

The Hostility Toward Women Scale

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THE HOSTILITY TOWARD WOMEN SCALE

by

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Abstract

Over the course of six studies, a 30-item trait measure of hostility toward women was developed and validated. The Hostility Toward Women Scale is balanced against response acquiescence, has a KR 20 reliability of over .80, and a one week, test-retest reliability of .83. In three studies, the scale was found to consistently predict a number of self-report measures of rape-related attitudes, motivations, and behavior (including men's reports that they had forced women into sex acts in the past and that they would do so in the future). In two studies, the scale predicted laboratory-assessed aggressive motivations and behavior toward both women and men, although the strength of this relationship was only moderate. Thus, the scale did not demonstrate discriminant validity on the behavioral measure, in that it did not correlate exclusively with aggression against women. However, the scale did demonstrate incremental validity in that it predicted both the self-report and the behavioral criterion variables better than a measure of general hostility (the Spielberger Trait Anger scale). Finally, the scale was relatively uncontaminated by social desirability.

INTRODUCTION

Until recently, the literature on hostility (as a personality trait) and aggression (as a behavior) has largely ignored the issue of male hostility and aggression toward women. Most theorists (e.g., Bandura, 1973; Baron, 1977; Berkowitz, 1962; Buss, 1961; Feshbach, 1964; Kaufman, 1970; Zillmann, 1979) have conceptualized hostility as a general trait measure, but primarily relevant to male-to-male aggressivity. As a consequence, researchers and theorists have made few attempts to assess the generalizability of their theories to male hostility and aggression against women.

An apparent explanation for this lack of attention would seem to be the agreement among researchers that males in Western culture are generally taught to behave relatively nonaggressively toward females, even when provoked (Bandura, 1962; Buss, 1971; Clausen & Williams, 1963; Kagan, 1964; Taylor & Epstein, 1967; Whiting, 1963). For example, Buss (1971) has argued that,

Males have learned during socialization to inhibit aggression against females....It is shameful and cowardly to attack girls. These lessons are well learned by most boys, and adulthood sees strong inhibitions against attacking women. (p. 16)

It would seem that Buss' and others' conclusions are based to a large extent on the behavioral aggression literature employing laboratory-assessed measures of aggression (delivery of electric shock or aversive noise). A review of this literature reveals that the majority of studies do in fact find males to be less aggressive toward females than toward other males (Baron & Bell, 1973; Buss, 1961, 1963, 1966b, 1971; Donnerstein & Berkowitz, 1981, Experiment 1, neutral film condition; Hedges, 1970; Shortell & Biller, 1970; Taylor & Epstein, 1967; Taylor & Smith, 1974; Youssef, 1968). There are, however, a number of notable exceptions to this finding. Buss (1966a) found that men shocked women less than other men only if given feedback that their shocking had "harmed" a previous "subject" (confederate) of the same sex. If no such feedback was given regarding the effects of their shocking on a previous confederate of the same sex as the second confederate, then the gender of the confederate made no difference. As well, Donnerstein and Hallam (1978) found no sex of target differences (under neutral film conditions), and Donnerstein and Barrett (1978) found that males aggressed less against females than against other males only if they had been angered. Several other studies have found no sex of target effects (Hyman & Esselman, 1980; Larsen, Coleman, Forbes, & John-

son, 1972; Silverman, 1971), and two studies reported more aggression against opposite-sexed targets than against same-sexed targets (Jaffe, Malamuth, Feingold, & Feshbach, 1974; Titley & Viney, 1969).

Despite some nuances, the laboratory studies reviewed above do, on the whole, support the notion that male-to-female aggression is less likely to occur than male-to-male aggression, at least in the laboratory setting. In non-laboratory settings, however, there is clear evidence of at least two forms of male aggression against women; rape and wife battering. Gager and Schurr (1976) for example, have referred to rape as the number one crime against women in the United States and estimate that 265,000 rapes are committed (but often not reported) each year. Similarly, based upon victimization data from a 13-city survey, Johnson (1980) has estimated that a woman living out her life in a large U.S. city has a 16% chance of being the victim of a completed or attempted rape. Further, the rate of reported rape has been steadily climbing for a number of years (see Court, in press, for a review). In terms of domestic violence, Russell (1982) found that 21% of her sample of 644 San Francisco women who had ever been married reported "being subjected to physical violence by a husband at some time in their lives" (p. 96). Similarly, Straus, Gelles, and Steinmetz (1980) found

that 22% of their U.S. national sample of 2,143 couples reported husband violence against the wife. In terms of the more extreme forms of violence, Straus et al. found that 3.8% of husbands had engaged in kicking, biting, or punching, hitting with some object, beating up the wife, threatening the wife with a gun or knife, or actually using a gun or knife. And finally, Langley and Levy (1977) conducted an extensive review of the existing literature on family violence and estimated that "there are between 26 and 30 million abused spouses in the U.S. today" (P.12). The problem of domestic violence is receiving greater and greater attention in mainstream social psychology textbooks, as it is becoming more recognized as a "widespread problem in need of solutions" (Penrod, 1983, p. 403).

Partially due to this increasing rate of violent crimes against women, and partially due to the rise of the women's movement, a growing number of writers have begun to theorize about the role of hostility toward women in rape and other aggressive acts against women (e.g., Brownmiller, 1975; Cohen, Garfalo, Boucher, & Seghorn, 1977; Dworkin, 1974; Gager & Schurr, 1976; Greer, 1970; Griffin, 1971; Groth, Burgess, & Holmstrom, 1977; Henley & Freeman, 1981; Macdonald, 1971; Millet, 1970; Rada, 1978; Russell, 1975; Stark-Adamec & Adamec, 1982; Walker, 1981). (As detailed further be-

low, hostility is used here to refer to an underlying, covert trait or disposition, and is to be distinguished from rape and other forms of overt, aggressive behavior against women.) A number of writers, for example, argue that hostility toward women is one of the primary motivating factors in rape (e.g., Brownmiller, 1975). With respect to nonsexual aggression against women (e.g., wife battering) the causal role of hostility toward women is discussed much less frequently than it is for rape. There are, however, a few writers who do argue that aggression against women is in general motivated by hostility toward women (e.g., Moreland, 1977; Leidig, 1981).

Despite the theoretical significance of hostility toward women in these works on rape and other acts of aggression against women, there has to date been no empirical investigations of the role that hostility toward women plays in such acts. As noted above, this is partially due to the generally accepted belief that aggression against women is rare, and thus does not require explanation. A second major reason for this dearth of empirical work, however, has been the lack of a reliable and valid trait measure of hostility toward women. The purpose of this dissertation was to develop and validate such a measure. Let us now turn to a consideration of the construct of hostility as it currently exists in the literature.

The Construct of Hostility

As was noted in the introductory sentence of this dissertation, most researchers consider hostility to be simply a measure of the likelihood of exhibiting aggressive behavior, which is typically defined as behavior intended to inflict harm or injury on another person (Baron, 1977; Berkowitz, 1974; Feshbach, 1970). While some theorists (e.g., Feshbach, 1964) distinguish between the different immediate motivations for a given aggressive response (e.g., hostile or angry motivations versus instrumental motivations), the focus of most aggression theorizing and research has been on the situational, social, and environmental determinants of these motivations rather than exploring the potential underlying dispositional causes of the aggressive response. (As will be seen later, this lack of attention to dispositions is most likely due to the literature showing that dispositional measures of hostility/aggressiveness do not predict actual aggressive behavior very well.)

In contrast to most aggression theorists, however, Buss (1961) and Kaufman (1970) distinguish between the underlying trait of hostility on the one hand, and characteristic aggressiveness on the other. According to these authors, characteristic aggressiveness is simply the habit or behavioral tendency to engage in ag-

gressive acts. Note that, according to this analysis, a person who never actually engages in aggression is by definition not a characteristically aggressive person. Hostility, on the other hand, is more of an underlying, enduring personal attitude or disposition toward others, and may or may not be accompanied by overt aggressive behavior. Thus, a person may have an extremely hostile disposition toward others throughout his/her life and yet never actually harm anyone. In Buss' oft-quoted words, hostility

is usually not verbalized openly as part of an aggressive response. Typically, it is implicit, consisting of mulling over of past attacks on oneself, rejections, and deprivations ...[and]...may be inferred when the attack is reinforced more by injury than attaining some extrinsic reinforcer. (p. 12)

For example, a juvenile delinquent may be constantly involved in fights with other delinquents, intentionally inflicting considerable harm upon his/her opponents. At the same time, however, he/she may harbour no ill will toward his/her opponents, fighting with them simply to gain respect from his/her peers, or even because that is what he/she was taught to do. On the other hand, a similarly aggressive person may feel a good deal of hostility toward others, and thus get into

fights for the sole purpose of harming others (perhaps, as Buss implies in the above quotation, in return for real or imagined past attacks, deprivations, etc. from others).

On the basis of this distinction between hostility and aggressiveness, Buss and Durkee (1957) developed several subscales purportedly measuring these two personality dimensions. The hostility dimension was measured using subscales of resentment, suspicion, and guilt, whereas aggressiveness was measured on subscales assault, indirect aggression, irritability, negativism, and verbal aggression. Thus, as Buss and Durkee put it, the hostility/aggressiveness construct has two distinct components:

an "emotional" or attitudinal component ("People are no damn good") and a "motor" component that involves various aggressive behaviors (p. 348).

Subsequent factor-analytic studies confirmed the existence of these two relatively independent dimensions (Bendig, 1962; Buss & Durkee, 1957; Edmunds and Kendrick, 1980), although Bendig preferred to refer to Buss' hostility and aggression factors as covert and overt hostility, respectively. Thus, these factor-analytic data support Buss' contentions that a hostile person may or may not express his/her hostility in

overt aggressive behavior, and that a characteristically aggressive person may or may not behave aggressively as a result of his/her hostile feelings toward others. As will become apparent in the following pages, the focus of this dissertation will be on the construct of hostility (as opposed to aggressiveness) toward women, or the emotional, attitudinal component delineated by Buss and Durkee. It should be noted, however, that this distinction was not made clear when these series of studies was first initiated. Therefore, this distinction may become a bit blurred at certain points, but in general I have tried to use the terms hostility and aggressiveness in the appropriate context, and to in turn distinguish these two components of the hostile/aggressive personality from the construct of overt, behavioral aggression in a given situation. I will use the term "hostility/aggressiveness" whenever possible to refer to situations or theoretical statements which do not distinguish the two components.

The Construct of Hostility Toward Women

In contrast to the construct of general hostility, there appears to be very little discussion of the construct of hostility toward women in the conventional aggression literature. Rather, discussions of both hostility and aggressiveness toward women are found almost exclusively in the literature on rape and wife

abuse. However, even those theorists who do talk about hostility toward women frequently fail to define it independently of its behavioral manifestations. (A distinction which is important, since as noted earlier the notion of hostility as a personality trait implies that such hostility can exist even though it may not be expressed in overt aggressive behavior.) Instead, such discussions typically avoid the issue, focusing on either (a) the sources of hostility and aggressiveness toward women, or (b) its presumed behavioral effect (i.e., rape and wife abuse).

Sources of Hostility/Aggressiveness Toward Women

There are two main sources of theory regarding the causes of hostility and aggressiveness toward women; psychiatric theory (stemming primarily from the psychoanalytic tradition) and feminist theory. Both of these are found primarily in the literature on rape, and to a much lesser extent in the literature on nonsexual aggression against women (e.g., wife abuse)¹. According to psychiatric theorists, hostility toward women in rapists is caused by a history of rejection, cruelty, domination/overprotection, and sexual seduction from important women in the rapist's early life (Cohen et al., 1977; Groth & Birnbaum, 1980; Groth et al., 1977; Karpman, 1954; Macdonald, 1971; Rada, 1978). Rada (1978) posits that in general cruel, sadistic parents

are an important factor in determining a child's subsequent aggressivity. However, "when the father is cruel and hostile to the son, the boy may develop an excessive aggressive posture that could become characteristic of all of his relationships" (p. 33), but hostility directed specifically toward women is seen as caused primarily by maternal cruelty. Most other psychiatric theorists are in agreement on this latter point. Groth and Birnbaum (1980) describe Groth et al.'s (1977) "anger" motivated rapist as raping in retaliation "for what he perceives or what he has experienced as wrongs suffered at the hands of important women in his life, such as his mother or his wife" (Groth & Birnbaum, 1980, p. 21). Similarly, Cohen et al. (1977) suggest that with respect to mature women, "aggressive aim" rapists (characterized as motivated primarily by hostility toward women) "tend to experience women negatively as hostile, demanding, ungiving, and unfaithful, and frequently for good reason" (p. 299). With respect to maternal seduction, Macdonald (1971) suggests that "the seductive mother arouses overwhelming anxiety in her son with great anger which may be expressed directly toward her but more often is displaced on to other women" (p. 136). The Oedipal conflict is frequently brought into the maternal seduction theme, although it is not clearly explained how this

can result in hostility toward women. This vagueness is exemplified by Karpman's (1954) statement that "rape may be related unconsciously to early incestuous desires and the fury aroused by the Oedipus complex....The victim may be a substitute for the criminal's mother" (Karpman, 1954, as cited in Gager & Schurr, 1976, p. 235).

In sum, most psychiatric theorists are in substantial agreement on two major points; (a) that hostility toward women as a factor in rape is a consequence of the rapist having been abused by women, and (b) that hostility toward women is therefore not just a manifestation of a generally hostile/aggressive personality. The problem is that while these theorists have a clear position on the specific origins of hostility toward women, they do not present a clear conceptualization of hostility toward women itself.

A somewhat different approach to the question of the origins of hostility toward women is the work of Robert Stoller (1970, 1976, 1979). Stoller argues that hostility generally stems from one's need to overcome or undo the childhood frustrations and trauma that originally threatened one's masculinity or femininity. These frustrations, according to Stoller, are essential for normal development, since such development

demands that infants be increasingly frustrated in order to permit the separation that will result in the ego functions and identity necessary for coping with the external world. This process, using frustration as an essential tool, creates a reservoir of unconscious hatred, coping with which helps to determine successful or maladaptive personality development. (1970, p. 498.).

For males, Stoller claims, it is especially difficult to develop a distinct identity. Since most children are dependent upon and extremely close to their mother during early childhood, female children can simply continue to identify with their mother, whereas male children must surmount their feminine identifications. They do this not only by identifying with their father, but also by symbolically overpowering their mother in their fantasies and/or in their later overt behavior with other women. This process can be seen most clearly, says Stoller, in the male fantasy world of pornography:

Very popular are descriptions of a woman who starts out cool, superior, sophisticated, and uninterested but is swept away by the precisely described activities of the man into a state of lust with monumental loss of con-

trol.' One sees easily therein a power struggle disguised as sexuality: the dangerous woman who is reduced to a victim and the boy who, by means of the pornography, becomes a man. (1970, p. 498).

Note that Stoller, while arguing that most men express their hostility in these fantasied power struggles with women, does state that there may be a few cases of men with very little hostility, i.e., those who, in childhood, were treated less cruelly by their mothers. Thus, Stoller conceptualizes hostility toward women as part of all men's psychological make-up to a greater or lesser degree, but does posit that this hostility lies along a continuum, from the "normal" range (where men for the most part enjoy loving, nonhostile relationships) all the way to the bizarre or psychotic range (Stoller, 1976, pp. 908-909). Finally, Stoller, like other psychiatric theorists, sees hostility toward women as a product of conflict with important women in the individual's early childhood (in this case, the mother).

In sharp contrast to the psychoanalytic view of the causes of hostility toward women is the feminist view. Feminists seem to conceptualize hostility toward women as indistinguishable from aggressivity toward women, arguing that hostility/aggressiveness is a social-

ly learned phenomenon. In fact, they forcefully argue that the psychoanalytic tradition fosters the "myth" that male aggression against women is due to mental illness, for which women themselves are presumably to blame (e.g., Brownmiller, 1975; Clark & Lewis, 1977; Gager & Schurr, 1976; Griffin, 1971; Melani & Fodaski, 1974; Russell, 1975). Thus for feminists hostility/aggressiveness toward women is for the most part caused by a patriarchal, male-dominant, violence-prone culture, and in fact they rarely refer to anything resembling an effective or attitudinal component to this construct. Clark and Lewis (1977), for example, have provided a detailed socio-historical account of the way in which rape is rooted in the historical role of women as forms of private property. In their account of western legal and political history, Clark and Lewis note that women in the past were not allowed to own property, and in fact they and their children were the property of their husbands and/or fathers. This being the case, rape under Anglo-Saxon law was punished by orders to pay compensation and reparation - not to the victim herself, but to her father or husband (because he was the person who was regarded as having been wronged by the act). Thus, rape was perceived as an offence against property, not as an offence against the victim herself. Similarly, the punishment had to fit

the crime, and so the more "valuable" the rape victim, the harsher was the penalty. The "value" of the victim, as it turned out, depended upon both her economic status (the wealth of her father or husband) and her sexual and reproductive desirability (her virginity and physical attractiveness). Note as well that, because of the fact that women were the property of their male owners, and the fact that their value was in part determined by their sexual and reproductive desirability, an unmarried woman was encouraged to protect her sexual desirability (virginity), to hold it "in trust" for her father, so that he could give it to her future husband. Thus, even today, argue Clark and Lewis, "most women do not exercise either their sexual or their reproductive capacities freely for the simple reason that you cannot give freely what you do not believe rightfully belongs to you" (p. 126). The important point to be remembered is that, while in contemporary society women are no longer the legal property of men, women still define themselves in terms of their value as sexual and reproductive commodities. As a result, they are encouraged to (a) "bargain" with men, trading their sexuality for the security of marriage to a man with a good income, and (b) protect themselves from those who would take sex by force and thus (especially in the case of virgins) "damage the goods." Those who would take sex by

force, according to Clark and Lewis, are men who (a) do not have the "buying power" (e.g., financial security) or are unwilling to bargain for sex "legitimately," and (b) most strongly identify masculinity with sexual dominance and aggression (i.e., those who hold the most traditional, stereotyped view of man as the conqueror, the aggressor, the powerful. As can be seen from the following quotations, this theme of identifying sexual aggression with natural masculinity is a consistent one, especially with respect to the feminist analyses of rape:

We are talking about physical aggression as "a demonstration of masculinity and toughness" [which is] the prime tenet of the subculture of violence....Sexual aggression...is a major part of machismo (Brownmiller, 1975, p. 197).

Some of the rapists showed extraordinary callousness towards their victims, engaging in both verbal and physical abuse. Others used more violence than the situation demanded but did not verbally abuse their victims].... We believe that these variations correspond to the offender's identification of "masculinity" with sexual aggression. Some rapists appear to believe that, in order

to live up to their own image of manliness, they must manifest hostility towards their victims and demonstrate real power over them (Clark & Lewis, 1977, p. 106).

Overall, violence, hostility toward females, and repressed anger are prevalent dynamics in American life (Gager & Schurr, 1976, p. 211).

Whatever the motivation, male sexuality and violence in our culture seem to be inseparable....in the spectrum of male behavior, rape, the perfect combination of sex and violence, is the penultimate act (Griffin, 1971, p. 3).

We live in a culture that, at best, condones and, at worst, encourages...men to be continual predators, and sexual relations to be fundamentally aggressive....The pressure to be masculine, in fact, is implicitly an underlying factor in much sexual assault (Melan ni & Fodaski, 1974, p. 84).

Rape may be understood as an extreme acting out of the qualities that are regarded as supermasculine in this and many other societies: aggression, force, power, strength,

toughness, dominance, competitiveness,...i.e., the masculine mystique (Russell, 1975, p. 260).

Rape and wife battering are similar in many respects....Sex roles, sex-role stereotypes, and acceptance of interpersonal violence contribute to both manifestations of aggression by men against women (Stark-Adamec & Adamec, 1982, pp. 9-10).

As well, Mildred Pagelow (1981), although not a self-declared feminist, makes a similar argument in specific reference to wife battering:

Male violence directed against females is learned in a society where men are trained into competition, aggressiveness, dichotomized sex-role specific role behavior, physical force, and a need to dominate and control women in the hierarchical structure of the patriarchal family (p. 31).

It can be seen from the above quotations that the dominant theme in feminist analyses of aggression against women is that it is a result of the fact that men are generally aggressive creatures (as a result of male sex-typing and socialization), with some men (those who are more male sex-typed) being more so than

others. Thus in contrast to psychanalytic theory, the feminist analysis suggests that individual differences in male aggressiveness toward women may be primarily accounted for by individual differences in general aggressivity. At an intuitive level, this would seem to negate the construct of hostility specifically directed toward women (at least as Buss and Durkee, 1957, have defined hostility). However, there are some indirect indications in feminist writings that feminists see hostility toward women as also stemming from factors other than learned general aggressivity. Clark and Lewis (1977), for example, suggest that hostility toward women (or what is often termed "misogyny") can also be a byproduct of the way in which men and women bargain with each other in sexual interactions:

From the male point of view,... women are seen as the hoarders and miserly dispensers of a much desired commodity (sex) as a result of women's historical role as items of property, and men must constantly wheedle, bargain, and pay a price for what they want. And if anything lies at the root of misogyny, this does. Men naturally come to resent and dislike women because they see them as having something which they want and have a perfect right to, but which women are unwilling to give them freely (pp. 128-129).

Melani and Fodaski make much the same argument as Clark and Lewis, suggesting that "the male is aware, apparently, at some level of consciousness, of the hostility that exists between the sexes, a hostility that arises inevitably when men have power and women do not" (p. 90). Russell (1975) approaches the same issue from a slightly different perspective, suggesting that men are simply socialized to aggressively seek to satisfy their basic sexual needs, while women are socialized to be sexually appealing and submissive, but at the same time to avoid appearing promiscuous (the familiar "double standard" of sexuality). Consequently, "with these basic incompatibilities in socialized needs and expected behavior, it is not surprising that there is often hatred between the sexes" (p. 274). Leidig (1981), in her analysis of all forms of aggression against women claims that men's "hatred" of women is in general socially sanctioned, and accepts Greer's (1970) suggestion that men basically hate women, arguing that "an analysis of violence against women would certainly lead one to consider the veracity of this idea seriously" (Leidig, 1981, p. 204).

There are a number of other, less frequently mentioned hypothesized causes of hostility (as distinguished from aggressivity) toward women in the feminist literature. Stark-Adamec and Adamec (1982) postulate a

"fear and loathing" hypothesis. According to this hypothesis, hostility toward women stems from men's fear of menstruation, pregnancy, female sexuality (because female sexuality implies closeness which men fear), and the feeling that sex is dirty, all of these being coupled with a need for women's emotional support (which is threatening because it implies weakness). Along with Russell (1975), Stark-Adamec & Adamec also suggest that women's increasing "invasion" into traditional male occupations is threatening to many men. (This is a variant of what has come to be called the "male backlash to the Women's Liberation Movement," Russell & Lederer, 1980, p. 27.)

