

A cross-cultural study of obedience

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Using Milgram's paradigm, 48 Jordanian college students were tested for obedience. It was found that the experimental subjects gave significantly more shocks than the control subjects. Unlike the experimental subjects, the control subjects were free to either give or not give shock. There was no difference in obedience rate between male and female subjects. In terms of overobedience, 62.5% of the experimental and 12.5% of the control subjects continued to deliver shock to the end of the shock scale.

The phenomenon of obedience has been extensively studied in the United States, mainly by Milgram (1974). Milgram's basic paradigm has been to ask teacher subjects to administer electric shock to confederate learners whenever the latter make errors in a simulated paired associate task. Unknown to the teacher, no real shock is ever given to the learner. However, a high proportion of the teacher subjects continue to deliver "shock" of sufficient intensity to cause conceivably severe bodily damage, if not possible death. In fact, Milgram (1963) found that 65% of his subjects not merely obeyed but actually overobeyed in that they continued to administer punishment to the end of the shock scale. This meant that these subjects gave shock well past the shock level at which the confederate learners were instructed not to make any sound. Milgram's experimental work on obedience has been replicated in the United States (cf. Sheridan & King, 1972), in Germany (Mantell, 1971), and in Australia (Kilham & Mann, 1974). Until recently, all obedience studies have been based on samples drawn from similar European-derived cultures using adult subjects. Shanab and Yahya (1977) extended Milgram's results to a Middle Eastern culture and used preadult subjects (6-16 years). Shanab and Yahya found that 73% of their Amman, Jordan, sample continued to the end of the scale. This is to be compared to 65% of Milgram's New Haven sample, 54% of the Sydney, Australia, sample, and 85% of the Munich sample.

It is obvious from these studies that the phenomenon of obedience, or actually overobedience, appears to be

This research was carried out by the second author as a special post-master's research project under the direction of the first author who was on a sabbatical leave at the University of Jordan, Department of Psychology, Amman, Jordan, during the 1975-76 academic year. Reprint requests should be sent to: Mitri E. Shanab, Department of Psychology, California State University, Fresno, California 93740.

a universal one, in that it cuts across various cultures as well as various age groups. The significance of the Jordanian study lies in its demonstrating not only that obedience is culture free, but that obedience and overobedience occur at an early age. The results of that study, however, failed to show any systematic relationship between obedience and sex on the one hand and obedience and age on the other. While several studies have shown no sex differences (Milgram, 1974; Shanab & Yahya, 1977), other studies have found that females are more obedient than males (Sheridan & King, 1972), while still others have found males to be more obedient than females (Kilham & Mann, 1974).

The present study was designed to extend Milgram's work on obedience to a Middle Eastern culture using subjects comparable in age to those used in the American and other Western samples. An equal number of males and females was used in both experimental and control conditions to provide a further check on the effects of sex on obedience.

METHOD

Design

A 2 by 2 factorial design was used, combining sex and two kinds of punishment instructions (the subject was either asked or given a choice to deliver shock to a confederate learner whenever the latter made a mistake).

Subjects

The 48 subjects were 24 males and 24 females enrolled in introductory psychology classes at the University of Jordan, Amman, Jordan.

Apparatus

An electric, battery-operated shock generator approximately 18 in. (45.72 cm) long and 12 in. (30.48 cm) high was used. It had a long cord with straps at the end that could be attached firmly to the subject's wrist for delivering shock. A 20-step dial was installed on the front referring to the severity of the shock. To insure that the subject realized this, the 20 steps were divided into five levels and were clearly labeled. The labels

used were as follows: (1) slight shock for Steps 1-5, (2) strong shock for Steps 6-9, (3) intense shock for Steps 10-13, (4) dangerous shock for Steps 14-16, and (5) extremely dangerous shock with the traditional head-skeleton sketch for Steps 17-20.

Procedure

Each session consisted of three individuals: the female experimenter, the subject (or teacher), and the (confederate) learner. All female subjects were paired with a female learner, while a male learner was used for the male subjects. The learners were psychology majors, approximately 20 years of age. They were well trained and played their roles effectively. Assignment of the subjects to the learners was random. The experimenter's role was played by the second author. Before starting the session, the experimenter gave both the learner and the teacher a brief talk on the relationship between learning and punishment, stressing the need for determining the effects of punishment on learning, particularly in view of the sparsity of scientific studies in that area.

