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LONELINESS AND AGGRESSIVE BEHAVIOUR

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In one of the early classic articles on loneliness, Zilboorg (1938) claimed that lonely individuals are hostile and aggressive. The present research tested this proposition. Two samples of males were given a measure of loneliness and various measures of hostility. Ninety-one subjects in the second study were also given the opportunity to administer aversive noise to a critical, rejecting confederate for making errors on an ESP task. In both samples, lonely males expressed more hostility towards women and endorsed the view that men and women are essentially adversaries in their sexual relationships. In the ESP task, the lonely subjects administered higher levels of aversive noise. Despite some qualifications, the results generally are consistent with Zilboorg's contention that lonely individuals manifest greater aggressive tendencies.

Survey research indicates that loneliness is a common phenomenon, affecting one quarter or more of all North Americans (Perlman & Peplau, 1981). Studies have linked loneliness to a number of social problems, such as alcoholism (Nerviano & Gross, 1976), delinquent behaviour (Brennan & Auslander, 1979), and even physical illness (Lynch, 1977). Of the various social problems, however, the most important for our purposes is hostility and its possible association with loneliness. In what is probably the first serious psychological analysis of loneliness, Zilboorg (1938) argued that chronically lonely

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people are hostile and aggressive: 'The lonely individual seldom fails to display an ill-disguised or open hatred' (p. 49).

Empirical evidence generally confirms that loneliness and general hostility are linked. Diamant & Windholz (1981) found that scores on the UCLA Loneliness Scale (Russell et al., 1978) correlated 0.27 ($p < 0.05$) with scores on the Buss-Durkee (1957) Hostility-Guilt Inventory. Also Loucks (1980) found that lonely people scored high on a measure of anger-hostility. To date, however, there is no evidence that lonely people are actually aggressive in their behaviour. Indeed there are at least two reasons to doubt this prediction. First, lonely individuals are low in assertiveness (see Perlman & Peplau, 1981), so it is possible that they have feelings of anger which typically go unexpressed. Second, as Edmunds & Kendrick (1980) have illustrated, traditional measures of hostility do not predict measures of actual aggression very well. So the first purpose of this project was to determine whether or not lonely individuals manifest more aggressive behaviour.

A second purpose of this project was to replicate and extend previous work on the tendency of lonely people to hold more hostile attitudes. In particular the project explored the relationship between loneliness and verbally expressed hostility towards women. Judging by the general relationship between loneliness and hostility, one might reasonably expect lonely males to manifest greater hostility towards women. This expectation was based on various pieces of existing evidence. For instance, Jones et al. (1981) found that lonely people have poor social skills and thus may have difficulty securing sexual outlets using acceptable means. Lonely people also report more dissatisfaction in general with their friendships and dating life (Cutrona, 1982). Thus lonely men may feel hostile towards one perceived source of their frustration — women.

The social skills perspective (see Jones, 1982) suggests yet another hypothesis worth testing. Besides anxiety and behavioural deficiencies, it is often claimed that people with poor social skills have biased, self-defeating perceptions and evaluations of their interactions. Such biases fit well with the emerging portrait of loneliness. Lonely individuals are more negative in their evaluations of potential acquaintances (Jones, 1982). Similarly Weiss (1973, p. 21) claims that loneliness produces 'an oversensitivity to minimal cues and a tendency to misinterpret and exaggerate the hostile . . . intent of others.' Thus it seemed reasonable to expect that lonely people have more extreme, negativistic reactions to rejection.

Method

Two studies were conducted, the second of which included an assessment of behavioural aggression. Subjects in Study 1 were 136 male Introductory Psychology students, who participated for credit in their course. The 157 males in Study 2 were recruited from advertisements placed around campus and in local newspapers and were paid for their participation. Ninety-one of the men in Study 2 also participated in the aggression phase of the research, randomly assigned to be paired with either a male or a female confederate.

The loneliness measure was the short survey version of the revised UCLA Loneliness Scale (Russell et al. 1980). Russell et al. demonstrated the concurrent and discriminant validity of the Revised UCLA Loneliness Scale, showing that lonely people reported experiencing emotions theoretically linked to loneliness (depression and anxiety, feelings of abandonment, emptiness, hopelessness and isolation), but not emotions theoretically unrelated to loneliness (e.g., feelings of creativity, sensitivity, surprise, thoughtfulness). Scores on the scale correlated more highly with other measures of loneliness than with other measures of mood and personality. Finally the short survey version of the scale has a reported alpha reliability of 0.75.

Also administered were Burt's (1980) Acceptance of Interpersonal Violence (primarily against women) Scale (six items, $\alpha = 0.59$), and her Adversarial Sex Beliefs Scale (nine items, $\alpha = 0.80$). Burt's scales have in previous research shown to be powerful predictors of many rape-related variables (Check & Malamuth, 1983b, in press; Malamuth, 1981; Malamuth & Donnerstein, 1982). Malamuth et al.'s (in press) General Acceptance of Violence Scale (ten items, $\alpha = 0.67$) was also included. Whereas five of the six items on Burt's (1980) Acceptance of Interpersonal Violence Scale referred specifically to violence against women, all of the items on the General Acceptance of Violence Scale referred to violence of a more general nature. Check & Malamuth (1983a) found that General Acceptance of Violence predicted male subjects' self-reports that they frequently fought with and seriously threatened other children when they were young.