In summary, like the psychiatric literature the feminist literature on the causes of hostility toward women leaves us with an ambiguous picture. While in general the causative factors implied seem to center around sex roles and "maleness" vis a vis aggressivity, these are not useful concepts for definitional purposes (considering the need to distinguish hostility and aggressivity for the present purposes). The male sex role cannot be considered to be the essence of hostility toward women, because it is postulated as a cause of hostility toward women. Moreover, feminist writers seem to avoid the use of the term hostility toward women except as a label for actual aggressive behavior

toward women. When outright "hatred" of women is mentioned, it is postulated as a basic characteristic of all men (Greer, 1970). The only time that hostility toward women is clearly mentioned as something resembling an individual difference variable other than general aggressivity is in reference to sexual interactions. Thus, in sexual interactions the hostile, sexually aggressive male is seen by feminists as a by-product of sex roles which he in his position of power has created for himself. Even here, however, no indication is given as to what this hostility "looks like". That is, we are again left without a conceptual definition which distinguishes hostility toward women from other constructs such as aggressivity, masculinity, or sex roles. Let us now direct our search for such a definition to the literature on the consequences or manifestations of hostility toward women.

Manifestations of Hostility Toward Women

There is almost universal agreement amongst theorists that hostility/aggressiveness (especially toward women) plays a causal role in rape, and possibly also in wife abuse. From the traditional psychiatric point of view, hostility toward women is seen as a motivating factor in rape, but it is not seen as the only factor or even the primary factor. For example, most psychiatric theorists divide rapists into several different

types, primarily according to the rapist's "aggressive" versus "sexual" motivations. Cohen et al., (1977), for example, divide rapists into (a) those with an "aggressive aim", in which "the sexual behavior is not the expression of a sexual wish but is in the service of the aggression, serving to humiliate, dirty, and defile the victim," (p. 299) and whose victims are always complete strangers, (b) rapists with a "sexual aim", for whom "the act is clearly motivated by sexual wishes, and the aggression is primarily in the service of this aim," (p. 303) and (c) those with a "sex-aggression defusion" who are basically sadists and became sexually aroused primarily by violence. Guttmacher and Weihofen (1952) postulate three categories, (a) those "whose assault is the explosive expression of pent-up sexual impulse," (p. 116) or who have "strong latent homosexual components" (p. 116), (b) sadistic rapists, who "have their deep seated hatred focused particularly on women" (p. 117), and (c) the "predatory" type of rapist, who "like the soldier of the conquering army, is out to pillage and rob," (p. 117) and who is described as the basic "criminal" subtype. Gebhard, Gagnon, Pomeroy, and Christenson (1965) classify rapists into seven categories. However, all but their "drunken" and "mental defective" categories can be subsumed under Guttmacher and Weihofen's three categories. Similarly, Gebhard et

al. suggest that it is primarily the sadistic type of rapist who feels "pronounced hostility toward women" (p. 197).

One apparent exception to the traditional psychiatric typological approach is the work of Groth and Birnbaum (1980). These authors suggest that rape is in general a "pseudosexual act, a pattern of sexual behavior that is concerned more with status, hostility, control, and dominance than with sexual pleasure or sexual satisfaction. It is sexual behavior in the service of primarily nonsexual needs" (p. 21). Nonetheless, Groth and Birnbaum postulate three basic types of rape (anger rape, power rape, and sadistic rape), and suggest that only the anger rapist is clearly motivated primarily by hostility toward women: "He is seeking to hurt, punish, degrade, and humiliate his victim, and he sees sex as a weapon to be used to this end" (p. 21). In the case of power rape, "sexuality becomes a means of compensating for underlying feelings of inadequacy....He hopes that his victim will welcome and be impressed by his sexual embrace so that he can feel he is a sexually desirable person" (p. 22). Sadistic rape is viewed as other psychiatric theorists view it, i.e., as sexually motivated, where "aggression itself is eroticized" (p. 22).

Thus the psychiatric literature seems to distinguish aggressive acts toward women from the hypothesized underlying hostility which purportedly causes such acts, and again they sees this hostility as directed specifically toward women.

Feminist theorists differ from traditional psychiatric theorists in that (a) they see hostility (which they do not distinguish from aggressiveness) the primary motivating factor in rape and wife abuse, and (b) they tend not to clearly distinguish the construct of hostility toward women from the construct of general hostility. This is most clearly exemplified by Germaine Greer's (1970) statement that the act of rape "is one of murderous aggression, spawned in self-loathing and enacted upon the hated other" (p. 265). Brownmiller (1975), who was heavily influenced by Amir's (1971) finding that the rapists he studied were generally violence-prone individuals, states that "the single most important contribution of Amir's Philadelphia study was to place the rapist squarely within the subculture of violence," (p. 197), but at the same time claims that war "provides men with the perfect psychologic backdrop to give vent to their contempt for women (p. 24, emphasis added), and that "rape is nothing more or less than a conscious process of intimidation by which all men keep all women in a state of fear" p. 5). Similarly,

Clark and Lewis (1977) contend that "virtually all studies have found the rapist to manifest great hostility towards women" (p. 135). (Note, however, that Clark & Lewis do not cite these studies. Since it is difficult to imagine how "all studies" have found such hostility when there is in fact no existant measure of hostility toward women, it can only be concluded that the authors are referring to the previously noted psychiatric literature on types of rapists.) At the same time, however, Clark & Lewis suggest that "in varying measure, all men accept sexual aggression as part of their masculine identity" (p. 145). Finally, Griffin (1971) simply states that "rape is a classic act of domination, where, in the words of Kate Millet, 'the emotions of hatred, contempt, and a desire to break or violate personality,' takes place" (p. 8).

In summary, a review of the psychiatric and feminist literature on both the causes and consequences of hostility toward women reveals no clear consensus on the basic nature of this construct. For psychiatric theorists, there seems to be some agreement that hostility toward women is an underlying trait that is different from behavioral aggressiveness toward women, and also distinguishable from general hostility/aggressiveness. Feminists, on the other hand, are less clear on these points. They discuss hostility in more general

terms, arguing that it is a socially learned characteristic of all men to a greater or lesser degree (depending upon their identification with the traditional masculine stereotype), and suggest that it this hostility is the primary causal factor in aggressive behavior against both men and women. There is, however, some indication that feminists at least recognize the possibility that hostility specifically directed toward women can take the form of an underlying, motivational disposition, even though some feminists claim that all men have this disposition to an equal extent (Greer, 1970). All of these problems notwithstanding, however, the most problematic aspect of this literature is that no one appears to suggest anything resembling a definition of hostility toward women.

Defining Hostility Toward Women

If the literature on aggression against women does not clearly suggest a definition of hostility toward women which is conceptually distinguishable from general hostility (except that it is directed toward women), there is no reason to believe that it will "look" any different from general hostility, except that it is directed toward women. On the basis of this assumption, the working definition which was adopted for the initial item selection study described below was as follows. Hostility toward women is the same trait that existing hostility tests measure, except for the fact

this hostility is directed specifically toward women rather than toward people in general. Thus, we can simply reword Buss' (1961, p. 12) description of general hostility to read, "Hostility toward women is typically implicit, consisting of the mulling over of past attacks from women, rejections from women, and deprivations from women, and may be inferred when aggression against a woman is motivated by a desire to hurt rather than by a desire to attain some extrinsic reinforcer". The empirical advantage of this approach was that items could be written for the Hostility Toward Women scale which had a good deal of face validity (because they all referred specifically to women) as well as a good deal of content validity (because they all came from existing hostility scales). However, it is also important to note that this definition does not assume that men who score high on a measure of hostility toward women are not hostile toward other men as well. All the above definition implies is that such individuals will at least possess some degree of hostility toward women. Whether they also possess hostility toward men is a question which should be answered empirically rather than being assumed as part of the definition of hostility toward women. Thus, as long as the Hostility Toward Women scale (a) predicted the various criterion measures of hostility toward women, and (b) predicted

these criterion measures better than a general hostility scale, the scale's empirically demonstrated relationship with male-to-male aggressivity was of secondary importance, to be used in helping to build a theory of hostility toward women. (This issue will be discussed in more detail in the discussion section of this dissertation.) Let us now turn to a description of the initial scale development and validation studies.

THE PILOT STUDIES

The Use of Multivariate Trimming in the Data Analyses

Many of the correlational analyses in this research program involved small ($n < 50$) sample sizes, thus increasing the likelihood that outliers could spuriously increase or decrease the estimate of the magnitude of the relationships. Therefore, all correlations were calculated on the "multivariate trimmed" datasets. (The author wishes to thank John Lind for suggesting this procedure, and for his invaluable assistance in the conducting the multivariate trimming procedure.) Briefly, multivariate trimming involves eliminating the 10% of the cases whose distance from the center of the multivariate distribution is the greatest (i.e., the "outliers"), and then recalculating the correlation without the eliminated cases. This procedure results in more robust estimates of the population correlation. A special case of the use of M Estimators, the multivariate trimming method was chosen because unlike other methods it is not subject to distortion resulting from asymmetric outliers (outliers which are not evenly distributed about the center of the multivariate distribution). For a detailed discussion of multivariate trimming, the reader is referred to Devlin, Gnanadesikan, and Kettenring (1975, 1981), and Lind (in press). It should be noted at this point, however, that multivari-

ate trimming eliminates outliers which spuriously inflate correlations or spuriously deflate correlations. Note as well that the outliers which were eliminated in this research using multivariate trimming did not cluster together in any systematic way (e.g., all scoring low on a particular subset of variables). Typically, an outlier was an individual who scored extremely high or extremely low on one or two variables, but scored near the mean on the other variables. (In the case of variables with positively skewed distributions, this often resulted in inflated group means as well.)

In order to compare the trimmed and "untrimmed" correlations in the present series of studies, the reader is referred to Appendix A and various footnotes, which present the "untrimmed" correlations for all analyses presented in this paper.

Study 1:

The Scale Construction and Initial Validation Study

Selection of Items and Assessment of Reliability

In order to generate an initial pool of hostility toward women scale items, the literature describing existing hostility scales (all of which assessed general hostility) was searched. A total of 118 nonredundant items were selected which could be rewritten so that they referred specifically to hostility toward women. These included items from the Buss and Durkee (1957), Comrey (1964), Siegel (1956), and Evans and Stangeland (1971) measures, and a small number of items written by the present author. In almost all cases, the word "women" was simply substituted for the word "people" or "others" (e.g., the item "Other people always seem to get the breaks" was rewritten to read "Women always seem to get the breaks"). All 118 items were then administered to a sample of 136 male college students, who participated for credit in their Introductory Psychology course. The 30 items with the highest item-to-total correlations were selected for the Hostility Toward Women Scale. The 30 items emerging from this procedure are presented in Table 1, and the results of the item analyses are presented in columns 2 to 4 of Table 2. The KR 20 reliability of this initial 30-item scale was .89.

Insert Tables 1 and 2 about here

An inspection of the content of these items (Table 1) reveals that about one-third of the items reflect resentment of women (e.g., "I get upset by even slight criticism from a woman"), one-third of the items reflect suspicion of women (e.g., "It is safer not to trust women"), three items reflect guilt (e.g., "I sometimes have hostile feelings toward women that make me feel ashamed of myself later"), and the remaining items reflect miscellaneous forms of indirect hostility (e.g., "When a woman makes me angry, I sometimes sulk", "There are certain women I dislike so much that I am inwardly pleased when they get into trouble for something they have done"). Clearly, then, these items reflect the indirect, covert hostility dimension defined by Buss (1961) and confirmed in factor-analytic studies of the Buss-Durkee hostility measure (Bendig, 1962; Buss & Durkee, 1957; Edmunds & Kendrick, 1980). In fact, 14 of the 30 items on this initial version of the Hostility Toward Women Scale were derived from the resentment, suspicion, and guilt subscales of the Buss-Durkee measure. It is also noteworthy that none of the 11 original items reflecting overt physical aggressiveness² (e.g., "When I really lose my temper with a wo-

man, I am capable of slapping her") loaded on the Hostility Toward Women Scale, although the sum of these 11 items (scale KR 20 = .72) was found to be significantly correlated with the Hostility Toward Women Scale, $r(120) = .20$, $p < .006^3$. Similarly, subjects endorsed an average of 9.0 out of 30 or 30% of the Hostility Toward Women Scale items listed in Table 1, but only 1.9 out of 11 or 17% of the overt physical aggressiveness items.

From the results of the item analyses reported above, it might be "postdicted" that the conceptual distinction between aggressiveness and hostility would seem to be particularly applicable to the concept of hostility toward women. Given that overt physical attack and threats of physical violence against women are generally unacceptable in our society, it would seem likely that men who have feelings of hostility toward women would express these feelings in an indirect manner on a questionnaire. Thus we might expect that items similar to those on the more covert hostility subscales of the Buss-Durkee measure (resentment, suspicion, and guilt) would be more applicable to male hostility toward women than more overt aggressivity subscales, and also less prone to problems of response faking and social desirability. (Note that, in contrast to the abovementioned 17% "endorsement rate" of the ag-

gressiveness toward women items, Buss & Durkee reported in 1959 a 51% endorsement rate of their general "assault" items for male subjects). Consistent with this analysis, Martin (1976) found in her study of battered wives that "battering husbands are described by their wives as angry, resentful, suspicious, moody, and tense" (p. 45). At the same time, however, wife-batterers are extremely difficult to treat or even to study, because they rarely admit openly that they actually beat their wives (Davidson, 1978; Dobash & Dobash, 1979; Gelles, 1972; Langley & Levy, 1977; Martin, 1976; Moore, 1979; Pagelow, 1981; Walker, 1979). As Martin (cited in Langley & Levy, 1977) has noted, "physically punishing a wife, a hangover from earlier days, is generally frowned upon today. Consequently, the man who still practices this ancient custom is not likely to admit it publicly" (p. 52). Similarly, even convicted rapists generally do not define their actions as rape (Gebhard et al., 1965; McCaldon, 1967; Scully & Marolla, 1982; Wolfe & Baker, 1980). A particularly telling example of this is a study at Sing Sing prison which found that prison rapists were more than twice as likely as nonsex offenders to continue to insist on their innocence. (See Brownmiller, 1975, p. 226 for a review of this apparently unpublished study). Note also that Malamuth and Check's (1980) college students reported a

much greater likelihood of raping if they could be assured of not being caught than if this condition was not stipulated. In summary, then, it is not surprising that the overt aggressiveness items were not endorsed frequently, and did not load on the Hostility Toward Women Scale. As will be seen later, these items did not seem to have any validity in predicting the criterion measures either.

Factor Analysis of the Hostility Toward Women Scale

In order to determine whether there was in fact only one dimension underlying The Hostility Toward Women scale, a Principal Components Factor Analysis of the 30 Hostility Toward Women scale items was conducted on the matrix of the phi correlation coefficients between the items. The phi coefficients were used rather than the tetrachoric correlation coefficients because, as Comrey and Levonian (1958) have demonstrated, factor analysis of tetrachorics often results in excessively high communalities. The trade-off, on the other hand, is that the factors which are extracted from a phi correlation coefficient matrix tend to account for smaller proportions of variance than is the case with a tetrachoric correlation coefficient matrix⁴.

The eigenvalues for each initial factor are presented in Figure 1. As can be seen from the figure, an application of the scree test (Cattell, 1966) suggested

that only the first factor should be retained. This first factor accounted for 25% of the total variance of the 30 items. Extracting this factor yielded factor loadings above .30 for all items, as can be seen from Table 1 (where the factor loadings are listed after each item). Note as well that these factor loadings are remarkably high considering the fact that the original correlation matrix was a matrix of phi coefficients, which as noted earlier tend to underestimate the strength of the true underlying relationships. Thus, these data provide support for the assumption that the Hostility Toward Women scale is a unidimensional measure.

Insert Figure 1 and Table 3 about here

Validity Data on The Hostility Toward Women Scale

A second major purpose of the item selection study described above was to make some preliminary assessment of the validity of the Hostility Toward Women Scale. While there have been a number of different "types" of validity referred to in the testing literature (see Anastasi, 1976, for a review), these are variants of three basic types of validity which are applicable in the present context. The first of these is face validity, or the extent to which a scale has items which ba-

sically "look like" they measure what they are intended to measure. The second type of validity relevant in the present context is content validity, or the extent to which a scale's items are a reasonable sample of the theoretical domain of interest. Since the 118 scale items used in the item selection study (a) all referred specifically to women and were almost exclusively taken from established hostility scales, and (b) were derived from a large and representative pool containing most of the (nonoverlapping) general hostility items in the literature, it would seem reasonable to argue that the requirements of face and content validity have been satisfied by the Hostility Toward Women scale.

The third major type of validity relevant in the present context is construct validity, which is a much more complex and difficult type of validity to establish. Briefly, to demonstrate the construct validity of a trait measure, the researcher must first establish a "nomological network" (Cronbach & Meehl, 1955), the major components of which are theoretical statements about how the construct being measured should relate to certain variables of interest and not relate to certain other variables. Then the researcher must show that his measure of the construct "fits into" this nomological network. That is, the researcher must demonstrate empirically that his/her measure of the construct of

interest (a) does in fact relate to the variables it should (these variables are often referred to as "criterion" variables), and (b) does not relate to the variables it shouldn't (these variables being the "discriminator" variables). This ability of a scale to correlate only with variables it should is also sometimes referred to as "discriminant" validity. (See Campbell & Fiske, 1957, for a more detailed discussion of these terms.) Thus, in order to assess the construct validity of the Hostility Toward Women Scale, a number of other measures were included for use in the initial item selection study described above. As is detailed further below, these included measures of both criterion and discriminator variables.

The nomological network which dictated the choice of variables for this initial validation study of the Hostility Toward Women scale was based upon the theoretical assumption that rape and other forms of aggression against women are in fact related to (if not caused by) hostility toward women. This being the case, a number of rape-related (and rape-unrelated) variables which we had at least some reliability and validity evidence about were chosen. Note also that, consistent with the recommendations of Campbell and Fiske (1957), the variables which were chosen included at least one criterion and one discriminator variable

in each of a number of different categories of variables. The categories were (a) attitudes regarding sexual and nonsexual aggression, (b) sexual motivations, and (c) sexually and nonsexually aggressive behavior.

Attitudes.

The criterion measures of sexually aggressive attitudes were Burt's (1980) Rape Myth Acceptance scale (19 items; alpha = .88), Acceptance of Interpersonal violence (primarily against women) scale (6 items; alpha = .59), and Adversarial Sex Beliefs scale (9 items; alpha = .80). These attitude scales, which were developed by Burt (1980), have in previous research been shown to be powerful predictors of many rape-related variables (see Check & Malamuth, 1983, in press; Malamuth, 1981, and Malamuth & Donnerstein, 1982, for reviews), and were therefore expected to be positively correlated with the Hostility Toward Women scale. As can be seen from the first three rows of Table 3, this expectation was confirmed.

The measure of nonsexual aggressive attitudes was Malamuth, Check, & Briere's (1983) General Acceptance of Violence scale (10 items, alpha = .67). As can be seen from row 4 of Table 3, this measure was found to be unrelated to hostility toward women, thus suggesting that the Hostility Toward Women scale has some discrim-

inant validity in predicting attitudes relating primarily to violence against women.

Sexual Motivations.

Motivations for engaging in sex were assessed using two derived subscales from Nelson's (1979) Sexual Functions Inventory; Power Motivation for sex (11 items; alpha = .85; e.g., "Because I like the feeling of having another person submit to me"), and Love/Affection motivation for sex (8 items; alpha = .86; e.g., "Because of the feeling of closeness it brings to a relationship")⁵. The former measure was chosen as a rape-related criterion measure because it has been found by Malamuth & Check (1983) to predict males' sexual arousal to rape depictions (a measure which has been used by Abel, Barlow, Blanchard, and Guild, 1977, as an index of proclivity to rape), and self-reported likelihood of raping. In contrast, the Love/Affection measure was found by Malamuth and Check (1983) to be unrelated to sexual arousal to rape and self-reported likelihood of raping.

As can be seen from rows 5 and 6 of Table 3, the validation study correlations revealed that, consistent with expectation, power motivation was related to hostility toward women, whereas love and affection motivation was not.

Aggressive Behavior.

Two measures of sexual aggressiveness were employed as criterion measures. The first of these was composed of the 10 sex-aggression items from Koss and Oros' (1982) Sexual Experiences Survey. These items assess a range of forced sexual behaviors, ranging from trying to get intercourse by "threatening to end the relationship otherwise" to actually holding a woman down and physically forcing her to have intercourse. The second criterion measure of sexual aggression was a measure developed by Malamuth and his colleagues to assess males' self-reported likelihood of raping and forcing women into unwanted sex acts (see Malamuth, 1981, for a detailed description of this measure and its validity). In a recent study, both of these measures were found to discriminate convicted rapists from a control group of violent non-sex offenders (Henry, Check, & Smith, 1984).

As can be seen from rows 7 and 8 of Table 3, the Hostility Toward Women scale was found to be correlated with the measures of self-reported sexual aggression, both in terms of the men's reports that they had used force to get sex in the past and in terms of their predictions that they would be likely to do so in the future⁶.

The final self-report measure of aggressive behavior was composed of two items from Bardis' (1973) History of Family Violence scale, and was included as a preliminary assessment of subjects' past reported history of general or nonsexual aggression. Subjects were asked to indicate their frequency of physically fighting with and seriously threatening other children when they were young. As can be seen from the last row of Table 3, Hostility toward women was unrelated to this measure.

Insert Table 3 about here

Validity of the "Aggressiveness Toward Women" Items

As noted above, the 11 hostility toward women items referring to overt physical aggression against women were endorsed infrequently, and did not load substantially on the 30 item Hostility Toward Women Scale. As well, it was argued that men are not likely to admit openly any physical aggressivity toward women, and that this reluctance would detract from the validity of any items which attempt to directly assess this aggressivity. However, it may also be argued that the infrequent endorsement of these items reflects the true state of affairs (rather than simply social desirability), and that the items do in fact have substantial validity as

a relatively independent dimension of hostility (i.e., similar to Buss & Durkee's, 1957 "aggressivity" dimension). To assess this possibility, the "scale" consisting of the sum of the 11 overt aggressivity items was correlated with each of the criterion variables used to validate the 30-item Hostility Toward Women scale. These correlations are presented in Table 4. As can be seen from a comparison of Table 3 and Table 4, this 11 item "Aggressiveness Toward Women scale" shows very little correlation with any of the criterion variables. It was therefore concluded that whatever form of overt aggressivity these 11 items tap is most likely unrelated to the most common forms of "real world" aggression against women, i.e., rape and perhaps wife abuse. Nonetheless, it would be imprudent to preclude the possibility that these items are unrelated to other forms of aggression against women, such as non-sexual assault, robbery with violence, etc.

