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The Effect of Gun Handling on Aggression as a Function of Cue Saliency, Arousal & Gender

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THE EFFECT OF GUN HANDLING ON AGGRESSION AS A FUNCTION OF CUE SALIENCY, AROUSAL AND GENDER

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THE EFFECT OF GUN HANDLING
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Acknowledgments

When Emperor Wu held an interview with Bodhidharma, he described all he had done to promote the practice of Buddhism. He asked Bodhidharma what merit he had gained by this. Bodhidharma replied, "No merit whatever." This discouraged the Emperor so greatly that he asked, "What, then, is the sacred doctrine's first principle?" Bodhidharma answered, "It's justy empty; there's nothing sacred." "Who, then, are you," asked the Emperor, "to stand before us?" Bodhidharma replied, "I don't know."

- Alan Watts, The Way of Zen

"White man school teach white man ways."

- Seminole (Miccoussekee) Indian

Knowledge without a compassionate and guiding life-force is a meaningless accumulation of disjointed symbols. I wish to acknowledge some people who have expanded my awareness and who, each in their own way have touched me deeply. May they always know my love for them and the beauty I see in them.

Danny Brown Cheryl Chandler Elliot Herman
Diana Brown Jane Drennan John Linden Greg Wilmoth
Connie Barclay Steve Finklestein Ernie Owen
To Billy Cypress, Robert Tiger, Charlie Billy and William Cypress.
My students and my teachers

To Marc Dingfelder and Dave Skaer; men of compassion.

Special thanks to Ed Turner for his time and patience in collecting the data and for his uncanny ability to lie.

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Literature Review

The traditional construct of aggression as postulated by Miller (1941) has as its basis a frustration-aggression model in which frustration is a necessary antecedent condition to and the primary causative factor of aggression. The literature is replete with studies supporting and expounding on this theme. The construct has assumed a longevity and stature rarely enjoyed in psychological experimentation.

Many recent social and learning theorists contend, however, that the research on aggression has concentrated on the displacement and satisfaction of an instinctual aggressive drive to the exclusion of environmental and learning cues which may influence aggressive and violent reactions. The recent theories of Bandura and Berkowitz have lent more flexibility to the understanding of aggression and have allowed for a more expansive interpretation of its causative factors.

Berkowitz (1967) has stated that many aggressive actions are mediated by the stimulus properties in the environment and that violence, in part, can be seen as a function of specific aggression eliciting cues. The classic study by Berkowitz and LePage (1967) was concerned with the use of weapons (guns) as aggression eliciting stimuli.

Two groups of subjects were asked to make a list of suggestions that a publicity agent could use to increase the sales of a popular singer. Each subject was assigned a partner who was actually a confederate. The subjects were told that as their partner read each suggestion on the list, they would determine its worth by administering or withholding an electric shock to the subject. The subjects were instructed that the more shocks they received the less merit their list was deemed to have. Predetermined amounts of shock were administered to each group. One group was given seven shocks and that group was termed the "angry group", while the other group received only one shock and was termed the "non-angry group." After each subject received the number of allotted shocks, he or she changed places with the confederate. Shocks were administered by a telegraph key that was placed on a table in a separate (shock) room. At various times the table was left empty or it had, next to the key, badminton raquets and other neutral objects, while at other times there was a 12-gauge shotgun and a snub-nose .38 revolver. The presence of all objects was explained by saying that they were left over from another experiment and they were then moved aside. All subjects were then presented with a uniform list of suggestions that a publicity agent could use to increase the sales of a popular singer. They were told

that this list was prepared by their respective partners and that they were to judge this list the same way theirs was judged.

The most significant effect found for any one group was for the angry group that saw the guns. They gave more shocks and for a longer duration than any other group. Berkowitz claims that these results support his contention that for an emotionally aroused person a weapon may be a cue which elicits aggression, even if the weapon itself is not used.

Berkowitz and LePage's study, as described above, has received its most cogent and dismembering criticism from Page and Scheidt (1971). They claim that the "weapons effect" obtained by Berkowitz and LePage was not so much a result of an actual aggression-eliciting cue value of the gun as it was of an effective conveyance of certain demand characteristics which were implicit in the experimental situation. One of the main points of criticism made by Page and Scheidt is that by being placed next to the shock button, the gun blatantly telegraphed the experimenter's expectation of a heightened level of aggression. Page and Scheidt argue that sophisticated subjects or those who understand experimental deception are more able to pick up on demand characteristics and are therefore more likely to act upon them than naive subjects. Their results seem to support their interpretation. They were successful in only

one of three attempts at replicating Berkowitz and LePage's findings. They attributed the effect to the sophistication of the subjects in that particular part of the study, due to the subjects being aware of experimental deception. This awareness was the only difference between the successful and the unsuccessful attempts to produce the "weapons effect."

