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ABSTRACT

This study was conducted to examine students' perceptions of the impact of age and gender upon an individual's ability to teach. Seventh-grade science students (N=28) were shown photographs of six teachers (a young female, a young male, a middle-aged female, a middle-aged male, an old female, and an old male) for purposes of evaluation in terms of organization, classroom management, motivation, communication, sensitivity, imagination, and competence. Results suggest that students perceive middle-aged teachers and female teachers as more effective in the classroom; there was no significant main effect on students' perception due to the age of the teacher in the areas of motivation, communication, sensitivity, and competence; middle-aged pictures were rated higher than young-aged and old-aged pictures in the areas of organization and imagination; there were no significant main effects due to the gender of teachers in the areas of classroom management, motivation, communication, sensitivity, imagination, and competence; females were rated higher than males in the area of organization; and no significant interaction between the age and gender of the teacher in areas of motivation, communication, sensitivity, imagination, and competence was revealed. (LL)

EFFECT OF TEACHER AGE AND GENDER ON STUDENT PERCEPTION

by

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ABSTRACT

The focus of this study was to examine the impact the teacher's age and sex has upon students' perception of the teacher's ability. A group of seventh grade science students was selected. The students rated photographs of teachers in terms of organization, classroom management, motivation, communication, sensitivity, imagination, and competence. The results of this analysis showed significance in the areas of organization, classroom management, and imagination.

SURVEY OF RELATED LITERATURE

Are students influenced by physical characteristics of the teacher? Having formed a belief about the teacher at first sight, the student is less likely to attend to the new and contradictory evidence and may even concentrate on information that supports the original impression (Goebel & Cashen, 1979). Since more and more schools are using student ratings of teachers into the total faculty evaluation process, the teachers are concerned that they are being judged unfairly by students rating them on personal characteristics instead of professional ability. A number of studies have been conducted pertaining to the physical characteristics of the teacher and the impact these characteristics have on the students' perception of the teacher's professional abilities. Some studies show that the teacher's physical characteristics and experience are synonymous with the age of the teacher. The results of these studies are discussed in the next few paragraphs.

Goebel and Cashen (1979) conducted a study consisting of 150 Caucasion students in grades from elementary school to high school. Thirty-six black-and -white photographs of adult females and males were shown to the students. No information concerning the pictured teachers was given to the subjects. The results of the study showed that the student ratings were significantly affected by the age, gender, and attractiveness of the teachers. The age and gender interaction revealed that old female teachers were rated lower on skill than young females or middle-aged females. However, no significant age differences were obtained for male teachers.

In another study, 80 subjects, 40 males and 40 females, were provided a photograph of a person who was either male or female and who was either attractive or unattractive. They were asked to rate that person on both a masculine and a feminine oriented task. The results of this study revealed that physically attractive photographs were assigned higher ratings than physically unattractive photographs. There was an interaction between physical attractiveness and sex with the unattractive female receiving significantly lower ratings than the unattractive male (Hill & Lando, 1976). If the attractiveness of the teacher is synonymous with the teacher's age, the findings of this study are in accord with those of Goebel and Cashen (1979).

Other related studies show that junior and senior high school students have found that younger teachers are rated more favorably than older teachers (Riley & Ryan, 1969). However, others have found no difference between the ratings of older and younger teachers (Delahanty, 1977).

"As the elderly population becomes a more substantial proportion of society, there is a tendency to place less value on the older person. This appears to be especially true in our own strongly youth-oriented culture, and the possible effect of teacher age on student ratings needs further investigation" (Cowgill & Holmes, 1972, p. 12).

PLANNING AND CONDUCTING THE STUDY

Subjects

The subjects in this study were 28 seventh grade students who attended a middle school located in Columbia County. Approximately 90% of the subjects were white. Most of the subjects were from upper middle socio-economic background. There was a small percent of the subjects from a low socio-ecomomic group.

Hypotheses

For each dependent variable, the following null hypotheses were tested:

Hypothesis 1 : There is no significant main effect on student perceptions due to the age of the teacher.

Hypothesis 2 : There is no significant main effect on student perceptions due to the gender of the teacher.

Hypothesis 3 : There is no significant interaction between the age of the teacher and the gender of the teacher.

Variables

Independent Variable 1: age of the teacher

Levels: Young, Middle-aged, Old

Independent Variable 2: gender of the teacher

Levels: Male, Female

Dependent Variables: The students rated eight questions on a scale of one to five. Each of the questions was used as a dependent variable. The eight questions are listed below.

1. This teacher is probably well organized.
2. This teacher manages the classroom well.
3. This teacher motivates students effectively.
4. This teacher has good rapport with the class.
5. This teacher conveys material effectively.
6. This teacher is sensitive to individual needs.
7. This teacher is imaginative about assignments.
8. This teacher appears to be competent.

Data Collection

A survey was conducted to obtain young, middle-aged, and old representatives of both sexes. Twenty-six photographs (13 males and 13 females) were shown to a group of 10 seventh grade students, none of whom were subjects in the study. They rated the age of each face on a scale from one to five. The two most extreme mean scores in either direction for male and female were selected as the faces to be used in the experiment.