Insert Table 4 about here

In summary, the initial item selection and validation study indicates that hostility toward women can be measured reliably (at least in terms of internal consistency) using items derived from existing general hostility scales, and that the items which cluster to-

gether on this scale express resentment, suspicion, and guilt, consistent with Buss' (1961) definition of hostility. Moreover, the results of this study suggest that hostility toward women is related to a number of indirect, paper and pencil criterion measures of sexual aggression against women, is unrelated to other "nonaggression" measures, and may in addition be unrelated to generally aggressive attitudes (at least in terms of paper and pencil measures). Finally, the 11 items referring to overt aggressivity toward women appear to be only weakly related to the Hostility Toward Women Scale, and these items as a scale appear to have little validity, at least in terms of the criterion measures employed here. At this point, therefore, it seemed reasonable to proceed with further research using the 30 item Hostility Toward Women Scale. In light of the problems with the 11 "aggressivity" items, it was decided that proceeding with further attempts to measure this "type" of hostility would be fruitless. Thus the definition of hostility toward women which emerged from this first study was the "hostility half" of Buss and Durkee's (1957) general hostility/aggressiveness distinction, i.e., resentment, suspicion, guilt, and general indirect hostility, directed toward women. Note again that hostility toward women is conceptualized here as a trait, which is separate and distinct from

both aggressivity toward women and overt behavioral aggression against women. This definition also implies that hostility toward women may or may not manifest itself in overt aggressive behavior, depending upon the situation (e.g., a hostile individual might aggress against a woman if he is assured of not being seen by others, but may not do so in public.) It may even be the case that certain individuals choose to express their hostility in nonaggressive forms of negativistic behavior, such as by withdrawing reward or underpaying a woman. The study to be reported below was one attempt to assess the relationship between hostility toward women and both aggressive and rewarding behavior, using the bogus ESP paradigm (Malamuth, 1983).

Study 2:

Hostility Toward Women and Aggressive Behavior

One limitation of the initial validation study reported above is the fact that only paper and pencil measures were employed. Thus there exists a need to further validate the scale using a behavioral measure of aggression, given the assumption that hostility toward women should at least somewhat relate to aggression against women under appropriate circumstances. One possible behavioral measure is Buss' (1961) teacher-learner aggression measure, in which the subject (assigned to the role of the teacher) is given the opportunity of ostensibly shocking the "learner" (actually a confederate of the experimenter) for incorrect performance on a learning task. There have been a number of studies conducted assessing the relationship between this measure (or similar measures) and various measures of general hostility/aggressiveness, these studies producing mixed results. Following is a brief review of this literature.

Several studies of the relationship between trait hostility/aggressiveness and behavioral aggression have found evidence of a positive relationship. Youssef (1968) used a combination of Cook and Medley's (1954) Hostility Scale and Siegel's (1956) Manifest Hostility Scale to divide males and females into High versus Low

hostility groups. High Hostile individuals of both genders were found to set higher shocks in the Buss paradigm than Low Hostile individuals, regardless of the sex of the target. Similarly, Wilkins, Scharff, and Schlottman (1974) compared males with T scores over 70 versus under 30 on the K-corrected Scale 4 (Pd) of the MMPI. These authors found that high scorers delivered higher shocks to another male for incorrect responses on an ESP task than did low scorers. Shemberg, Leventhal, and Allman (1968) also used extreme scores, selecting 23 high aggressive and 22 low aggressive male and female Black high school students enrolled in an Upward Bound program, on the basis of their scores on the Naylor (1952) Aggression Rating Scale. For both male and female subjects, high aggressive individuals gave stronger shocks to the (male Black) confederate than low aggressive individuals. Knott (1970) selected from an initial pool of 110 subjects the 9 highest and 9 lowest scoring males on the Buss-Durkee (1957) inventory. Subjects were then provided with an opportunity to shock a male confederate who was performing a reaction time task, and who had previously shocked the subject while the subject was performing the task. High Hostile men retaliated sooner, delivered more shocks, and delivered stronger shocks than Low Hostile men. Hynan and Esselman (1980) did not divide groups on the

basis of extreme scores, but rather simply correlated subjects' scores on Blackburn's (1974) MMPI-derived hostility and aggression scales with subjects' shocking in a competitive game. Overall, the hostility scale was found to be correlated with both instrumental aggression (shocking would terminate nonaggressive interference from the confederate) and noninstrumental aggression. The aggression scale, however, was only correlated with noninstrumental aggression. Although both male and female subjects and confederates (targets) were employed, no assessment of the differences in the correlations as a function of gender was made.

The above studies showing a relationship between trait measures of general hostility/aggressiveness and behavioral aggression are balanced by a similar number of studies showing no relationship. Hokanson and Gordon (1958) had male subjects shock the (male) experimenter for incorrect predictions about the subject's personality. These authors found no differences in shocking between men who scored above versus below the median on all three of (a) Siegel's (1956) Manifest Hostility Scale, (b) scores on TAT cards 8BM, 3BM, and 2 of the TAT, and (c) first impression ratings of two stimulus photographs in terms of the degree of friendliness the subject felt toward the persons portrayed. In a later study employing the same measure of behav-

ioral aggression, Hokanson (1961) similarly found no differences in aggressive behavior of men scoring extremely high versus extremely low on Siegel's (1956) Manifest Hostility Scale. Lipetz and Ossorio (1967) also had male subjects shock a male experimenter, but shocking was ostensibly for the purpose of interfering with the experimenter's task of writing the alphabet backwards. Subjects scoring above versus below the median on the Buss-Durkee scale did not differ in terms of intensity or duration of shocks delivered to the experimenter, but High Hostile subjects exerted more pressure on the shock lever than Low Hostile subjects. Larsen et al. (1972) had male and female subjects shock a male or female learner (confederate) in order to help him/her perform more effectively on a paired-comparison task. Neither the Buss-Durkee (1957) scale nor Larsen's (1970) aggression scale was correlated with shocking. (For some reason, these correlations were reported (a) collapsing across sex of subject, and (b) only for aggression against the male targets.) Liebowitz (1968) also simply correlated males' Buss-Durkee scores with shock intensity in the typical Buss teacher-learner paradigm (using a male confederate), and found no relationship. Finally, on the basis of factor analysis results Edmunds and Kendrick (1980) scored male subjects' Buss-Durkee (1957) questionnaires for

both aggressiveness and hostility, and found that neither score was related to number or duration of shocks in the typical Buss teacher-learner paradigm.

In sum, the evidence regarding the ability of general trait measures of hostility/aggressiveness to predict laboratory-assessed behavioral aggression have produced conflicting results. Moreover, a wide variety of "hostility" measures, specific aggression paradigms, methods of calculating aggression (number of shocks, shock intensity, shock duration, shock lever pressure, etc.), and subject selection procedures have been employed, making evaluative comparisons across studies extremely difficult. The situation is further complicated by the fact that none of these studies have isolated and specifically focused on male aggression against women, by the fact that most of the hostility measures have very little or no evidence regarding their psychometric properties, and by the fact that none of the authors even discuss the validity of their specific behavioral measure of aggression. This last point will be considered in some detail.

As has been noted by Baron and Eggleston (1972), a serious limitation to the validity of the Buss aggression measure stems from the fact that the subject is usually assigned to the role of a teacher who "punishes" the learner (confederate) for incorrect perform-

ance. Thus it may be that shocking behavior in this setting reflects a motivation to help the learner rather than harm him. Consistent with this hypothesis, Baron and Eggleston found that shocking under "learning" instructions (subjects were told that punishment affects learning) was positively correlated with subjects' reported desire to help the learner. When subjects were told that the study was concerned with the effects of electric shock on physiological reactions ("physiological" instructions), however, shocking behavior was negatively correlated with a reported desire to help the learner. Similarly, Rule and Nesdale (1974) found that subjects who were told that shocking hindered learning shocked more when insulted by the learner than when not insulted. Subjects who were told that shocking helped learning, however, shocked less when insulted by the learner than when not insulted. Thus it seems clear that two conditions are necessary for an aggression paradigm to elicit a valid measure of hostile (harm) motivated aggression. The first condition is that the experimenter should clearly indicate that the aversive stimulation (shock, aversive noise, etc.) interferes with the confederate's performance. The second condition would seem to be that subjects are given some form of instigation to aggress, i.e., that they are angered by the confederate. Following is a

description of a study which fulfills both of these conditions, and in addition assesses specifically the relationship between behavioral aggression against a woman and several criterion measures of sexually aggressive inclinations toward women.

Malamuth (1983) employed a bogus extrasensory perception (ESP) aggression paradigm in order to measure male aggression against an insulting, rejecting female confederate. In a rigged lottery, subjects were assigned to the role of "transmitter", while the female confederate was assigned to the role of "receiver". Ostensibly, the subject's task was to attempt to "send" numbers (via ESP) to the receiver in an adjoining room, who would then guess the numbers. The subject would then either (a) punish the receiver with some level of aversive noise if she guessed incorrectly, or (b) reward the receiver if she guessed correctly. Most importantly, the subject was told that previous research indicated that punishment interferes with performance on the ESP task.

Just prior to the ESP task the subject and confederate exchanged attitude questionnaires and wrote impressions of each other. The confederate wrote a very negative impression of the real subject, and said that she would not consider dating him (thus providing the instigation to aggress).

The results of this study clearly indicated that the males' aggression against the female confederate was correlated with a number of measures of sexually aggressive inclinations. (These measures had been administered in a previous session, portrayed as a separate and completely unrelated experiment on sexual responses.) The measures included two assessments of penile tumescence to sexually explicit rape depictions (relative to penile tumescence to consenting sex depictions), and Burt's (1980) measures of acceptance of rape myths and acceptance of violence against women. (See Malamuth, 1981, for a more complete description of the sexual arousal measures.)

Method

In light of Malamuth's findings providing some evidence for the construct validity of ESP aggression as a measure of inclinations to aggress against women, the Hostility Toward Women Scale was administered to males participating in another study which (a) included most of the paper and pencil criterion measures employed in the initial Hostility Toward Women Scale item selection study, and (b) assessed behavioral aggression using an ESP paradigm somewhat similar to the paradigm originally used by Malamuth (1983). (Note, however, that the present aggression study, which was conducted for other purposes, was different in one important procedural re-

spect from the original Malamuth study. This difference will be discussed in more detail later). In addition, however, a male confederate was also employed, thus allowing an assessment of the possibility that HTW may in fact be related to behavioral aggression against both women and men.

Results

The KR 20 reliability of the Hostility Toward Women Scale was found in this study to be .89, comparing favorably with the value of .89 found in the initial validation study. Regarding the paper and pencil measures, as can be seen from Table 5 the pattern of correlations between the Hostility Toward Women Scale and the criterion variables was highly similar to that found in the original item selection study (see also Table 3). More importantly, however, hostility toward women was found to be positively correlated with intensity of aggression against the female confederate, $r(33) = .37$, and was negatively correlated with reward, $r(33) = -.52$ (both $p < .05$). Hostility toward women was also found to correlate with aggression against the male confederate, $r(37) = .64$, $p < .05$), but was unrelated to reward in this condition, $r(37) = -.06$, n.s.⁷. Thus it does seem that hostility toward women is in fact associated with a reasonably valid measure of behavioral aggression against an insulting, rejecting fe-

male in the ESP paradigm, and also with the withdrawal of reward from her. In addition, hostility toward women seems to be associated with aggression against an insulting, rejecting male.

Insert Table 5 about here

Reliability of the Behavioral Aggression Measure

Since the confederate made a total of 15 incorrect guesses on the ESP task, the subject was provided with 15 trials or opportunities to aggress with some level of aversive noise. Thus if we consider aggression on each of these trials as an "item" on a 15-item behavioral aggression scale, we can calculate the alpha reliability of this scale. In the presently described study, this calculational procedure yielded an alpha reliability of .96. Thus this ESP aggression procedure seems to yield not only a reasonably valid but also a highly reliable measure of behavioral aggression, at least in terms of it's internal consistency.

ADDITIONAL EMPIRICAL AND THEORETICAL CONSIDERATIONS

While the results of the initial scale validation study and ESP aggression study were certainly encouraging and suggested that the Hostility Toward Women Scale may prove to be a useful instrument for research and theory testing, there nonetheless remained some important issues to address. These related to (a) response acquiescence, (b) test-retest reliability, (c) social desirability, (d) general hostility and "passive aggression", and (e) male-to-male aggressive behavior.

Studies 3 & 4:

Balancing the Hostility Toward Women Scale

Despite the fact that there were both protrait (positively worded or "true-keyed") items and contrait (negatively worded or "false-keyed") items in the original pool of 118 items, none of the 30 final items which emerged from the item selection study described above were protrait. Thus the scale may be subject to the problems of social desirability or "yeasaying", a response set which can seriously detract from the validity of a scale (Altemeyer, 1981; Anastasi, 1976). Therefore, two scale balancing studies were conducted, in order to balance the Hostility Toward Women scale with an equal number of protrait and contrait items.

Method

Subjects

Subjects ($n = 43$ in Study 3 and $n = 50$ in Study 4) were male introductory psychology students, who participated for credit in their course.

Materials and Procedure

While only 15 contrait items were required to balance the Hostility Toward Women Scale, it is not easy to write a contrait item which is exactly opposite to the original protrait item, especially on the first try (Altemeyer, 1981, reports a horrendous example of 15 unsuccessful attempts to reverse an item). Therefore,

it was decided to attempt reversals of all items, and then select the 15 most "successful" reversals. The actual scale balancing procedure followed was that used by Altemeyer (1981). For each existing item on the scale, a contrait counterpart was written (e.g., the item "When a woman makes me angry, I sometimes sulk" was rewritten to read "I never sulk when a woman makes me angry"). Two forms of a questionnaire were then constructed, each having an equal number of protrait and contrait items. Form A had half of the original (prottrait) items, and half of the rewritten, contrait items (randomly interspersed). Form B had the other half of the original prottrait items and the other half of the rewritten contrait items. Finally, eight "runner-up" items (items whose item-total correlations were almost-but-not-quite high enough to be selected for the original Hostility Toward Women scale) were included as extras to replace any original items that might be discarded along the way.

Subjects were asked to fill out both Form A and Form B of the questionnaire, during class time (with a lecture in between in order to minimize memory effects). Thus each student responded to all prottrait as well as all contrait items. As well, the two forms were presented in counterbalanced order so that half of the subjects completed Form A first and half completed

Form B first. An initial set of contrait items was then selected using Altemeyer's (1981) criteria for acceptability, i.e., considering (a) the contrait item's correlation with the original item (the most important criterion), (b) the degree to which the proportion of individuals responding "false" to the contrait item approximated the proportion of individuals responding "true" to the original protrait item (i.e., a comparison of item means), and (c) the degree to which the contrait item's standard deviation approximated the original item's standard deviation.

Results

The scale balancing procedure resulted in 16 apparently acceptable contrait items on the first attempt (Study 3). Nonetheless, Study 4 was conducted, for two reasons. The first reason was to cross-validate the results obtained with the 16 contrait items selected from Study 3. The second reason was to rewrite the remaining 21 unacceptable contrait items, in a second attempt to produce better items.

The initial versions of the 38 contrait items which were used in Study 3 are listed in Table 6, while Table 7 lists the "rewrites" of 21 of these (the unacceptable items, which did not meet the criteria outlined above)⁸. Table 8 displays the mean and standard deviation for each of the 38 protrait and contrait

items, and the tetrachoric correlation between each item's protrait and contrait version. As is indicated in the footnotes to the table, a total of 16 contrait items were judged to be acceptable from the results of study 3. For each of these 16 items, (a) the tetrachoric correlation between the protrait and contrait version was .55 or greater (Table 8, column 6), (b) the protrait and contrait item means were within .19 of each other (columns 2 and 3), and (c) the protrait and contrait item standard deviations were within .12 of each other (columns 4 and 5).

Insert Tables 6, 7, and 8 about here

As noted above, the other 21 contrait items emerging from Study 3 (the unacceptable items) were rewritten (see Table 7 for a list of the rewritten items) and used in Study 4 along with the 16 (unchanged) acceptable contrait items from Study 3. The last 5 columns of Table 8 indicate the results of Study 4, along with the final decisions regarding each item. As can be seen from the table, for each of the final 15 contrait items, (a) the tetrachoric correlation between the protrait and the contrait version was .60 or greater (column 11), (b) the protrait and contrait item means were within .20 of each other (columns 7 and 8), (c) the

protrait and contrait item standard deviations were within .07 of each other (columns 9 and 10).

With the 15 contrait items selected out for the final balanced version of the scale, the only remaining task was to select the 15 prottrait items from the remaining 23. This decision was based primarily on the items' original item-total correlation from Studys 1 and 2 (see Table 2). The final 30 items are presented in Table 9, in the same order as they were used in all subsequent studies.

Insert Table 9 about here

Study 5:

Internal Consistency and Test-retest Reliability
of the Balanced Scale

Although the internal consistency (KR 20 coefficient) of the initial Hostility Toward Women Scale was determined to be .89 in the initial validation study and .89 in the ESP aggression study, there nonetheless existed a need to redetermine and thus cross-validate (a) the internal consistency, and (b) the test-retest reliability, of the final balanced version of the scale. It was expected that the internal consistency (KR 20 coefficient) of the balanced scale would approach that of the unbalanced version of the scale. As well, since hostility toward women is conceptualized as an enduring attribute, it was expected that the test-retest reliability of the balanced scale over a one week interval would be high.

Method and Results

In order to test these assumptions, the final balanced version of the Hostility Toward Women scale was administered to a total of 80 men in two introductory classes (for course credit), during class time. (During the testing sessions the women in the class completed a similar questionnaire, for use in other research.) One week later, the same experimenter returned and administered the scale a second time. Of the original 80 men,

61 were in class during this second administration of the scale. The resulting correlation (test-retest reliability) between the two sets of 61 scores was calculated to be .83. This high test-retest reliability coefficient suggests that Hostility Toward Women scale scores are highly stable over a one-week period. As well, the KR 20 coefficient for the scale was found to be .81 for the first testing session, and .87 for the second testing session. These values compare favorably with the value of .89 found in the two earlier studies using the original (unbalanced) version of the scale.

Factor Analyses of the Balanced Scale

In order to cross-validate the factor analysis results obtained earlier with the initial version of the Hostility Toward Women scale, a Principal Components Factor Analysis of the 30 balanced scale items was conducted. For the first testing session, the eigenvalues for each initial factor are presented in Figure 2. As can be seen from the figure, the scree test (Cattell, 1966) again suggested only one factor, although there seemed to be the suggestion of a second and perhaps a third factor as well. This first factor accounted for 19% of the total variance of the 30 items. Extracting this factor yielded lower factor loadings than was the case for the factor analysis of the initial version of the scale (see Table 9, where the factor loadings are

listed after each item), with only 20 of the loadings being greater than .30, and 17 of these being greater than .40. For the second testing session, the eigenvalues for each initial factor are presented in Figure 3. As can be seen from the figure, these results also suggested a single factor, with again the hint of perhaps a second and third factor. The first factor accounted for 23% of the variance. Extracting the first factor yielded factor loadings more comparable to those found for the analysis of the initial version of the scale (see Tables 1 and 9), with 25 of the 30 items having loadings greater than .30, and 21 of these being greater than .40. In fact, as can be seen from Table 9, only 4 items (items 6, 8, 21, and 29) had loadings below .30 at both testing sessions.

In summary, the reliability check and the factor analysis of the balanced version of the Hostility Toward Women scale for the most part reconfirmed the internal consistency and unidimensionality of the scale. There were some nuances to the factor analysis results, however, which may have been due to a number of reasons. First, as mentioned earlier the factor analysis was conducted on the matrix of phi coefficients, coefficients which tend to underestimate the strength of the true underlying relationship. While this was unavoidable because the scale uses a dichotomous true-

false response format in its present form (in order to save administration time), it may be useful in future factor-analytic research to employ 5 or perhaps 7 response alternatives. This procedure would result in more accurate estimates of the population item inter-correlations, and more accurate factor analysis results with higher loadings (A.L. Comrey, personal communication, July 4, 1984).

It may also be that the four items with consistently low factor loadings are in fact problem items which are more contaminated by inconsistent responses than the other items. An inspection of the content of these four items (see Table 9) suggests that this may in fact be the case. All four items are contrait items, for which disagreement is the hostile-keyed response. With respect to item 6, for example, the hostile individual must disagree that he often finds himself disagreeing with women, a task which may require more cognitive effort than the average respondent is willing to expend. Nonetheless, these items cannot simply be dropped from the scale as this would create an unbalanced scale (more protrait than contrait items). If these items continue to relate poorly in future factor-analytic research (e.g., using the scale with 5 or 7 response alternatives), they may need to be further refined, but at this point they will be re-

tained since they provide the necessary balance against response acquiescence.

Insert Figures 2 and 3 about here

Study 6:

The Second Aggression Study

Issues to be Addressed

Social Desirability.

Buss and Durkee (1957) have argued that measures of hostility are particularly subject to respondents' tendencies to "fake good" or respond in a socially desirable or approved fashion. However, a number of writers (e.g., Anastasi, 1976; Crowne & Marlowe, 1964; Edmunds & Kendrick, 1980; Megargee & Menzies, 1971) have argued that the tendency to respond in a socially desirable fashion can enhance the validity of a scale if the characteristic of faking good is correlated with the criterion measure of interest. Thus, as Crowne and Marlowe (1964) have argued, individuals who respond in a socially desirable fashion on a hostility scale may also be less behaviorally aggressive:

If approval motivated persons are more dependent on the positive evaluations of others as a means of protecting a defensively enhanced picture of themselves, we might expect that they would have problems in the recognition and expression of hostility. (p. 133, emphasis added)

Consistent with this notion is the fact that a number of items on the Marlowe-Crowne Social Desirability

scale (Crowne & Marlowe, 1960) seem to reflect hostility (e.g., "I sometimes try to get even rather than forgive and forget", "There have been occasions when I felt like smashing things", "I have never deliberately said something that hurt someone's feelings"). As well, Leibowitz (1968) found the Marlowe-Crowne measure to be negatively correlated with both the Buss-Durkee hostility measure and a role-play measure of aggression. (The hostility and role-play aggression measures were in turn positively correlated with each other.)