As a rebuttal, Berkowitz has claimed that awareness of the experimental variables does not in itself prove that the subjects knew the study's hypothesis or were motivated to confirm it. Berkowitz and LePage claimed that subjects who became aware of the deceptions practiced on them tended to be less aggressive and give less shock. They also stated that the post experimental interview conducted by Page and Scheidt steered the subjects' doubts in the direction of the questions.

Turner and Simons (1974a, 1974b, and Simons and Turner, 1974) have focused on this problem of subject sophistication and awareness in relation to the weapons effect. Their amassed data is supportive of Berkowitz and LePage's results and represents the weapons effect as a replicable phenomena in unsophisticated subjects. The studies conducted by Turner and Simons offer results which are directly conflicting with those of Page and Scheidt and therefore merit careful consideration and an attempt to resolve the conflicting interpretations.

In their first study, Turner and Simons (1974a) replicated Berkowitz and LePage's study (1967), with the addition of three levels of subject sophistication and two levels of evaluation apprehension. Subjects in all conditions were angered by seven shocks (since a weapons effect was produced only in the seven shock condition of the Berkowitz and LePage study) which were received from their partner under the guise of an evaluation of their work. The subjects, in turn, were required to evaluate their partner's work by use of shock.

The three levels of subject sophistication (low, medium, and high) were introduced by a confederate who met the subjects in the waiting room, ostensibly after just participating in the experiment that the subjects had volunteered for. The confederate either imparted no information concerning the experiment (low sophistication), implied that the experimenter may not be testing what he claimed to be (medium sophistication) or strongly suggested that the experimenter was using the guns in the next room to change subject's reactions (high sophistication). After the sophistication manipulation was administered, the procedure then followed the Berkowitz and LePage design until just before the subject was to be evaluated by his "partner." At this point, the subject was given one of the evaluation apprehension manipulations. In the high evaluation condition the subject read instructions which informed

him that the experiment would tell something about the subjects psychological adjustment. In the low evaluation apprehension condition, the instructions informed the subject that he was merely participating in a pretest control group and that his data was going to be averaged and pooled together with other subjects. The assignment to this manipulation was also random.

The procedure once again reverted to that of the original study. About two minutes after the evaluation apprehension manipulation, each subject received seven shocks spaced approximately one second apart. The subject was then taken into the weapons room where he was to shock his/her partner. While the subject changed rooms he was told that he would not meet his partner as any interaction might upset the partner's GSR recording. This explanation was the same as that used by Berkowitz and LePage but differed from that of Page and Scheidt. The subject was then reminded of the partner's task and told to evaluate him as he had been evaluated, using shock as an assessment of the partner's performance. The subject then proceeded to evaluate his partner. Following the experiment, a funnel type questionnaire similar to that used by Page and Scheidt was given to each subject to test for his suspicions and awarenesses during the experiment. Turner and Simon's results were contradictory to the suggestion of Page and Scheidt that non-apprehensive subjects who realized that the

weapons were supposed to influence their responses (termed as being sophisticated) are more likely than other subjects to give shocks in the presence of guns. The results reported by Turner and Simons indicated an opposite effect in which non-apprehensive subjects who were more sophisticated about the purpose of the weapons gave fewer shocks instead of more. These results are supportive of the weapons effect being an observable and real phenomena and offer reasonable support to the general procedure employed by Berkowitz and LePage.

A second study was conducted as a near replication of the first, described above (Simons and Turner, 1974). The study employed a 2 (evaluation apprehension) x 2 (weapons exposure) x 2 (level of suspicion and differed from the first study in that one level of subject sophistication (medium) was not included). The procedure used was the same as in the first study except that the level of sophistication was determined by the responses on the questionnaire given at the end of the experiment rather than by the amount of information given to the subject by the confederate. The results were consistent with those reported in the first study. As predicted, the weapons effect was significant only for those subjects who were non-apprehensive and unsophisticated. These results contradict, as did the results of the first Turner and Simons study, the contention

of Page and Scheidt (1971) that subjects must be sophisticated in order to display a weapons effect.

