion except for one undertaken by Feiner (1954) who examined amount of aggression directed at mother and father figures by obese and normal weight adolescent girls. He suggested the further examination of different kinds of aggression rather than its consideration in the obese as a uni-dimensional trait, and this is how it was examined in the present study.

In this study we have tested a set of propositions regarding the handling of aggression in the obese that have been generated from psychoanalytic and clinical theory. Although many analytic theorists (Freud, 1959c; Hartmann, Kris, & Loewenstein, 1949) have viewed aggression as an instinct or a drive, in the writing of those clinicians who have dealt with obesity, this issue has been generally avoided. Such authors as Beres (1952), Bruch (1949, 1969, 1970a,b,c, 1971), and Deri (1955) have been more concerned with the familial or dynamic antecedents of aggression in their obese patients than with their instinctual origins.

Beres (1952) has in fact noted that there is a practical value in isolating the study of behavior from metapsychological speculation about its theoretical roots, thus he says, "When one separates aggression as an instinctual impulse from its overt manifestations, one can avoid the confusion so often noted in clinical papers in aggression."

The present paper followed this suggestion and more broadly, the theoretical tack adopted by Buss (1961). Thus, aggressive behavior (as manifested in various personality inventories and semi-projective test situations) was examined in obese and normal weight subjects to determine if the differences described by psychoanalytic theorists and clinicians would evidence themselves within the context of an experimentally controlled testing situation.

Relevant Definitions

Aggression

Behavior aimed at the injury of some object or person (Berkowitz, 1962, p. xii).

Hostility

Although Berkowitz (1962) uses "hostility" as a synonym for "aggression," in the present study it was defined as does Buss,

> "Hostility is an attitudinal response that endures: an implicit verbal response involving negative feelings (ill will) and negative evaluations of people and events. The hostile response is neither instrumental nor autonomic. Rather, it involves the interpretation and

> evaluation of stimuli, and the negative evaluations have no impact on others unless they are verbalized (1961, p. 12)."

Anger

An emotional state or internal condition which involves facial-skeletal and autonomic components. This emotional state is regarded as making aggressive responses relatively likely to occur (Berkowitz, 1962, p. xiii). Some salient characteristics of anger are: diffuseness (of the physiological locus of the emotional response), energizing properties (e.g. the intensification of aggression), and tension (Buss, 1961, p. 10).

Hypotheses

I. Total Amount of Aggression

It was hypothesized that obese women would express significantly less total aggression and hostility than non-obese women.

II. Direct vs Indirect Expression of Aggression

2.1 It was hypothesized that for non-obese women, a significantly greater proportion of the total aggression expressed would be expressed directly in comparison with obese women.

2.2 It was hypothesized that (conversely) for obese women, a significantly greater proportion of the total aggression expressed would be expressed indirectly, in comparison with non-obese women.

III. Direction of Expression of Aggression

3.1 It was hypothesized that obese women would express significantly more intrapunitive aggression than non-obese women.

3.2 It was hypothesized that obese women would express significantly more impunitive aggression than non-obese women.

3.3 It was hypothesized that obese women would express significantly less extrapunitive aggression than non-obese women.

IV. Conflict over Aggression

It was hypothesized that obese women would show significantly more conflict over aggression than non-obese women.

V. Defensiveness in Handling Aggression

5.1 It was hypothesized that aggression would be significantly more over-controlled in obese women than in non-obese women.

5.2 It was hypothesized that obese women would give significantly more ego-defensive responses than non-obese women.

Chapter III

Methods and Procedure

Subjects

The subjects in this experiment were 80 female college students enrolled in colleges and schools of nursing within the New York City geographic area. Over 200 students were tested in order to select groups which would meet predetermined criteria vis-a-vis weight, yet be equivalent with regard to sociological variables which have been shown in previous studies to affect either weight or the handling of aggression.

The 40 obese women were equated with 40 non-obese women for such variables as age, education, ethnicity, marital status, socio-economic status, and occupation of fathers. All these variables have been shown in other studies to affect weight (Craddock, 1969; Goldblatt, Moore, & Stunkard, 1965; Lefley, 1971; U.S. Department of Health, Education, and Welfare, 1966). Socioeconomic status was assessed by means of the Warner, Meeker, and Eels Occupation Rating Scale (1960).

Obese Subjects

Obese subjects were defined as those women who were a minimum of 20 percent overweight and who had a (self-defined) problem with obesity for a period of at least two years prior to the present study. Those women with transient obese states (such as crisis-reactive or post-

partum weight gain) were eliminated as subjects.

The definition of obesity (and normal weight) was made in terms of the Metropolitan Life Insurance Company's (1959) Desirable Weight Tables, thus, "ideal weight" was considered as the range, by height, from minimum weight for small frames to maximum weight for medium frames, and the latter figure constituted the base line from which obesity was computed. Obesity was defined as a minimum 20 percent positive deviation from this base line. These standards have most recently been used by Lefley (1971; See page 61 for method of obtaining subjects' weights.)

Control Subjects

Control subjects were defined as those subjects who were within 5 percent of ideal weight, who had not experienced a positive ideal weight deviation greater than 10 percent for a period of more than one month during adult life. Presently normal weight subjects who had a previous history of obesity were thus excluded from the control group.

A number of statistical checks were performed to ensure that there was clear separation of experimental and control groups on the basis of present weight and history of past weight. Table 1 shows that a *t* test for the significance of the difference between means of weights (by height) of the obese and control groups was significant at better than the .001 confidence level.

Table 1

Weights, Demographic Variables
And Physiological Characteristics of
Obese and Control Groups

(N = 40 in each group)

Dimension		Mean	S.D.	Range	t
Weight	Obese	181.8	30.32	138-280	12.21***
	Control	118.5	12.69	90-149	
Age	Obese	19.95	1.82	18-25	.13
	Control	19.90	1.64	18-25	
Socio-Economic Status	Obese	3.60	1.33	1-6	.08
	Control	3.58	1.39	1-7	
Number of Days Post-Menstrual	Obese	14.63	9.80	0-31	1.02
	Control	12.50	8.85	0-29	
Time Overweight In Years	Obese	11.74	7.65	2-25	
	Control[1]	-	-	-	

[1] Not applicable

*** $p < .001$

Sociological and Physiological Variables

Since prior research has demonstrated the importance of cultural and social class patterns in the genesis of obesity (Goldblatt, Moore, & Stunkard, 1965; Mayer, 1968) it was deemed crucial to equate obese and control groups with regard to these dimensions. Subjects were equated for the following variables: age, education, ethnicity, religion, marital status, socioeconomic status of family, and point in the menstrual cycle. Table 1 shows that there was no significant difference in the mean age of the two groups. All subjects were white college students and no subjects were included in the sample who were of foreign extraction. It was not deemed necessary to control for intelligence as a variable since all subjects were college students, performing at a satisfactory level.

Since the majority of subjects were obtained from Catholic colleges it was decided to eliminate all non-Catholics from the sample. Socioeconomic status has been shown to be of relevance in the development of obesity (Goldblatt, Moore, & Stunkard, 1965; Lefley, 1971; Mayer, 1968) and this was assessed for each subject using Warner, Meeker, and Eels (1960) Occupation Rating Scale. Table 1 shows that the groups were successfully equated for this variable. Groups were also equated for point in the menstrual cycle since it was felt that this might be related to level of aggression. Table 1 shows that the groups were success-

fully equated for this dimension.

A rough control for degree of psychopathology was accomplished by eliminating all subjects who said they had been in individual or group psychotherapy at any time during their lives. It should thus be noted that these subjects, in contrast to many samples used in prior research in obesity, were neither self-selected nor clinically definable as aberrant, except for the overweight of the experimental group. With regard to this point, of the more than 200 subjects approached with a request for cooperation, only one said that she did not care to participate. It thus seemed unlikely that a process of self-selection in or out of the study could have had a significant effect on the variables under consideration.

Finally, it should be noted that this study was limited to women primarily because in preliminary efforts to obtain a large subject pool, women were found to be more easily available. A further rationale was that on one of the test batteries used (Mueller-Grater Scale of Aggression Conflict, 1965), women were found to be more discriminating in the way in which they responded to the instrument, and their scores seemed to the authors to be more readily interpretable than those of male subjects.

Generally, then, the sample was a relatively homogeneous one, thus increasing the difficulty in demonstrating a relationship between the variables under consideration.

Christie (1954) has indicated that differences in degree of correlation among groups may be due to the heterogeneity of the groups investigated, thus, "it simply reflects the statistical truism that the greater the range of (the variable being sampled), the more likely correlation between one attribute and another can be demonstrated in those cases where a relationship exists(p. 169)." Asch (1952, p. 613) also suggests that it is sound experimental procedure to choose socially well-defined groups.

In summary, the 80 subjects chosen for the two groups were quite homogeneous along a number of dimensions. They were all Catholic college women with a similar narrow age range. Socioeconomic level, ethnic background, and point in the menstrual cycle were all equated for experimental and control groups.

General Procedure

Subjects were tested individually or in small groups where feasible. Each subject was read the following preliminary comments and instructions before testing,

> "This is a study in the field of psychology and I appreciate your volunteering as subjects. After the study is ended I will be happy to meet with you to answer any questions. Instructions for each test or questionnaire are clearly written on each form. Read the instructions carefully before you begin. If there are any questions, please ask before you begin and I will try to clear them up.
>
> There is no time limit on any of these tests or questionnaires but generally you should work quickly and not spend too much time on any item. When you finish

any test, tell me and I will give you the next one.

These tests are all anonymous. Please do not write your name on any test materials. Any questions?"

Test Materials

Identifying Data Sheet

Subjects were initially presented with an identifying data sheet (which later was used for matching obese and control groups). The sheet was self-explanatory and asked for such ; information as age, marital status, children, occupation, education, religion, ethnic identification, medical problems, and psychotherapy. (See Appendix A for test copy.)

Buss-Durkee Inventory

Test-administration. Subjects were next presented with a mimeographed test booklet consisting of the Buss-Durkee Inventory (Buss, 1961) and the Megargee O-H (Overcontrolled Hostility) Scale (Megargee, Cook, & Mendelsohn, 1967), presented consecutively (See Appendix A for test copy). The following instructions were presented as the first page of the test booklet,

"This inventory consists of numbered statements. Read each statement carefully and decide whether it is true as applied to you or false as applied to you. You are to mark your answer by circling either the T or F directly preceding the number of the statement. If a statement is TRUE or MOSTLY TRUE as applied to you ; circle the T. If a statement is FALSE or NOT USUALLY TRUE as applied to you circle the F. Remember to give your own opinion of yourself. Do not

leave any blank spaces. Make your circles clear and distinct. Erase completely an answer you wish to change. Work quickly and do not spend too much time on any item."

The protocols for the Buss-Durkee Inventory were identified by code number (administered anonymously) in order to minimize denfensiveness following Buss (1961, p. 171).

