

Pupillometric and personality test score differences of female aggressing pedophiliacs and normals

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A group of 10 incarcerated female-aggressing pedophiliacs was compared with a control group of inmates by their responses to a sexual deviancy scale and by pupillometrics. It was found that on the sexual deviancy scale, using a cutting score of 43, only one individual out of the 20 involved was misidentified. The results also indicated significant differences in the pupil change responses between the two groups. The nondeviate males consistently dilated to pictures of adult females and the female-aggressing pedophiliacs did not dilate or constrict to the same pictures. Female-aggressing pedophiliacs, on the other hand, most often showed pupil dilation to pictures of immature females, while only half of the nondeviate males showed pupil dilation to the pictures of immature females. It appears, on the basis on this study, that both instruments used have significant value in identifying incarcerated female-aggressing pedophiliacs from other incarcerated but nondeviate males.

This study will report an attempt to investigate nonviolent child-molesting behavior. The primary goal of the study was an attempt to differentiate child molesters from nondeviate males. Differentiation is important, in that, if pedophiliacs can be efficiently detected from "normal" males, then child molesters can be identified without having to catch them "in the act." Diagnosis of a specific sexual deviancy such as child molesting also would make it possible to develop more specific approaches in modifying this behavior. A sexual deviancy scale developed by Marsh, Hilliard, & Liechti (1955) and pupillometrics (Hess, 1965) were the two instruments used in differentiating the molesters from the nonmolesters. These two instruments were selected because they seemed to be the most relevant based on a review of pertinent research. It was hypothesized that the female-aggressing pedophiliacs would show a higher score on the sexual deviancy scale and would show pupil dilation to slides of young girls and constriction to slides of adult females when compared to the control group.

METHOD

The female-aggressing pedophiles in this study consisted of 10 known molesters who had been incarcerated because of their behavior. They had nonviolently abused female children under the age of 12. "Nonviolent" meant not raping, biting, or cutting the child, but included exposing their genitals, petting the child's genitals, having the child fondle the adult's genitals, etc. The requirement of the female targets being under the age of 12 was made so that the focus of

attention was on those men who had selected obviously physiologically immature sex objects.

A control group of 10 nondeviate males were selected from the same prison population. The controls were selected by randomly choosing prison charts and eliminating those who were sexual offenders and those who had serious visual problems or brain injuries.

Data were then collected on both the experimental and control group in terms of IQ, age, education, and years of imprisonment since the last conviction. All the Ss were then interviewed individually and asked to participate in the study. They were told that their cooperation would not directly affect their stay at the prison, but, as is the custom, notations of their participation would be made in their records. The Ss were aware of the confidentiality of the information. Each S was individually seated at an apparatus similar to Hess's (1965) equipment but using a television camera instead of a 2-frame/sec 8-mm camera. The following specific instructions were then given, "[S's name], you will be looking at pictures on a screen. Every other slide will be blurred beyond recognition. Do not attempt to determine what is on the blurred slides."

The S was then placed with his head at the eye opening, and then given additional instructions: "At the time you are looking at the slide pictures, we will be taking pictures of your eye to help us measure pupil changes during your observations. It is important that you hold your head as still as possible and also try to keep from blinking. Look around the inside of the box now so that you can become familiar with the apparatus, but do not look around later."

There were seven slides selected that were pertinent to this study. A brief description of these slides can be found in Table 1.

In order to measure just the change in pupil size due to the type of picture shown and to eliminate differences in pupil size due to the different illumination levels, control slides were made by making an unidentifiable blurred picture of the experimental slides. Each control slide was presented just before the experimental slide so that the S's eye adapted to the illumination level.

The slides were then shown to each S in a preselected random order, which was different for each S. Instructions about the control slide and about holding the eye still were included in an effort to reduce problem-solving activity. It has been shown by Beatty & Kahneman (1966) that memory tasks appear to increase the pupil dilation and, therefore, an attempt should be made to reduce memory work while Ss are viewing the slides.

The experimental and control slides were each presented for 10 sec on a translucent screen by a Continental 55 Slide Projector which had an automatic slide change system. Pictures of the pupil were taken by a Packard Bell television camera with an adjustable lens and recorded on 1-in. television tape. A microphone was placed by the slide projector so that the sounds of the slide being changed could be recorded. This sound helped later in measuring the pupil size at given intervals after the slides were presented.