The third major piece of research conducted by Turner and Simons (1974b) was done in a naturalistic setting using horn honking as the main dependent variable and indicator of aggression. Three levels of aggressive stimulation were used, in which a confederate drove a pick-up truck with a gun rack mounted in the rear window. In the first condition the gun rack was left empty (control). In the second condition a .303 calibre rifle was placed in the gun rack and a bumper sticker, designed to lower the perceived aggressiveness of the rifle, was placed on the rear of the truck (Rifle and Friend Sticker). The gun remained in place for the third condition but was paired with a bumper sticker designed to increase the perceived aggressiveness of the rifle (Rifle and Vengeance Sticker). All subjects were drivers who received a uniform level of frustration by being obstructed at a signal light by a confederate driving the pick-up truck.

The procedure was implemented in the same way for each trial. The confederate driving the pick-up truck timed his arrival at an intersection to synchronize with the changing of the light to red. If a male driver of a privately owned late model vehicle came to a complete stop behind the confederate before the light changed green, the confederate started the trial. When the light turned green the

confederate faced straight ahead and held his foot to the brakes (the confederate held his foot to the brakes so that the driver of the car behind him could see, by the brake lights, that there was no mechanical failing which might keep the truck from moving). An observer standing at the intersection started a stop watch when the light turned green and recorded the latency and frequency of honks made by the subject. The results indicated a significantly higher honking rate for the Rifle-Vengeance Sticker condition than for either of the other two conditions. No significant difference in rate was found between the two conditions of Rifle-Friend Sticker and control.

This study was replicated by Turner and Simons in order to take into account a limitation inherent in the study just described: the rifle and the vengeance bumper sticker were not independently manipulated. Without this manipulation, the findings of the study may have been attributed to the effect of either the gun alone, the vengeance sticker alone or the interaction of both. Therefore, the rifle and vengeance bumper sticker were independently manipulated in this replication in order that their interactive effects on horn honking could be examined.

Each subject was exposed to one level of the weapon (Weapon vs. No Weapon) and one level of the bumper sticker (Vengeance Sticker vs. No Sticker). The procedure of the confederate and the observers remained the same. The

results showed that the rate of horn honking in the Rifle-Vengeance Sticker condition differed significantly from the average of the other three Rifle-Sticker conditions while the other three conditions did not differ significantly from each other.

The studies conducted by Turner and Simons in a naturalistic setting differ somewhat from all previously cited studies in that the sticker and rifle elicit aggression in a different manner from the weapons presented in the previous studies. In the present study the cues provide information about desirable vs. undesirable attitudes of the "victim" which were not available to the subjects in the previous studies. As a result, the field studies done are interpretable in more than one way. In keeping with Turner and Simons explanation, the results may legitimately demonstrate a weapons effect. It is possible, however, that the results merely show a greater tendency to aggress against people who are perceived as having undesirable attitudes. It is impossible from these results to know whether either explanation by itself or a combination of them is needed to account for the findings. It is clear, however, that demand characteristics do not account for the results since none of the subjects were aware that they were in an experiment.

The studies done by Page and Scheidt and Turner and Simons were primarily concerned with demand characteristics

and subject awareness in relation to the weapons effect and whether or not these two intervening variables invalidated any observed "weapons effect." Different methods of testing the validity of, and perhaps extending the research on, the "weapons effect" remain to be tried. No attempt has yet been made to vary the saliency or accessibility of a weapon to a subject. Up to now all studies have used only two conditions of saliency of the weapon: no gun vs. seeing a gun. Varying the amount of exposure to a weapon (i.e. no gun vs. see gun vs. handle gun) may provide observable differences in aggressiveness, relative to each level of exposure which could possibly further test the validity of the "weapons effect," provided that demand characteristics can be controlled. It is expected that subjects who handle a weapon will display greater aggression than those who merely see a weapon and that these, in turn, will display greater aggression than those who do not see the weapon.

In addition, nothing is known about differences between the sexes in relation to the weapons effect. All previous studies have used either all male subjects or have not examined gender as a variable. Without prior evidence it is naively expected that males will respond more aggressively than females but that a weapons effect will be observed for both sexes.

As found by Berkowitz and LePage, it is expected that subjects who are aroused will respond more aggressively

than subjects who are non-aroused. The present study examines the various levels of cue saliency, gender and arousal as factors contributing to the weapons effect.

Method

Subjects

Eighty subjects, 40 males and 40 females, were selected from the introductory and preliminary courses in Psychology. Most subjects received extra course credit for their participation.

Apparatus

A standard BRS Foringer Shock Generator was used to supply a one milliamp shock to all subjects. Shock was administered by a table switch which transmitted the voltage to the finger electrodes attached to the subjects. A telegraph key was used for the subject to administer shocks to the "confederate." It was hooked up to a counter in another room. A .22 triumph revolver (unloaded and carefully checked before its use) and a Hunter stopwatch were used along with a standard 18" diameter bullseye target in certain experimental cells.