Description of the test. The Buss-Durkee Inventory was constructed with the assumption that it would be useful and necessary to conceptualize aggression as divisible into various subcategories rather than thinking or it as a unitary entity. The following subclasses were elaborated,

"1. Assault - physical violence against others. This includes getting into fights with others but not destroying objects.
2. Indirect aggression - both roundabout and undirected aggression. Roundabout behavior like malicious gossip or practical jokes is indirect in the sense that the hated person is not attacked directly but by devious means. Undirected aggression, such as temper tantrums and slamming doors, consists of a discharge of negative affect against no one in particular.
3. Irritability - a readiness to explode at the slightest provocation. Thic includes quick temper, grouchiness, exasperation, and rudeness.
4. Negativism - oppositional behavior, usually directed against authority. This involves a refusal to cooperate that may vary from passive noncompliance to open rebellion against rules or conventions.
5. Resentment - jealousy and hatred of others. This varies from merely being distrustful to a feeling of anger at the world over real or fancied mistreatment.
6. Suspicion - projection of hostility onto others. This varies from merely being distrustful and wary of people to beliefs that others are being derogatory or are planning harm.
7. Verbal aggression - negative affect expressed in both the style and content of speech. Style

> includes arguing, shouting, and screaming; content includes threats, curses, and being overcritical.
>
> This classification includes two kinds of hostility (resentment and suspicion) and five kinds of aggression (assault, indirect, irritability, negativism, and verbal). A Guilt category was added because of interest in observing the relationship of the inhibitionary influence of guilt to the expression of behaviors that are often inhibited. Guilt was defined in terms of feelings of being bad, having done wrong, and suffering pangs of conscience." (Buss, 1961, p. 169-170)

The test consists of 75 true-false items written by the authors or borrowed from previous inventories. Items were worded so as to minimize defensiveness in responding and to reduce the influence of social desirability on choices. Thus the authors (a) emphasized report of behavior and minimized value judgments associated with hostility, (b) provided justification and rationales for the occurrence of aggression, and (c) used idiomatic language to describe aggression in order to make it more familiar and therefore more readily accepted. A prior test of the success of this item-construction technique by the senior author indicated that there was indeed a diminished effect of social desirability in responses to the inventory (Buss, 1959, 1961).

Buss and Durkee (1957) computed product-moment correlations of the eight inventory scales for men and women separately. Thurstone's centroid method was used to extract two factors from each correlation matrix. Only factor loadings of .40 and over were considered meaningful.

The first factor was defined by Resentment, Suspicion, and Guilt, and the second by Assault, Indirect, Irritability, Verbal and Negativism for women (p. 173-174). The authors feel that the factors roughly parallel hostility and aggression. Thus, although Negativism does not fit in too well,

> "Resentment and Suspicion clearly fall under the heading of hostility, having to do with the attitude that involves negative labels ... Assault, Indirect, and Verbal all fall under the heading of Aggression, having to do with a variety of attacking responses ... Irritability comes closest to anger (but is) an enduring disposition to become angry ... and loads up on the Aggression factor ... (1961, p. 174-175)."

Stability for the Buss-Durkee subscales was found, on testing of college men and women to be moderately good. Product moment correlations over a five week interval ranged from .61 to .78 except for Negativism where the correlation was .46. Buss (1961, p. 175) indicates that the shortness (five items) of this subtest probably reduced the correlation significantly. He points to the opposite effect in the test-retest correlation of .82 for the summary score and indicates that item analysis, which reduced item number in each scale, tended to work against stability.

Buss, (1961) has several sets of norms of the inventory for college students. Generally these indicated that anonymous inventory scores were slightly but consistently higher than those of signed inventories and that there were no consistent regional differences.

Hypotheses and the Buss-Durkee Inventory

Hypothesis 1 was examined in light of obese and control

group scores on the Buss-Durkee. It was predicted that obese women would express significantly less total aggression and hostility on this test than non-obese women.

Hypothesis 2.1 predicted that for non-obese women, a significantly greater proportion of the total aggression expressed would be expressed directly on the Buss-Durkee in comparison with obese women.

Hypotheses 2.2 predicted that for obese women, a significantly greater proportion of the total aggression expressed would be expressed indirectly, in comparison with non-obese women, on the Buss-Durkee.

Megargee O-H (Overcontrolled Hostility) Scale

Test administration. Part two of the first mimeographed test booklet presented to all subjects consisted of the 31 item Megargee O-H Scale. This scale of true-false statements was not separated physically or by differential numbering from the Buss-Durkee items.

Description of the test. The Megargee O-H Scale was derived from the Minnesota Multiphasic Personality Inventory originally in order to distinguish between prisoner-subjects whom the authors conceptualized as "chronically overcontrolled," and those considered to be undercontrolled aggressive types. Megargee (1967) describes the former group as "characterized by excessive inhibitions against the expression of aggression in any form (Megargee, Cook, & Mendelsohn, 1967, p. 520)."

The O-H Scale was cross-validated and further refined across three groups of California prisoner-applicants for probation and was, in its third and final form able to distinguish extremely assaultive, moderately assaultive and nonviolent criminals at a highly significant level. Other cross-validation studies of the O-H Scale indicated,

> "an association between O-H and rigidity, excessive control, repression of conflicts, and a test taking attitude which emphasizes positive adjustment and reluctance to express symptoms ... (or) to express or act out any feelings of rebelliousness, authority conflict, or alienation (Ibid., 1967, p. 524)."

It also appeared that the high scorer on the O-H avoids endorsing items which appear hostile. Women were found (as hypothesized) to obtain significantly higher scores than men and thus separate $\underline{t}$ scores were calculated for use with female samples (Ibid., 1967, p. 525). The correlation between the O-H Scale and the Edwards Social Desirability scale was not found to be significant and this was felt to indicate that the O-H was not merely measuring a set to respond in a socially desirable manner. The same article also showed the O-H Scale scores to be significantly associated with measures of control in normal samples.

> "In summary the O-H Scale was not found to measure generalized violent tendencies but, instead, reflected a strong conflict between the expression and inhibition of hostility. In research to date, midrange O-H $\underline{t}$ scores, from approximately 45 to 65 have been shown to reflect differences in control over aggressive impulses in normal college students, with higher scores indicating greater control (Megargee, 1969)."

Hypotheses and the Megargee O-H Scale

Hypothesis 5.1 was examined by comparing obese and non-obese subjects' scores on the Megargee O-H Scale. It was hypothesized that obese women would produce significantly higher scores on the O-H than non-obese women, i.e., that aggression and hostility would be significantly more over-controlled by the obese subjects.

The Rosenzweig Picture-Frustration Study

Test administration. Subjects were presented with the published (Rosenzweig, 1948) test booklet comprising the Rosenzweig P-F Study (See Appendix A for sample copy.) Instructions for this test were,

> "In each of the pictures in this leaflet two people are shown talking to each other. The words said by one person are always given. Imagine what the other person in the picture would answer and write in the blank box the very first reply that comes into your mind. Work as fast as you can."

Description of the test. This study is described by the author and his associates as a limited projective procedure for,

> "disclosing patterns of response to everyday stress that are of widely recognized importance in both normal and abnormal adjustment. The material of the test is a series of 24 cartoon-like pictures each depicting two persons who are involved in a mildly frustrating situation of common occurrence. The figure at the left of each picture is shown saying certain words which either help to describe the frustration of the other individual, or which are themselves actually frustrating to him. The person on the right is always shown with a blank caption box above. Facial features and other expressions of personality

> are purposely omitted from all the pictures. The subject is instructed to examine the situations one at a time and write in the blank box the first appropriate reply which enters his mind (Rosenzweig, Fleming, & Clarke, 1947, p. 165-166)."

The author assumed in his basis for the study that the subject would consciously or unconsciously identify with the frustrated individual in each cartoon situation and project himself into his responses.

Each of the 24 situations was scored for direction of aggression and reaction type. In the former category responses may be extrapunitive (aggression is turned onto the environment); intrapunitive (aggression is turned by the subject on himself); and impunitive (aggression is evaded in order to attempt to gloss over the frustration). Under reaction type responses may be categorized as obstacle-dominance (the barrier occasioning the frustration stands out in the response); ego defensive (the ego of the subject is emphasized); and need-persistence (the solution of the problem is emphasized - Clarke, 1951; Rosenzweig, Fleming, & Clarke, 1947).

Bjerstedt (1965) has noted that the Rosenzweig P-F Study has been widely used as a research tool in assessing various theories of frustration tolerance, direction of aggression, etc., as related to other biosocial variables, as well as for individual diagnostic assessment since its creation in 1948. Although Bjerstedt points to Rosenzweig's initial use of the neutral term "type of reaction"

(to frustration), he notes that after 1960 the author recommended the use of the term "aggression." Thus, ""Need-persistence" is considered in terms of constructive aggression and "ego-defense" in terms of destructive aggression, while "obstacle dominance" is described as a type of aggression in which the response is curtailed before either of the other modes can be actuated (Bjerstedt, 1965, p. 238)."

Normative data for the Rosenzweig P-F have been published in the test manual. The adult sample is limited to ages 20 to 29 without controls for social class, intelligence, or occupation. Above-average educational levels seem to have been over-represented. Bjerstedt (1965) has pointed out, however, that the limited normative studies performed by the author have been considerably extended in the mass of other published reports using the instrument, although no one as yet has attempted to integrate these scattered data.

In a valuable summary of the literature on reliability and validity of the Rosenzweig Technique, Bjerstedt has shown that interscorer reliability is fairly high (1965). Clarke (1951) has presented data to indicate that test-retest reliability for the test as a whole is about as high as might be expected for data of this kind (.60 to .80). Internal consistency has often, according to Bjerstedt, been found to be rather low, but this is not necessarily too great a flaw since, "There is no reason why ... first-half scores should be identical with second half

scores. On the contrary, the analysis of trend, especially, uses score discrepancies between phases for diagnostic purposes (Bjerstedt, 1965)."

In terms of validity studies, both Bjerstedt and Clarke have indicated that the usefulness of this instrument is more to be found vis-a-vis its "relational fertility in terms of meaningful result patterns" (Bjerstedt, 1965) rather than as a one purpose prediction tool. Both authors feel it would be unfair to expect the P-F to generate scores which would correspond, point for point, with specific outside criteria. Bjerstedt indicates that a large body of data shows increasing evidence of validation of the nomological net type, in which the instrument does behave according to theoretical expectation. Thus, "The main use of the P-F Study ... has been and will be for basic research for testing theories on inter-variable relationships in frustration (Ibid., p. 239)."

> "In summary, then, it can be concluded that the P-F Study, in terms of objectivity and scoring procedures, simplicity of administration, and general psychometric characteristics, as well as the accumulation of norms, and reliability and validity evidence, stands up more favorably than many other projective instruments (Zubin, Eron, & Schumer, 1965, p. 496)."

Hypotheses and the Rosenzweig P-F Study

Hypotheses 3.1 through 3.3 were tested via P-F scores. Thus: 3.1 Obese women would express significantly more intrapunitive aggression than non-obese women on the P-F scale.

3.2 Obese women would express significantly more impunitive aggression than non-obese women on the P-F Scale.

3.3 Obese women would express significantly less extrapunitive aggression than non-obese women on the P-F Scale.

Hypothesis 5.2 was also examined in terms of P-F Scale scores. Thus it was predicted that obese women would give significantly more ego-defensive responses than non-obese women on the P-F Scale.