Hostility towards women was measured using Check & Malamuth's (1983a) Hostility Toward Women Scale. Check & Malamuth reported a KR 20 reliability of 0.89 for this scale, and found that the scale predicted a number of sexually aggressive attitudes, motivations and self-reports of behaviour, including men's reports that they had forced women into various sexual acts in the past and that they would be likely to do so in the future. The first of the two sexual aggression measures were Malamuth's (1981) Self-Reported Likelihood of Rape/Forced Sex Acts items. Malamuth (1981) reviews a number of studies indicating that likelihood-of-rape reports have a good deal of validity. Recently Henry et al. (1984) found that these reports discriminated a group of convicted rapists from a control group of violent non-sex offenders. The second sexual aggression measure was Koss & Oros's (1982) ten-item Sexual Experiences Survey, a measure designed to assess men's past sexual aggression. The ten items refer to a range of forced sexual behaviours, ranging from trying to get intercourse by 'threatening to end the relationship otherwise', to actually holding a woman down and forcing her to have intercourse. Henry et al. (1984) found that this measure discriminated rapists from a control group of violent non-sex offenders.

In Study 2 four additional items were added. Subjects were asked to indicate how (a) disappointed, (b) angered, (c) embarrassed, and (d) confused they generally felt after being turned down for a date. Finally aggression was measured as the mean

intensity of noise delivered as punishment for a confederate's incorrect performance on a series of bogus ESP trials (see below for further details).

Procedure

The questionnaire measures were all administered in group format as part of two larger studies. In Study 2 subjects were unaware that they would later be asked to participate in the aggression phase of the research.

To avoid demand awareness, the aggression phase was held several days after the questionnaire session and advertised as an unrelated experiment. When the subject and confederate arrived at the laboratory, they were told that the experiment was an extra-sensory perception (ESP) study, and that one of them would be the 'transmitter' (who would play the role of the teacher) while the other would be the 'receiver' (who would play the role of the learner). The transmitter's task was to attempt to 'send' one of four numbers (via ESP) to the receiver, who would then attempt to guess the number. In a rigged lottery the subject was always assigned to the role of transmitter, while the confederate was always assigned to the role of receiver. The subject was instructed to punish the receiver with some level of aversive noise (ranging from 1 to 7) for each incorrect guess, and to reward him or her (with anywhere from 8 to 40 cents) for each correct guess. Subjects were told that previous research indicated that punishment may interfere with the receiver's performance. The subject and confederate were then each given a 5-sec. 70 db (SPL) sample of the noise, and told that it was a level 3. (Of course, no noise was ever delivered to the confederate during the rest of the experiment.)

Anger instigation. 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. (For details of the effectiveness of this method of instigating anger, see Check & Malamuth, 1983a.) 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.

Assessment of aggressive behaviour. The subject and confederate were then left alone in their separate rooms, to perform a total of twenty preprogrammed ESP trials, the entire procedure being controlled and the responses recorded by a microcomputer with a video display terminal (see Malamuth, 1983, for further details). The confederate 'guessed' incorrectly on fifteen of the twenty trials.

Debriefing. At the end of the experiment, subjects were given a post-experimental questionnaire (designed to detect suspiciousness) and were then given a detailed debriefing script to read. The debriefing script thanked the subject for his participation, and fully explained the deceptions involved.

Results

Correlations were computed between loneliness and each of the other questionnaire measures. These correlations are presented in Table 1. As can be seen from the table, loneliness was positively correlated in at least one of the two studies with all of the aggression measures, the only exception being acceptance of violence in general. Note that the correlations were generally larger for the Introductory Psychology student sample (Study 1) than for the community sample (Study 2).

TABLE 1
Questionnaire (self-report) correlates of loneliness

	Study 1 (n = 136)	Study 2 (n = 157)
<i>Aggressive attitudes</i>	<i>r</i>	<i>r</i>
Acceptance of violence against women	0.23**	0.06
Acceptance of violence in general	0.07	0.01
Adversarial sex beliefs	0.29**	0.20*
<i>Hostility towards women</i>	0.40**	0.37**
<i>Interpersonal aggression</i>		
Likelihood of rape/forced sex acts	0.20*	0.08
Past sexually aggressive behaviour	0.27**	-0.07
<i>Reactions to date rejection</i>		
Disappointment	—	0.19*
Anger	—	0.21**
Embarrassment	—	0.23**
Confusion	—	0.12

* $p < 0.05$. ** $p < 0.01$.

To determine if loneliness in men was in fact associated with sensitivity to rejection, correlations were computed between loneliness and self-reported reactions to being turned down for a date (assessed in Study 2). These correlations are also presented in Table 1. As can be seen from the table, loneliness was correlated with feelings of disappointment, anger and embarrassment.