Procedure

In order to guard against the conveyance of demand characteristics, all subjects were instructed that they would be participating in two experiments when they were asked to sign up. The cover story of two experiments was perpetrated by the experimenter and the instructor of the class in which subjects were recruited. The experimenter

addressed the class while it was in session and asked for volunteers to be used in his study. He told the students that the study might involve some mild shock which was carefully controlled so as not to be painful. As soon as the experimenter finished his appeal for subjects, the class instructor interjected (as previously agreed) and asked the experimenter, with the attention of the class still focused on him, if he could use the same subjects for a study of his own. The instructor stated that his study would only take a few minutes and could be run immediately preceding or right after the experimenter's and should not interfere with it. The experimenter readily agreed and proceeded to pass around a time sheet for the students in the class to sign up for a specified hour. The first study, supposedly conducted for the instructor, was actually intended as the prior condition of exposure to cue saliency. In this part of the experiment each subject was randomly assigned to one of three categories: "no gun" condition, "see gun" condition or "handle gun" condition. This procedure was used in the hope that the subject would not perceive any connection between his or her contact with the weapon and the administration of shocks to another person.

When the subject arrived for the experiment, he/she was told that the instructor's experiment would be conducted

first, since the partner for the experimenter's study had not yet arrived. A second experimenter escorted the subject to the room (across the hall) where he/she would participate in the instructor's experiment.

For each condition of cue saliency a different task was presented to the subject. For the "no gun" condition, the subject was seated at a table and given a pen and paper by the second experimenter. The experimenter explained to the subject that he was interested in student attitudes toward abortion and the reasons they gave for these attitudes. The subjects were asked to write down several reasons which were important to them either favoring or opposing abortion (see Appendix A for the specific instructions). For the "see gun" condition, the subject was seated at the same table and a .22 revolver was placed on the table before him/her. The subjects were asked to write several reasons which were important to them for or against gun control (see Appendix A for the specific instructions). In the "handle gun" condition, subjects were told that the experimenter was interested in determining the differences between males and females in a simulated condition involving the use of a gun. It was explained that the results would be of interest to law enforcement agencies. The subjects were then asked to draw the gun from a holster, turn, aim and fire at a human silhouette target placed on the opposite wall. Subjects were ostensibly clocked for their reaction

time by use of a standard Hunter stop watch (see Appendix A for the instructions). The gun was at no time loaded with any kind of bullets, real or blank. By firing, it was meant to merely go through the action of squeezing the trigger and simulate as much as possible a real situation.

As soon as the subject had been run in his/her particular condition of cue saliency, the original experimenter interrupted and informed the other experimenter and the subject that he was running a little late, that the "partner" had arrived, and asked if they might go immediately to the other room to begin his study. This was done without delay.

For the second part of the experiment, subjects from each cue saliency condition were divided into "aroused" and "non-aroused" groups. This part of the study followed, as closely as possible, the procedure used by Berkowitz and LePage (1967). All subjects were told that a second student had been enlisted as his/her partner in this experiment and together they would participate in a task involving their reaction to stress. It was explained to all subjects that they would not be allowed to meet their partner as this may influence a carefully controlled experimental situation. The subject's task was to list nine individuals whom he/she felt would make effective presidents of the country. The partner's task was explained to the subject as requiring a list of nine people whom the partner

had felt contributed the most to the betterment of mankind. For economy and efficiency, this part of the study was manipulated such that there was no need for a confederate. Subjects were told that they and their partner were to evaluate each others lists by the use of shock, with one shock meaning a very good performance and nine shocks representing the worst possible performance and that their GSR responses to their shocks would be recorded. In accordance with the procedure of Berkowitz and LePage, those subjects randomly assigned to the "aroused" group were given seven shocks by their "partners" and those subjects randomly assigned to the "non-aroused" group were given one shock. At this point the Berkowitz and LePage procedures were modified in order to better fit the present study's framework.

The experimenter collected the completed list from the subject and told him/her that his/her task was to be evaluated first. The predetermined shock(s) were administered by the experimenter through use of a concealed table switch, out of view of the subject. After this was done, the experimenter went to the next room and came back with a standardized list of nine people, whom supposedly, the partner had listed as those individuals he/she felt contributed the most to mankind.

The subjects were told to evaluate this list in the same way that his/hers was evaluated, by going down the

list one name at a time and giving a shock for each name listed that the subject felt was a poor response. Subjects were told to administer shocks by depressing the telegraph key which was wired to his/her partner (actually hooked up to a counter in the next room). The number of depressions provided the measure of the dependent variable of aggression (see Appendix B for a detailed description of instruction given to the subjects).