Mueller-Grater Aggression Conflict Scale

Test administration. Subjects were next given a mimeographed test booklet consisting of a two-page set of instructions and the five page Mueller-Grater Aggression Conflict Scale. The instructions generally advised subjects that they were to try to measure the meaning of certain concepts by judging them against a series of two-dimensional descriptive scales. Subjects were instructed to rate each concept as to whether it was very closely related, quite closely related, only slightly related, or neutral with regard to each pair of scales. (See Appendix A for complete instructions and test items.)

Description of the test. The Aggression Conflict Scale was developed by Mueller and Grater (1965) in order to examine a hypothesized relationship between conflict over aggressive impulses, anxiety, and ego strength. Aggression conflict was measured through Osgood, Suci, and Tannen-

baum's (1957) semantic differential method which had previously been shown to be quite successful in differentiating various patient groups and assessing personality characteristics in normal subjects. In Mueller and Grater's (1965) study, aggression conflict was operationally defined as scores on the semantic differential which indicated that subjects saw aggression as strong and active but negatively evaluated it.

Factor analyses of an initial 16 scales and 21 concepts indicated that for female university student subjects, five concepts, namely, My Feelings of Anger Directed at Others, My Feelings of Anger Directed at Myself, Hate, Guilt, and My Mixed Up Feelings about My Behavior repeatedly defined the same factor. "In each case, a two factor solution had been achieved, in which one factor represented a coalescence of the "activity" and "potency" dimensions, and the second factor was clearly an evaluative factor (Mueller & Grater, 1965, p. 131)." "The active-potent dimension consisted of seven adjectival pairs (large-small, thick-thin, colorful-colorless, sharp-dull, strong-weak, active-passive, fast-slow), and three pairs of adjectives (fair-unfair, good-bad, productive-destructive) defined the evaluation dimension (Mueller & Grater, 1966, p. 358)." The first factor (potency-activity) accounted for 61 percent of the observed variance, while the second (evaluation) accounted for 39 percent of the common factor variance. There was clear

separation of scales on both factors. In the original study subjects were considered to have aggression conflict if they saw aggression as active and potent, but evaluated it negatively.

Preliminary analyses of the scale indicated that there were clear sex differences in response patterns. Women "maximized concept differentiation," and were "more discriminating in the way that they responded to the instrument (Mueller & Grater, 1965, p. 133)." Their scores thus seemed to the authors to be more readily interpretable than those of males.

A study of the stability of the test over a 33 day period by Mueller and Grater (1966) indicated a test-retest correlation of .75 for the active-potent factor and a correlation of .62 for the evaluation factor.

Hypotheses and the Mueller-Grater Scale

Hypothesis 4 was tested through the Mueller-Grater Aggression Conflict Scale. Thus, it was hypothesized that obese women would show significantly more aggression conflict on this scale than non-obese women.

Scoring of the Mueller-Grater Scale

An aggression-conflict score for each subject was derived in the following manner: scores on each of the adjectival pairs relating to the two dimensions, (active-potent and evaluative) were determined by the arbitrary assignment of weights of zero to six to each of the possible

seven steps of the bipolar pair. Thus, arbitrarily, a low evaluative score was given a weight of zero (with higher scores ranging up to a possible top score of six) while a low active-potent score was also weighted zero (with a possible top score for an adjective pair of six). Evaluative and active-potent scores were then summed across the five previously utilized concepts and total active-potent and evaluative scores were therefore generated. Discrepancy scores were derived by subtracting the total evaluative from the total active-potent scores for each subject.

Aggression Questionnaire

Subjects were next presented with a semi-structured aggression questionnaire designed by the author consisting of a series of eight open-ended questions about the circumstances which personally make them angry and what they do in response (how aggression is handled behaviorally in personal situations. See Appendix A for complete questionnaire.) This questionnaire was designed in order to be able to evaluate in a more clinical and "direct" manner the subjects' handling of aggression.

Each protocol was scored blind by an experienced clinician and independently by the author for each of the main hypotheses. Score differences for individual items were resolved by discussion.

Total amount of aggression. The total aggression score used was the subjects' own ratings (on a twenty-five point

scale) of how angry they became in each of six possible different situations. Since some subjects "could not remember" becoming angry in all situations presented, and since some subjects repeated given incidents, a mean total aggression score (including all six items) was computed for each subject, and obese and control groups were compared for significant differences. Split-half reliability for these data was 57 percent. Hypothesis 1.1 was evaluated with this comparison: thus, it was predicted that obese women would express significantly less total aggression than non-obese women.

Direct versus indirect aggression. All protocols were scored item by item for this variable. Bandura & Walters (1959) scoring criteria were adapted and used as instructions to raters. (See Appendix B for complete scoring instructions for the Aggression Questionnaire.) Since all items were not responded to by all subjects, percent of direct aggression, indirect aggression, and non-aggressive responses were computed and compared for the two groups. Initial inter-rater agreement for these data was 97 percent.

Hypotheses 2.1 and 2.2 were tested with this comparison. It was predicted that: 2.1 For non-obese women, a significantly greater proportion of the total aggression expressed would be expressed directly in comparison with obese women, and that conversely, 2.2 For obese subjects, a significantly greater proportion of the total aggression expressed

would be expressed indirectly in comparison with controls.

Direction of expression of aggression. This was determined by raters for each of the seven relevant aggression questionnaire items and was independently scored using the criteria established by Rosenzweig (1948). Initial inter-rater agreement for this dimension was 89 percent, which was felt to be acceptable for these data. (Scoring criteria for this dimension are included in Appendix B.) Obese and control groups were compared as to percent of total responses for each possible direction of aggression (extrapunitive, intrapunitive, impunitive).

Conflict over aggression. Raters were instructed to make a general clinical judgment about level of conflict about aggression using the whole aggression questionnaire protocol to make a decision about whether conflict was "high," "moderate," or "low." Raters were instructed (following Bandura & Walters, 1959) to score protocols for conflict if there was evidence of guilt feelings concerning aggression or other indications of discomfort or ambivalence about aggression. Raters were told to avoid the assumption that level of aggressiveness (high or low aggression) might indicate conflict and to avoid rating decisions based on "unconscious conflict." Rather, instructions were to focus on explicit evidence of ambivalence - e.g. need to atone for aggression, use of rationalization, indications of guilt, or general discomfort about aggression.

(See Appendix B for complete scoring instructions.)

Initial inter-rater agreement for this dimension was 67 percent. Disagreements were resolved with discussions by raters subsequent to the initial independent evaluations.

Numbers of obese and control group subjects classified into each of the three categories (high, moderate, low) were then compared. Hypothesis 4 was tested by means of this rating on the aggression questionnaire. It was predicted that 4)Obese women would show significantly more conflict over aggression than non-obese women.

Defensiveness in handling aggression. Each of the seven relevant questionnaire items was scored according to Rosenzweig's (1948) reaction-type criteria. Raters were thus instructed to categorize each response as "obstacle-dominant," "ego-defensive," or "need-persistive." Comparisons of obese and control groups for percent of responses falling into each category were then made. Inter-rater agreement for this variable was 93 percent, which was felt to be acceptable.

Hypothesis 5.2 was evaluated with this test. It was predicted that obese women would give significantly more ego-defensive responses than non-obese women.

Weight History

Finally E introduced the Weight History (See Appendix A for complete questionnaire) with the following comments,

> "One of the variables which is being studied is the weight history of you and other members of your family. Please try to respond as accurately as you can."

Information derived from this questionnaire was corroborated in all cases by weighing subjects. The data obtained were used to assign subjects to experimental and control groups and to check family history of obesity in an informal manner.

Termination of Testing

At the conclusion of all testing subjects were told,

> "Thank you very much for participating in this study. Please do not discuss the tests and questionnaires you have just taken with anyone. Some of your friends and classmates may be participating in this study at a later time. Discussion of any part of the study with them may invalidate the results. Thank you for your help with this project." (Instructions were modeled, with changes where relevant, after Grossman, 1966, p. 47-48.)

Chapter IV

Results

General Considerations

In this chapter the experimental data are reviewed in terms of each hypothesis individually, and presented as follows: Hypothesis, Results, and Conclusion.

Hypothesis I: Total Amount of Aggression

It was hypothesized that obese women would express significantly less total aggression and hostility than non-obese women.

Results. The hypothesis was examined in terms of scores of obese and control groups on the Buss-Durkee Inventory. The authors had extracted two factors which they felt parallelled aggression and hostility. Aggression was defined by scores on the Assault, Indirect, Irritability, Verbal, and Negativism subtests, while Hostility was found to be comprised of the Resentment, Suspicion, and Guilt subtest scores.

A *t* test for the significance of the difference between the means of obese and control groups for total aggression resulted in a *t* of 2.34 which was significant at the .05 confidence level. (See Table 2.) On the Buss-Durkee Inventory, total aggression was found to be significantly lower for obese subjects, as had been hypothesized.

Table 2 also indicates that the mean for obese subjects

Table 2

Buss-Durkee Subscores and Total Scores for Obese and Control Groups

(N in Each Group = 40)

SCALES		Mean	S.D.	Range	t
1. Assault	Obese	2.78	2.13	0-6	
	Control	3.60	2.66	1-10	1.53
2. Indirect	Obese	4.65	1.79	1-8	
	Control	5.35	2.33	1-9	1.51
3. Irritability	Obese	4.95	2.57	1-10	
	Control	6.18	3.04	1-11	1.95
4. Verbal	Obese	7.25	1.79	4-12	
	Control	7.60	2.19	3-12	.78
5. Negativism	Obese	1.68	.94	0-4	
	Control	2.38	1.15	0-4	2.98**
Aggression (Σ Scales 1 - 5)	Obese	21.33	6.04	13-42	
	Control	25.08	8.15	5-40	2.34*
6. Resentment	Obese	2.28	1.65	0-6	
	Control	3.35	2.13	0-8	2.52*
7. Suspicion	Obese	2.65	2.14	0-9	
	Control	3.75	2.08	0-8	2.33*
8. Guilt	Obese	4.38	1.90	1-9	
	Control	4.52	2.01	0-8	.34
Hostility (Σ Scales 6 - 8)	Obese	9.28	4.59	2-24	
	Control	11.65	4.73	3-19	2.28*
Total Aggression and Hostility	Obese	30.60	9.65	19-66	
	Control	36.73	11.46	11-57	2.59*

* $p < .05$
** $p < .01$

for total hostility of 9.28 was significantly lower at better than the .05 confidence level than the mean for control subjects of 11.65. Obese women thus expressed significantly less total hostility than non-obese women on the Buss-Durkee, as had been hypothesized.

Hypothesis I was also evaluated in the light of scores on the Aggression Questionnaire. On this test, self-reported degree of total aggression was calculated for the six relevant test items by computation of a mean total aggression score (total aggression score divided by number of discrete aggressive incidents reported). A *t*-test for the significance of the difference of the means was not significant. There was no significant relationship between obesity and mean total aggression on the Aggression Questionnaire for obese and non-obese women. (See Table 3.)

Conclusion. Hypothesis I was partially supported. On the Buss-Durkee Inventory both total aggression and total hostility were found to be significantly lower in obese subjects than in non-obese subjects. On the Aggression Questionnaire, however, no significant difference between obese and non-obese women for total self-reported degree of total aggression was found.