In order to assess the validity of these assumptions with respect to the Hostility Toward Women Scale, a Social Desirability Scale will be employed in the behavioral aggression studies to be described below. If it is true that "faking good" is in fact a response tendency which enhances the predictive validity of the Hostility Toward Women Scale, we might expect that social desirability scores would be negatively correlated with both hostility toward women and behavioral aggression. If, on the other hand, social desirability is a response tendency which detracts from the predictive validity of the Hostility Toward Women Scale, we would expect social desirability scores to be correlated only with the Hostility Toward Women Scale scores, and not with behavioral aggression. A third possibility, of course, is that the Hostility Toward Women scale is

simply not substantially correlated with social desirability.

Hostility Toward Women and General Hostility

A major drawback of the studies conducted to date on the Hostility Toward Women Scale is that the paper and pencil measures of general hostility/aggressiveness which were used have serious limitations. The General Acceptance of Violence scale has no available validity evidence, and was found by Malamuth et al. (1983) to have a reliability of only .67. (Note also that this measure is a measure of attitudes toward violence, and thus does not necessarily reflect the trait of general hostility.) As well, the measure of history of childhood aggression, taken from Bardis' (1973) history of family violence scale, has only two items (frequency of physical fighting with other children and frequency of threatening other children with physical violence), although this measure was found to correlate significantly with the General Acceptance of Violence scale, $r(120) = .32$, $p < .001^o$. Thus there exists a need to further examine the relationship between hostility toward women and general hostility using a more reliable and valid paper and pencil measure of general trait hostility, especially considering the fact that the Hostility Toward Women scale was found to predict aggression against a male as well as aggression against a

female. Although the Buss-Durkee scale has been generally accepted as the most reliable and valid measure in the literature (Edmunds & Kendrick, 1981; Megargee & Menzies, 1971), 18 of the 30 items in the original Hostility Toward Women Scale were directly derived from Buss-Durkee items. As a consequence, a spurious relationship may exist between these two scales, simply because of the similarity of their item content, which could lead to the erroneous conclusion that hostility toward women is closely related to general hostility.

Recently, Spielberger, Jacobs, Russell, and Crane (1982) developed the Trait Anger scale, which seems to be a good measure of general hostility. The scale has a reported alpha reliability of about .90 for college students, and correlates .66 to .73 with the Buss-Durkee hostility scale (Spielberger, et al., 1982). The major advantages of the Spielberger et al. measure for the present purposes were that it correlates relatively highly with the Buss-Durkee measure, but at the same time has no overlapping item content with the Hostility Toward Women Scale. Therefore, in the study to be described below, Spielberger et al.'s (1982) Trait Anger Scale was employed as the measure of general hostility. If it is in fact true that hostility toward women is also related to general hostility, we would expect the Trait Anger Scale and the Hostility Toward Women Scale

to be correlated (although if the correlation is too high we might suspect that the Hostility Toward Women scale is not anything more than a general hostility measure). More importantly, however, as will be discussed in detail below, the Trait Anger Scale will be used to help determine the "unique" relationship between the Hostility Toward Women Scale and behavioral aggression against a male versus a female confederate.

Hostility Toward Women and Male-to-Male Aggression

As noted above, the Hostility Toward Women Scale was found in the pilot aggression study to be predictive not only of male aggression against a female, but also of male-to-male aggression. It might therefore be argued that the Hostility Toward Women Scale taps at least some component of general hostility, as suggested by the feminist analysis. If the scale does in fact reflect some component of general hostility, we would of course expect a correlation with aggression against the male target, since as previously noted men are usually the targets of other men's aggression. Thus one might argue that any man who aggresses against a woman would certainly aggress against a man. (In fact the essence of the previously noted feminist analysis of aggression against women is that it is simply a "spillover" from the generally aggressive disposition which all men have - notwithstanding the previously

mentioned problems that the feminists have in distinguishing hostility as a trait from aggressivity as a trait and from overt aggressive behavior). The problem with this argument, of course, is that the men in the ESP study were no less aggressive overall toward the female confederate than toward the male confederate. Moreover, the ESP aggression paradigm was chosen precisely because it does elicit female-targeted aggression from men who are classified using other variables as having aggressive inclinations toward women (Malamuth, 1983). (Note, however, that similar evidence for the construct validity of aggression against the male confederate has not been obtained, a point which will be discussed in more detail later). A possible alternative explanation, therefore, is that the men who aggressed against the female confederate were different from the men who aggressed against the male confederate. In other words, there may be more than one reason for being hostile toward women. There may be some men who are hostile toward women simply because they are hostile toward everyone, regardless of gender. When these men are angered by another male they have no inhibitions about retaliating with physical aggression. When angered by a woman, however, this type of man may feel strong inhibitions about overtly expressing his resulting aggressive aggression, preferring instead to

adopt a withdrawn, "passive-aggressive" strategy. Such a strategy has been observed by Goldberg (1976), in his clinical work on male and female expressions of aggression toward each other:

While women have been quite free in expressing anger toward men, men are largely unable to express their anger toward women, particularly their resentment over loss of control in their relationships with women. In my work in aggression training, I frequently do a ritual we call the "gender club" in which I encourage men and women, single and/or married, to spew out their innermost hostile feelings toward the opposite sex. Invariably, I've found that the supposedly aggression-phobic and passive female is able to do this quite readily, while the male is very blocked in his expression of anger toward women. It is "unmanly" to acknowledge openly his vulnerability or his anger. Frequently it ties in with the fear of being a bully, and consequently his anger over the situation emerges only indirectly....He expresses anger primarily by emotional withdrawal from her, as well as from himself. He detaches himself from his rage and becomes invulnerable.

If Goldberg's observations have some validity in the present context, we might speculate that some of the hostile men in the ESP female confederate condition expressed their hostility passively by withdrawing reward, as evidenced by the negative correlation between hostility toward women and reward for correct performance. Further, these men who responded by withdrawing reward may have been the generally hostile individuals, as were those who behaved aggressively toward the male confederate. To clarify further, it might be argued that generally hostile individuals (who are hostile toward women simply because they are hostile toward everyone) will respond by aggressing against a man who provokes them, but not against a woman who does so. Instead, these individuals respond in a "passive-aggressive" fashion, by withdrawing reward from the woman. In contrast, other men are hostile only toward women, and it is argued that these men are the men who are willing to aggress overtly against a woman who provokes them. Thus, the men in the ESP study who behaved aggressively toward the female confederate may have been these men who have hostile inclinations specifically toward women (Malamuth, 1983). This conclusion is admittedly somewhat speculative, since there is no empirical basis for claiming that withdrawal of reward is a "passive-aggressive" strat-

egy. As well, there is a need to determine the replicability of the observed correlation between hostility toward women and reward withdrawal. More importantly, however, the ESP study described above did not employ a measure of general hostility. However, the ESP study to be described below did employ a general hostility measure, which was used to "tease out" the general hostility component from the Hostility Toward Women Scale, using multiple regression analysis. The resulting partial correlations (beta weights) were then used to assess the unique relationship between hostility toward women and both aggressive and rewarding behavior, holding general hostility constant.

A second method which was employed to assess the validity of the "passive-aggressive" analysis outlined above was the inclusion of a separate condition designed to measure "active" withdrawal of reward. Briefly, half of the subjects in the ESP task were instructed that they were to punish the confederate for incorrect guesses by using aversive noise, while the other half were instructed to punish the confederate by subtracting a certain amount of money for each incorrect guess. It may have been the case in the pilot ESP study that the hostile men were not behaving in a passive-aggressive fashion, but simply avoided the use of overt physical punishment against the woman. If this

were the case, then we would expect these men to feel free to punish a female who insults them by penalizing her in a nonphysical manner, such as by taking away money. On the other hand, if these men were adopting a passive-aggressive strategy, they would not be expected to punish the confederate in such an active albeit non-physical manner.

Finally, a third way in which the "passive-aggressive" hypothesis was tested was by measuring subjects' inhibitions about aggressing. If some men with high hostility toward women withdraw reward because they feel inhibited about aggressing against a woman, we would expect such feelings of inhibition to be associated with the withdrawal of reward. That is, subjects' self-reports that they did not feel free to use whatever levels of (female-targeted) aggression they desired should be associated with the use of very low levels of reward (as an alternate strategy for "getting back at" the female confederate), and with a high level of hostility toward women. Such a finding would provide support for the suggestion that withdrawal of reward is a "passive-aggressive" strategy used by generally hostile individuals who feel hostility toward women (simply because they are hostile toward everyone) but nonetheless feel inhibited about expressing this hostility toward women in overt, aggressive behavior.

In contrast, the passive-aggressive analysis would predict that individuals whose hostility is directed primarily toward women would simply aggress overtly, because they would feel no inhibitions about doing so. More generally, it will be useful to examine inhibitions across the varicus experimental conditions, especially as regards the use of overt physical punishment (aversive noise) versus monetary punishment (taking away money).

Method

Subjects and Overview

Subjects were 312 male introductory psychology students. They were asked to participate in two ostensibly unrelated "experiments." The first of these was a questionnaire study, where the Hostility Toward Women and other scales were administered. The second "experiment" was the bogus ESP study, where aggression was measured. Subjects participated in the questionnaire study for credit in their psychology course. For the aggression study, 201 of the original 312 subjects were contacted by telephone and subsequently agreed to participate for either experimental credit or (in the case of those who had already completed all their credits) the sum of \$5. The vast majority of subjects who did not participate in the aggression study were either not interested (it was the end of the year and they had al-

ready been in 7 psychology studies), too busy with impending exams, or simply could not be contacted by telephone. In the aggression study, subjects were randomly assigned to experimental conditions.

The design of the study was primarily correlational in nature, the main predictor variables being hostility toward women, trait anger, and the main criterion/discriminator variables being aggressive behavior, rewarding behavior, reported desire to hurt the receiver, and reported desire to help the receiver. In addition, however, two independent variables were experimentally manipulated within the ESP aggression paradigm. These were sex of target (male target/confederate versus female target/confederate), and mode of aggression (using aversive noise versus a monetary penalty). These independent variables were manipulated in a 2 X 2 between groups factorial design.

Materials

The questionnaire measures used were be the same as those used in the previous studies, with the addition of the Spielberger et al. (1982) Trait Anger Scale previously described. As well, Reynolds' (1982) 13-item short form of the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1960) was included. Reynolds' short form was used (rather than the full 33-item scale) in order help minimize the length of the

questionnaire. Reynolds reported a KR 20 reliability of .76 for this short form (as opposed to .82 for the entire 33-item scale), and found the short form to correlate .93 with the full parent scale. Finally, the balanced form of the Hostility Toward Women scale was used.

Procedure: Questionnaire Administration

All of the questionnaire measures were contained in a large "Male Sexual Attitudes and Behavior Survey", which took about 60 to 90 minutes to complete. Subjects signed up for one of twelve testing sessions, and participated in groups of 17 to 32 individuals. They did not know at this time that they would be later asked to participate in the aggression assessment phase of the research. A male experimenter administered the questionnaires. Most importantly, subjects were not asked to put their names on the questionnaire, and were assured that their responses would remain strictly confidential.

Procedure: Assessment of Aggression

Generally within two weeks following the questionnaire session, subjects were telephoned by a second male experimenter and asked to participate in what was ostensibly a study of extrasensory perception (ESP). No mention was made of the connection between this "ESP" study and the questionnaire study they had par-

ticipated in earlier. (A postexperimental questionnaire given later confirmed that none of the subjects saw the connection between the two phases of the research, as has been the case in all of our multi-phase research; Check, 1982; Check & Malamuth, 1983, 1984; Malamuth & Check, 1981, 1984; Malamuth, Reisin, & Spinner, 1979.) A total of 201 subjects were available to be contacted and agreed to participate in this second phase of the research.

The procedure for the ESP aggression phase of the research was similar to the procedure described above for the previous pilot aggression study, except for the manipulation of the method of aggressing (in the "monetary" aggression condition, subjects were simply told that they were to punish incorrect responses by subtracting a certain amount of money from the confederate's "account"). However, a number of methodological changes and refinements were made, as detailed below.

Instructions. Malamuth (1983) and Malamuth and Check (1982) found that punishment delivered to the woman in the ESP paradigm was positively correlated with a reported desire to hurt the woman with the noise, but was unrelated to reported desire to help her, as intended. In the Malamuth (in preparation) study and the pilot aggression study reported earlier, however, punishment did not correlate with either desire. This may

have been due to procedural differences between the two sets of studies. In the pilot aggression study, the instructions stated that

Almost all learning takes place in situations where the correct behavior (response) is rewarded on each trial and incorrect responses are not rewarded, or may even be punished.

Several studies have demonstrated that learning is most effective when the consequences of a response (i.e., punishment or reward) are delivered immediately following the response.

As well, the subject (who was told he would be the ESP "transmitter") was referred to as the "teacher", while the confederate was referred to as the "learner". Finally, the "interference" instructions were only mentioned cursorily, at a later point in the introductory comments:

At this point we are not sure what the effects of punishment on ESP are. Research seems to indicate that punishment may interfere with the receiver's performance.

In contrast, in the Malamuth (1983) and Malamuth and Check (1982) studies, the subject and confederate were never referred to as the "teacher" and the "learner"

(respectively), rather they were only referred to as the "transmitter" and the "receiver". As well, no reference was made to learning, and the experimenter stated that

research to date has indicated that punishment has a negative effect on the way subjects perform on the ESP task. At present, however, the results are not conclusive and cannot be considered completely significant. Consequently, we have to perform further research to determine more accurately how immediate consequences influence ESP.

It would seem, then, that the instructions in the Malamuth (1983) and Malamuth and Check (1982) studies clearly communicated the message that punishment would have a detrimental effect on the receiver's performance. The pilot aggression study instructions, on the other hand, seem to have communicated a mixed message. Thus it is not clear whether a subject who was using high levels of punishment was trying to help the receiver or hurt him/her (cf. Baron & Eggleston, 1972; Rule and Nesdale, 1974). Therefore, in the present study, the following instructions to the subjects were used in order to make it clear to the subject that punishment would have a negative effect, while reward would have a positive effect;

In terms of how punishment and reward will affect ESP, research to date has indicated that punishment has a negative effect on the way subjects perform on the ESP task, while reward has a positive effect. At present, however, the results are not conclusive and cannot be considered completely significant. Consequently we have to perform further research to determine more accurately how immediate consequences influence ESP. The experimenter has some readings for you on this topic which he can give you later if you are interested. (The experimenter then gestured toward a book on psychical phenomena, indicating that the author's work was excellent, and that he was the leader in this field of research).

Briefly, then, upon arrival at the laboratory the subject and a male confederate of the experimenter were told that the purpose of the study was to examine the effects of punishment and reward on ESP performance. In a rigged lottery, the subject was assigned to the role of "transmitter", while the confederate was assigned to the role of "receiver". Ostensibly, the subject's task was to attempt to "send" numbers (via ESP) to the receiver in an adjoining room, who would then

guess the numbers. The subject/transmitter was instructed to (a) punish the receiver each time he/she guessed incorrectly, and (b) reward the receiver with from 1 to 7 nickels each time he/she guessed correctly. Half of the subjects were paired with a male receiver (male confederate), and half were paired with a female receiver (female confederate). Within each of these conditions, half of the subjects were told to punish the receiver on incorrect trials by selecting any one of seven levels of aversive noise (the Aversive Noise condition). The noise levels were of course not actually administered to the receiver/confederate, but in order to increase credibility the subject and confederate were each given a 5-sec 70 db (SPL) "sample" of the noise, and told that it was at "Level 3". The other half of the subjects were instructed to punish the receiver on each incorrect trial by subtracting from 1 to 7 nickels from the receiver's "account". Most importantly, as noted above the subject was told that previous research indicated that punishment interferes with performance on the ESP task, while reward has a positive effect.

Instigation to Aggress. Just prior to the ESP task, the experimenter explained that previous research had suggested the importance of attitude similarity in ESP performance between two people. The subject and

confederate were then asked to exchange attitude questionnaires, and write a brief evaluation of each other. The confederate wrote a very negative evaluation of the real subject. The evaluation read as follows:

It is very difficult to get a clear impression of someone on the basis of so little information. However, it seems to me that this person and myself are quite unlike. I do feel that he seems quite narrow and phony in his attitudes. I strongly doubt that I could become close to this person or would consider socializing with him.

At this point subjects were asked to estimate their likelihood of success on the ESP task, based upon their similarity of attitudes.

Measurement of Negative Affect. In all of the ESP studies conducted by Malamuth, subjects were asked to rate their "feelings and moods" on a number of bipolar scales, administered after they had finished the ESP task. Clearly, the measurement of negative affect is an important task, for two reasons. First, it allows an assessment of the effectiveness of the anger instigation procedure. More importantly, however, the measures of negative affect can be used to help determine if in fact the Hostility Toward Women scale measures the emotional or affective component of the hos-

tility/aggressiveness diad. If this is in fact the case, we might expect that the scale would predict affective reactions to the anger instigation procedure.

The specific items used in the previous studies to measure affect were items like "distracted", "excited", "angry", and "confused", each rated on a 7-point scale from "not at all" to "very". This procedure was not followed in the presently proposed ESP study, for two reasons. First, it is questionable whether these few items provided a valid assessment of negative affect. Therefore, the measure used was Zuckerman, Lubin, Vogel, and Valerius' (1964) Multiple Affect Adjective Check List (MAACL), a 132-item measure which assesses anxiety (21 items), depression (40 items), and hostility (28 items). Zuckerman et al. (1964) found this measure to be very effective in assessing, for example, pre-post changes in hostile affect induced by (a) having subjects imagine that someone has lied about them and insulted them, but they cannot retaliate, (b) announcing a surprise exam when students had earlier been told not to expect the exam for another week, or (c) posting grades for a (real) exam that were two letter grades below the grade actually obtained by the students (e.g., a student who actually received an A was given a C). As well, the Spearman-Brown split-half reliabilities of the Anxiety, Depression, and Hostility

scales are .79, .92, and .90, respectively. In contrast, the scales' test-retest reliabilities are all below .30, indicating that they do measure more of a transient type of affect rather than an enduring disposition. Finally, the MAACL scales have published "resting state" norms (Zuckerman & Lubin, 1965), which were used in the present context to determine if subjects were in fact upset by the confederate's insult.

The second reason for not employing the usual method of assessing negative affect in the ESP paradigm was the fact that affect in the previous studies was only measured after the ESP task was completed. By that time, any negative affect resulting from the earlier insult may have dissipated, or already have been released in aggressive behavior, thus providing a poor test of the effectiveness of the insult. Therefore, in the present study the MAACL was administered before the actual ESP task began (i.e., shortly after the insult/rejection from the confederate), as well as a second time after the ESP task was completed. (The rationale given to subjects for this procedure was that previous research had suggested that the presence or absence of ESP might be related to changes in mood over the course of the ESP task.) A comparison of pre- versus post-aggression affect enabled the determination of the effect of aggressing on the reduction of negative affect. If,

as Goldberg (1976) argues, some hostile men repress their aggression toward women, and these are the men who choose withdrawal of reward in response to the female confederate's insult, they should have experienced a minimal reduction in negative affect following the ESP task. The possibility that this might be the case was suggested by the finding that men who were paired with the female confederate in the previous ESP study reported significantly more (possibly residual) anger and excitement than men who were paired with the male confederate, $F(1,79) = 3.97$, $p < .05$, for anger (means 2.74 and 2.05, respectively), and $F(1,79) = 3.95$, $p < .05$, for excitement (means 3.50 and 2.81, respectively). Of course, this difference could have been due to the fact that men in the female confederate condition were more angry and excited to begin with (perhaps due to the possibility that rejection coming from a woman "hurts more" than rejection coming from a man), or to the fact that they said they were angry and excited because they felt a greater need to justify their aggression against the woman. This, of course, is another reason why it is necessary to measure affect both before and after the ESP aggression task.

Assessment of Aggressive Behavior. After the assessment of pre-aggression negative affect, the subject and confederate were left alone in their separate

rooms, to perform a total of 15 preprogrammed ESP trials. The entire procedure was controlled and the responses recorded by a microcomputer with a video display terminal (see Malamuth, 1983, for further details). The confederate "guessed" incorrectly (and was subsequently punished by the subject) on 10 of the 15 ESP trials.

At the end of the 15 ESP trials, the MAACL was administered again, and a questionnaire on which the subject was asked to indicate his motivations for selecting the various levels of punishment he chose for the receiver. The two important motivations for the present purposes were a desire to hurt the receiver and a desire to help the receiver (both assessed on 7-point scales, ranging from 1 = "not at all" (an important determinant) to 7 = "very much". Also included at this point was the item assessing inhibitions about aggressing. Subjects were asked "Did you feel completely free to use whatever levels of punishment you desired, or did you feel you had to 'take it easy' on the receiver?" They were asked to indicate their responses on a 7-point scale ranging from 1 = "felt I had to 'take it easy'" to 7 = "felt free to use any level".

Attached to this questionnaire was a postexperimental questionnaire, which was designed to help detect suspicions about the procedure, and to help determine

if the subject saw any connection between the ESP study and the questionnaire study they had participated in earlier. At the end of this postexperimental questionnaire, subjects were also asked to rate on a 7-point scale how upset they had been by the receiver's evaluation of them.

Postexperimental Debriefing and Interview. At the end of the experiment, subjects were given a long and detailed debriefing to read. The debriefing fully explained the deceptions involved, explained the need for the deceptions, the fact that the negative evaluation did not reflect any valid opinions concerning the subject, that the receiver did not actually receive any punishment, that the negative evaluation was designed to increase their levels of punishment, and that they were fully expected to give punishment. At the end of the debriefing, subjects were asked not to discuss the experiment with any potential future subjects. They were also asked if they were still upset by any aspect of the experiment, now that they had been fully debriefed (none indicated any substantial negative after-effects, and in fact most subjects later indicated that the study was one of the most interesting and worthwhile studies they had ever participated in). A detailed personal interview was then conducted by the experimenter to confirm the effectiveness of the de-

briefing, to answer questions, and to more fully assess whether any subject had seen through the deceptions. At this point, subjects were thanked for their participation, and it was reemphasized that they should not discuss the experiment with any potential subjects.

Results

Of the 312 subjects who participated in the research, the data from three were discarded for failure to fill out the questionnaire properly (two of which had participated in the aggression phase of the research). Four other subjects' data were discarded due to equipment failures or failure to follow the aggression procedure instructions. This left a total of 305 subjects in the study, with 197 subjects in the aggression phase of the research.

Questionnaire Data

In order to examine the possibility of sampling bias, an initial analysis was conducted on the questionnaire measures, comparing the 197 subjects who participated in the aggression phase of the research with the remaining 108 who did not. This analysis revealed no differences between these two groups on any of the questionnaire measures, thus suggesting no sampling biases.

Correlations were then computed between Hostility Toward Women scale scores and each of the criterion

measures contained in the questionnaire. These correlations are presented in Table 10. As can be seen from the first column of the table, the pattern of correlations between hostility toward women and the criterion measures was again similar to that found in Studies 1 and 2 (see Tables 3 and 5).