After this part of the experiment was completed, all subjects were asked to respond to a list of oral questions modeled after the post-experimental interview used by Page and Scheidt (1971). These questions evaluated the subject's levels of awareness of the descriptions and of the experimenter's hypotheses (see Appendix C for the list of questions given the subjects). Those subjects deemed sufficiently aware to offset any valid results were discarded in the analysis of the study.

Design and Analysis

The design used for analysis of the data was a between subjects, 2 (aroused versus non-aroused) x 3 (levels of cue saliency) x 2 (males versus females), analyses of variance. Table I illustrates this design. The dependent variable was aggression, operationally defined as the number of depressions counted off the shock key made by the subjects. Results were analyzed for interaction effects as well as main effects.

Table I

3 x 2 x 2 Factorial Design

used in the analysis of the data

N = 72, n = 6

	Cue Saliency 1	Cue Saliency 2	Cue Saliency 3
Aroused	Males / Females	Males / Females	Males / Females
Non-aroused	Males / Females	Males / Females	Males / Females

Results

The results of an analysis of variance of the data are reported in Table II which shows the F ratios for all main effects as well as their interactions. As seen in the table, main effect for arousal is significant beyond the .01 level. This supports the hypothesis that subjects who are aroused (receive seven shocks) will respond more aggressively than those who are non-aroused (receive one shock). Both the main effect for sex and the main effect for cue saliency were not significant. The arousal x sex interaction was not significant. The arousal x cue saliency interaction was also not significant. The sex x cue saliency interaction indicates a trend in the data (see Figure I) but was still not significant at the .05 level. The second order interaction of arousal x sex x cue saliency was significant at the .01 level. A graphed representation of the results for both the main effects and their interactions is provided by Figure I.

A Scheffe's Test for Multiple Comparisons was computed on the treatment sums of all cells as a post hoc procedure. The significant F ratios found by this procedure are listed in Table III. The difference between aroused males who did not see the gun (C 1) and aroused males who saw the gun