Hypothesis II: Direct vs Indirect Expression of Aggression

Hypothesis 2.1. It was hypothesized that for non-obese women, a significantly greater proportion of the total aggression expressed would be expressed directly, in com-

Table 3

Mean Total Aggression (Self-Evaluated) for Obese and Control Groups on Aggression Questionnaire

	N	Mean	S.D.	Range	t
Obese	40	13.64	3.79	6-23	.94
Control	40	12.91	3.86	7-21	

parison with obese women.

Results. Hypothesis 2.1 was examined in terms of subscores on the Buss-Durkee Inventory. One measure of direct aggression was the Assault subtest, another was the Verbal subtest, and obese and control groups were thus compared on these two scales. On the Assault dimension, the mean for obese subjects of 2.78 was not significantly different from the mean of the control group of 3.60. (See Table 2.)

The Verbal subtest was the other measure of direct aggression to be found in the Buss-Durkee Inventory. As is indicated on Table 2, obese subjects obtained a mean Verbal Aggression score of 7.25 whereas the mean for control subjects on this scale was 7.60. The *t* test for the significance of the difference of these means indicated no significant difference: obese and control groups did not differ either on the Assault or the Verbal subscales of the Buss-Durkee Inventory.

An evaluation of direction of aggression was also made in terms of subjects' scores on the Aggression Questionnaire. It was found necessary to evaluate this dimension in terms of percent of total scorable and unscorable responses since most of the questionnaires had one or more questions which were not responded to, were repetitions of previously presented incidents, or were inadequately described situations which therefore were not scorable. An evaluation of the significance of the difference between

numbers of scorable and unscorable responses for the two groups was thus made, prior to evaluation of those responses that were scorable.

Three scores were computed for all subjects: "never" (the subject claimed never to have become angry under those circumstances) or "don't remember" (the subject denied memory of anger in a given circumstance); unscorable (a response with too little elucidation of detail for scoring); or repeats (one incident served as the response for more than one question). *t* tests for the significance of the differences between means were computed for all three scores. These differences failed to achieve significance. (See Table 4.)

Since an examination of these data showed that it was unlikely that they were normally distributed, evaluation of exact scores by means of a non-parametric statistic was also computed. Fisher's Exact Test (Mainland, Herrera, & Sutcliffe, 1956) was used to evaluate these unscorable responses. Both obese and control subjects gave 31 "never" or "don't recall" responses to the Aggression Questionnaire. These were not significant since no difference existed. Obese subjects gave 12 unscorable or "non-applicable" responses compared to 11 by control subjects and this difference was not significant. Obese subjects repeated 25 incidents on the Aggression Questionnaire while controls repeated 23 incidents, and this difference was not significant. Thus, no significant differences were found for

Table 4

Mean Number of Scorable and Unscorable Responses to Aggression Questionnaire for Obese and Control Groups

(N in Each Group = 40)

		Mean	S.D.	Range	t
Scorable R's	Obese	5.30	1.27	1-7	.27
	Control	5.38	1.23	1-7	
Unscorable R's					
Never or Don't Recall	Obese	.78	1.08	0-5	.00
	Control	.78	.86	0-3	
Unscorable or Non-Applicable	Obese	.30	.46	0-1	.22
	Control	.28	.55	0-2	
Repeated Incidents	Obese	.63	.69	0-2	.32
	Control	.58	.71	0-2	

unscorable responses on examination by Fisher's Exact Test.

Analysis of direction of aggression was then made on the Aggression Questionnaire. Table 5 compares obese and control groups on this dimension and shows that the mean percent of direct aggression for obese subjects of 39.83 was not significantly different from the mean percent for control subjects of 46.30. Obese and control subjects thus did not differ significantly in percent direct aggression on the Aggression Questionnaire.

Conclusion. Hypothesis 2.1 which predicted less direct aggression in obese subjects than control subjects, was not supported. No significant differences were obtained between obese and control groups for mean percent direct aggression either on the appropriate Buss-Durkee scales (Assault and Verbal) or on the Aggression Questionnaire.

Hypothesis 2.2. It was hypothesized that for obese women, a significantly greater proportion of the total aggression expressed would be expressed indirectly in comparison with non-obese women.

Results. Hypothesis 2.2 was examined in terms of the Indirect scale of the Buss-Durkee Inventory. The mean Indirect score for obese subjects of 4.65 was not significantly different from the mean Indirect score for the control group of 5.35. (See Table 2.) On the Buss-Durkee Inventory, therefore, obese subjects did not, as had been predicted, express a significantly greater proportion of

Table 5

Direction of Aggression for Obese and Control Groups on Aggression Questionnaire

(N in Each Group = 40)

Direction of Aggression		Mean	S.D.	Range	t
Percent Direct Aggression	Obese	39.83	26.47	0-100	1.18
	Control	46.30	22.87	0-100	
Percent Indirect Aggression	Obese	29.25	20.81	0-67	.79
	Control	25.63	20.00	0-67	
Percent Non-Aggressive Responses	Obese	30.43	27.12	0-100	.41
	Control	28.10	22.79	0-100	

their aggression indirectly in comparison with non-obese subjects.

Hypothesis 2.2 was also evaluated in terms of scores on the Aggression Questionnaire. The mean percent Indirect Aggression of 29.25 for the obese group was not significantly different from the mean of the control group of 25.63. On the Aggression Questionnaire the hypothesis that obese women would express a significantly greater proportion of the total aggression indirectly in comparison with non-obese women was not confirmed.

Conclusion. Hypothesis 2.2 which predicted that a significantly greater proportion of the total aggression expressed would be expressed indirectly by obese women in comparison with non-obese women was not supported. No significant differences were obtained between obese and control groups either on the Buss-Durkee Inventory or on the Aggression Questionnaire.

Hypothesis III: Direction of Expression of Aggression

Hypothesis 3.1. It was hypothesized that obese women would express significantly more intrapunitive aggression than non-obese women.

Results. Hypothesis 3.1 was examined in terms of mean percent of Intrapunitive Rosenzweig P-F test scores for obese and control groups. The mean Percent Intrapunitive score for obese subjects of 29.33 was not significantly different from the mean percent Intrapunitive score for

control subjects of 28.06. (See Table 6.) Thus, on the Rosenzweig P-F Test, the prediction that obese women would express significantly more intrapunitive aggression than non-obese women was not confirmed.

Hypothesis 3.1 was also evaluated by scoring the Aggression Questionnaire for Intrapunitive Aggression. Scores were examined in terms of Fisher's Exact Test, a non-parametric statistic, since the distribution of scores was found to be skewed. Exact scores of obese and control groups for extrapunitive, intrapunitive, and impunitive aggression were split in terms of the presence or absence of that response, or were split as close to the median as possible, and were then compared to required score differences on Fisher's Exact Test. No significant differences between obese and control groups were obtained for extrapunitive, intrapunitive or impunitive aggression. (See Table 7.) On the Aggression Questionnaire, therefore, the hypothesis that obese women would express significantly more intrapunitive aggression than non-obese women was not supported.

Conclusion. Hypothesis 3.1 predicted that obese women would express significantly more intrapunitive aggression than non-obese women. This hypothesis was not supported either in terms of the Rosenzweig P-F Test or the Aggression Questionnaire.

Table 6

Direction of Expression of Aggression on the Rosenzweig Picture-Frustration Test for Obese and Control Groups

(N in Each Group = 40)

Direction of Aggression (Percent)		Mean	S.D.	Range	t
Extra-punitive	Obese	38.82	14.20	17-76	2.03*
	Control	45.13	13.59	10-75	
Intra-punitive	Obese	29.83	7.56	11-44	.80
	Control	28.06	6.70	14-42	
Im-punitive	Obese	31.85	9.27	13-48	2.31*
	Control	26.71	10.59	6-48	

* $p < .05$

Table 7

Number of Subjects in Obese and Control Groups Expressing Aggression in Each Direction of Aggression Category Compared to Required Differences on Fisher's Exact Test

(Scores split as close to the median as possible)

	Extrapunitive		Intrapunitive		Impunitive	
	Less than Five R's	Five or More R's	No R's	One or More R's	No R's	One or More R's
Obese (N = 40)	17	23	32	8	27	13
Control (N = 40)	15	25	32	8	34	6
Required Diffs.[1]	15 /25	23/33	32/39	8/16	27/36	6/15

[1] Differences required for significance at the .05 confidence level.

Hypothesis 3.2. It was hypothesized that obese women would express significantly more impunitive aggression than non-obese women.

Results. Hypothesis 3.2 was examined in terms of mean percent of Impunitive Rosenzweig P-F Scores for obese and control groups. The mean percent Impunitive score for obese subjects of 31.85 was significantly different from the mean percent Impunitive score for the control group of 26.71 at the .05 confidence level. (See Table 6.) The hypothesis that obese women would express significantly more impunitive aggression than non-obese women was supported on the Rosenzweig P-F Test.

Scores for Impunitive aggression on the Aggression Questionnaire were examined with Fisher's Exact Test since the assumption of a normal distribution required for valid utilization of the *t* test seemed unfounded. Table 7 shows that the number of Impunitive responses of obese subjects (13) was not significantly different from the number of Impunitive responses of control subjects (6) at the .05 confidence level.

Conclusion. Hypothesis 3.2 predicting that obese women would express significantly more impunitive aggression than non-obese women was supported in terms of scores on the Rosenzweig P-F Test, but not in terms of scores on the Aggression Questionnaire.

Hypothesis 3.3. It was hypothesized that obese women

would express significantly less extrapunitive aggression than non-obese women.

Results. Hypothesis 3.3 was examined in terms of mean percent of Extrapunitive Rosenzweig P-F Scores for obese and control groups. The mean percent Extrapunitive score for obese subjects of 38.82 was significantly different at the .05 confidence level from the mean percent Extrapunitive score for control subjects of 45.13. (See Table 6.) On the Rosenzweig P-F Test, therefore, the hypothesis of significantly lower extrapunitive aggression scores in obese women was supported.

This hypothesis was also evaluated by scoring the Aggression Questionnaire for Extrapunitive Aggression. Fisher's Exact Test was used to evaluate the significance of the difference of Extrapunitive scores on the Aggression Questionnaire, since the assumption of normalcy of distribution seemed unfounded. The obese Extrapunitive score of 17 was not found to be significantly different from the control extrapunitive score of 15. (See Table 7.)

Thus, on Fisher's Exact Test the differences between obese and control groups for the Aggression Questionnaire were not found to be significant.

Conclusion. Hypothesis 3.3 predicted that obese women would express significantly less Extrapunitive Aggression than non-obese women. This was supported in terms of scores on the Rosenzweig P-F Test, but failed to win confirmation on the Aggression Questionnaire. Hypothesis

3.3, therefore, was only paritally supported.

Hypothesis IV: Conflict Over Aggression

It was hypothesized that obese women would show significantly more conflict over aggression than non-obese women.

Results. Aggression conflict was first evaluated in terms of scores on the Mueller-Grater Aggression Conflict Scale. A discrepancy score (summed across the five concepts) was generated for each subject by subtracting the individual's total evaluative score from his total active-potent score. The mean of 70.53 for the obese group's active-potent / evaluative discrepancy was not significantly different from the mean of the control group of 83.25. (See Table 8.) Obese women thus did not show significantly more conflict over aggression than non-obese women.