By writing the word "teacher" on two separate papers and asking the subject first to read what was on the paper that he/she chose, it was insured that the naive subject would always be the teacher. The teacher was then seated before the apparatus in a separate room, and the learner was placed in an adjoining room whose door was left ajar so that the subject would hear the learner. The experimenter stayed in the same room with the subject. Before starting the learning task, the subject was given pretraining trials that consisted of having him/her read 10 paired associates to the learner and then test the learner by presenting the first pair with four alternatives, which included the correct associate. The learner was to give randomly three correct responses. Meanwhile, the subject was to operate the dial on the shock generator, although it was made clear that during these pretraining trials the apparatus was ineffective and that the purpose was merely to familiarize the subject with the general procedure of the study. Moreover, the subject was instructed to start with Step 1 and increase the level one step each time the learner made a mistake. Following these pretraining trials, the subject was given a slight electric shock to add realism to the situation.

Proper training followed this. The subject read to the confederate learner a list consisting of 30 paired associates. The first member of each pair was a noun and the second an adjective. After reading the list, the teacher read a noun and followed it by four alternative adjectives including the correct one. The learner was to choose the correct alternative and to say it out loud. During the experiment, the subject was reminded to increase the shock level by one step each time the learner made a mistake. Moreover, the subject was asked to announce loudly the level of shock in terms of steps he/she was about to deliver. Reference to voltage was deliberately omitted from all instructions to the subjects. The subjects in the control group were instructed to act in an identical manner in case they chose to punish the learner. In other words, the control subjects were free to give or not to give shock at any time during the experiment. After the first shock was chosen, each succeeding shock had to be one step higher than the preceding one. However, the control subjects were told that they could continue with the experiment without giving any shock at all. All subjects were told that the shocks they delivered would not cause any tissue damage.

The ratio of incorrect to correct responses by the learners was 2:1. In other words, in each case the learner would (randomly) make a total of 20 incorrect responses. After Step 14, the learner was also to pound on the wall, and at Step 16, to scream with pain. Following this step, the learner was to remain completely silent. Naturally, the learner never received any electric shock throughout the experiment.

In case the experimental subject voiced any objection either by asking the experimenter whether it was necessary to continue

to deliver shocks to the learner or by expressing dissatisfaction with continuing with the shocks, the experimenter gave the following answers in the order given: (1) "Please continue," (2) "the experiment requires you to continue," (3) "you have no other choice but to continue." However, if the subject stated that the learner was not answering, the experimenter replied, "A no response is an incorrect response. Please continue as instructed until the end of the list."

All subjects were fully debriefed at the conclusion of the experiment. No subject appeared to be affected adversely throughout the experiment.

RESULTS AND DISCUSSION

All analyses are based on mean level of shock given and the percentage of subjects giving such shocks.

As Table 1 shows, the experimental subjects, regardless of sex, delivered significantly more shocks than the control group, indicating that obedience is a function of compliance with an authority's orders. A two-way analysis of variance test performed over all 20 shock levels, which presumably denote overall obedience, yielded a highly significant type of instructions effect [$F(1,44) = 42.42, p < .001$]. Neither sex ($F < 1$) nor the Sex by Instructions interaction effects were significant [$F(1,44) = 2.27, p > .05$]. A similar analysis of variance performed on the last seven shock levels, which presumably denote overobedience, yielded again only significant instruction effects [$F(1,44) = 35.60, p < .001$]. Both the sex [$F(1,44) = 2.18, p > .05$] and the Sex by Instructions interaction effects ($F < 1$) were nonsignificant.

An examination of Table 1 reveals that there was no difference due to sex in terms of the number of obedient subjects who administered shock beyond Level 14, that is, those who continued until the end of the shock scale. The results of a chi-square test on the frequency of overobedience (Levels 14-20) yielded a highly significant effect [$\chi^2(1) = 14.18, p < .01$], indicating that significantly more experimental than control subjects overobeyed. Very similar effects were obtained based on the number of subjects who continued until the end of the scale [$\chi^2(1) = 10.76, p < .01$]. Thus, 62.5% of the experimental and 12.5% of the control subjects continued to deliver shock until the last step in the shock scale. These proportions support and extend the

Table 1
Mean Shock Levels Administered and Frequency of Overobedience

	Treatments			
	Experimental		Control	
	Male	Female	Male	Female
	Mean Number of Shocks			
Over all 20 levels	17.33	18.58	8.33	4.17
Over last 7 levels	5.92	4.75	1.58	.67
	Frequency of Overobedience			
Levels 14-20	8	10	3	1
Level 20	6	9	2	1

previous findings based on Jordanian children (Shanab & Yahya, 1977) and compare nicely with the other studies based on Western cultures. Thus, the percentage of overobedience observed in adult subjects was: 85%, 65%, 62.5%, and 54% for the German, American, Jordanian, and Australian samples. These percentages are to be compared with 73% overobedience among Jordanian children.