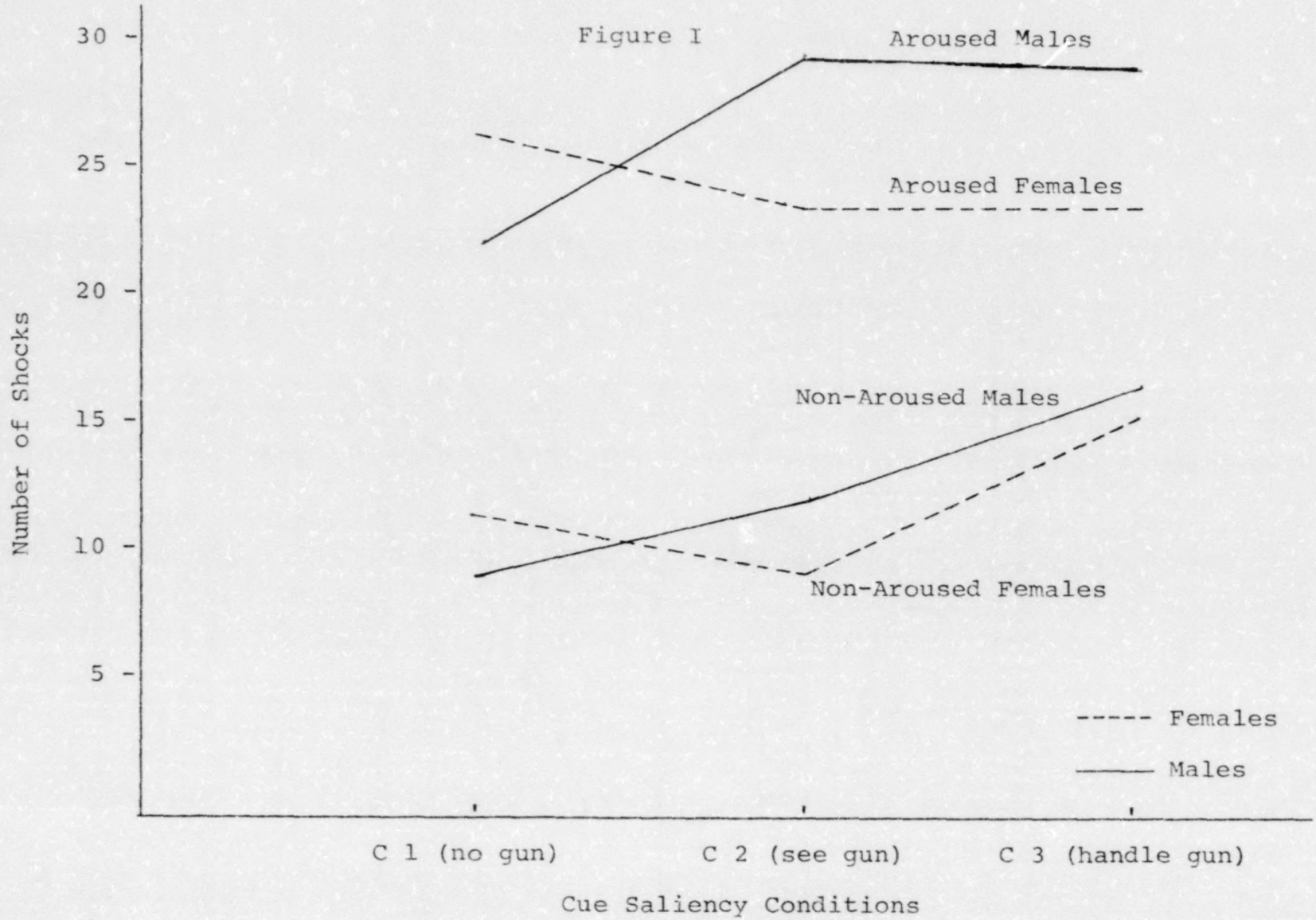
Table II

Summary Table for Analysis of Variance

Source of Variance	Sum of Squares	d.f.	Mean Square	F ratio
Arousal (A)	86.680	1	86.680	85.06*
Sex (B)	1.125	1	1.125	1.10
Cue Saliency (C)	4.195	2	2.098	2.06
A x B	.348	1	.348	.34
A x C	2.683	2	1.342	1.32
B x C	5.247	2	2.624	2.57
A x B x C	691.558	2	345.779	339.33*
Within Treatments	61.164	60	1.019	
Total	853.00	71		

*Significant at the .01 level

Figure I


30
25
20
15
10
5
Number of Shocks
Aroused Males
Aroused Females
Non-Aroused Males
Non-Aroused Females
----- Females
——— Males
C 1 (no gun)
C 2 (see gun)
C 3 (handle gun)
Cue Saliency Conditions

(C 2) was found to be significant at the .05 level. Also, the difference between aroused males who did not see the gun and aroused males who handled the gun (C 3) was found to be significant at the .05 level. The comparison between non-aroused males who did not see the gun and non-aroused males who handled the gun was also found to be significant at the .05 level. These results are supportive of the hypothesis (only for males) which states that subjects who are exposed to the weapons will respond more aggressively than subjects who are not exposed to weapons. No significant differences were found for females between any of the conditions of cue saliency within each level of arousal.

Table III

Significant F ratios as reported

by Scheffe's Test for Multiple Comparisons

Comparison	F ratio
C 1 vs. C 2 (aroused males)	4.004*
C 1 vs. C 2 & C 3 (aroused males)	4.67*
C 1 vs. C 3 (non-aroused males)	4.004*

*Significant at the .05 level

Discussion

The results as reported in the previous section lend themselves to some interesting and novel interpretations. Aroused males who did not see the gun were not as aggressive (they shocked their "partner" less) as the aroused males who saw or handled it. The degree of exposure to the weapon indicated no difference in aggression for aroused males. The difference was observed only between those who were not exposed to the gun (C 1) and those who were (C 2 and C 3). For non-aroused males only those who actually handled the gun (C 3) differed significantly from those in the no gun condition.

The data suggest a revised model of the weapons effect, in which aggression is a function of the additive properties of cue plus arousal (Aggression = Cue + Arousal). Thus, aggression is directly proportional to the extent of contact with the weapon and the level of arousal-anger present in the individual. The pattern of data is consistent with this model with one exception: there was no greater aggression for the aroused males who handled the gun than for the aroused males who merely saw the gun. This may be understood as a result of a "ceiling" effect in which subjects will limit their level of aggression so that it does not

exceed the level which was imposed on them by their "partner." This ceiling effect has been reported by Fraczeck and Macaulay (1971) and others as an aspect of a "norm of reciprocity." This norm simply states that an individual will tend to match the level of aggression which he or she has experienced without significantly exceeding it.

The results for the non-aroused males contradicts the explanation of Berkowitz and LePage that there is no aggression without a state of high arousal (more shocks) even if the weapon is present. It may be that the extent of contact with the weapon or cue is another means of facilitating a state of high arousal while shock is one way of doing so.