After the photographs were selected, a different set of students was shown black-and -white photographs of teachers. The teachers in the photographs did not teach in the school the subjects attended, nor did they teach in a "feeder" school at which subjects may have

attended. It is reasonable to assume that the subjects did not know the teachers in the photographs. There were six different photographs: a young female, a young male, a middle-aged female, a middle-aged male, an old female, and an old male. The color was eliminated in the photographs to avoid individual differences in perception, vision, and preference.

Each subject also received an evaluation form containing eight items that assess different aspects of teaching effectiveness. The subjects were asked to rate the teacher whose picture they had in front of them on each of the eight items by using values from one to five (one = strongly disagree, three = neutral, five = strongly agree).

Statistical Analysis

A repeated-measures designed was used in this study. In order to test the null hypotheses at the .05 significance level, a 2 x 3 (within-within) ANOVA was used for each dependent variable.

Each time the null hypothesis concerning the main effect due to the teacher's age was rejected, a Tukey's (a) test was used to determine specific differences. Of course, when the main effect due to sex was found to be significant, there was no need to form specific comparisons because, in this case, the group with the higher mean was significantly higher than the group of lower mean. When the interaction between age and sex was significant; specific comparisons were performed using Tukey's (a) test.

RESULTS

A 2 (male versus female) x 3 (young versus middle-age versus old) Within - Within design analysis of variance was used to analyze the scores rated on each question.

Question 1 This teacher is well organized.

For question 1, group means and standard deviations are shown in table 1. The results of the analysis of variance are given in table 2. The main effect due to age was significant. Tukey's (a) test indicated that students gave the middle-aged pictures significantly higher ratings than they gave either the young-aged pictures or the old-aged pictures.

The main effect due to sex also was significant. Female pictures received significantly higher ratings than male pictures.

Finally, the interaction between age and sex was significant. Therefore, specific comparisons were performed using Tukey's (a) tests. For males, the middle-aged picture received significantly higher ratings than both the young-aged picture and the old-aged picture; however, for females, there were no significant differences between the three ages. Further comparisons showed that the young-aged female picture was given significantly higher ratings than the young-aged male picture. Also, the old-aged female picture was rated significantly higher than the old-aged male picture.

Insert Tables 1 and 2 about here.

Question 2 This teacher manages the classroom well.

For question 2, group means and standard deviations are shown in table 3. The results of the analysis of variance are given in table 4. The main effect due to age was significant. Tukey's (a) test demonstrated that students gave the middle-aged pictures significantly higher ratings than they gave either young-aged pictures or old-aged pictures.

The main effect due to sex did not show any significance.

However, the interaction between age and sex was significant. Thus, specific comparisons were performed using Tukey's (a) tests. For males, the middle-aged picture gained significantly higher ratings than the old-aged picture; however, for females, there were no significant differences between the three ages. Further comparisons demonstrated that there were no significant differences between the young female, young male, and the middle-aged male. Although, the old-aged female was rated higher than the old-aged male.

Insert Tables 3 and 4 about here.

Question 3 This teacher motivates students effectively.

For question 3, group means and standard deviations are shown in table 5. The results of the analysis of variance are given in table 6. There were no significant differences due to age, sex, or interaction.

Insert Tables 5 and 6 about here.

Question 4 This teacher has good rapport with the class.

For question 4, group means and standard deviations are shown in table 7. The results of the analysis of variance are given in table 8. There were no significant differences due to age, sex, and interaction.

Insert Tables 7 and 8 about here.

Question 5 This teacher conveys material effectively.

For question 5, group means and standard deviations are given in table 9. The results of the analysis of variance are demonstrated in table 10. There were no significant differences due to age, sex, and interaction.

Insert Tables 9 and 10 about here.

Question 6 This teacher is sensitive to individual needs.

For question 6, group means and standard deviations are given in table 11. The results of the analysis of variance are shown in table 12. There were no significant differences due to age, sex, and interaction.

Insert Tables 11 and 12 about here.

Question 7 This teacher is imaginative about assignments.

For question 7, group means and standard deviations are shown in table 13. The results of the analysis of variance are given in table 14. The main effect due to age was significant. Tukey's (a) test indicated students rated the middle-aged pictures significantly higher than they rated the old-aged pictures.

There were no significance between the middle-aged pictures and young-aged picture.

The main effect due to sex was not significant.

Also, the interaction between age and sex was not significant.

Insert Tables 13 and 14 about here.

Question 8 This teacher appears to be competent.

For question 8, group means and standard deviations are given in table 15. The results of the analysis of variance are shown in table 16. The main effect due to age was significant. When specific comparisons using Tukey's (a) test were performed, the scores of no one group exceeded the scores of any other group beyond the point .05 significant level. However, .05 significance was nearly reached for young, middle-aged, and old photographs.

The main effect due to sex was not siginificant.

Also, The interaction between age and sex was not significant.

Insert Tables 15 and 16 about here.