A post-experimental questionnaire revealed nine suspicious subjects. The aggression results reported below are for the remaining eighty-two non-suspicious subjects, although inclusion of the nine suspicious subjects yields essentially similar results.

In order to examine simultaneously the main and interactive effects of loneliness and sex of target, subjects were divided into two groups, based upon their loneliness scores. Those who scored 7 or

above on the scale were classified as high lonely ($n = 43$, $M = 8.56$, $SD = 1.67$). Those who scored 6 or below on the scale were classified as low lonely ($n = 39$, $M = 4.82$, $SD = 1.30$). Aggression (calculated as the mean level of noise delivered to the confederate over the fifteen incorrect ESP trials) was then analysed with a 2 (high vs. low lonely) \times 2 (male vs. female confederate) ANOVA. (A similar analysis relating to the five correct ESP trials yielded no significant effects.) As expected, there was a significant effect of the loneliness variable, $F(1,78) = 11.8$, $p < 0.001$, with high lonely men displaying more aggression than low lonely men (means = 4.45 and 3.55, respectively). There were no other significant effects.

Discussion

In general the results supported our expectations. As predicted, lonely males said that they react strongly to rejection, and they also *behaved* aggressively towards a confederate who rejected them. Also on the questionnaire measures they showed a general, although not perfectly consistent, tendency to verbally express hostile attitudes, especially towards women. It should be noted, however, that these correlations with hostility were not large, and that only men were used in this study. Thus the same relationships may or may not hold for women subjects.

With regard to the three correlations found to be significant in Study 1 but not in Study 2, additional replications are necessary with the full UCLA Loneliness Scale to clarify the true strength of the association. However, the non-significant correlation between loneliness and the Acceptance of Violence in General Scale, found in both samples, warrants a comment. As previous studies have shown a correlation between loneliness and general hostility, we are prone to accept such a relationship as an established phenomenon. The failure to find a similar relationship in the present project could reflect one of three factors. (a) It could be that the present study was ineffective in replicating past research because of the limits of the present study (i.e., small samples, an unreliable measure). As the two measures of violent attitudes have equivalent reliabilities and the samples were of sufficient size to detect other significant correlations, we reject this view. (b) It could be that the correlation between loneliness and a verbally expressed hostile attitude is found only among specific populations. As previous studies obtaining this

correlation have used similar college samples, this explanation also appears unlikely. (c) The measure of general attitudes to violence may reflect a different underlying construct from the measures used in other studies. This possibility seems plausible. The measure used here assessed the level of acceptability that subjects generally find violence to have. In contrast, measures of hostility like the Buss & Durkee (1957) scale assess a person's perceptions of his or her own hostility or aggressiveness. It may be the case that lonely people see themselves as generally hostile individuals, but still feel that violence is an unacceptable form of behaviour. Thus they may feel guilty about their aggressive feelings, and in fact one of the subscales of the Buss-Durkee measure is guilt (e.g., 'When I do wrong, my conscience punishes me severely').

A reciprocal model of loneliness and hostility

If loneliness and hostility are linked, how is such a link formed? Rubin (1982) suggests that the social skills necessary to make and keep satisfactory friendships are acquired as early as nursery school, and when the right skills are not learned, the result may be withdrawal and loneliness. At the same time, however, studies of teenagers and college students indicate that lonely people also lack interest in other people, are cynical and feel pessimistic about the future of any relationships they might form (Brennan, 1982; Jones, 1982). Brennan & Auslander (1979, p. 200) report that lonely adolescents come from families manifesting 'an absence of emotional nurturance, guidance, or support. The climate is cold, violent, undisciplined, and irrational.' In social interactions with strangers, lonely people refer to the other person less, ask fewer questions, and generally pay less attention to the other person (Jones et al., 1982). Thus lonely people manage to 'turn off' potential friends, which often leads to rejection and subsequent social isolation. The present findings also suggest that lonely people are likely to have more extreme and negative reactions to such rejection, and may even respond with overt aggression. We would suggest, therefore, that hostility is not only a consequence but also a cause of loneliness. According to this model, loneliness and hostility are determinants of each other, such that lonely people create negative social environments for themselves due to their poor social skills, thus leading to rejection and isolation from others, which in turn leads to further feelings of loneliness and pessimism. Over time this vicious cycle becomes more and more difficult to break, as the now

chronically lonely individual begins attributing his or her loneliness internally (Peplau et al., 1979; Perlman & Peplau, 1981) and engages in even more isolated activities such as reading and working hard and even to overindulgence in alcohol and drugs as an escape (Nerviano & Gross, 1976; Paloutzian & Ellison, 1979).

While this reciprocal model of the relationship between loneliness and hostility paints an admittedly gloomy picture of the lonely individual's lifestyle, there is good evidence that external interventions to reduce the negative social behaviour associated with loneliness can be effective in children (Jakibchuk & Smeriglio, 1976) as well as in adults (Jones et al., 1982; Rook & Peplau, 1982). The importance of the present results is that they suggest that such interventions may also be potentially beneficial in reducing aggression and violence, particularly against women.

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