The model as stated above is only applicable to males observed in this study. Females in the present study were not observed as displaying a weapons effect. No significant differences were found between conditions of cue saliency for either aroused females or non-aroused females. However, the responses of the females display a trend which merits some comment. The responses of the females who were exposed to the gun (C 2 and C 3) are patterned fairly close to the responses of the males who were exposed to the gun (see Figure I). In the no gun (C 1) condition, though, both the aroused and non-aroused females tended to respond more aggressively than males. This may be due to the task involved in the no gun condition, which required all subjects to state their views for or against abortion. The

topic of abortion may have been more controversial and more "arousing" to females than it was to males. Possible implications for future research should be noted.

The main contention of Page and Scheidt (1971) was that the "elusive" weapons effect obtained by Berkowitz and LePage was due more to the conveyance of demand characteristics than it was to the experimental manipulation of the variables involved. The results of the present study are not interpretable from the standpoint of demand characteristics. This variable, always a major hazard in experimentation, was carefully considered prior to the undertaking of this study. The present experiment attempted to eliminate demand characteristics as an explanation by separating exposure to the weapons as though it constituted a separate study unrelated to the rest of the experiment. Almost without exception, subjects in the experiment reported no suspicion of the two "studies" being connected and seemed quite surprised when told that they were. To test the level of suspiciousness or awareness of the demand characteristics, a careful post-experimental interview modeled after that of Page and Scheidt (1971) was followed (see Appendix C). This questionnaire probed every aspect of deception implicit in the study. All subjects who responded with a four or above on any of the scales testing the level of suspicion (all scales ranged from one to seven) were disregarded in the data analysis. Only three subjects who were retained in

the experiment expressed any awareness of a possible connection between the two experiments (i.e. a score of one to three on question #5 in the interview). All of these subjects were male: one was in the aroused, see gun condition; one was in the non-aroused, no gun condition; and the third was in the non-aroused, handle gun condition. No subject expressed any awareness at all of the experimental hypothesis (i.e. a score of one or greater on question #7).

The present study would be incomplete without some recounting of certain problems and some cautious admonitions concerning the weapons effect and related research. One of the problems encountered in the study was task selection for the different experimental conditions. In the no gun condition the issue of abortion was used and resulted in a potentially arousing effect for females. In view of this, a more neutral topic would have served the purpose better. The second task choice that deserves some discussion was the assignment to all subjects asking them to compose a list of nine people, preferably well known, whom the subject felt would make an effective leader of the country (this was during the second part of the experiment). All living persons, except the current president, were eligible. While the categories to choose from were quite broad and hopefully replete with reasonable choices, some individuals experienced as much difficulty as the G.O.P. in comprising such a list. This resulted in some subjects composing a

list which they may have felt to be inadequate and consequently believed that the shocks they received were justifiable. It is important to remember that the choice of an unrelated task is not necessarily irrelevant and may have contaminating effects unless carefully chosen.

The results of this study indicate certain significant findings, supportive of a revised model of aggression in relation to the weapons effect. However, these results by no means suggest the weapons effect is irrefutable or easily replicable. There is still room for criticism of much of the research conducted on this phenomena, both confirming and denying, including the present study. The particular qualities and social meaning of weapons may be diluted in a laboratory setting and creative as well as stringent experimentation are needed to control for this. Further exploration of the weapons effect along the lines of relevant personality and social variables is needed. Present research presents a far from definitive picture of the effect of weapons.

Appendix A

Instructions for
first condition of
cue saliency (no gun)

Thank you for volunteering to participate in this study and helping to gather data on an important topic. One of the most controversial issues faced in this country at the present time is the question of abortion and birth control. In this study we are primarily interested in the differences in view of people from a predominately rural region, such as this one, and the view of those in more densely populated urban regions. We are also interested in the differences in view between rural and urban males and rural and urban females. On this sheet of paper, you are to list reasons for and against birth control which you feel are the most important. You have about five minutes to finish the task. Begin when you are ready.

Instructions for
second condition of
cue saliency (see gun)

Thank you for participating in this study and helping to gather data on an important topic. As you can see, placed in front of you is a .22 revolver. Do not touch it. Its purpose is to give you direct contact with a weapon which is widely distributed and easily obtainable. This particular model and type is often refered to as a "Saturday

night special" and is one of the most common handguns sold to the public. In the present study we are interested in the difference of viewpoint between those in a predominately rural region, such as this one, and those in more densely populated urban regions on the issue of gun control. We are also interested in differences between rural males and urban males and rural females and urban females. At the top of your paper, write down all the reasons for and against gun control which you feel are the most important. Please be concise and to the point. You have about five minutes to complete this task. Begin as soon as you are ready.