Pictures of the eyes which had been recorded on video tape were later reproduced on a 24-in. television screen in order to enlarge the pupil

Table 1
Description of Slides

Slide Number	Slide Content
1	An attractive adult nude female lying on her side.
2	An attractive adult nude female. The female is standing; the upper torso is visible.
3	An attractive nude adult female who is lying on a beach with her breasts visible.
4	A nude female child about 5 to 8 years of age lying face down in a secluded woody area.
5	A nude female child 5 to 8 years of age sitting facing the viewer.
6	A female child of about 8 to 12 years of age dressed in panties and undershirt. It could be identified as coming from a mail-order catalog.
7	Three female children, age 3 to 5 years, dressed in fancy white dresses. Their backs are toward the viewer.

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Table 2
Differences Between Pedophiliacs and Controls in Age, Education, Months of Institutionalization, and Intelligence

	Difference	t	df	p
Age	2.80	.467	18	> .05
Education	1.70	1.53	18	> .05
Months of Institutionalization	8.50	1.02	18	> .05
I.Q.	.40	.063	18	> .05

Table 3
Mean Pupil Changes (mm) When Data Are Grouped According to Slide Content

Content	Adult Females (1, 2, 3)	Young Females (4, 5, 6, 7)
Pedophiliacs		
1	+15	+38
2	- 2	+22
3	- 7	+17
4	- 6	+ 6
5	- 5	+31
6	-11	+24
7	- 2	-10
8	-10	+25
9	- 4	+28
10	+ 6	+29
\bar{X}	- 2.6	+21.0
Control		
11	+28	+25
12	+18	+ 5
13	+29	- 8
14	+21	+14
15	+25	+ 5
16	+21	- 7
17	+22	- 6
18	+35	+ 3
19	-26	0
20	+16	- 8
\bar{X}	+18.9	+ 2.3
	t = 4.51**	t = 3.43**

**p < .01

Table 4
Raw Scores, Means, and Standard Deviations of Pedophiliacs and Controls on 100 Selected Items of MMPI

Pedophiliacs		Normals	
S	Score	S	Score
1	50	11	30
2	63	12	37
3	63	13	34
4	46	14	36
5	43	15	35
6	55	16	42
7	27	17	37
8	49	18	32
9	50	19	27
10	48	20	25
\bar{X}	= 49.40	\bar{X}	= 33.50
SD	= 9.79	SD	= 4.84
	t = 4.15**		

**p < .01

size for more reliable measurement. Measurement of the response to both the control and experimental slides were taken. Measurements were taken at 3, 5, and 7 sec after the slide was presented following the presentation of each control and experimental slide.

The measuring apparatus consisted of a telescope mounted on a stationary plate, which could be moved to focus on the pupil shown on the television monitor. The telescope was equipped with cross hairs which could be manually adjusted to fit the size of the pupil projected on the television screen, and this projection was then recorded and measured on graph paper. This method of measurement was used because it was impossible to obtain a reliable measure of pupil size from direct measurement on the television screen. A television image is a composite of light dots, and at close range the image begins to defuse. The three measurements were then averaged, thus yielding a single measure for each of the experimental and control slides separately. After the pupil measurement phase of the study, each S was given the sexual deviancy scale, and following this the intent of the study was explained.

RESULTS AND DISCUSSION

The age, education, intelligence, and months of imprisonment of the control and experimental groups were tested for significant differences. Table 2 indicates that there were no significant differences between the two groups on the four dimensions tested.

The data from the pupillometric measurements were evaluated according to slide content as summarized in Table 3. There were significant differences between the two groups in their responses to the adult female and immature female slides. The adult female slides produced a dilation response in all but 1 control S and produced constriction in 8 of the 10 molesters. The young female slides, on the other hand, produced dilation in 9 of the

female-aggressing pedophiliacs and produced constriction or no change in 5 of the control Ss. This is especially significant if Hess's (1965) contention is correct that dilation is a positive affect reaction and constriction a negative affect reaction.

Data from the sexual deviancy scale (March, 1965) are shown in Table 4. The mean number of responses scored in the direction of sexual deviation was 49.4 in the female-aggressing pedophilic group and 33.5 in the control group. The difference between the means was significant at the .001 level. If a cutting score were chosen which best discriminated the two groups it would be 43. This score would misidentify only one pedophilic as normal and correctly identify all control Ss. The misidentified molester (No. 7) obtained a score of 27, which differs considerably from the mean of his group. The S misidentified by the deviancy scale was also unusual in his pupillometric changes as compared to the other molesters. This S reported that he molested girls only after drinking large amounts of alcohol. Possibly his choice of young girls as a sexual target was due to lack of discrimination rather than a preference. This suggests that he may have been a poor choice as a S, but information about his drinking was obtained only after he had been included in the study. He was the only S who blamed alcohol for his deviant act. Another interesting reaction to the slides was obtained from S 19 (a control S) who had a much stronger negative response to the adult female slides than any of the molesters. Speculation would suggest either an individual who avoids females or who has extreme fear of them. His reaction would certainly be an area for further inquiry.

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