It can also be seen from the last row of Table 10 that hostility toward women correlated substantially ($r = .49$) with the measure of general hostility (trait anger). However, by comparing the correlations in the first and second columns of the table, it becomes apparent that the Hostility Toward Women scale predicted all of the criterion variables better than the Trait Anger scale. The only exception to this finding was the fact that trait anger showed a significant correlation with general acceptance of violence, whereas hostility toward women did not. This finding is of course to be expected, since the Trait Anger scale is a measure of general hostility. Thus, consistent with expectation, hostility toward women predicted the rape-related variables more strongly, whereas trait anger predicted the general hostility criterion measure better.

Regression Analyses. In order to evaluate the unique relationship between hostility toward women and each of the criterion measures when controlling for

general hostility and social desirability, a series of multiple regression analyses were conducted (one for each criterion variable). The results of these analyses are presented in Table 11. The first column of Table 11 presents the Beta weights (partial correlations) when controlling for general hostility (trait anger), while the second column presents the weights when controlling for social desirability. By comparing the correlations in Table 10 with these beta weights, it can be seen that controlling for either general hostility or social desirability did not have a substantial impact on the relationship between hostility toward women and the criterion variables. Thus, at least in terms of the questionnaire measures, the Hostility Toward Women scale showed a unique relationship to the criterion variables, even when controlling for the scale's relationship to general hostility. As well, there does seem to be a relationship between hostility toward women and social desirability, but this relationship does not confound the relationship between hostility toward women and the criterion variables.

Insert Tables 10 an 11 about here

Aggressive Behavior: Preliminary Analyses

The postexperimental questionnaire and interview results revealed 16 subjects who were suspicious of the ESP procedure (4 in the male target, aversive noise condition, 5 in the male target, monetary penalty condition, 4 in the female target, aversive noise condition, and 3 in the female target, monetary penalty condition), all of whom indicated that they knew the insult from the confederate was a deception, designed to make them punish the confederate more severely. These subjects' data were discarded. Thus, the aggression data analyses reported below are for the remaining 181 nonsuspicious subjects.

Check on the Instigation of Anger. In order to check on the effectiveness of the insult in generating negative affect, the pre-aggression MAACL data was scored and means calculated for the anxiety ($M = 9.04$), depression ($M = 15.8$), and hostility ($M = 9.92$) subscales. These means were significantly higher than the published "resting state" norms (see Zuckerman & Lubin, 1965) on all three of anxiety (normative $M = 6.9$), $t(180) = 9.79$, $p < .001$, depression (normative $M = 14.7$), $t(180) = 3.25$, $p < .001$, and hostility (normative $M = 8.5$), $t(180) = 6.21$, $p < .001$. Thus, the insult/rejection appears to have been very effective in inducing negative affect, particularly hostility and anxiety.

In order to examine changes in pre-aggression versus post-aggression MAACL scores, a repeated measures MANOVA was calculated. The independent variables for this analysis were aggression mode (aversive noise versus monetary penalty), sex of target, and administration time (pre-aggression versus post-aggression). The dependent variables were the three MAACL scores. This analysis yielded an effect only of administration time, multivariate $F(3, 175) = 9.50, p < .001$, with significant univariate effects on anxiety, $F(1, 177) = 26.97, p < .001$, and hostility, $F(1, 177) = 4.31, p < .04$, and a marginal effect on depression, $F(1, 177) = 3.31, p < .07$. All three post-aggression affect scores were lower than the pre-aggression scores (post-aggression anxiety $M = 7.87$ post-aggression depression $M = 15.3$ post-aggression hostility $M = 9.46$). Statistical comparisons of these post-aggression means with the "resting state" norms reported above revealed that subjects were still somewhat anxious, $t(180) = 5.09, p < .001$, and hostile, $t(180) = 4.70, p < .001$, but were no longer feeling depressed, $t(180) = 1.77, n.s.$ Thus, subjects' negative affect dissipated somewhat over the course of the ESP task, but not completely. As well, the dissipation of negative affect over the course of the ESP task appears to have been independent of both aggression mode and sex of target.

Check on Aggressive Motivations. To determine if subjects were in fact punishing with hostile (hurtful) and not prosocial (helpful) intentions, correlations were computed between the mean level of punishment delivered during the ESP task and the posttask questions assessing motivations. As intended, punishment levels were found to be correlated with reported desire to hurt the receiver in all four experimental conditions ($r(39) = .45$ in the Aversive Noise, Male Target condition, $r(39) = .27$ in the Monetary Penalty, Male Target condition, $r(38) = .56$ in the Aversive Noise, Female Target condition, and $r(41) = .49$ in the Monetary Penalty, Female Target condition, all p 's < .05, one-tailed). In contrast, punishment levels in all four conditions were uncorrelated with reported desire to help the receiver with the punishment (all r 's n.s.)¹⁰.

Aggression Reliability and Analyses of Variance. Aggression was calculated as the mean level of punishment delivered to the confederate over the 10 "incorrect" ESP trials. Considering each trial as an "item" on this "aggression scale", the alpha reliability for the mean level of punishment was determined to be .92. A 2(Aggression Mode) X 2(Sex of Target) Manova was then conducted on the aggression and motivations data (reported desire to hurt and reported desire to help the receiver with the punishment). This analysis yielded a

significant effect of aggression mode, multivariate $F(3, 175) = 9.53, p < .001$, with a univariate effect only on aggressive behavior, $F(1, 177) = 25.7, p < .001$. Subjects used higher levels of punishment in the aversive noise condition than in the monetary penalty condition (means = 3.81 and 2.90, respectively). With respect to each of the four individual cells, the mean level of aggression was 3.79 in the male target, aversive noise condition, 3.04 in the male target, monetary penalty condition, 3.83 in the female target, aversive noise condition, and 2.77 in the female target, monetary penalty condition. The only other effect emerging from the analysis was an effect of sex of target, $F(3, 175) = 3.37, p < .02$, with a significant univariate effect only on reported desire to help the receiver, $F(1, 177) = 8.90, p < .003$. Subjects paired with a female receiver reported a greater desire to help with the punishment than subjects paired with a male receiver (means = 4.55 and 3.82, respectively). Finally, an analysis of the item assessing subjects' inhibitions about using high levels of punishment yielded no differences across conditions.

Hostility Toward Women and Aggressive Behavior

Correlations were calculated between hostility toward women and aggressive behavior/motivations in each of the four experimental conditions. These correla-

tions are presented in the first column of Table 12, while the correlations between trait anger and aggressive behavior/motivations are presented in the second column of Table 12. It can be seen from the table that the Hostility Toward Women scale predicted aggressive behavior in three out of four conditions, and predicted subjects' reported desire to hurt the receiver in all four conditions. In contrast, hostility toward women was unrelated to subjects' reported desire to help the receiver, as expected. The Trait Anger scale, while showing some tendency to predict reported desire to hurt the confederate, showed very little relationship to actual aggressive behavior.

In order to evaluate the unique relationship between hostility toward women and aggressive behavior/motivations controlling for general hostility and social desirability, a series of canonical correlation analyses were conducted. A secondary purpose of these analyses was to evaluate the overall significance of the correlations presented in Table 12. All of the analyses were conducted on the within-cell correlation matrices, i.e., after first partialling out the effects of the experimentally manipulated independent variables. This procedure was followed in order to avoid confounding the correlational analyses with variance due to the manipulation of the experimental independent variables.

Controlling for General Hostility. For the first canonical correlation analysis, the independent variables were hostility toward women and trait anger, while the dependent variables were aggressive behavior, reported desire to hurt the receiver, and reported desire to help the receiver. As can be seen from the first row of Table 13, this analysis yielded a significant relationship. The first canonical correlation ($R = .38$) accounted for 95.3% of the shared variance, and the second canonical correlation ($R = .10$) was nonsignificant. In terms of follow-up multiple regressions, as expected the multiple correlation was significant for aggressive behavior and for reported desire to hurt the receiver, but was not significant for reported desire to help the receiver (Table 13, rows 2 to 4). In terms of the univariate analyses, in predicting aggressive behavior the beta weight was significant for hostility toward women, but was not significant for trait anger (Table 13, row 5). In predicting reported desire to hurt the receiver, the beta weight was again significant for hostility toward women, but not for trait anger (Table 13, row 6). In predicting reported desire to help the receiver, neither the hostility toward women nor the trait anger beta weight was significant (Table 13, row 7). Finally, tests of homogeneity of regression revealed no interactions. That is, the re-

lationship between the independent variables and the dependent variables did not differ significantly across the four experimental conditions. Nonetheless, the individual (within cell) beta weights for hostility toward women (controlling for trait anger) are presented in the first row of Table 14, for the reader's perusal. By comparing the correlations in Table 12 with these beta weights, it can be seen that controlling for general hostility did not have a substantial impact on the relationship between hostility toward women and aggressive behavior/motivations. Thus, as was the case with the questionnaire measures, the Hostility Toward Women scale showed a unique relationship to aggression against a woman, even when controlling for the scale's relationship to general hostility. However, the Hostility Toward Women Scale again predicted aggression against a male, as was the case in the pilot aggression study (Study 2). Surprisingly, the Trait Anger scale did not predict aggressive behavior/motivations well, even in the male target condition. Finally, the Hostility Toward Women scale showed some degree of discriminant validity in not predicting reported desire to help the receiver with the punishment.

Insert Tables 12, 13, and 14 about here

Controlling for Social Desirability. The main purpose of the second canonical correlation analysis was to determine whether the Hostility Toward Women scale still predicted aggressive behavior/motivations after controlling for its relationship to social desirability. Thus, the independent variables for the second canonical correlation analysis were hostility toward women and social desirability, while the dependent variables were again aggressive behavior, reported desire to hurt the receiver, and reported desire to help the receiver. As can be seen from the first row of Table 15, this analysis also yielded a significant relationship, with the first canonical correlation ($R = .37$) accounting for 70.5% of the shared variance. However, the second canonical correlation ($R = .25$), which accounted for the other 29.5% of the shared variance, was also significant (Table 15, row 2). As is detailed further below, this was due to the fact that hostility toward women predicted aggressive behavior and reported desire to hurt, whereas in contrast social desirability predicted reported desire to help. As in the previous analysis, the multiple correlation was significant for aggressive behavior and for reported desire to hurt the receiver (Table 15, rows 3 and 4). However, unlike the previous analysis, the multiple correlation for reported desire to help the receiver was also significant.

(Table 15, row 5). In terms of the univariate analyses, in predicting aggressive behavior the beta weight was significant for hostility toward women, but was not significant for social desirability (Table 15, row 6). In predicting reported desire to hurt the receiver, the beta weight was again significant for hostility toward women, but not for social desirability (Table 15, row 7). In predicting reported desire to help the receiver, the beta weight for hostility toward women was not significant, but the beta weight for social desirability was significant (Table 15, row 8). Finally, tests of homogeneity of regression again revealed no interactions. That is, the relationship between the independent variables and the dependent variables did not differ significantly across the four experimental conditions. Nonetheless, the individual (within cell) beta weights for hostility toward women (controlling for social desirability) are presented in the second row of Table 14, for the reader's perusal. By comparing the correlations in Table 12 with these beta weights, it can be seen that controlling for social desirability did not have a substantial impact on the relationship between hostility toward women and aggressive behavior/motivations, as was the case when controlling for general hostility. Thus, it may be concluded that the relationship between hostility to-

ward women and social desirability neither confounds nor detracts from the relationship between hostility toward women and aggressive behavior/motivations.

Insert Table 15 about here

In summary, the correlation and regression analyses indicated that the Hostility Toward Women scale successfully predicted subjects' aggressive behavior and intentions, regardless of mode of aggression (aversive noise versus monetary penalty), and regardless of the sex of the target of their aggression. Moreover, this relationship was not substantially confounded by general hostility or social desirability. In fact, the measure of general hostility did not substantially predict aggressive behavior, even when the target was a male. And finally, the Hostility Toward Women Scale again demonstrated some degree of discriminant validity, in that it predicted only aggressive behavior and motivations, and not prosocial (helpful) intentions.

Hostility Toward Women and Negative Affect

In order to determine the relationship between subjects' hostility scores and their affective reactions to the anger instigation, a separate analysis was conducted on the hostility and MAACL scales. First, simple Pearson correlations were computed between hos-

tility toward women and trait anger as the independent variables and the three pre-aggression MAACL scales (anxiety, depression, and hostility) as the dependent variables, in each of the four experimental conditions (following the procedure that was employed in the analyses of the aggression results). The correlations between hostility toward women and the affect scales are presented in the first column of Table 16, while the correlations between trait anger and the affect scales are presented in the second column of Table 16. As can be seen from the table, there was some relationship between the hostility scales and the affect scales, but the correlations were not large. Similarly, as can be seen from Table 17, a canonical correlation analysis (with hostility toward women and trait anger as the independent variables, and the three affect scales as the independent variables) yielded a relatively small but nonetheless statistically significant canonical correlation. Note that, as can be seen from both tables, the Hostility Toward Women scale generally showed a stronger relationship with the affect scales than did the Trait Anger scale. It is also interesting to note that the Hostility Toward Women scale predicted anxiety and depression somewhat more strongly than than hostile affect. Finally, tests of homogeneity of regression revealed no interactions, thus suggesting that the re-

sults displayed in Table 17 did not differ across the four experimental conditions.

Insert Tables 16 and 17 about here

Hostility Toward Women and Rewarding Behavior

In order to determine the replicability of the Study 2 findings with respect to rewarding behavior, correlations were calculated between hostility toward women and the mean level of reward administered over the five "correct" ESP trials. This analysis yielded nonsignificant correlations in all four experimental conditions. Thus, the previously observed negative correlation between hostility toward women and delivery of reward did not replicate in the present study. That is, contrary to the findings of Study 2, there was no evidence that men who were hostile toward women chose a "passive-aggressive" strategy (reward withdrawal) rather than overtly aggressing against the female confederate. Finally, while it was earlier suggested that some hostile men who withdrew reward might do so because they felt inhibited about overtly aggressing against the female confederate, the present study found no evidence for this suggestion. No consistent relationship was found between subjects' self-reported inhibitions about aggressing and either hostility toward women or reward withdrawal.

SUMMARY AND DISCUSSION

Summary of the Major Findings

It was the purpose of this dissertation to develop and validate, over a series of studies, a trait measure of hostility toward women. In Study 1, a 30-item initial version of the Hostility Toward Women scale was constructed. This initial version of the scale had a KR 20 reliability of .89, and was found to predict a number of self report criterion measures of rape-related variables, including men's reports that they had forced women into unwanted sex acts, and would be likely to do so in the future. As well, the Hostility Toward Women scale demonstrated some discriminant validity in not predicting general acceptance of violence, childhood history of nonsexual violence, or love and affection motivations for sexual behavior. Study 2 replicated the self-report findings from Study 1, and in addition supported the Hostility Toward Women scale's validity in predicting laboratory-assessed aggression (delivery of aversive noise) against an insulting female confederate, and the withdrawal of reward from her. The scale also predicted aggression against the male confederate, however, in direct contradiction to the finding that the scale did not predict general acceptance of violence on a questionnaire measure. It was therefore decided to explore this finding further in a later study (see Study 6 below).

studies 3 and 4 were then conducted, in order to balance the Hostility Toward Women Scale with an equal number of protrait and contrait items, so that the scale would not be contaminated by response acquiescence. Study 5 was then conducted on the balanced scale, in order to determine its internal consistency and its test-retest reliability. The former ranged from .81 to .87, and the latter was .83 over a one-week interval. Finally, a second aggression study was conducted (Study 6), in order to replicate and help explain the findings of the pilot aggression study (Study 2). The pattern of correlations between the Hostility Toward Women scale and the various self-report criterion measures was again replicated in this last study. Also replicated was the obtained relationship between the Hostility Toward Women Scale and aggressive behavior. That is, the scale's relationship with aggressive behavior did not differ significantly as a function of sex of target, again suggesting that the scale may not have discriminant validity in predicting aggression against female targets more strongly than aggression against male targets. (However, see below for a discussion of alternative explanations of this finding.) In addition, the relationship between the Hostility Toward Women and behavioral aggression was found to be generalizable across mode of aggressive responding (using av-

aversive noise versus a monetary penalty). The Hostility Toward Women scale also predicted subjects' self-reports that they were using the aversive noise/monetary penalty to hurt the confederate. And finally, canonical correlation and multiple regression analyses indicated that the Hostility Toward Women scale's relationship with all of the criterion measures was unique and independent of both general hostility (as measured by the Spielberger Trait Anger Scale) and Social Desirability (as measured by a short form of the Marlowe-Crowne Social Desirability scale). In fact, the measure of general hostility which was used (the Trait Anger scale) showed little validity in predicting aggressive responding, as has often been the case with other measures of general hostility.

Discussion

A somewhat unexpected finding in this research was that the Hostility Toward Women scale consistently predicted aggression against the male confederate. At first glance, there would seem to be no readily apparent explanation for this finding, especially considering the fact that this relationship was not found to be a function of the scale's general hostility component (as measured by the trait anger scale). That is, while the Hostility Toward Women Scale correlated .49 with trait anger (the measure of general hostility), this

correlation did not moderate the relationship between the Hostility Toward Women scale and aggression against the male confederate. Clearly, these and other data do not support the "passive-aggressive" hypothesis suggested by the results of the pilot aggression study (Study 2). In that study, it was suggested that men who are hostile toward women simply because they are hostile toward everyone would respond aggressively against a male because of this general hostility. Contrary to this hypothesis, the canonical correlation and multiple regression analyses revealed that the relationship between hostility toward women and aggression against the male confederate was not mediated by general hostility (as measured by the Trait Anger scale). That is, the Hostility Toward Women scale still showed a unique relationship to aggression, even when controlling for trait anger. Similarly, the suggestion that such generally hostile individuals are "passive-aggressive" toward women was not supported, in that the previously observed correlation between hostility toward women and withdrawal of reward (the operational definition of passive aggression) did not replicate.

Another unexpected finding emerging from this study was that the Trait Anger scale did not even predict aggression against the male confederate, thus calling into question the validity of this scale as a

personality measure of hostile and/or aggressive inclinations. It is important to consider this point further.

Validity of the Trait Anger Scale

As was previously noted, the Trait Anger scale was selected for use in Study 6 because there was no overlap in the item content between this scale and the Hostility Toward Women scale. As well, Spielberger et al. (1982) reported high internal consistency for the Trait Anger scale, and on the basis of its high correlations with the Buss & Durkee (1957) measure, concluded that the Trait Anger scale measures trait hostility. Nonetheless, the scale is quite new, and the present research represents the first test of the scale's validity in predicting aggressive behavior. While the scale did show some validity in predicting the self report measure of general acceptance of violence, it showed very little validity in predicting the behavioral measure of aggression, especially against the male confederate. Thus, to the extent that the measure of aggressive behavior used in this study has validity as a criterion measure, these data must be taken as evidence against the validity of the Trait Anger scale. Before this conclusion can be drawn, however, it is important to consider in more detail the validity of the criterion measure of aggressive behavior.

Validity of ESP Male-Targeted Aggression

As was noted earlier, hostility and aggressivity scales have in general not fared well in predicting laboratory measures of aggressive behavior. It was suggested that part of the problem was due to the fact that experimenters frequently did not establish that their subjects' "aggressive" behavior was in fact motivated by a desire to hurt the confederate rather than help him or her. (This problem seems to plague most of the laboratory aggression research using the typical Buss procedure.) In Study 6, however (using the bogus ESP paradigm), the correlations between aggressive behavior and aggressive motivations suggested that subjects were in fact responding with harm-motivated (and not prosocial) aggression. Thus it may be argued that the ESP paradigm used in Study 6 has what Berkowitz and Donnerstein (1982) argue is the essential feature of laboratory behavior for subjects, i.e., that "the meaning their actions have for them, is that they intentionally are hurting their victims" (p. 253). This feature, according to Berkowitz and Donnerstein, is the major requirement for the establishment of Carlsmith, Ellsworth, and Aronson's (1976) "experimental realism," or the type of realism which "captures the intended essence" of the theoretical variables of interest (in the present context, harm-motivated aggression). Nonetheless,

less, in commenting on the ability of female-targeted ESP aggression to predict various self-report measures of "real-world" sexual aggression (as demonstrated by Malamuth, 1983, and Malamuth & Check, 1982), Berkowitz and Donnerstein recognize the need for such externally-referenced validity data in order to fully validate ~~any~~ laboratory measure of aggressive behavior (at least in cases where such a measure is claimed to be a "trait" measure of aggressivity; see Malamuth, 1983, for a more detailed discussion). The problem is, of course, that we have at least some of this externally-referenced validity data for the ESP measure of aggressive behavior against a woman (Malamuth, 1983; Malamuth & Check, 1982), but not for the ESP measure of aggressive behavior against a man. In fact, the only data we do have for the ESP paradigm used in the present study is the data suggesting that the Trait Anger scale, (presumably a measure of trait hostility) does not predict aggressive behavior against a male¹¹. Thus, the validity of the male-target ESP aggression paradigm must remain in doubt.

All of this is further complicated by the fact that the ESP measure of behavioral aggression against a male consistently correlated with the Hostility Toward Women Scale, thus calling into question the discriminant validity of the scale. While this may seem coun-

terintuitive and indeed somewhat surprising, there are at least two possible explanations for this finding. The first possible explanation concerns the situational relevance of the ESP task and the instigation to aggress. Malamuth (1983) chose a personal insult and rejection as the anger instigation for the ESP task because of its possible relevance to the rape situation (where the man's sexual advances are rejected by the woman). Similarly, one of the common elements of both rape and wife abuse is that they tend to occur primarily in private. Analogously, the subject in the ESP situation is left alone in the room to complete the ESP task, and his aggressive behavior is only observed by the computer (and, of course, the confederate). Since these conditions resulted in equal levels of aggressive behavior in both the female-target and male-target conditions, as well as equal correlations with hostility toward women, personal rejection and privacy may be important situational conditions which elicit aggressive behavior in men who are hostile toward women (in fact one of the items on the Hostility Toward Women scale is "I have been rejected by too many women in my life."). Under such conditions, target gender may even assume less importance than the personal rejection and the private nature of the subject's opportunity to retaliate. This would at least explain why target gender

had no impact on subjects' aggression in either of the two aggression studies.