Aggression conflict was also examined in terms of clinical ratings of conflict on the Aggression Questionnaire. Fisher's Exact Test (Mainland, Herrera, & Sutcliffe, 1956) was the non-parametric statistic used to evaluate score differences between obese and control groups for the three possible levels of conflict over aggression evaluated in these ratings. None of the obtained rating differences for low conflict (obese = 22, control = 23), moderate conflict (obese = 10, control = 11), or high conflict (obese = 8, control = 6) met the required minimum score differences needed for significance at the .05 confidence level for

Table 8

Active-Potent / Evaluative Factor Score Discrepancies (Mueller - Grater Test) for Obese and Control Groups

(N in Each Group = 40)

		Mean	S.D.	Range	t
Total Active-Potent Evaluative Discrepancy*	Obese	70.53	30.19	0-139	1.85
	Control	83.25	31.23	36-160	

* Derived by subtraction of individual evaluative factor scores from individual active-potent factor scores.

groups with N = 40. (See Table 9.) On the Aggression Questionnaire, therefore, aggression conflict was not found to differ significantly in obese and non-obese women. The hypothesis was not supported.

Conclusion. Hypothesis IV predicting that obese women would show significantly more conflict over aggression than non-obese women was neither confirmed on the Mueller-Grater Aggression Conflict Scale nor on the Aggression Questionnaire.

Hypothesis V: Defensiveness in Handling Aggression

Hypothesis 5.1. It was hypothesized that aggression would be significantly more over-controlled in obese women than in non-obese women.

Results. This hypothesis was examined in terms of Megargee's (1967) Over-Controlled Hostility (O-H) Scale. The mean O-H score for obese subjects of 15.33 did not differ significantly from the mean O-H score for control subjects of 14.53. (See Table 10.)

Conclusion. Hypothesis 5.1 predicting that aggression would be significantly more over-controlled by obese women than by non-obese women was not supported in terms of data obtained from the Megargee O-H Scale.

Hypothesis 5.2. It was hypothesized that obese women would give significantly more Ego-Defensive responses than non-obese women.

Table 9

Clinical Ratings of Aggression Conflict on Aggression Questionnaire Compared to Required Differences on Fisher's Exact Test

Aggression Conflict Level	Obese (N = 40)	Control (N = 40)	Required Minimum Difference*
Low	22	23	22/32
Moderate	10	11	10/23
High	8	6	6/18

* Score differences required on Fisher's Exact Test for significance at the .05 confidence level with groups of N = 40.

Table 10

Megargee Over-Controlled Hostility Scores for Obese and Control Groups

(N in Each Group = 40)

		Mean	S.D.	Range	t
Megargee O-H Scores	Obese	15.33	3.05	9-22	1.21
	Control	14.53	2.87	10-22	

Results. Ego-Defensive responses were evaluated for obese and control groups first in terms of scores on the Rosenzweig P-F Test. The mean percent of Ego-Defensive responses for the obese group of subjects of 47.11 was significantly different from the mean percent of Ego-Defensive responses for the control group of 51.85 at the .05 confidence level. (See Table 11.) These means did not differ in the predicted direction, however, rather non-obese subjects had significantly more Ego-Defensive responses than obese women.

Hypothesis 5.2 was also examined in terms of score differences in Ego-Defensiveness for obese and control groups on the Aggression Questionnaire. The mean percent of Ego-Defensive reaction type of 14.67 for the obese subjects did not differ significantly from the mean percent of Ego-Defensive reaction type of 15.45 for the control subjects. (See Table 12.) Hypothesis 5.2 thus was not supported by results on the Aggression Questionnaire.

Conclusion. Hypothesis 5.2 predicted that obese subjects would give significantly more Ego-Defensive responses than non-obese women. The hypothesis was neither confirmed in terms of results on the Rosenzweig P-F Test nor on statistical examination of the relevant Ego-Defensive scores on the Aggression Questionnaire.

Table 11

Reaction Type on the Rosenzweig Picture-Frustration Test for Obese and Control Groups

(N in Each Group = 40)

Reaction Type - %		Mean	S.D.	Range	t
Obstacle Dominance	Obese	20.31	8.10	8-39	1.37
	Control	22.76	7.94	9-44	
Ego-Defensive	Obese	47.11	10.76	30-71	2.10*
	Control	51.85	9.42	28-67	
Need-Persistive	Obese	32.58	12.39	4-54	2.81**
	Control	25.39	10.67	5-48	

* p of $\leq$ .05
** p of $<$ .01

Table 12

Reaction Type on the Aggression Questionnaire for Obese and Control Groups

(N in Each Group = 40)

Reaction Type - %		Mean	S.D.	Range	t
Obstacle Dominance	Obese	45.47	27.70	0-100	1.37
	Control	53.69	25.26	0-100	
Ego Defensive	Obese	14.67	18.59	0-50	.18
	Control	15.45	17.86	0-67	
Need-Persistive	Obese	40.12	24.92	0-100	1.71
	Control	30.45	25.69	0-100	

Subsidiary Findings

Estimated Weights of Subjects

Estimated weight two years ago. All subjects were asked what they weighed two years ago and what they expected to weigh in two years, and these data are summarized in Table 13. It should be noted that obese subjects were pre-selected for the experimental sample partly on the basis of having a history of obesity for at least two years: within this group, however, it was still possible for subjects to have weighed less two years ago, but even at that lower weight to have weighed more than the minimum figure required for inclusion within the experimental sample.

Table 13 shows that 16 obese subjects said they weighed more or the same amount two years ago, while 19 control subjects said they weighed more or the same amount two years ago. These differences failed to meet the required minimum score differences for significance at the .05 confidence level on Fisher's Exact Test. Obese and control groups did not differ significantly in terms of their estimates of having weighed more or less two years ago.

Estimated weight in two years. All subjects were asked to estimate what they expected to weigh two years from now and Table 13 summarizes these results. Thirty-six obese subjects expected to weigh less in two years, while 12 control subjects had the expectation of weighing less. This difference was significant at the .01 confidence level when

Table 13

Past and Future Weight Estimates of Obese and Control Subjects Compared to Required Differences on Fisher's Exact Test

Estimated Weight of Two Years Ago	Obese (N=40)	Control (N=40)	Required Minimum Difference	P
More or Equal	16	19	16/26 [1]	N.S.
Less	24	21	21/31 [1]	N.S.
Estimated Weight Two Years Hence				
More or Equal	4	28	4/15 [2]	.01
Less	36	12	12/35 [2]	.01

[1] Score differences required on Fisher's Exact Test for significance at the .05 confidence level with groups of N = 40.

[2] Score differences required on Fisher's Exact Test for significance at the .01 confidence level with groups of N = 40.

examined in terms of Fisher's Exact Test. To summarize: a significantly greater number of obese subjects expected to weigh less in two years than did control subjects.

Estimated Present Weights of Subjects Compared to Actual Weights

All subjects were asked to give their present weights on the Physical Information Questionnaire; this estimate was checked by weighing each subject at the end of the testing procedure. A discrepancy score (between estimated and actual weight) was thus generated for each subject by determining the percent deviation of the estimated weight over or under the actual weight. The mean percent deviation for obese subjects was - 5.46 compared to the mean percent deviation for control subjects of - 1.28 and this difference was significant at better than the .01 confidence level. (See Table 14.) In summary, although both obese and control groups tended to underestimate their actual weights, the obese group underestimated to a significantly greater degree than the control group.

Deviation of Ideal From Actual Weight for Obese Subjects

Obese subjects were asked as part of the Physical Information Questionnaire to give the weight that they would like to be. Computation of the percent discrepancy between this ideal weight and actual weight was then made. The mean percent ideal/actual deviation was 25.81 (S.D. = 9.73, Range = 11.8 to 46.7).

Table 14

Deviation of Estimated Weight From Actual Weight of Obese and Control Groups

(N in Each Group = 40)

		Mean	S.D.	Range	t	
Percent Weight Deviation	Obese	-5.46	4.93	1.3 to -25	5.03	**
	Control	-1.28	1.83	1.5 to -5.8		

** p of < .01

Diet Information

All subjects were asked whether they were presently on a diet and if they had ever dieted in the past. Table 15 summarizes these data and indicates that 30 obese subjects were presently on diets in comparison to 10 control subjects. This difference was significant at the .01 confidence level when examined via Fisher's Exact Test.

Table 15 also shows that 37 obese subjects had been on diets in the past as compared to 19 control subjects and this difference was also significant at the .01 confidence level when examined in terms of Fisher's Exact Test. Thus, significantly more obese subjects were on diets in the past than control subjects.

Subsidiary Rosenzweig Picture-Frustration and Aggression Questionnaire Findings

Further examination of data obtained from the Rosenzweig P-F Test showed that the mean percent Group Conformity Rating (G.C.R.) for the obese group of 67.35 did not differ significantly from the mean percent G.C.R. rating for the control group of 70.34. (See Table 16.) The G.C.R. was derived by comparing each subject's scores "with those expected on twelve items previously found to elicit a particular variety of response from normal subjects significantly often to justify their use as criteria (Rosenzweig, 1967)." The G.C.R.'s obtained from these groups of subjects compare favorably to the G.C.R. cited

Table 15

Diet Histories of Obese and Control Groups Compared to Required Differences on Fisher's Exact Test

(N in Each Group = 40)

Subjects On Diet	Obese	Control	Required Minimum Difference	P
Now	30	10	10/23*	.01
In Past	10	19	19/32*	.01

* Score differences required on Fisher's Exact Test for significance at the .01 confidence level with groups of N = 40.

Table 16

Group Conformity Rating (G.C.R.) Scores on the Rosenzweig Picture-Frustration Test for Obese and Control Groups

(N in Each Group = 40)

		Mean	S.D.	Range	t
G.C.R. Percent	Obese	67.35	12.01	40-87.5	1.20
	Control	70.64	12.40	43-89.3	

by Rosenzweig (1967) as the normative standard for an adult female sample, of 67 percent.

Summary of Results Relating to Hypotheses

No hypotheses were supported by Aggression Questionnaire results. Possible reasons for this will be discussed in the following chapter.

Hypothesis 1, which predicted that obese women would express significantly less total aggression and hostility, was supported on the Buss-Durkee Inventory.

Hypothesis 2.1 (which predicted less direct aggression in obese subjects than control subjects) was not supported on the Buss-Durkee Inventory.

Hypothesis 2.2 (which predicted higher indirect aggression in obese subjects than in control subjects) was not supported on the Buss-Durkee Inventory.

Hypothesis 3.1 (which suggested more intrapunitive aggression by obese women than controls) was not supported on the Rosenzweig P-F Test.

Hypothesis 3.2 (which predicted more impunitive aggression by obese women than controls) was supported on the Rosenzweig P-F Test.

Hypothesis 3.3 (which predicted less extrapunitive aggression in obese than non-obese women) was supported on the Rosenzweig P-F Test

Hypothesis 4 (which suggested more conflict over aggression in obese than non-obese women) was not supported on

the Mueller-Grater Scale.

Hypothesis 5.1 (which suggested greater over-control of aggression in obese women) was not supported by data obtained from the Megargee O-H Scale.