Instructions for
third condition of
cue saliency (handle gun)

Thank you for coming today and helping us collect data on an important topic. In this experiment we are mainly concerned with the reaction time for drawing and firing a gun for women, as measured against the reaction time for men. The results of this experiment are of interest to law enforcement agencies who want to employ women as active members in their agencies, entrusted with many of the same responsibilities of men. I will demonstrate how you will draw, aim and pull the trigger of the weapon. The gun is not loaded and there will be no discharge when you fire. First you will stand with your back to the wall which has

the target on it, as I am doing now. Then, when I say go you will turn around so that you are fully facing the target, draw the weapon from its holster, aim it at the target, keeping your right arm straight, if you're right handed, with your left hand supporting your right arm at the elbow. As soon as you are in position you are to squeeze the trigger of the gun. This is all to be done in one motion as smoothly integrated as possible. The present study is more concerned with speed than accuracy. Accuracy at this close range is not as crucial as the reaction time taken if the situation was life threatening and called for the quickest response possible. However, I will be standing behind you and mark down any response which appears well off the target area. You will have five attempts plus one practice try. When I say go, you are to execute the movement as I have demonstrated. I will measure the time taken for each response with this stopwatch. Remember, the gun is not loaded, so do not expect a discharge when you pull the trigger. Get into position and wait for me to tell you when to go.

Appendix B

Instructions for all subjects in both the "aroused" and "non-aroused" conditions

Thank you for coming and participating in this experiment. The present study is concerned with individual reactions to physiological stress. Anxiety and stress will be induced by means of shock. The reaction to shock will be measured by a galvanic skin response unit designed to measure physiological reactions produced by different levels of emotional stress. In the next room there is another subject who signed up for this study from a different psychology class. He or she will act as your partner in this experiment. You will not be permitted to see each other as that may affect the task you are about to engage in. On this paper you are to write down the names of nine people whom you feel would make a good president of this country. The person does not have to be a political figure but he or she must be someone whom you feel would make an effective leader. While you are doing that, your partner in the next room will be composing a list of nine people whom he or she feels have contributed the most to the betterment of mankind. Once you both complete your lists your papers

> will be exchanged. You will then evaluate each others list by use of mild electric shock. Whichever of you is evaluated will have these finger electrodes wrapped around the thumb and finger of your left hand. The person who is doing the evaluating of the others list will go down the list one name at a time and for each name that he/she feels is a poor response he or she will administer a shock. A total of one shock or less will indicate a very good performance while a total of nine shocks will indicate the worst possible evaluation. These lists will be used later on in the experiment as will be explained at that time.

Once the preceding had been explained to the subject, the experimenter said he must go to the next room to check on which one of the subjects would be evaluated first. When he returned, he informed the subject that he/she would be evaluated first and proceeded to attach the electrodes. The experimenter told the subject that the partner had been given the list and would begin evaluating. After waiting for about half a minute, the experimenter depressed the floor switch the predetermined amount of times (one or seven) with about three to five seconds between shocks. When the experimenter had finished and waited for another half a minute, he then removed the electrodes and

told the subject that he was going to the next room to get the partner's list. When he came back he gave the subject the standardized list and repeated what the subject was to do.

> Here is the list that was composed by your partner in the next room. You are to evaluate it in the same way that yours was evaluated. You will administer shocks by depressing the shock key placed in front of you on the table. Remember, the list represents those individuals whom your partner feels contributed the most to the betterment of mankind. Read over the list one name at a time and judge it by either withholding shock if you think it's a good response or administering shock if you think it's a poor one. You and your partner's reaction to the shock(s) administered will be used as a variable in the next and last part of the experiment. Begin when you are ready.

Appendix C

Post Experimental Questionnaire

Determining Subject Awareness

1. During the experiment what suspicions, if any, did you have?

2. If you were suspicious, when did you become suspicious and what things made you suspicious?

3. Did you ever believe or suspect during the experiment that I was controlling the number of shocks you received? If you were suspicious, on a scale of one to seven, how suspicious were you?*

4. Being as honest as you can, what did you feel the experiment was about while you were participating in it?

5. Did you ever suspect that the first experiment had something to do with this one? If you did, on a scale of one to seven how suspicious of this were you?*

6. If you thought the first experiment had something to do with this one, what were your ideas about it?

7. My hypothesis was that the gun in the previous experiment would increase your aggression toward your partner. Did you have this approximate idea? If yes, on a scale of one to seven how certain of this were you?*

8. If you thought you knew my prediction about the effect of the gun on your aggression, on a scale of one to seven how cooperative were you with what I was looking for?*

*Subjects who responded with four or greater on any one scale disregarded in the data analysis

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