In contrast, it may be argued that aggression toward other males is generally expressed in a much more public fashion, such as out in the school yard where everyone can see how "tough" the aggressor is. Similarly, the best way to provoke a fight with an aggressive male may be to publically threaten this image of "toughness," either verbally (e.g., by calling him "chicken") or by actually physically attacking him. Most importantly, the more public the threat, the less likely he will be to back down and risk the label "coward" (see Toch, 1969, for a more detailed discussion of the self-image promoting function of aggressive males' violent behavior). Therefore, it might be argued that the best way in the laboratory to elicit this type of male-targeted aggression (in a subject who has this general form of hostility) is to provoke the subject by threatening his image of toughness, preferably in some public fashion (e.g., with the experimenter present to observe the subject's response).

An interesting empirical question is whether these situational conditions and cues (along with their accompanying external validity) would prove more powerful in eliciting aggressive behavior in generally hostile individuals than would the gender of the victim. In

fact, under such circumstances (threat to aggressive self-image and public observance) men who have a generally hostile and/or aggressive disposition may not even pay attention to the gender of their victim. The critical question, of course, is whether aggression under these conditions (perhaps against both targets alike) is more strongly related to general hostility than it is to hostility toward women. This could be easily tested empirically, by simply replicating the ESP study under two conditions; (a) a personal rejection/private aggression condition, and (b) a physical challenge/public aggression condition. The model of hostility toward women presented above suggests that the Hostility Toward Women scale would predict aggressive behavior (against both a man and a woman) in the personal rejection/private aggression condition, but not the physical challenge/public aggression condition. In contrast, general hostility should predict aggression (at least against a male) in the physical challenge/public aggression condition, but not in the personal rejection/private aggression condition. An even better course of action might be to systematically vary both the personal rejection versus physical challenge variable and the private versus public aggression variable, in order to avoid confounding these two dimensions.

A second possible explanation for the findings of Study 6 is suggested by what might be termed a "spill-over" model of hostility toward women. It may be the case that, as suggested by the feminist analysis, aggression against women is caused by a hyperaggressive or hyperhostile ("hypermasculine") personality, whereby an individual with a high score on the Hostility Toward Women Scale is so hostile that this hostility even "spills over" into his interactions with women. Thus, according to this model, the man who aggresses against women is the "supermale," whose aggression against women is seen as a demonstration of his manhood. This notion is illustrated most clearly in cross-cultural studies of extremely rape-prone societies. The Gusii society of southwestern Kenya, for example, is one of the most rape-prone societies that has ever been studied (LeVine, 1959). In fact, LeVine reports that the number of rapists convicted in 1950 was so great that there were not enough prisons to hold them all. At the same time, the various Gusii clans were almost constantly involved in blood feuds. This hyperaggressivity also spilled over into Gusii sexual interactions, as is illustrated by Levine's description of the typical encounter between a man after his wedding night and the older women in the tribe:

At the bride's home the insulting women say to the groom: "You are not strong, you can't do anything to our daughter. When you slept with her, you didn't do it like a man. You have a small penis which can do nothing. You should grab our daughter and she should be hurt and scream-then you're a man." He answers boastfully: "I am a man! If you were to see my penis you would run away. When I grabbed her, she screamed. I am not a man to be joked with. Didn't she tell you? She cried-ask her!" (LeVine, 1959, p. 969)

Similarly, Sanday (1981) studied a cross-cultural sample of 95 tribal societies, and found that the most rape-prone societies were also the most violence-prone in general. In contrast, interpersonal violence was found to be uncommon in rape-free societies, and she therefore concluded that,

it is not that men are necessarily prone to rape; rather, where interpersonal violence is a way of life, violence frequently achieves sexual expression.

It may also be argued that conventional general hostility scales simply do not provide for a wide enough range of hostility, and thus do not "extend"

into the hostility toward women range. (In fact, a similar argument may also be advanced to explain the poor performance of most hostility scales in predicting aggressive behavior in general. They may only be assessing a very mild form of hostility.) This model of hostility toward women would imply that any measure of hostility toward women would necessarily have to encompass hostility toward men (the assumption being that any man who is hostile enough to aggress against a woman would certainly aggress against a man). Thus, the Hostility Toward Women scale may be measuring hostility toward women over and above hostility toward men.

One problem with the spillover model of hostility toward women is that, while it explains the observed correlation between the Hostility Toward Women scale and aggression against the male confederate, it does not explain why the general hostility measure (the Trait Anger scale) did not mediate this relationship. If aggression against a male target can be taken as the criterion behavior for general hostility, and if hostility toward women encompasses general hostility, then we should expect that the relationship between hostility toward women and aggression against a male to be at least partially accounted for by the Trait Anger measure. On the other hand, it should be remembered that the Trait Anger scale did not predict aggression

against the male confederate even when used alone. Thus, the use of the Trait Anger scale did not provide a fair test of the spillover model of hostility toward women. Clearly, a scale that does not itself predict a criterion variable cannot account for the relationship between that criterion and another predictor variable. In future research with the Hostility Toward Women scale, a general hostility scale should be selected which is in fact a valid predictor of aggression against a male target. If this valid general hostility measure does in fact (a) account for all of the relationship between the Hostility Toward Women scale and aggression against a male, and (b) account for some (but not all) of the relationship between the Hostility Toward Women scale and aggression against a female, the spillover model would be supported.

A second problem with the spillover model of hostility toward women lies in its assumption that a good deal more hostility is required for aggression against a female to occur than for aggression against a male to occur. Therefore, with equivalent provocation (as in the present study) we should expect less overall aggression against a female than against a male. While we know this to be the case from everyday experience as well as from the laboratory studies of aggression reviewed earlier, the problem arises from the fact that

equal levels of aggression were directed at both the male and the female confederate in the present study. While this finding does not directly contradict the spillover model, it again suggests that the current paradigm does not provide an adequate test of the model. In future research it is suggested that a paradigm be chosen which elicits less aggression from a female than from a male.

While the above explanations for the observed relationship between the Hostility Toward Women scale and aggression against the male confederate do have a certain amount of theoretical appeal, they are admittedly speculative and require further theoretical and empirical work to evaluate their validity. Therefore, the only safe conclusion at this point is that, in contrast to the questionnaire results with the General Acceptance of Violence scale, the aggression results suggest that the Hostility Toward Women scale did not discriminate in predicting aggression exclusively against a female target. Rather, the scale also predicted aggression against a male target, contrary to expectation. Future research should be addressed to this problem, as well as to the problem of finding a demonstrably valid measure of (a) general hostility, and (b) male-targeted behavioral aggression.

APPLICATIONS

Whatever the reason for the Hostility Toward Women scale's ability to predict aggressive behavior against both male and female targets, the the scale has at least shown substantial validity in predicting all of the hostility toward women criterion variables used in this research. It seems reasonable to conclude, therefore, that further research on rape would benefit from the use of the Hostility Toward Women scale, especially in testing certain theoretical questions regarding the underlying motivations for rape. For example, using the Hostility Toward Women scale and an appropriate measure of (non-hostile) need for sexual satisfaction (or perhaps a measure of sexual impulsivity), it may be possible to attempt to address the question of whether rape is more of an aggressive act motivated by hostility toward women, or more of a sexual act, motivated by a (non-hostile) desire for sexual gratification. That is, we can attempt to answer more directly the question of whether there are any rapists who have no particular feelings of hostility toward women, and rape simply because they are unable to control their sexual impulses (assuming that a valid measure of such "sexual impulsivity" can be found), or whether such individuals always possess a certain degree of hostility toward women. The use of multiple regression and multiple

classification analyses (with hostility toward women and sexual impulsivity as the predictor variables, and rapist versus nonrapist group membership or some other appropriate measure as the criterion variable) may help to tease out the relative importance of such hostile versus sexuality variables in contributing to rape.

Note also that this should be tested using both sexually aggressive college students and convicted rapists (using non-sexually aggressive college students and nonrapists as control groups), since it is possible that the relative importance of aggressive versus sexual motivations in contributing to sexual aggression may be different for these two groups. In any case, assessing the relative importance of sexual impulsivity and hostility toward women would be very helpful in designing treatment programs for rapists. Clearly, behavior which is motivated by an underlying hostility should be treated quite differently than behavior which is primarily impulsive in nature.

The Hostility Toward Women scale may also prove useful in the research on wife abuse. There is relatively little research on wife abusers, and so a large number of theoretical questions have not yet been addressed. While many theories have been advanced to explain wife abuse, one of the most basic questions would seem to be whether it is related in any way to individ-

ual differences in hostility toward women. It may be the case, for example, that such acts of aggression are a result of wife abusers' hostility toward women, but it may also be the case that these acts are simply situational responses to marital discord and/or outside pressures on the family. The Hostility Toward Women scale can be used to help answer this question.

Another potential situation in which hostility toward women may have an important impact is in rape trials. A number of researchers have demonstrated that the rape victim faces serious obstacles in the courtroom, ranging from prejudices about the relevance of her past sexual history to generalized victim blaming (e.g., Borgida & White, 1978; Feldman-Summers & Lindner, 1976; Jones & Aronson, 1973; Smith, Keating, Hester, & Mitchell, 1976). It has been suggested that many of these injustices are the result of rape myths, which Burt (1980) defines as prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists. Thus, while Penrod and his colleagues (Penrod, 1980; Penrod & Hastie, 1979, 1980), and Hepburn (1980) have found that very few juror characteristics predict juror decision making, Penrod (1983) has also suggested that juror attitudes and characteristics which are more relevant to the particular case in question are clearly more likely to affect juror votes than general atti-

tudes or personality characteristics. Considering the consistent relationship between hostility toward women and rape myths which was found in the present research, it may be argued that hostility toward women is highly relevant to juror decision making in rape cases, and should thus have an impact on these decisions.

There is also a need for further validity research on the hostility toward women scale in applied settings, using non-college student populations. For example, the relationships between the Hostility Toward Women Scale and the various self-report criterion variables which consistently emerged in the present research nonetheless need to be replicated on samples of subjects which are more representative of the general population. There is also a need to examine more closely the relationship between hostility toward women and behavioral aggression, using measures of aggressive behavior which more closely resemble aggression in the real world. In particular, there is a clear need for further theoretical and methodological work on the laboratory analogue of male-to-male aggression. It may be that a good deal of male-to-male aggression in everyday life is simply "face-saving" behavior, and laboratory researchers should consider this possibility when attempting to assess the relationship between personality measures of general hostility and laboratory measures

of male-to-male behavioral aggression. For example, the Buss teacher-learner paradigm would seem to be a poor analogue to the school-yard situation where a male engages in a physical fight with another male in order to prove to everyone that he is not one to be pushed around. Perhaps a more relevant paradigm is the competitive reaction time paradigm designed by Stuart Taylor (Taylor & Epstein, 1967), where the subject and confederate actually engage in a physical competition, and where a physical challenge can be easily introduced to further instigate aggression.

Finally, the hostility toward women scale may prove useful in helping to understand some of the reasons for the growing presence of sexual violence in the mass media (Check, 1984; Malamuth & Spinner, 1980). While a number of theories have been advanced for the popularity of sexual violence (e.g., rape) in pornography (see Lederer, 1980, and Malamuth & Donnerstein, 1982, for reviews), one possible explanatory variable that has not been investigated is hostility toward women. One possibility, for example, is that those men who consume and enjoy sexually violent pornography are men with relatively high levels of hostility toward women. It is hoped that the Hostility Toward Women scale will help to stimulate research on the potential role that hostility toward women plays in people's attrac-

tion for sexually explicit depictions of such socially unacceptable forms of behavior as rape and even torture. This research would be an important additional step in the continuing goal of using social psychological theories and methodology to study important real-world social issues.

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Footnotes

¹In general, very little in-depth theoretical work has been done on wife abuse, even less on wife abusers, and still less on hostility toward women in wife abusers. As will be apparent throughout this proposal, the author has had to rely almost exclusively on the rape literature for theory relating to hostility toward women.

²Originally, 12 items were used for this scale, but a reliability check revealed one item with a very low item-total correlation. An inspection of this item's content ("Any woman who insults me or my family is asking for it") revealed that the item made no explicit mention of overt aggression (even though the Buss-Durkee version of this item was written for Buss & Durkee's, 1957 assault subscale). Therefore, this item was dropped.

³The untrimmed correlation between the 11 "aggressiveness toward women" items and the Hostility Toward Women scale was $r(134) = .23$, $p < .003$.

⁴For a more detailed discussion of the use of dichotomous data in factor analysis see Comrey and Levensian (1958).

⁵These Chronbach alpha's were calculated on the present sample.

⁶The distributions for these variables are typically highly positively skewed in college student samples, as one might expect. Since multivariate trimming is not appropriate with highly skewed variables, the likelihood of rape/forced sex and reported past acts of sexual aggression variables were transformed for all analyses, such that their skewness was reduced to a minimum. For likelihood of rape/forced sex, the transformation was as follows. Subjects indicating no likelihood of raping or forcing women into unwanted sex acts were scored 1. Those indicating some likelihood of force (a 2 or higher on the 5-point scale) but no likelihood of rape (a 1 on the 5-point scale) were scored 2. Those indicating some likelihood of rape were scored 3. The reported past acts of sexual aggression variable was transformed as follows. Subjects indicating they had committed any one of the acts were scored 1. Subjects indicating they had committed any two of the acts were scored 2. Subjects indicating they had committed three or more of the acts were scored 3.

⁷The untrimmed correlations between hostility toward women and aggressive behavior were $r(37) = .28$, $p < .05$ (one-tailed), in the female target condition, and $r(41) = .60$, $p < .001$, in the male target condition. The untrimmed correlations between hostility toward wo-

men and reward were $r(37) = -.27$, $p < .05$ (one-tailed), in the female target condition, and $r(41) = .03$, n.s., in the male target condition.

⁸Due to a typographical error, one of the items in Study 3 appeared in it's contrait form on both Form A and Form B of the hostility questionnaire.

⁹The untrimmed correlation between childhood history of (nonsexual) violence and general acceptance of violence was $r(134) = .36$, $p < .001$.

¹⁰The untrimmed correlation between punishment and reported desire to hurt the receiver was $r(43) = .48$, $p < .001$, in the male target, aversive noise condition,, $r(43) = .21$, $p < .08$ (one-tailed), in the male target, monetary penalty condition, $r(42) = .41$, $p < .006$, in the female target, aversive noise condition, and $r(45) = .41$, $p < .004$, in the female target, monetary penalty condition. The correlation between punishment and reported desire to help the receiver was not significant in any condition.

¹¹Note here that we are referring specifically to externally-referenced validity data with respect to the bogus ESP paradigm. In contrast to the typical Buss paradigm, the task in the ESP paradigm is not a "teacher-learner" task, but a task in which the ostensible goal is to simply examine the influence of punishment and reward on a guessing task. To generalize validity

data gathered in the context of the Buss paradigm to the ESP setting, therefore, would seem unwise. Nonetheless, it is worth reiterating that even the studies of the relationship between aggression in the Buss paradigm and various ostensible general hostility scales purporting to measure "real-world" aggressive inclinations have produced less than impressive results. (See the introduction to Study 2 for a more detailed review.) Thus the externally-referenced evidence for the validity of the Buss paradigm is weak as well.

TABLE 1

The Hostility Toward Women Scale: Initial Items

(Study 1)

-
1. I feel that many times women flirt with men just to tease them or hurt them. (.52)
 2. I feel upset even by slight criticism by a woman. (.48)
 3. I get angry when a woman tries to better me. (.44)
 4. I really get upset when women tease me about my faults. (.55)
 5. It is safer not to trust women. (.37)
 6. I am easily downed in an argument with a woman. (.39)
 7. I feel that women probably think I have not lived the right kind of life. (.42)
 8. I used to think that most women told the truth but now I know otherwise. (.51)
 9. I sometimes have hostile feelings toward women that make me feel ashamed of myself later. (.40)
 10. If you aren't willing to fight, women will walk all over you. (.49)
 11. Many times a woman appears to care, but really just wants to use you. (.55)
 12. I am sure I get a raw deal from the women in my life. (.50)
 13. I commonly wonder what hidden reason a woman may have for doing something nice for me. (.42)
 14. If women had not had it in for me I would have been more successful in my personal relations with them. (.40)
 15. I often find myself disagreeing with women. (.47)
 16. I do many things to women that make me feel remorseful afterward. (.43)
 17. I sometimes have the feeling that women laugh about me. (.55)

18. I know that women tend to talk about me behind my back. (.57)
 19. I tend to be on my guard with women who are somewhat more friendly than I expected. (.47)
 20. There are a number of females who seem to dislike me very much. (.47)
 21. Women always seem to get the breaks. (.44)
 22. There are certain women I dislike so much that I am inwardly pleased when they get into trouble for something they have done. (.35)
 23. When I look back at what's happened to me I can't help feeling mildly resentful toward the women in my life. (.50)
 24. Although I don't show it, I am sometimes eaten up with jealousy. (.38)
 25. I don't seem to get what's coming to me in my relationships with women. (.54)
 26. It makes my blood boil to have a woman make fun of me. (.55)
 27. At times I feel I get a raw deal with the opposite sex. (.54)
 28. When a woman makes me angry, I sometimes sulk. (.44)
 29. Women irritate me a great deal more than they are aware of. (.56)
 30. I have been rejected by too many women in my life. (.40)
-

Note. The KR 20 reliability for this initial 30-item version of the Hostility Toward Women Scale was .89. Parenthesized values are factor loadings.

TABLE 2

Item Statistics for the Initial Scale (Study 1)

	Item Selection Study			Pilot Aggression Study		
Item	Item Mean	Item S.D.	Item- Total r	Item Mean	Item S.D.	Item- Total r
1.	.49	.50	.63	.45	.50	.56
2.	.31	.41	.60	.27	.45	.65
3.	.24	.43	.57	.22	.42	.18
4.	.42	.50	.67	.37	.48	.63
5.	.14	.35	.54	.18	.38	.65
6.	.15	.36	.56	.11	.31	.40
7.	.19	.39	.56	.23	.42	.73
8.	.18	.38	.69	.22	.41	.73
9.	.32	.47	.50	.34	.47	.45
10.	.23	.42	.64	.19	.39	.38
11.	.26	.44	.69	.27	.45	.62
12.	.14	.35	.72	.16	.37	.84
13.	.38	.49	.51	.46	.50	.70
14.	.12	.33	.59	.12	.33	.46
15.	.30	.46	.59	.29	.45	.43
16.	.18	.38	.61	.13	.33	.38
17.	.35	.48	.67	.31	.46	.72
18.	.33	.47	.69	.21	.41	.73
19.	.43	.50	.57	.45	.50	.46
20.	.16	.37	.66	.15	.36	.59
21.	.18	.38	.58	.15	.36	.67
22.	.53	.50	.43	.41	.49	.29
23.	.20	.40	.65	.24	.43	.64
24.	.74	.44	.49	.73	.45	.43
25.	.32	.47	.65	.27	.44	.81
26.	.40	.49	.67	.37	.48	.64
27.	.38	.49	.65	.33	.47	.90
28.	.49	.50	.53	.54	.50	.28
29.	.29	.45	.70	.25	.44	.66
30.	.15	.36	.57	.18	.39	.74

Note. Item means were calculated as the proportion of "true" responses in the total sample. The item-total correlations were calculated as biserial correlation coefficients, cf. Buss and Durkee (1957). The item numbers refer to the numbers of the items listed in Table 1.

TABLE 3
 Correlations between the Initial Hostility Toward
 Women (HTW) Scale and the Criterion Variables (Study 1)

<u>CRITERION VARIABLE:</u>	CORRELATION WITH
<u>ATTITUDES:</u>	<u>THE HTW SCALE</u>
Re: Sexual Aggression	
Rape Myth Acceptance	.57*
Acceptance of Violence Against Women	.52*
Beliefs in Adversarial Sex Relations	.62*
Re: Nonsexual (General) Aggression	
General Acceptance of Violence	.09
<u>SEXUAL MOTIVATIONS:</u>	
Power Motivation	.43*
Love and Affection Motivation	-.03
<u>SEXUALLY AND NONSEXUALLY AGGRESSIVE BEHAVIOR:</u>	
Reported Past Acts of Sexual Aggression	.34*
Reported Likelihood of Rape/Forced Sex	.42*
Childhood History of (Nonsexual) Violence	.03

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. n = 122.

*p < .05

TABLE 4

Correlations between the "Aggressiveness Toward Women"

(ATW) Items (summed) and the Criterion Variables (Study 1)

<u>CRITERION VARIABLE:</u>	CORRELATION WITH
<u>ATTITUDES:</u>	<u>THE ATW SCALE</u>
Re: Sexual Aggression	
Rape Myth Acceptance	.11
Acceptance of Violence Against Women	.16
Beliefs in Adversarial Sex Relations	.14
Re: Nonsexual (General) Aggression	
General Acceptance of Violence	.03
<u>SEXUAL MOTIVATIONS:</u>	
Power Motivation	.18*
Love and Affection Motivation	-.22*
<u>SEXUALLY AND NONSEXUALLY AGGRESSIVE BEHAVIOR:</u>	
Reported Past Acts of Sexual Aggression	.02
Reported Likelihood of Rape/Forced Sex	-.06
Childhood History of (Nonsexual) Violence	.04

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. n = 122.

*p < .05

TABLE 5
Correlates of Hostility Toward Women (HTW)
in the Pilot Aggression Study (Study 2)

<u>CRITERION VARIABLE:</u>	CORRELATION WITH
<u>ATTITUDES:</u>	<u>THE HTW SCALE</u>
Re: Sexual Aggression	
Rape Myth Acceptance	.56*
Acceptance of Violence Against Women	.43*
Beliefs in Adversarial Sex Relations	.64*
Re: Nonsexual (General) Aggression	
General Acceptance of Violence	.16
<u>SEXUAL MOTIVATIONS:</u>	
Power Motivation	.30*
Love and Affection Motivation	.07
<u>SEXUALLY AGGRESSIVE BEHAVIOR:</u>	
Reported Past Acts of Sexual Aggression	.27*
Reported Likelihood of Rape/Forced Sex	.21*

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. n = 141.

*p < .05

TABLE 6

Contrait (Reversed) Items used in Study 3

-
1. I think that women rarely flirt with men just to tease them or hurt them.*
 2. Criticism by a woman doesn't upset me at all.*
 3. I don't get angry when a woman tries to better me.*
 4. It doesn't really bother me when women tease me about my faults.
 5. It is always safe to trust a woman.*
 6. I am not easily downed in an argument with a woman.*
 7. I seldom feel that women disapprove of the kind of life I have led.*
 8. I used to think that most women told the truth and I still have no reason to think otherwise.*
 9. I never have hostile feelings toward women that make me feel ashamed of myself later.
 10. I do not believe that women will walk all over you if you aren't willing to fight.
 11. When a woman appears to care you can have faith that she won't try to use you.*
 12. I don't really get a raw deal from the women in my life.*
 13. I don't usually wonder what hidden reason a woman may have for doing something nice for me.
 14. Because very few women have had it in for me, I have generally been very successful in my personal relations with them.*
 15. I do not often find myself disagreeing with women.
 16. I do very few things to women that make me feel remorseful afterward.
 17. I never have the feeling that women laugh about me.
 18. I know of no women that talk behind my back.*
 19. I rarely become suspicious with women who are

somewhat more friendly than I expected.