Hypothesis 5.2 (which predicted significantly more ego-defensive responses in obese women) was not supported on the Rosenzweig P-F Test.

Summary of Subsidiary Results

Subjects did not differ on their estimates of having weighed more or less two years ago, but obese subjects had a significantly greater expectation of weighing less two years hence.

Obese subjects significantly underestimated their present weight when compared to controls.

Significantly more obese than control subjects were on diets (presently and in the past).

Chapter V

Discussion

Discussion of Hypotheses

Clinical observations have noted differences in the ways that obese persons handle aggression as opposed to normal weight individuals. For example, obese persons were reported to be generally less aggressive and hostile than their normal weight counterparts. This observation was confirmed in the present study on one test (the Buss-Durkee Inventory) but not supported by scores on the Aggression Questionnaire.

The tests were probably tapping slightly different aspects of behavior. The Buss-Durkee was precise and specific in its description of behavioral incidents, and controlled adequately for social desirability; the Aggression Questionnaire requested data in an open-ended fashion and had no controls (e.g. inquiry) for vagueness or lack of elaboration of responses. Further, the Aggression Questionnaire score for total aggression was based on the question, "How angry did you get?". It became apparent that each response was a self-rating of an emotional state and need not have corresponded to expressed aggressive behavior. One subject, for example, described a feeling of "rage" at an incident, but responded behaviorally by "(trying) to work it out reasonably."

Buss (1961) has described anger as an internal condition

which may have energizing properties, but the behavioral expression of this (e.g. an aggressive response) theoretically may be mediated by many intervening variables (Berkowitz, 1962). Obese subjects may have felt as angry as normal weight subjects, but have responded with lower levels of behavioral aggressivity. It is quite possible, therefore, that responses to the Aggression Questionnaire did not differentiate these levels. It is suggested that "felt anger" may be as intense for obese subjects as for normal weight individuals.

Theoretical formulations about specific family constellations and psychodynamic interactions in the families of the obese have placed particular emphasis on the existence of an overprotective and controlling mother who simultaneously encourages the handling of any frustration by eating, and discourages activity generally and aggressiveness specifically (Bruch, 1957, 1970; Rascovsky, Rascovsky, & Schlossberg, 1950). Although the finding of diminished total aggression and hostility in this study cannot serve in any way as a direct test of this theoretical position, it was generally experimentally supportive of what hitherto had been an observational, uncontrolled clinical impression.

The juxtaposition of family constellation theories and predictions about aggression in the obese with a frustration-aggression model might lead to the postulation of

increased aggression in the obese in the following manner. The fact that obese persons are the butt of much hostility, exclusion, ridicule, and stigmatization has been clearly documented in the literature (Bruch, 1971a,b; Cahnman, 1968; Monello & Mayer, 1953). Thus, obese persons are frequently and repeatedly exposed to unusual social and personal frustrations which theoretically should result in increased rage and aggressiveness. That such was not the case (at least in this study) is explicable in terms of a more complex view of frustration-aggression theory generally, which takes mediating variables such as past experiences into account. Thus, Berkowitz (1962) has noted that prior experiences may shape the form or intensity of the individual's response to frustration. Here we can see where the clinical descriptions of maternal 'training' of the obese in passivity, non-differentiation of emotional states, and feeding as a psychic solution for all conflict are not confronted with irreconcilable discrepancies by a frustration-aggression model. This prior training in non-aggressiveness clearly has the potential for subversion of the increased hostility and aggressiveness in the obese which might be expected on the basis of higher levels of environmental frustration, and as such has been supported by the present results.

The second set of hypotheses generated in the present study related to the direct and indirect expression of

aggression in obese and normal weight women and generally predicted reports of less expression of direct aggression by the overweight subjects. This hypothesis was not supported.

One compelling reason for this non-confirmation of the two relevant hypotheses is to be found in the nature of the test instruments which were used and in the way that they were evaluated in the present study. The Buss-Durkee Inventory is a 75 item test which is broken down into eight subscales, each of which necessarily has fewer items in it. Buss and his associates (1961) focus in clinical studies on the two factors, aggression (composed of five subscales) and hostility (composed of three subscales), that the subscales have repeatedly loaded on, rather than on the individual scales themselves. It is possible that in the present study, we were demanding too much precision from a true-false inventory when hypotheses were generated which required differentiation of two groups of homogeneous subjects on three subscales with only nine to thirteen items in each. Thus, Buss (1961) has indicated that although the stability of the various subscales is moderately good, clearer results have been obtained by using the factor scores and that item analysis (and by implication, subscale analyses) comparing homogeneous populations will of necessity be more tenuous. It should be noted, however, that no other reliable instrument was available which even

attempted to specify more precisely the potentially non-unitary ways in which aggression may be expressed: most tests use aggression as a more global concept.

Finally, inspection of the Buss-Durkee data revealed that the mean scores for obese subjects were all lower than the means for control subjects. It may well be that we must conclude that the need to suppress aggressive behavior generally has overshadowed any potential tendency to express it indirectly. In any case, it is only a clinical assumption that lowered behavioral aggressiveness generally (especially in the face of higher interpersonal and experiential frustration) implies a storing-up of some sort of impulse towards aggression which must either be expressed in indirect ways or, for that matter, handled by uncontrolled food intake.

Here some discussion of the catharsis hypothesis of aggression is in order. The hypothesis was formalized by Freud (1959c) and central to it is the notion of an hydraulic system in which aggressive energy pushes to be discharged. The concept that open aggression reduces this internal tension and excitation is a central part of this view, as is the idea that if overt aggression is prevented, the aggressive energy will be forced into other channels. For example, the aggressive energy or tension might be displaced or generally expressed indirectly. Research has shown that overt, direct aggressive behavior is indeed

tension reducing, as the model suggests (Hokanson & Burgess, 1962; Hokanson & Shetler, 1961) but what is of salience for the present study is the possibility, recently raised by several experiments (Hokanson & Edelman, 1966; Hokanson, Willers, & Koropsak, 1968; Megargee & Hokanson, 1970) that overt aggression may not in fact be a necessary condition for cathartic effects to occur. These authors have demonstrated that for some women, friendly or generally nonaggressive responses can reduce the physical tension that follows provocation or frustration. Thus, Megargee and Hokanson conclude,

> "the tension reducing effects of a particular counter-response to an interpersonal threat is an acquired, learned reaction; and ... the observed cathartic effects of aggression are only a special case of a more general set of autonomic-behavioral learning processes ... any behavioral response to a provocation is potentially capable of acquiring cathartic-like properties (1970, p. 80)."

For the present study, the implications of Megargee and Hokanson's research seem clear. Despite experiences of stigmatization and increased environmental frustration of the obese, we need not assume a dammed-up potential aggressiveness which must burst forth in indirect forms if direct solutions are literally or intrapsychically unavailable. As has been discussed earlier, a long familial apprenticeship in 'good,' passive, non-aggressive handling of difficult or potentially aggression-arousing situations may serve for obese women (and perhaps for women in this culture

more generally) as sufficiently tension-reducing.

The question of whether eating itself serves as a tension-draining operation for the obese of course has not been examined formally in the present study. Schachter (1971) has suggested that eating in the obese may not be particularly related to situational or internal tensions of any sort, but is more closely tied to what he describes as a stimulus-boundedness where the availability and stimulus prominence of food exerts more of a control for obese persons than does internal psychic stress. In the present study an examination of answers to the question on the Physical Information Questionnaire which asked for identification of factors relating to weight change did give some anecdotal support for Schachter's thesis. Three subjects did mention nervousness or tension as a cause for weight gain, half a dozen, however, spoke jokingly of constant snacking when food was easily available.

The hypotheses relating to the direction of expression of aggression in obese women merit some discussion. Obese women were found to express significantly less extrapunitive aggression than non-obese women on the Rosenzweig Picture-Frustration Test. Here it should be noted that the Rosenzweig specified the same frustrating situations for all subjects, gave clear scoring examples (as a consequence of this), and was thus easy to evaluate along this dimension at least. On the other hand, raters found scoring of

the Aggression Questionnaire for this variable extremely difficult because of the numbers of subjects who gave insufficiently detailed or vague descriptions to the extent that unambiguous scoring became problematic. This test also had limitations caused by the method of its administration which will be discussed later. For the present, then, our primary focus will be on results obtained from the Rosenzweig Picture-Frustration Test.

What is of interest in terms of the results on the Rosenzweig for direction of expression of aggression is the question of what happened to the lowered Extrapunitive aggression in the obese. On the Rosenzweig, response choices are limited to only three categories - Extrapunitive, Intrapunitive, and Impunitive aggression. A reduction in one area necessitated a rise in the other categories. The critical question thus becomes one of whether significant differences subsequently occur and why. In this study, the Impunitive scores of the obese subjects did rise sufficiently to achieve significance in the predicted direction (i.e. obese females produced significantly higher Impunitive aggression when compared to non-obese females.) These findings of course did not support the clinical assumption (on which Hypothesis 3.1 was based) that the obese generally turn aggression inward. The discrepancy between the clinical observations and these results may have involved a basic difference in populations.

Clinical descriptions and most research studies in this field have been based, for the most part, on a very special sample of overweight persons: those who were experiencing sufficient psychic pain to impel them to seek psychotherapy, or those who felt desperate (and concommitently helpless) enough to enter into research programs, even as hospitalized in-patients, which implicitly promised the possibility of weight loss. Our obese subjects were different. All subjects were performing adequately in school; none had felt sufficiently troubled to seek psychotheraputic assistance, and most critically, none were self-selected or identifiable as patients. The "masochistic elaboration" and turning inward of aggression (Bergler, 1957) that has been described so repeatedly in the literature is more a characteristic of the obese patient and seems not to be so characteristic of all obese persons.

For these more "normal" obese subjects we do see that Extrapunitive aggression was lowered, as compared to non-obese subjects and that Impunitive or 'no-fault' solutions were generally offered for potentially aggression arousing situations. What is also worthy of note here is the finding that the Need-Persistive reaction type solution was also significantly higher in obese subjects than in the control subjects, and the finding that Ego-Defensive responses were significantly higher in the non-obese; a result in direct opposition to the hypothesis. What seems clear

is that these obese subjects have worked out a style of handling aggressiveness (at least as indicated on these tests) which cannot be described as particularly self-injurious or pathological. We might speculate that obese subjects, through family training and/or interpersonal stigmatization and exclusion, do not feel that they have the 'right' to defend themselves (for example, by responding with Ego-Defensive solutions on the Rosenzweig) and this would surely be congruent with Cahnman's (1968) descriptions of the obese as both eager to please and tolerant of abuse. The increase in Impunitive and Need-Persistive scores fits well within this theoretical framework: a response to an aggressive or frustrating situation which focuses on smoothing over, non-focusing of blame, and working out an effective solution to the initially frustrating situation easily can be seen as an effective way of both avoiding future aggression and generally 'pleasing' a potentially threatening other.