The absence of any sex differences supports the similar findings reported by Milgram (1974) and Shanab and Yahya (1977). However, these differences are at odds with those of the Australian study (Kilham & Mann, 1974), in which it was found that significantly more males (68%) than females (40%) overobeyed, as well as with the findings reported in the United States study (Sheridan & King, 1972), in which more obedient females (100%) than males (54%) were found. These differences cannot be attributed to any cultural differences since the sex variable had no effect in two widely diverse cultures, such as the Jordanian and American cultures. Similarly, age cannot be a factor since equal rates of obedience were found among children as well as adult subjects of both sexes. It seems more likely that procedural differences are responsible for these conflicting findings. For example, Kilham and Mann (1974) have suggested that perhaps the lower incidence of obedience among their female subjects was due to the fact that female subjects were more apt to side with the female victim in defiance of the "aggressive" male experimenter. This would imply that more obedience would be observed if a female experimenter were used along with female subjects and female victims, which would in turn imply a reduction if not an elimination of any sex differences. This prediction receives support from both the present study and a previous study (Shanab & Yahya, 1977), in which a female experimenter was used all the time while the subjects and victims were always of the same sex.

Yet, unlike the Kilham and Mann (1974) study, some studies, in which male experimenters were paired with female subjects, reported either a lack of difference between obedient male and female subjects (Milgram, 1974) or a difference in the opposite direction, in that more obedient females than males were observed (Sheridan & King, 1972). This discrepancy in findings is difficult to resolve, especially when other facts about the various studies are considered. For example, no sex difference was obtained by Sheridan and King (1972) when shock duration was the dependent variable.

Similarly, Kilham and Mann (1974) reported a nonsignificant difference between males and females in the transmitter condition when level of shock rather than percent obedience was the dependent variable. In other words, when subjects merely transmitted orders but did not carry them out, there was no difference between males and females in terms of the level of shock they gave, but a significantly higher percentage of obedient males than females was found in this condition. On the other hand, when the dependent variable was level of tension exhibited by obedient subjects, both Milgram (1974) and Shanab and Yahya (1977) reported more tension among female than male subjects. The latter findings would seem to imply that obedient women are more concerned about their actions than obedient men. If this is the case, one would predict that female subjects would be less likely than male subjects to inflict pain upon an authentic victim. Yet, the study by Sheridan and King (1972) yielded opposite results. It will be recalled that 100% of their female subjects as opposed to 54% of the male subjects administered actual shock to a live puppy until the end of the shock scale. These results only serve to compound the difficulties that already exist concerning the problem of sex differences in the rate of obedience. As noted earlier (Shanab & Yahya, 1977), the determinants of obedience, or overobedience, are not well known because of the sparsity of recent studies investigating this important social phenomenon. Clearly, considerably more empirical work needs to be carried out investigating obedience as a function of both environmental and subject variables.

REFERENCES

- KILHAM, W., & MANN, L. Level of destructive obedience as a function of transmitter and executant roles in the Milgram obedience paradigm. *Journal of Personality and Social Psychology*, 1974, *29*, 696-702.
- MANTELL, D. M. The potential for violence in Germany. *Journal of Social Issues*, 1971, *27*, 101-112.
- MILGRAM, S. Behavioral study of obedience. *Journal of Abnormal and Social Psychology*, 1963, *67*, 371-378.
- MILGRAM, S. *Obedience to authority*. New York: Harper & Row, 1974.
- SHANAB, M. E., & YAHYA, K. A. A behavioral study of obedience in children. *Journal of Personality and Social Psychology*, 1977, *35*, 530-536.
- SHERIDAN, C. L., & KING, R. G. Obedience to authority with an authentic victim. *Proceedings of the American Psychological Association*, 1972, *7*, 165-166.

(Received for publication January 10, 1978.)