20. There are very few females who seem to dislike me very much.*
21. I don't agree that women always seem to get the breaks.
22. I know of no women that I dislike so much that I am inwardly pleased when they get into trouble for something they have done.
23. When I look back at what's happened to me I don't feel at all resentful toward the women in my life.
24. I am rarely eaten up with jealousy.*
25. I almost always get what's coming to me in my relationships with women.*
26. I generally don't get really angry when a woman makes fun of me.
27. I never feel that I get a raw deal with the opposite sex.*
28. I never sulk when a woman makes me angry.
29. It is not true that women irritate me a great deal more than they are aware of.*
30. I can't really say that I have been rejected by too many women in my life.
31. Even if I let women see the way that I feel they probably would not consider me a hard person to get along with*
32. Lately, I've been very good-natured with women.
33. I think very few women would lie to get ahead.*
34. When it really comes down to it, very few women are deceitful.*
35. I am not easily angered by a woman.
36. Women hardly ever say that I am hotheaded with them.*
37. There are very few women who make friends because friends are likely to be useful to them.*
38. I rarely spread gossip about women I don't like.

Note. The first 30 items listed above are the contrait versions of the original Hostility Toward Women scale items listed in Table 1. The last 8 items above are the contrait versions of the following "runners-up" from the initial item selection study (Study 1):

- (31) If I let women see the way I feel they would consider me a hard person to get along with.
- (32) Lately, I've been kind of grouchy with women.
- (33) I think most women would lie to get ahead.
- (34) When it really comes down to it, a lot of women are deceitful.
- (35) I am easily angered by a woman.
- (36) Women often say that I am hotheaded with them.
- (37) Most women make friends because friends are likely to be useful to them.
- (38) I sometimes spread gossip about women I don't like.

Asterisked items are the reversals which did not meet the criteria for acceptability, and which were therefore rewritten again for the second scale balancing study. (See Table 7 for a listing of these "re-written items, and Table 8 for the reasons that each item was rewritten.)

TABLE 7

Rewrites of the Unacceptable Contraints from Study 3

-
- (1) I disagree that many times women flirt with men just to tease them or hurt them.
 - (2) Criticism by a woman doesn't generally upset me.
 - (3) I generally don't get angry when a woman tries to better me.
 - (5) It is safer to trust women.
 - (6) I usually hold my own in an argument with a woman.
 - (7) I seldom feel that women think I have not led the right kind of life.
 - (11) Most of the time when a woman appears to care she doesn't just want to use you.
 - (12) I don't get a raw deal from the women in my life.
 - (13) I have always believed that most women tell the truth.
 - (14) There are really no women who have had it in for me, and so I have been very successful in my personal relations with them.
 - (18) Very few women tend to talk about me behind my back.
 - (20) There are no females who seem to dislike me very much.
 - (24) I am never eaten up with jealousy.
 - (25) I almost always seem to get what's coming to me in my relationships with women.
 - (27) I never really feel that I get a raw deal with the opposite sex.
 - (29) Women don't usually irritate me all that much.
 - (31) Women don't consider me a hard person to get along with.
 - (33) I think that most women would not lie to get ahead.
 - (34) When it really comes down to it, most women are not deceitful.

- (36) Women never say that I am hotheaded with them.
 - (37) Women rarely make friends simply because friends are likely to be useful to them.
-

Note. The numbers in parentheses refer to the numbers of the previous contrait version, as listed in Table 6.

TABLE 8

Results of the Scale Balancing Studies (Studies 3 & 4)

I T E M	Study 3 (n = 43)						Study 4 (n = 50)					
	Mean		Std. Dev.		Pro-Con tetra- choric		Mean		Std. Dev.		Pro-Con tetra- choric	
	Pro	Con	Pro	Con	Pro	Con	Pro	Con	Pro	Con	Pro	Con
1.	.26	.42	.44	.50	.15*		.40	.38	.50	.49	.43+	(1)
2.	.12	.51	.32	.51	.35*		.18	.34	.39	.48	.54+	(2)
3.	.21	.09	.41	.29	.73		.12	.14	.33	.35	.06+	(15)
4.	.21	.51	.41	.51	.48		.22	.30	.42	.46	.61-	(16)
5.	.16	.19	.37	.39	.49		.26	.18	.44	.39	.53	
6.	.28	.46	.45	.50	.83		.32	.50	.47	.50	.66-	(3)
7.	.09	.88	.32	.29	.12*		.18	.72	.39	.45	.29*+	(17)
8.	.09	.26	.29	.44	.67		.12	.26	.33	.33	.13+	(18)
9.	.09	.30	.29	.46	.61		.06	.12	.24	.33	.77	
10.	.07	.02	.26	.15	.04*		.12	.48	.33	.50	.28	
11.	.09	.16	.29	.37	.55		.12	.20	.33	.40	.69-	(19)
12.	.16	.14	.37	.35	.00		.26	.36	.44	.48	.50+	(20)
13.	.16	.14	.37	.35	.41		.24	.28	.43	.45	.59+	(4)
14.	.40	.49	.50	.51	.77		.30	.44	.46	.50	.60-	(21)
15.	.30	.35	.46	.48	.69		.34	.28	.48	.45	.61-	(5)
16.	.23	.42	.50	.43	.16		.20	.22	.40	.42	.19+	(22)
17.	.12	.12	.32	.32	.23		.12	.20	.33	.40	.26+	(23)
18.	.35	.28	.48	.45	.75		.32	.30	.47	.46	.71-	(24)
19.	.12	.16	.32	.37	.09		.06	.22	.24	.42	.13*+	(25)
20.	.16	.28	.37	.45	.84		.24	.44	.43	.50	.70-	(6)
21.	.14	.26	.35	.44	.82		.16	.16	.37	.37	.81-	(7)
22.	.40	.56	.50	.50	.65		.38	.52	.49	.50	.74-	(26)
23.	.30	.67	.46	.47	.64		.34	.30	.48	.46	.67-	(27)
24.	.37	.33	.49	.47	.71		.54	.44	.50	.50	.61-	(8)
25.	.40	.67	.50	.47	.59		.36	.70	.48	.46	.38	
26.	.07	.16	.26	.37	.71		.16	.48	.37	.50	.65+	(9)
27.	.14	.19	.35	.39	.91		.12	.20	.33	.40	.86-	(10)
28.	-	-	-	-	- +		.30	.36	.46	.48	.63	
29.	.14	.23	.35	.43	.68		.18	.24	.39	.43	.72-	(28)
30.	.56	.35	.50	.48	.56		.60	.64	.50	.48	.96	
31.	.28	.58	.45	.50	.54		.40	.46	.50	.50	.47+	(11)
32.	.19	.19	.39	.39	.79		.26	.16	.44	.37	.75-	(12)
33.	.33	.40	.47	.50	.39		.32	.30	.47	.46	.47	
34.	.28	.19	.45	.39	.76		.10	.14	.30	.35	.49	
35.	.54	.58	.50	.50	.84		.46	.48	.50	.50	.84-	(29)
36.	.21	.35	.41	.48	.18		.22	.14	.42	.35	.59+	(13)
37.	.07	.21	.26	.41	.14*		.24	.14	.43	.35	.54+	(14)
38.	.16	.16	.37	.37	.75		.14	.18	.35	.39	.48+	(30)

Note. Item means are the proportion of respondents answering with the hostile-keyed response. The tetrachoric correlations were computed using Jenkins' (1955) improved method. Asterisked items are items for which phi coefficients had to be calculated, since one of the cells in the 2 X 2 contingency table was empty. In Study 3, there are no item statistics for item 28, due to a typographical error on the questionnaire.

In Study 3, contrait items 3, 5, 11, 14, 15, 18, 20, 21, 22, 24, 27, 29, 32, 34, 35, and 38 were judged to be acceptable, and were retained in their unrevised form. The rest of the contrait versions were rewritten, for various reasons (e.g., contrait items 1, 7, 10, 12, 13, 16, 17, 19, 33, 36, and 37 correlated poorly with their original prottrait versions; the prottrait-contrait item means were too far apart for items 2, 4, 7, 8, 9, 16, 23, 25, 30, and 31; etc.).

In Study 4, the final 15 contrait items are denoted by a "--", while the final 15 prottrait items are denoted by a "*". The final 30-item Hostility Toward Women scale, with the prottrait and contrait items randomly interspersed, is displayed in Table 9. The numbers in parentheses at the end of each row in the above table are the item numbers for the items listed in Table 9.

TABLE 9

The Final 30-item Balanced Hostility Toward Women Scale

INSTRUCTIONS: THIS IS ONE OF A NUMBER OF QUESTIONNAIRES DESIGNED TO ASSESS MEN'S AND WOMEN'S RELATIONS AND FEELINGS TOWARD EACH OTHER. THIS PARTICULAR FORM ASSESSES MALES' FEELINGS TOWARD FEMALES. THUS ALL OF THE STATEMENTS ON THIS PAGE REFER TO WOMEN. PLEASE READ EACH STATEMENT CAREFULLY AND CIRCLE "T" (True) IF IT APPLIES TO YOU OR IF YOU AGREE WITH THE STATEMENT. CIRCLE "F" (False) IF THE STATEMENT DOES NOT APPLY TO YOU OR IF YOU DISAGREE WITH IT. THANK YOU.

1. I feel that many times women flirt with men just to tease them or hurt them. (T or f) (.28, .44)
2. I feel upset even by slight criticism by a woman. (T or f) (.47, .55)
3. It doesn't really bother me when women tease me about my faults. (t or F) (.23, .35)
4. I used to think that most women told the truth but now I know otherwise. (T or f) (.53, .49)
5. I do not believe that women will walk all over you over you if you aren't willing to fight. (t or F) (.22, .38)
6. I do not often find myself disagreeing with women. (t or F) (-.18, .08)
7. I do very few things to women that make me feel remorseful afterward. (t or F) (.43, .34)
8. I rarely become suspicious with women who are more friendly than I expected. (t or F) (.22, .20)
9. There are a number of females who seem to dislike me very much. (T or f) (.47, .43)

10. I don't agree that women always seem to get the breaks. (t or F) (.31, .28)
11. I don't seem to get what's coming to me in my relationships with women. (T or f) (.37, .69)
12. I generally don't get really angry when a woman makes fun of me. (t or F) (.45, .58)
13. Women irritate me a great deal more than they are aware of. (T or f) (.72, .61)
14. If I let women see the way I feel, they would probably consider me a hard person to get along with. (T or f) (.50, .57)
15. Lately, I've been kind of grouchy with women. (T or f) (.46, .56)
16. I think that most women would not lie to get ahead. (t or F) (.50, .47)
17. It is safer not to trust women. (T or f) (.66, .56)
18. When it really comes down to it, a lot of women are deceitful. (T or f) (.72, .61)
19. I am not easily angered by a woman. (t or F) (.42, .33)
20. I often feel that women probably think I have not lived the right kind of life. (T or f) (.28, .48)
21. I never have hostile feelings that make me feel ashamed of myself later. (t or F) (.16, .18)
22. Many times a woman appears to care, but just wants to use you. (T or f) (.54, .60)
23. I am sure I get a raw deal from the women in my life. (T or f) (.61, .49)
24. I don't usually wonder what hidden reason a woman may have for doing something nice for me. (t or F) (.40, .50)
25. If women had not had it in for me I would have been more successful in my personal relations with them. (T or f) (.68, .73)
26. I never have the feeling that women laugh about me. (t or F) (.14, .49)
27. Very few women talk about me behind my back. (t or F) (.25, .55)

28. When I look back at what's happened to me I don't feel at all resentful toward the women in my life. (t or F) (.44, .44)
 29. I never sulk when a woman makes me angry. (t or F) (.09, .16)
 30. I have been rejected by too many women in my life. (T or f) (.36, .42)
-

Note. The protrait response for each item is capitalised. The numbers after each item are the factor loadings from the test-retest reliability study (Study 5). The first number listed is the factor loading from the first testing session, and the second number is the loading from the second testing session.

TABLE 10

Correlates of Hostility Toward Women (HTW) and Trait
Anger (TANGER) in the Second Aggression Study (Study 6)

<u>CRITERION VARIABLE:</u>	<u>CORRELATION WITH:</u>	
	<u>HTW</u>	<u>TANGER</u>
<u>SOCIAL DESIRABILITY:</u>	-.36*	-.42*
<u>ATTITUDES:</u>		
Re: Sexual Aggression		
Rape Myth Acceptance	.32*	.31*
Acceptance of Violence Against Women	.20*	.15*
Beliefs in Adversarial Sex Relations	.45*	.27*
Re: Nonsexual (General) Aggression		
General Acceptance of Violence	.03	.17*
<u>SEXUAL MOTIVATIONS:</u>		
Power Motivation	.29*	.18*
Love and Affection Motivation	.02	.01
<u>SEXUALLY AGGRESSIVE BEHAVIOR:</u>		
Past Acts of Sexual Aggression	.16*	.08
Likelihood of Rape/Forced Sex	.23*	.18*
<u>TANGER:</u>	.49*	-

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. n = 275.

*p < .05

TABLE 11
 Correlates of Hostility Toward Women Controlling for
 Trait Anger (TANGER) and Social Desirability (SCCDES)
 (Study 6)

CONTROLLING FOR:		
<u>CRITERION VARIABLE:</u>	<u>TANGER</u>	<u>SOCDES</u>
<u>ATTITUDES:</u>	<u>B</u>	<u>B</u>
Re: Sexual Aggression		
Rape Myth Acceptance	.21*	.35*
Acceptance of Violence Against Women	.17*	.23*
Beliefs in Adversarial Sex Relations	.42*	.50*
Re: Nonsexual (General) Aggression		
General Acceptance of Violence	-.07	.00
<u>SEXUAL MOTIVATIONS:</u>		
Power Motivation	.26*	.30*
Love and Affection Motivation	.02	.04
<u>SEXUALLY AGGRESSIVE BEHAVIOR:</u>		
Past Acts of Sexual Aggression	.15*	.13*
Likelihood of Rape/Forced Sex	.18*	.19*

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. The tabled values are standardized beta weights (B's). n = 275.

*p < .05

TABLE 12

Hostility Toward Women (HTW) and Trait Anger (TANGER)

as Predictors of Aggressive Behavior (Study 6)

<u>SEX OF TARGET:</u>	<u>CORRELATION WITH:</u>	
<u>MALE TARGET:</u>	<u>HTW</u>	<u>TANGER</u>
<u>Aversive Noise Condition:</u> n = 41		
Aggressive Behavior ($M = 3.85$)	.30**	.17
Reported Desire to Hurt the Receiver	.34**	.22*
Reported Desire to Help the Receiver	.04	-.02
<u>Monetary Penalty Condition:</u> n = 41		
Aggressive Behavior ($M = 2.92$)	.49**	.19
Reported Desire to Hurt the Receiver	.22*	.23*
Reported Desire to Help the Receiver	.08	-.15
<u>FEMALE TARGET:</u>		
<u>Aversive Noise Condition:</u> n = 40		
Aggressive Behavior ($M = 3.88$)	.05	.03
Reported Desire to Hurt the Receiver	.29**	.24*
Reported Desire to Help the Receiver	.18	.15
<u>Monetary Penalty Condition:</u> n = 43		
Aggressive Behavior ($M = 2.78$)	.44**	.45**
Reported Desire to Hurt the Receiver	.37**	.35**
Reported Desire to Help the Receiver	.04	-.07

Note. For each variable, higher scores are associated with greater e.g. aggression or e.g. desire to hurt.

*p < .10, one-tailed; **p < .05, one-tailed.

TABLE 13

Canonical Correlation Analyses, Controlling for

Trait Anger (TANGER)

	df	F	p<
MULTIVARIATE TEST: (1st Can. Corr.=.38)	6, 314	4.55	.001

UNIVARIATE TESTS (Multiple Regression Analyses):

Using HTW, TANGER to Predict:	R	df	F	p<
Aggressive Behavior:	.30	2, 159	8.03	.001
Desire to Hurt:	.33	2, 159	9.74	.001
Desire to Help:	.10	2, 159	<1.0	n.s.

INDIVIDUAL BETA WEIGHTS: (averaged across conditions)

HTW(df=1, 159) TANGER(df=1, 159)

Predicting:	B	t	p<	B	F	p<
Aggressive Behavior:	.27	9.76	.002	.06	<1.0	n.s.
Desire to Hurt:	.24	8.13	.005	.13	2.39	n.s.
Desire to Help:	.11	1.59	n.s.	-.07	<1.0	n.s.

Note. B is the standardized regression weight, computed after removing (partialling out) the independent variable effects. Tests of homogeneity of regression revealed no interactions. That is, the relationship between the independent variables and the

dependent variables did not differ significantly across the four experimental conditions. The first canonical correlation accounted for 86.9% of the shared variance, and the second canonical correlation ($R = .11$) was not significant. While the following information is redundant with the data in the body of this table, for the interested reader the standardized canonical coefficients for the first (and only significant) canonical correlation were .85 for hostility toward women, .26 for trait anger, .49 for aggression, .66 for desire to hurt, and .24 for desire to help. The correlations between the independent variables and the canonical variable were .97 for hostility toward women, and .68 for trait anger. The correlations between the dependent variables and the canonical variable were .79 for aggression, .86 for desire to hurt, and .17 for desire to help. Thus, as is also apparent from the body of the table, these coefficients and correlations suggest that the primary independent relationship emerging from the canonical correlation analysis was a relationship between hostility toward women on the one hand, and aggression and desire to hurt on the other hand.

TABLE 14

Correlations Between Aggression and Hostility Toward
 Women, Controlling for Trait Anger (TANGER) and Social
 Desirability (SOCDES) (Study 6)

<u>SEX OF TARGET:</u>	CONTROLLING FOR:	
	TANGER	SOCDES
<u>MALE TARGET:</u>	B	B
<u>Aversive Noise Condition:</u> n = 41		
Aggressive Behavior	.31*	.29**
Reported Desire to Hurt the Receiver	.33**	.25*
Reported Desire to Help the Receiver	.09	.13
<u>Monetary Penalty Condition:</u> n = 41		
Aggressive Behavior	.47**	.45**
Reported Desire to Hurt the Receiver	.17	.27**
Reported Desire to Help the Receiver	.13	.13
<u>FEMALE TARGET:</u>		
<u>Aversive Noise Condition:</u> n = 40		
Aggressive Behavior	.05	-.01
Reported Desire to Hurt the Receiver	.23*	.32**
Reported Desire to Help the Receiver	.14	.34**
<u>Monetary Penalty Condition:</u> n = 43		
Aggressive Behavior	.26*	.39**
Reported Desire to Hurt the Receiver	.25*	.34**
Reported Desire to Help the Receiver	.11	.06

Note. For each variable, higher scores are associated with greater e.g. aggression or e.g. desire to hurt. The tabled values are standardized beta weights (B's).

*p < .10, one-tailed; **p < .05, one-tailed.

TABLE 15
 Canonical Correlation Analyses, Controlling for
 Social Desirability (SOCDES)

MULTIVARIATE TEST OF THE OVERALL RELATIONSHIP: (1st Can. Corr.=.37)	<u>df</u>	F	p<
TEST OF 2ND CAN. CORR.: (R = .25)	6,314	5.99	.001
	2,157.5	5.37	.006

UNIVARIATE TESTS (Multiple Regression Analyses):

Using HTW, SOCDES to Predict:	R	<u>df</u>	F	p<
Aggressive Behavior:	.32	2, 159	9.13	.001
Desire to Hurt:	.31	2, 159	8.54	.001
Desire to Help:	.23	2, 159	4.60	.011

INDIVIDUAL BETA WEIGHTS: (averaged across conditions)

	HTW(df=1, 159)			SOCDES(df=1, 159)		
Predicting:	B	F	p<	B	F	p<
Aggressive Behavior:	.26	11.05	.001	-.12	2.44	n.s.
Desire to Hurt:	.30	14.27	.001	-.04	<1.0	n.s.
Desire to Help:	.15	3.44	n.s.	.23	8.11	.005

Note. B is the standardized regression weight, computed after removing (partialling out) the independent variable effects. Both the first and second canonical correlations were significant, accounting for

70.5% and 29.5% of the shared variance, respectively see above). Although the following information is redundant with the data in the body of this table, for the interested reader the standardized canonical coefficients for the first canonical correlation were .96 for hostility toward women, -.11 for social desirability, .55 for aggression, .61 for desire to hurt, and .21 for desire to help. The correlations between the independent variables and the first canonical variable were .99 for hostility toward women, and -.40 for social desirability. The correlations between the dependent variables and the first canonical variable were .83 for aggression, .83 for desire to hurt, and .15 for desire to help. The standardized canonical coefficients for the second canonical correlation were -.41 for hostility toward women, -1.04 for social desirability, .48 for aggression, -.31 for desire to hurt, and -.94 for desire to help. The correlations between the independent variables and the second canonical variable were -.11 for hostility toward women, and -.92 for social desirability. The correlations between the dependent variables and the second canonical variable were .33 for aggression, -.31 for desire to hurt, and -.94 for desire to help. Thus, as is also apparent from the body of the table, these coefficients and correlations suggest that the primary independent relationship emerging

from the first canonical correlation was was a relationship between hostility toward women on the one hand, and aggression and desire to hurt on the other hand. The primary independent relationship emerging from the second canonical correlation, however, seemed to be a relationship between social desirability on the one hand, and reported desire to help on the other hand.

TABLE 16

Hostility Toward Women (HTW) and Trait Anger (TANGER)

as Predictors of Affective Reactions (Study 6)

<u>SEX OF TARGET:</u>	<u>CORRELATION WITH:</u>	
<u>MALE TARGET:</u>	<u>HTW</u>	<u>TANGER</u>
<u>Aversive Noise Condition: n = 41</u>		
Anxiety	.27**	.38**
Depression	.34**	.08
Hostility	.25*	.17
<u>Monetary Penalty Condition: n = 41</u>		
Anxiety	.14	.20
Depression	-.11	.08
Hostility	.03	.38
<u>FEMALE TARGET:</u>		
<u>Aversive Noise Condition: n = 40</u>		
Anxiety	.25*	.16
Depression	.21*	-.07
Hostility	.32**	.10
<u>Monetary Penalty Condition: n = 43</u>		
Anxiety	.47**	.12
Depression	.27**	.11
Hostility	.19	.10

Note. For each variable, greater scores are associated with greater e.g. anxiety or greater e.g. depression.