The finding of no greater aggression conflict (on the Mueller-Grater Aggression Conflict Scale) and no more over-control of aggression (on the Megargee O-H Scale) in contrast to the expectation that the obese subjects would be both more conflicted and over-controlled was probably again a function of differences in populations being described. As was noted before, these were 'normal' subjects, the standardized test instruments were reliable and

valid, and in this study a very carefully equated control group was chosen as a standard for comparisons. Clinical descriptions, on the other hand, have been based on small (often N = 1) samples, with little or no control data available. In any case, the pattern for these obese subjects seemed clear: their responses to provocation or frustration were oriented towards the search for effective solutions and "friendly," impunitive, glossing-over of difficulties. As Megargee and Hokanson (1970) have suggested, these responses may have acquired (perhaps through past familial training) sufficient cathartic-like properties so that conflict over aggression, or for that matter, its over-control, never becomes an issue.

Serendipitous Findings

Some serendipitous findings seem worthy of discussion. At the beginning of the Physical Information Questionnaire all subjects were asked to give their weight; as the last part of the testing procedure, subjects were weighed simply as a cautionary check on their self-report. Obese subjects underestimated their weights to a significantly greater extent than non-obese subjects. What was fascinating, however, was the almost universal shock and dismay of the obese subjects at this discrepancy. It did not seem to the experimenter that this was all or even mostly 'lying' or conscious shading of the truth. Rather, a clear clinical impression of true unconscious denial was present -

with many subjects unwilling or unable to face their true weight. More than half of the obese subjects accused the experimenter of having an inaccurate scale whereas none of the control group did so. The extent of the denial becomes particularly poignant in the face of two other findings. First, three quarters of the obese subjects said they were presently trying to lose weight; second, ninety percent of the obese sample felt that they would weigh less in two years despite the fact that all subjects had been more than twenty percent overweight for at least the past two years, and sixty percent had in fact gained weight (beyond the twenty percent minimum) in the past two years. What we were seeing here was a quality of hopefulness which was at one and the same time extraordinary but understandable. These findings clearly speak against Cahnman's (1968) statement that the obese person who is "unable to escape his condition ... settles down to live with it." It may be valid to describe some obese persons as accepting stigmatization, exclusion, and prejudice towards them as deserved; that they continually persist in fantasy or actual weight-loss efforts does not support Cahnman's descriptions of a passive, resigned state. Clearly, further well-controlled research into these questions about denial, hopefulness, and general levels of psychic resignation are in order.

Limitations of the Present Study and Possibilities for Future Research

Generalizability of this study is limited to the nature

of the sample employed. Subjects were predominantly white Catholic, middle-class college students and great care should thus be taken in generalizing too far beyond this population. This leads directly, however, to the question of viable future research in this area. The question of whether the handling of aggression differs for obese men, for obese blacks, or for obese members of lower socio-economic classes generally surely merits examination.

A futher limitation of the present study was to be found in the manner of administration of the Aggression Questionnaire. The circumstances of testing (and the length of the total battery generally) made it impractical to administer this test individually or orally. As a result of this many subjects (both obese and non-obese) seemed to leave much unsaid. It was quite possible that individual administration of the questionnaire with a more complete inquiry into the circumstances of personal arousal and handling of aggression in subjects might have lead to clearer findings on this test.

Future research in this area might address itself to the handling (in a non-patient population) of aggression during different periods of a weight gaining or weight losing cycle. The question of whether or not methods of handling aggression (or for that matter, experiences of anger) change following weight loss or gain in a 'normal' population has never been adequately examined.

A further possibility for research might be to examine more directly and with adequate controls the question of the training in non-aggressiveness and passivity that parents of the obese theoretically engage in. A good deal of clinical speculation has been done in this area, but styles of parenting have not yet been adequately and directly examined.

APPENDIX A

Copies of the Tests

IDENTIFYING DATA SHEET

DATA SHEET

CODE _____

DATE:
AGE: DATE OF BIRTH:

MARITAL STATUS: Single _____ Married _____ Widowed _____

Divorced _____ Separated _____

CHILDREN: BOYS GIRLS
(Give ages)

HUSBAND'S OCCUPATION:

FATHER'S OCCUPATION:

EDUCATION: CIRCLE HIGHEST GRADE COMPLETED

High School	College	Post-Graduate
7 8 9 10 11 12	1 2 3 4	1 2 3 4

RELIGION:

ETHNIC BACKGROUND: White _____ Black _____ Oriental _____

Spanish Speaking _____ Other _____ (specify)

Have you ever been in psychotherapy?

Individual _____ Group _____ Other _____ (specify)

Are you in treatment now? Yes _____ No _____
If Yes: Times per week _____
For how long? _____

Were you in treatment in the past? Yes _____ No _____
If yes: Times per week _____
For how long? _____

BUSS - DURKEE INVENTORY

(Items 1-75)

and

MEGARGEE O-H SCALE

(Items 76-106)

CODE _____

This inventory consists of numbered statements. Read each statement carefully and decide whether it is true as applied to you or false as applied to you. You are to mark your answer by circling either the T or F directly preceding the number of the statement. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T. If a statement is FALSE or NOT USUALLY TRUE as applied to you circle the F. Remember to give your own opinion of yourself. Do not leave any blank spaces. Make your circles clear and distinct. Erase completely an answer you wish to change. Work quickly and do not spend too much time on any item.

T F 1. I have known people who pushed me so far that we came to blows.

T F 2. People who continually pester you are asking for a punch in the nose.

T F 3. I am irritated a good deal more than people are aware of.

T F 4. There are a number of people who seem to dislike me very much.

T F 5. I don't let a lot of unimportant things irritate me.

T F 6. I would rather concede a point than get into an argument about it.

T F 7. Almost every week I see someone I dislike.

T F 8. I have no enemies who really wish to harm me.

T F 9. I do many things that make me feel remorseful afterwards.

T F 10. People who shirk on the job must feel very guilty.

T F 11. Even when my anger is aroused, I don't use "strong language."

T F 12. I used to think that most people told the truth but now I know otherwise.

T F 13. I can think of no good reason for ever hitting anyone.

T F 14. I lose my temper easily but get over it quickly.

T F 15. I generally cover up my poor opinion of others.

T F 16. I can't help being a little rude to people I don't like.

T F 17. Sometimes people bother me just by being around.

T F 18. If I have to resort to physical violence to defend my rights, I will.

T F 19. I sometimes show my anger by banging on the table.

T F 20. It depresses me that I did not do more for my parents.

T F 21. Lately, I have been kind of grouchy.

T F 22. I often make threats I don't really mean to carry out.

T F 23. I demand that people respect my rights.

T F 24. When I do wrong, my conscience punishes me severely.

T F 25. When someone is bossy, I do the opposite of what he asks.

T F 26. I often find myself disagreeing with people.

T F 27. I sometimes pout when I don't get my own way.

T F 28. Whoever insults me or my family is asking for a fight.

T F 29. When I am angry, I sometimes sulk.

T F 30. When I really lose my temper, I am capable of slapping someone.

T F 31. Occasionally when I am mad at someone I will give him the "silent treatment."

T F 32. At times I feel I get a raw deal out of life.

T F 33. When I disapprove of my friends' behavior, I let them know it.

T F 34. When people are bossy, I take my time just to show them.

T F 35. It makes my blood boil to have somebody make fun of me.

T F 36. If someone doesn't treat me right, I don't let it annoy me.

T F 37. I never play practical jokes.

T F 38. I seldom strike back, even if someone hits me first.

T F 39. I don't know any people that I downright hate.

T F 40. When arguing, I tend to raise my voice.

T F 41. I tend to be on my guard with people who are somewhat more friendly than I expected.

T F 42. If someone hits me first, I let him have it.

T F 43. I often feel like a powder keg ready to explode.

T F 44. When people yell at me I yell back.

T F 45. I can remember being so angry that I picked up the nearest thing and broke it.

T F 46. I never get mad enough to throw things.

T F 47. I am concerned about being forgiven for my sins.

T F 48. When I look back on what's happened to me, I can't help feeling mildly resentful.

T F 49. I sometimes carry a chip on my shoulder.

T F 50. The few times I have cheated, I have suffered unbearable feelings of remorse.

T F 51. I sometimes have the feeling that others are laughing at me.

T F 52. My motto is "Never trust strangers."

T F 53. I am always patient with others.

T F 54. There are a number of people who seem to be jealous of me.

T F 55. I can't help getting into arguments when people disagree with me.

T F 56. Unless somebody asks me in a nice way, I won't do what they want.

T F 57. I sometimes have bad thoughts which make me feel ashamed of myself.

T F 58. Although I don't show it, I am sometimes eaten up by jealousy.

T F 59. When I get mad, I say nasty things.

T F 60. I get into fights about as often as the next person.

T F 61. I could not put someone in his place, even if he needed it.

T F 62. I don't seem to get what's coming to me.

T F 63. I seldom feel that people are trying to anger or insult me.

T F 64. When I am mad, I sometimes slam doors.

T F 65. If somebody annoys me, I am apt to tell him what I think of him.

T F 66. If I let people see the way I feel, I'd be considered a hard person to get along with.

T F 67. Failure gives me a sense of remorse.

T F 68. I know that people tend to talk about me behind my back.

T F 69. I often feel that I have not lived the right kind of life.

T F 70. When someone makes a rule I don't like, I am tempted to break it.

T F 71. I sometimes spread gossip about people I don't like.

T F 72. Once in a while I cannot control my urge to harm others.

T F 73. I commonly womder what hidden reason another person may have for doing something nice for me.

T F 74. Other people always seem to get the breaks.

T F 75. Since the age of ten, I have never had a temper tantrum.

T F 76. I like mechanics magazines.

T F 77. At times I feel like swearing.

T F 78. I like poetry.

T F 79. I think I would like the kind of work a forest ranger does.

T F 80. Once in a while I put off until tomorrow what I ought to do today.

T F 81. I do not mind being made fun of.

T F 82. My hardest battles are with myself.

T F 83. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.

T F 84. Often I can't understand why I have been so cross and grouchy.

T F 85. I have never vomited blood or coughed up blood.

T F 86. My conduct is largely controlled by the customs of those about me.

T F 87. I like to know some important people because it makes me feel important.

T F 88. When I get bored I like to stir up some excitement.

T F 89. I am against giving money to beggars.

T F 90. I should like to belong to several clubs or lodges.

T F 91. I work under a great deal of tension.

T F 92. Most people inwardly dislike putting themselves out to help other people.

T F 93. I almost never dream.

T F 94. I have certainly had more than my share of things to worry about.

T F 95. I feel sure that there is only one true religion.

T F 96. I wish I could get over worrying about things I have said that may have injured other people's feelings.

T F 97. I frequently ask people for advice.

T F 98. Often, even though everything is going fine for me, I feel that I don't care about anything.

T F 99. I dream frequently.

T F 100. It makes me nervous to have to wait.

T F 101. I enjoy gambling for small stakes.

T F 102. When I am cornered I tell that portion of the truth which is not likely to hurt me.

T F 103. I pray several times every week.

T F 104. I usually work things out for myself rather than get someone to show me how.

T F 105. Several times I have been the last to give up trying to do a thing.

T F 106. I have often been frightened in the middle of the night.

MUELLER-GRATER AGGRESSION CONFLICT SCALE

CODE _____

The purpose of this study is to measure the meanings of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgments on the basis of what things mean to you. On each page of this booklet you will find a different concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order.

Here is how you are to use these scales:

If you feel that the concept at the top of the page is very closely related to one or the other end of the scale, you should place your check-mark as follows:

fair: _x_ : ___ : ___ : ___ : ___ : ___ : ___ : unfair

or

fair: ___ : ___ : ___ : ___ : ___ : ___ : _x_ : unfair

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check mark as follows:

strong: ___ : _x_ : ___ : ___ : ___ : ___ : ___ : weak

or

strong: ___ : ___ : ___ : ___ : ___ : _x_ : ___ : weak

If the concept seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

rough: ___ : ___ : _x_ : ___ : ___ : ___ : ___ : smooth

or

rough: ___ : ___ : ___ : ___ : _x_ : ___ : ___ : smooth

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you're judging.

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check-mark in the middle space:

safe: ___ : ___ : ___ : _x_ : ___ : ___ : ___ : dangerous

IMPORTANT:

(1) Place your check-marks in the middle of spaces, not on the boundaries:

: ___: X : ___: ___: ___X___: ___:
THIS NOT THIS

(2) Be sure you check every scale for every concept; do not omit any.

(3) Never put more than one check mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgment. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

My Feelings of Anger Directed at Others

	Very Closely Related	Quite Closely Related	Only Slightly Related	Neutral	Only Slightly Related	Quite Closely Related	Very Closely Related	
fair	___	___	___	___	___	___	___	unfair
thin	___	___	___	___	___	___	___	thick
sharp	___	___	___	___	___	___	___	dull
large	___	___	___	___	___	___	___	small
colorless	___	___	___	___	___	___	___	colorful
destructive	___	___	___	___	___	___	___	productive
bad	___	___	___	___	___	___	___	good
slow	___	___	___	___	___	___	___	fast
weak	___	___	___	___	___	___	___	strong
active	___	___	___	___	___	___	___	passive

My Feelings of Anger Directed at Myself

	Very Closely Related	Quite Closely Related	Only Slightly Related	Neutral	Only Slightly Related	Quite Closely Related	Very Closely Related	
active	____	___	___	___	___	___	___	passive
bad	___	___	___	___	___	___	___	good
thin	___	___	___	___	___	___	___	thick
colorless	___	___	___	___	___	___	___	colorful
slow	___	___	___	___	___	___	___	fast
sharp	___	___	___	___	___	___	___	dull
large	___	___	___	___	___	___	___	small
fair	___	___	___	___	___	___	___	unfair
weak	___	___	___	___	___	___	___	strong
destructive	___	___	___	___	___	___	___	productive

Hate

	Very Closely Related	Quite Closely Related	Only Slightly Related	Neutral	Only Slightly Related	Quite Closely Related	Very Closely Related	
bad	___	___	___	___	___	___	___	good
slow	___	___	___	___	___	___	___	fast
thin	___	___	___	___	___	___	___	thick
colorless	___	___	___	___	___	___	___	colorful
weak	___	___	___	___	___	___	___	strong
large	___	___	___	___	___	___	___	small
sharp	___	___	___	___	___	___	___	dull
active	___	___	___	___	___	___	___	passive
fair	___	___	___	___	___	___	___	unfair
destructive	___	___	___	___	___	___	___	productive

GUILT

	Very Closely Related	Quite Closely Related	Only Slightly Related	Neutral	Only Slightly Related	Quite Closely Related	Very Closely Related	
slow:	___	___	___	___	___	___	___	fast
sharp:	___	___	___	___	___	___	___	dull
fair:	___	___	___	___	___	___	___	unfair
active:	___	___	___	___	___	___	___	passive
bad:	___	___	___	___	___	___	___	good
destructive:	___	___	___	___	___	___	___	productive
colorless:	___	___	___	___	___	___	___	colorful
weak:	___	___	___	___	___	___	___	strong
thin:	___	___	___	___	___	___	___	thick
large:	___	___	___	___	___	___	___	small

My Mixed Up Feelings about My Behavior

	Very Closely Related	Quite Closely Related	Only Slightly Related	Neutral	Only Slightly Related	Quite Closely Related	Very Closely Related	
weak	:	:	:	:	:	:	:	strong
sharp	:	:	:	:	:	:	:	dull
fair	:	:	:	:	:	:	:	unfair
slow	:	:	:	:	:	:	:	fast
thin	:	:	:	:	:	:	:	thick
destructive	:	:	:	:	:	:	:	productive
large	:	:	:	:	:	:	:	small
colorless	:	:	:	:	:	:	:	colorful
active	:	:	:	:	:	:	:	passive
bad	:	:	:	:	:	:	:	good

AGGRESSION QUESTIONNAIRE

CODE _____

Everybody gets angry sometimes, but different things make different people angry. In this questionnaire we are interested in the kinds of situations that make you angry and what you might tend to do as a result. Please answer as openly as you can. Your answers will be kept anonymous. You may use the back of the page if necessary.

1. What kinds of things usually tend to make you angry?

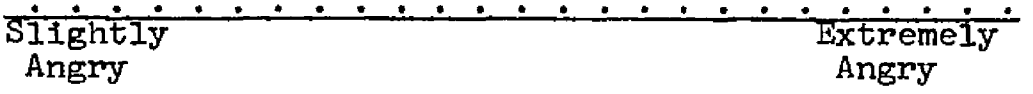
2. What was the last thing to make you angry?

   When?

   What happened and with whom?

   How angry did you get?

   Check any point along the line which describes how angry you felt.



   What did you do?

3. What was the angriest act you ever committed?

   When?

   What happened and with whom?

   What did you do?

CODE _____

4. When was the last time you were angry at your husband or boyfriend?

How angry did you get?

Check any point along the line which describes how angry you felt.

Slightly Angry ——————————— Extremely Angry

Why were you angry?

What did you do?

5. When was the last time you were angry at work or at school?

How angry did you get?

Check any point along the line which describes how angry you felt?

Slightly angry ——————————— Extremely Angry

Why were you angry and at whom?

What did you do?

6. When was the last time you were angry in an anonymous situation? (Subway, Department Store, Tradesman, Traffic, etc.)

What happened?

How angry were you?

Slightly Angry ——————————— Extremely Angry

What did you do?

CODE _____

7. When was the last time you were angry at someone in a higher position than you? (Boss or authority)

   What happened?

   Who was involved?

   What did you do?

   How angry were you?

   Check any point along the line which describes how angry you felt.

Slightly Angry ——————————— Extremely Angry

8. When was the last time you were angry at someone in a lower position than you? (Subordinate or child)

   What happened?

   Who was involved?

   How angry were you?

Slightly Angry ——————————— Extremely Angry

   What did you do?

WEIGHT HISTORY

PHYSICAL INFORMATION CODE _____

DATE: HEIGHT: WEIGHT:

1. What was your weight two years ago?

2. What do you think will be your weight two years from now?

3. Are you now on a weight-reducing diet?

   a. If yes, for how long?

4. Have you dieted within the past two years?

   a. If yes, for how long?

---

5. Do you think you are overweight?

   If yes, please answer the questions in this section.

   a. What would you like to weigh?

   b. How long have you been overweight?

   c. Were you ever of normal weight or less?

   d. At what age?

   e. For how long?

---

6. If you are not now overweight, have you ever been?

   If yes, please answer the questions in this section.

   a. For how long?

   b. What did you weigh?

CODE _____

7. Is your mother overweight?

   a. If yes, was she ever thin?

8. Is your father overweight?

   a. If yes, was he ever thin?

---

9. How many brothers and sisters do you have?

	Brothers	Sisters
a. Give the ages of your brothers and sisters.		
b. Circle the ones who are overweight.		

---

10. How many children do you have?

    a. Did you become overweight during or following pregnancy?

    b. How much?

    c. For how long?

	Sons	Daughters
d. Give the ages of your children.		
e. Circle the ones who are overweight.		

---

11. Husband: Height:_____ Weight: _____

    a. Do you think your husband is overweight?

---

12. What was the date of the start of your last menstrual prioed?

13. If you can identify any factors contributing to weight change, please explain. (You may use the back of the page, if necessary.)

APPENDIX B

Scoring Instructions for Raters

Scoring of Aggression Questionnaire

(After Rosenzweig, 1947)

DIRECTION OF AGGRESSION

Extrapunitive Responses: (E) Generally, aggression is turned onto the environment.

Intrapunitive Responses: (Intra.) Generally, aggression is turned by the subject upon himself.

Impunitive Responses: (Imp.) Aggression is generally evaded in an attempt to gloss over the frustration.

For all three dimensions, score for locus of blame or responsibility, not for behavior.

Examples

Extrapunitive

1. Blame or hostility are focused on some person or thing in the environment.
2. The subject denies emphatically that he is responsible for some offense, and by implication blame is placed on an external person or thing.
3. A solution for a frustrating or problem situation is emphatically expected of someone else.

Intrapunitive

1. Blame, censure are directed by the subject on himself.
2. Subject admits guilt but denies essential fault by referring to unavoidable circumstances.
3. Amends are offered by the subject, with implied sense of guilt, to solve the problem.

Impunitive

1. The obstacle in the frustrating situation is minimized almost to the point of denying its presence.
2. Blame for the frustration is avoided altogether; the situation is regarded as unavoidable; the frustrating individual is absolved.
3. Expression is given to the hope that time, patience or normally expected circumstances will bring a solution of the problem.

TYPE OF REACTION

Obstacle Dominance Responses: (OD) The barrier occasioning the frustration stands out in the response. The subject focuses on the frustrating elements of the problem.

Ego Defensive Responses: (ED) The ego of the subject predominates: score only if clear defensive or self-protective statements are made.

Need Persistive Responses: (NP) The solution of the frustrating problem is emphasized. Do not evaluate adequacy of solution.

Examples

Obstacle Dominance

1. Subject focuses on the extent of the frustration.
2. Score OD if neither a solution to the problem nor a defensive response are given.

Ego Defensive

1. Subject makes clear defensive or ego-protective statements.
2. Do not score for implied defensiveness: look for written defensive statements.

Need Persistive

1. Score for focus on solution - expected of self or someone else.
2. Solution offered need not necessarily be a good one.
3. A plan of action (by the subject or someone else) is not a prerequisite for a NP score: an expectation of and focus on the hope that the problem will work itself out (through time, patience, or conformity) would merit this score.

SCORING OF AGGRESSION QUESTIONNAIRE FOR DIRECTION OF AGGRESSION

Score Each of Questions 2 through 8.

Count a response as direct aggression if:

Aggression is expressed directly against the "frustrating" person or situation. This may include verbal or physical responses. Examples of direct aggression include: swearing at someone, arguing back, refusing directly to obey instructions or orders, protesting against treatments, etc.

Count a response as indirect aggression if:

The "frustrating" person or situation is not attacked directly verbally or physically, but the aggressive response is deflected elsewhere. Include such responses as: defamation of character (when not spoken directly to the instigator of the aggression), complaining to others about a situation, or displaced aggression generally (slamming doors, breaking things). Include passive resistence under indirect aggression if there is clear evidence for it.

Count a response as nonaggressive if:

No indication is given of either of the above or if the subject gives no indication of his behavior in a given situation.

Generally:

Score for behavior; do not make assumptions about direct or indirect aggression if you do not find written evidence of what the subject did.

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