*p < .10, one-tailed; **p < .05, one-tailed.

TABLE 17
Canonical Correlation Analyses of Affective Reactions,
Controlling for Trait Anger (TANGER)

	<u>df</u>	<u>F</u>	<u>p<</u>
MULTIVARIATE TEST: (1st Can. Corr.=.27)	6, 314	2.27	.04
<hr/>			
UNIVARIATE TESTS (Multiple Regression Analyses):			
<u>Using HTW, TANGER to Predict:</u>	<u>B</u>	<u>df</u>	<u>F</u>
Anxiety:	.26	2, 159	6.00
Depression:	.17	2, 159	2.29
Hostility:	.16	2, 159	2.13
<hr/>			
INDIVIDUAL BETA WEIGHTS: (averaged across aggression conditions)			
	HTW(df=1, 159)	TANGER(df=1, 159)	
<u>Predicting:</u>	<u>B</u>	<u>F</u>	<u>p<</u>
Anxiety:	.22	6.47	.012
Depression:	.19	4.24	.041
Hostility:	.14	2.58	n.s.

Note. B is the standardized regression weight, computed after removing (partialling out) the independent variable effects. Tests of homogeneity of regression revealed no interactions. That is, the relationship between the independent variables and the

dependent variables did not differ significantly across the four experimental conditions. The first canonical correlation accounted for 86.9% of the shared variance, and the second canonical correlation ($R = .11$) was not significant. For the interested reader, the standardized canonical coefficients for the first (and only significant) canonical correlation were .82 for hostility toward women, .30 for trait anger, .99 for anxiety, -.12 for depression, and .13 for hostility. The correlations between the independent variables and the canonical variable were .96 for hostility toward women, and .70 for trait anger. The correlations between the dependent variables and the canonical variable were .99 for anxiety, .55 for depression, and .61 for hostility. Thus, as is also apparent from the body of the table, these coefficients and correlations suggest that the primary independent relationship emerging from the canonical correlation analysis was a relationship between hostility toward women on the one hand, and anxiety on the other hand.

APPENDIX A: UNTRIMMED CORRELATIONS

TABLE 18

Untrimmed Correlations between the Initial Hostility
Toward Women (HTW) Scale and the Criterion Variables
(Study 1: see Table 3)

<u>CRITERION VARIABLE:</u>	CORRELATION WITH
<u>ATTITUDES:</u>	<u>THE HTW SCALE</u>
Re: Sexual Aggression	
Rape Myth Acceptance	.51*
Acceptance of Violence Against Women	.50*
Beliefs in Adversarial Sex Relations	.57*
Re: Nonsexual (General) Aggression	
General Acceptance of Violence	.15
<u>SEXUAL MOTIVATIONS:</u>	
Power Motivation	.39*
Love and Affection Motivation	.02
<u>SEXUALLY AND NONSEXUALLY AGGRESSIVE BEHAVIOR:</u>	
Reported Past Acts of Sexual Aggression	.28*
Reported Likelihood of Rape/Forced Sex	.42*
Childhood History of (Nonsexual) Violence	.06

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. n = 136.

*p < .05

TABLE 19

Untrimmed Correlations between the (summed) 11

"Aggressiveness Toward Women" (ATW) Items and the
Criterion Variables (Study 1: see Table 4)

<u>CRITERION VARIABLE:</u>	CORRELATION WITH
<u>ATTITUDES:</u>	<u>THE ATW SCALE</u>
Re: Sexual Aggression	
Rape Myth Acceptance	.10
Acceptance of Violence Against Women	.18*
Beliefs in Adversarial Sex Relations	.16
Re: Nonsexual (General) Aggression	
General Acceptance of Violence	.12
<u>SEXUAL MOTIVATIONS:</u>	
Power Motivation	.21*
Love and Affection Motivation	-.10
<u>SEXUALLY AND NONSEXUALLY AGGRESSIVE BEHAVIOR:</u>	
Reported Past Acts of Sexual Aggression	.00
Reported Likelihood of Rape/Forced Sex	.18*
Childhood History of (Nonsexual) Violence	.09

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. $n = 136$.

* $p < .05$

TABLE 20

Untrimmed Correlates of Hostility Toward Women (HTW)

in the Pilot Aggression Study (Study 2: see Table 5)

<u>CRITERION VARIABLE:</u>	<u>CORRELATION WITH</u>
<u>ATTITUDES:</u>	<u>THE HTW SCALE</u>
Re: Sexual Aggression	
Rape Myth Acceptance	.48*
Acceptance of Violence Against Women	.37*
Beliefs in Adversarial Sex Relations	.62*
Re: Nonsexual (General) Aggression	
General Acceptance of Violence	.12
<u>SEXUAL MOTIVATIONS:</u>	
Power Motivation	.32*
Love and Affection Motivation	.08
<u>SEXUALLY AGGRESSIVE BEHAVIOR:</u>	
Reported Past Acts of Sexual Aggression	.23*
Reported Likelihood of Rape/Forced Sex	.22*

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g beliefs in adversarial sex relations. n = 157.

*p < .05

TABLE 21
Untrimmed Correlates of Hostility Toward Women (HTW)

and Trait Anger (Tanger) in the Second Aggression Study
(Study 6: see Table 10)

	CORRELATION WITH:	
<u>CRITERION VARIABLE:</u>	HTW	TANGER
<u>SOCIAL DESIRABILITY:</u>	-.32*	-.42*
<u>ATTITUDES:</u>		
Re: Sexual Aggression		
Rape Myth Acceptance	.34*	.29*
Acceptance of Violence Against Women	.26*	.18*
Beliefs in Adversarial Sex Relations	.45*	.30*
Re: Nonsexual (General) Aggression		
General Acceptance of Violence	.04	.17*
<u>SEXUAL MOTIVATIONS:</u>		
Power Motivation	.25*	.15*
Love and Affection Motivation	-.02	-.01
<u>SEXUALLY AGGRESSIVE BEHAVIOR:</u>		
Past Acts of Sexual Aggression	.17*	.16*
Likelihood of Rape/Forced Sex	.22*	.16*
<u>TANGER:</u>	.43*	-

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. $n = 305$.

* $p < .05$

TABLE 22

Untrimmed Correlates of Hostility Toward Women

Controlling for Trait Anger (TANGER) and Social Desirability (SOCDES) (Study 6: see Table 11)

	CONTROLLING FOR:	
<u>CRITERION VARIABLE:</u>	TANGER	SOCDES
<u>ATTITUDES:</u>	<u>B</u>	<u>B</u>
Re: Sexual Aggression		
Rape Myth Acceptance	.27*	.38*
Acceptance of Violence Against Women	.23*	.28*
Beliefs in Adversarial Sex Relations	.39*	.48*
Re: Nonsexual (General) Aggression		
General Acceptance of Violence	-.05	.01
<u>SEXUAL MOTIVATIONS:</u>		
Power Motivation	.23*	.24*
Love and Affection Motivation	-.01	-.02
<u>SEXUALLY AGGRESSIVE BEHAVIOR:</u>		
Past Acts of Sexual Aggression	.12	.14*
Likelihood of Rape/Forced Sex	.18*	.19*

Note. For each variable, higher scores are associated with greater e.g. power motivation or e.g. beliefs in adversarial sex relations. The tabled values are standardized beta weights (B's). n = 305.

*p < .05

TABLE 23

Hostility Toward Women (HTW) and Trait Anger (TANGER)

as Predictors of Aggressive Behavior (Study 6:

see Table 12) Untrimmed Correlations

SEX OF TARGET:	CORRELATION WITH:	
	HTW	TANGER
MALE TARGET:		
<u>Aversive Noise Condition: n = 45</u>		
Aggressive Behavior	.08	.06
Reported Desire to Hurt the Receiver	.26**	.33**
Reported Desire to Help the Receiver	-.13	-.20*
<u>Monetary Penalty Condition: n = 45</u>		
Aggressive Behavior	.21*	.02
Reported Desire to Hurt the Receiver	.20*	.22*
Reported Desire to Help the Receiver	.18	-.18
FEMALE TARGET:		
<u>Aversive Noise Condition: n = 44</u>		
Aggressive Behavior	.07	-.07
Reported Desire to Hurt the Receiver	.23*	.21*
Reported Desire to Help the Receiver	.07	.20*
<u>Monetary Penalty Condition: n = 47</u>		
Aggressive Behavior	.34**	.39**
Reported Desire to Hurt the Receiver	.25**	.33**
Reported Desire to Help the Receiver	.07	-.14

Note. For each variable, higher scores are associated with greater e.g. aggression or e.g. desire to hurt.

*p < .10, one-tailed; **p < .05, one-tailed.

TABLE 24

Untrimmed Canonical Correlation Analyses, Controlling

for Trait Anger (TANGER) (Study 6; see Table 13)

MULTIVARIATE TEST OF THE OVERALL df F p<
 RELATIONSHIP: (1st Canonical Corr.=.31) 6,346 3.58 .002

UNIVARIATE TESTS (Multiple Regression Analyses):

Using HTW, TANGER to Predict:	<u>B</u>	<u>df</u>	<u>F</u>	<u>p</u> <
Aggressive Behavior:	.17	2, 175	2.73	.07
Desire to Hurt:	.31	2, 175	9.30	.001
Desire to Help:	.11	2, 175	<1.0	n.s.

INDIVIDUAL BETA WEIGHTS: (averaged across conditions)

HTW (df=1, 175)	TANGER (df=1, 175)
-----------------	--------------------

Predicting:	<u>B</u>	<u>F</u>	<u>p</u> <	<u>B</u>	<u>F</u>	<u>p</u> <
Aggressive Behavior:	.16	3.74	.056	.02	<1.0	n.s.
Desire to Hurt:	.15	3.92	.05	.22	7.63	.006
Desire to Help:	.08	<1.0	n.s.	-.11	1.67	n.s.

Note. B is the standardized regression weight, computed after removing (partialling out) the independent variable effects. The first canonical correlation accounted for 85.9% of the shared variance, while the second canonical correlation (R = .13) was not signifi-

cant. Tests of homogeneity of regression revealed no interactions. That is, the relationship between the independent variables and the dependent variables did not differ significantly across the four experimental conditions. For the interested reader, the standardized canonical coefficients for the first (and only significant) canonical correlation were .54 for hostility toward women, .66 for trait anger, .14 for aggression, .94 for desire to hurt, and .02 for desire to help. The correlations between the independent variables and the canonical variable were .80 for hostility toward women, and .87 for trait anger. The correlations between the dependent variables and the canonical variable were .50 for aggression, .99 for desire to hurt, and -.09 for desire to help. Thus, as is also apparent from the body of the table, these coefficients and correlations suggest that, despite some nuances, the primary independent relationship emerging from the canonical correlation analysis was a relationship between hostility toward women and trait anger on the one hand, and aggression and desire to hurt on the other hand.

TABLE 25

Untrimmed Canonical Correlation Analyses, Controlling
for Social Desirability (SOCDES) (Study 6; see Table 15)

MULTIVARIATE TEST OF THE OVERALL RELATIONSHIP: (1st Can. Corr.=.28)	<u>df</u>	F	p<
TEST OF 2ND CAN. CORR.: (R = .23)	6, 346	4.11	.001
	2, 173.5	4.83	.01

UNIVARIATE TESTS (Multiple Regression Analyses):

Using HTW, SOCDES to Predict:	R	<u>df</u>	F	p<
Aggressive Behavior:	.21	2, 175	3.87	.023
Desire to Hurt:	.25	2, 175	5.95	.003
Desire to Help:	.23	2, 175	4.90	.008

INDIVIDUAL BETA WEIGHTS: (averaged across conditions)

<u>Predicting:</u>	HTW (df=1, 175)			SOCDES (df=1, 175)		
	B	F	p<	B	F	p<
Aggressive Behavior:	.14	3.11	.08	-.12	2.42	n.s.
Desire to Hurt:	.21	7.79	.006	-.09	1.31	n.s.
Desire to Help:	.11	1.99	n.s.	.24	9.50	.002

Note. B is the standardized regression weight, computed after removing (partialling out) the independent variable effects. Tests of homogeneity of regression revealed no interactions. That is, the relation-

ship between the independent variables and the dependent variables did not differ significantly across the four experimental conditions. Both the first and second canonical correlations were significant, accounting for 61.0% and 39.0% of the shared variance, respectively see above). The standardized canonical coefficients for the first canonical correlation were .55 for hostility toward women, -.69 for social desirability, .49 for aggression, .60 for desire to hurt, and -.35 for desire to help. The correlations between the independent variables and the first canonical variable were .75 for hostility toward women, and -.84 for social desirability. The correlations between the dependent variables and the first canonical variable were .72 for aggression, .83 for desire to hurt, and -.42 for desire to help. The standardized canonical coefficients for the second canonical correlation were -.88 for hostility toward women, -.78 for social desirability, .09 for aggression, -.54 for desire to hurt, and -.92 for desire to help. The correlations between the independent variables and the second canonical variable were -.66 for hostility toward women, and -.53 for social desirability. The correlations between the dependent variables and the second canonical variable were -.11 for aggression, -.41 for desire to hurt, and -.86 for desire to help.

TABLE 26

Untrimmed Correlations Between Aggression and Hostility

Toward Women, Controlling for Trait Anger (TANGER) and Social Desirability (SOCDES) (Study 6: see Table 14)

<u>SEX OF TARGET:</u>	CONTROLLING FOR:	
	<u>TANGER</u>	<u>SOCDES</u>
<u>MALE TARGET:</u>		
<u>Aversive Noise Condition: n = 45</u>	B	B
Aggressive Behavior	.08	.05
Reported Desire to Hurt the Receiver	.10	.17
Reported Desire to Help the Receiver	-.03	-.08
<u>Monetary Penalty Condition: n = 45</u>		
Aggressive Behavior	.21*	.18
Reported Desire to Hurt the Receiver	.17	.23*
Reported Desire to Help the Receiver	.23*	.23*
<u>FEMALE TARGET:</u>		
<u>Aversive Noise Condition: n = 44</u>		
Aggressive Behavior	.09	.03
Reported Desire to Hurt the Receiver	.19	.23*
Reported Desire to Help the Receiver	.02	.25*
<u>Monetary Penalty Condition: n = 47</u>		
Aggressive Behavior	.20*	.31**
Reported Desire to Hurt the Receiver	.13	.22*
Reported Desire to Help the Receiver	.16	.09

Note. For each variable, higher scores are associated with greater e.g. aggression or e.g. desire to hurt. The The tabled values are standardized beta weights (B's).

*p < .10, one-tailed; **p < .05, one-tailed.

TABLE 27

Hostility Toward Women (HTW) and Trait Anger (TANGER)

as Predictors of Affective Reactions

(Study 6: see Table 16). Untrimmed Correlations

<u>SEX OF TARGET:</u>	<u>CORRELATION WITH:</u>	
<u>MALE TARGET:</u>	<u>HTW</u>	<u>TANGER</u>
<u>Aversive Noise Condition: n = 45</u>		
Anxiety	.19*	.29**
Depression	.31**	.19*
Hostility	.15	.08
<u>Monetary Penalty Condition: n = 45</u>		
Anxiety	.12	.19
Depression	.04	.07
Hostility	.06	.22*
<u>FEMALE TARGET:</u>		
<u>Aversive Noise Condition: n = 44</u>		
Anxiety	.23*	.07
Depression	.25**	-.08
Hostility	.31**	.02
<u>Monetary Penalty Condition: n = 47</u>		
Anxiety	.45**	.15
Depression	.22*	.15
Hostility	.21*	.18

Note. For each variable, higher scores are associated with greater e.g. anxiety or greater depression.

*p < .10, one-tailed; **p < .05, one-tailed.

TABLE 28

Canonical Correlation Analyses of Affective Reactions,

Controlling for Trait Anger (TANGER)

(Study 6: see Table 17). Untrimmed

	<u>df</u>	<u>F</u>	<u>p<</u>
MULTIVARIATE TEST: (1st Can. Corr.=.26)	6, 346	2.43	.03

UNIVARIATE TESTS (Multiple Regression Analyses):

Using HTW, TANGER to Predict:	<u>R</u>	<u>df</u>	<u>F</u>	<u>p<</u>
Anxiety:	.26	2, 175	6.17	.003
Depression:	.21	2, 175	4.02	.02
Hostility:	.18	2, 175	3.04	.05

INDIVIDUAL BETA WEIGHTS: (averaged across conditions)

	HTW(df=1, 175)			TANGER(df=1, 175)		
Predicting:	<u>B</u>	<u>F</u>	<u>p<</u>	<u>B</u>	<u>F</u>	<u>p<</u>
Anxiety:	.21	7.06	.009	.09	1.18	n.s.
Depression:	.21	7.02	.009	-.01	<1.0	n.s.
Hostility:	.15	3.41	.066	.06	<1.0	n.s.

Note. B is the standardized regression weight, computed after removing (partialling out) the independent variable effects. Tests of homogeneity of regression revealed no interactions. That is, the relation-

ship between the independent variables and the dependent variables did not differ significantly across the four experimental conditions. The first canonical correlation accounted for 87.9% of the shared variance, while the second canonical correlation ($R = .10$) was not significant. For the interested reader, the standardized canonical coefficients for the first (and only significant) canonical correlation were .87 for hostility toward women, .26 for trait anger, .77 for anxiety, .25 for depression, and .09 for hostility. The correlations between the independent variables and the canonical variable were .97 for hostility toward women, and .60 for trait anger. The correlations between the dependent variables and the canonical variable were .97 for anxiety, .76 for depression, and .69 for hostility. Thus, these coefficients and correlations suggest that the primary independent relationship emerging from the canonical correlation analysis was a relationship between hostility toward women on the one hand, and anxiety on the other hand.

7.48 + * <--- First Factor

1.96	+	*
1.70	+	*
	I	
1.45	+	* *
1.31	+	*
1.08	+	* *
.93	+	* * *
.78	+	* *
.66	+	* * *
.49	+	* * * * *
.35	+	* * * *
.20	+	* * * *
.00	+	* * * * *
	0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 3	
	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0	

FACTOR NUMBER

Figure Caption

Figure 1. Eigenvalues for the factor analysis of the initial version of the Hostility Toward Women scale (Study 1).

5.77 + * <-- First Factor

E
I
G
E
N
V
A
L
U
E
S

2.16 + *

1-99 + *

1.62 +

1.459 *

1.40 +

1.19 + * *

1. 10 + *
25 : 5

.95 + * * *
84 +

* *
84 +
82 +

- .82 +
- .65 +

$$\begin{array}{r} 48 \\ + \end{array}$$

.39 +

• 27 •

* 12 *

0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 3

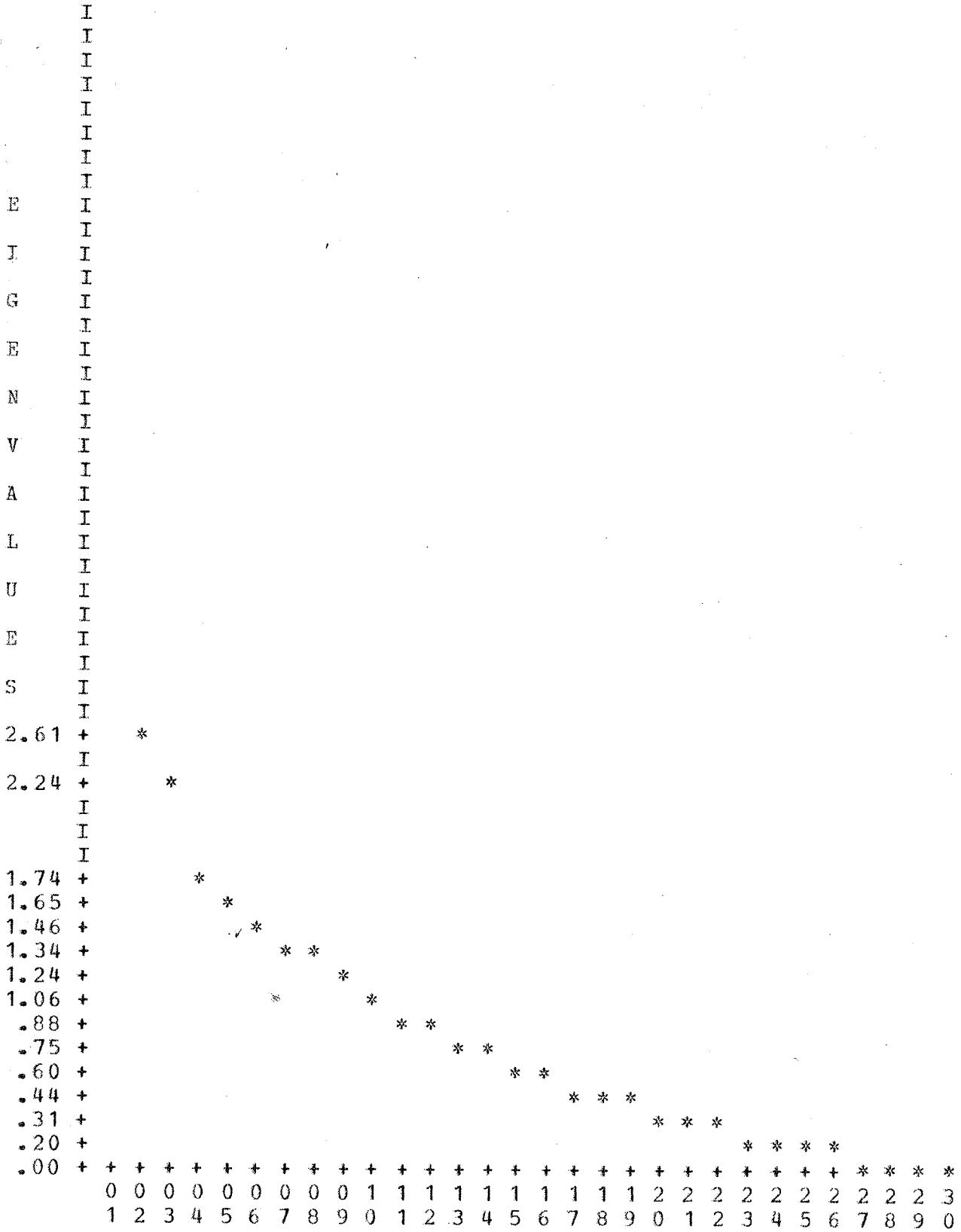
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0

FACTOR NUMBER

Figure Caption

Figure 2. Eigenvalues for the factor analysis of the balanced version of the Hostility Toward Women scale (Study 5; first testing session).

6.86 + * <--- First Factor



FACTCR NUMBER

Figure Caption

Figure 3. Eigenvalues for the factor analysis of the balanced version of the Hostility Toward Women scale (Study 5; second testing session).