DISCUSSION

In this study, 28 students rated photographs of teachers to show the impact that the teachers' age and sex have upon the students' perception of their abilitly. However, there may be f. tors in this study that could limit the reliability. The gender of the students may have affected the internal validity. The male students may favor the female teachers, and the female students may favor the male teachers due to the teacher's appearance. The students have had mostly female teachers in the past. The male teachers may have an impact on the students' perception as a disciplinarian. Another limitation that may affect the internal validity is the race of the students. 14% of the students were not caucasion, and 86% were caucasion. All 6 photographs of the teachers that the students rated were caucasion.

The findings in this study revealed there were no significant main effect on the students' perception due to the age of the teacher in the areas of motivation, communication, sensitivity, and competency. However, the students rated the middle-aged ictures higher than the young-aged and old-aged pictures in the areas of organization and imagination. Also, the results showed no significant main effects due to the gender of the teachers in the ar·:s of classroom management, motivation, communication, sensitivity, imagination, and competency. The students did rate the females higher than the males in the area of organization. Finally, the ratings showed no significant interaction between the age of the teacher and

the gender of the teacher in the areas of motivation, communication, sensitivity, imagination, and competency. However, the middle-aged male was rated significantly higher than the young-aged male and old-aged male in the area of organization. Also, the young female was rated significantly higher than the old-aged male in the area of classroom management. Finally, the old-aged female was significantly higher than the old-aged male in the same area.

In this study, the students perceive the middle-aged teachers and female teachers more effective in the classroom. This may be due to the fact that there are more female teachers than male teachers, and the teaching field has been stereotyped as a female career. Also, students may perceive middle-aged teachers having more experience than young teachers and more enthusiasm than old teachers.

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Table 1 . Group means and standard deviations for question 1.

	M	F	
YOU	$n = 28$ $\bar{X} = 2.50$ $sd = 1.23$	$n = 28$ $\bar{X} = 3.21$ $sd = 1.07$	$\bar{X} =$ 2.86
MID	$n = 28$ $\bar{X} = 3.75$ $sd = 1.58$	$n = 28$ $\bar{X} = 3.82$ $sd = 1.31$	$\bar{X} =$ 3.79
OLD	$n = 28$ $\bar{X} = 2.25$ $sd = 1.51$	$n = 28$ $\bar{X} = 3.75$ $sd = 1.48$	$\bar{X} =$ 3.00
	$\bar{X} = 2.83$	$\bar{X} = 3.60$	

Table 2 . Results of the analysis of variance for question 1.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	77.952	27			
AGE	28.000	2	14.000	8.963	<.001
ERROR	84.333	54	1.562		
SEX	24.381	1	24.381	10.860	.003
ERROR	60.619	27	2.245		
AGE SEX	14.333	2	7.167	4.797-	.012
ERROR	80.667	54	1.494		
TOTAL	370.286	167			
(RESIDUAL)	225.619	135			

Table 3 . Group means and standard deviations for question 2.

	M	F	
YOU	n = 28 $\bar{X}$ = 3.21 sd = 1.20	n = 28 $\bar{X}$ = 2.64 sd = 1.03	$\bar{X}$ = 2.93
MID	n = 28 $\bar{X}$ = 3.46 sd = 1.14	n = 28 $\bar{X}$ = 3.75 sd = 1.04	$\bar{X}$ = 3.61
OLD	n = 28 $\bar{X}$ = 2.61 sd = 1.13	n = 28 $\bar{X}$ = 3.39 sd = 1.52	$\bar{X}$ = 3.00
	$\bar{X}$ = 3.10	$\bar{X}$ = 3.26	

Table 4 . Results of the analysis of variance for question 2.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	50.976	27			
AGE	15.571	2	7.786	8.565	<.001
ERROR	49.095	54	.909		
SEX	1.167	1	1.167	.632	
ERROR	49.833	27	1.846		
AGE SEX	13.190	2	6.595	4.520	.015
ERROR	78.810	54	1.459		
TOTAL	258.643	167			
(RESIDUAL)	177.738	135			

Table 5 . Group means and standard deviations for question 3.

	M	F	
YOU	n=28 $\bar{X}$=2.21 SD=1.37	n=28 $\bar{X}$=3.39 SD=1.22	$\bar{X}$ = 2.30
MID	n=28 $\bar{X}$=3.32 SD=1.36	n=28 $\bar{X}$=3.64 SD=1.16	$\bar{X}$ = 3.48
OLD	n=28 $\bar{X}$=2.96 SD=1.35	n=28 $\bar{X}$=3.36 SD=1.47	$\bar{X}$ = 3.16
	$\bar{X}$=3.17	$\bar{X}$=3.46	

Table 6 . Results of the analysis of variance for question 3.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	86.446	27			
AGE	2.905	2	1.452	.987	
ERROR	79.429	54	1.471		
SEX	3.720	1	3.720	2.032	.162
ERROR	49.446	27	1.831		
AGE SEX	.333	2	.167	.129	
ERROR	70.000	54	1.296		
TOTAL	292.280	167			
(RESIDUAL)	198.875	135			

Table 7 . Group means and standard deviations for question 4.

	M	F	
YOU	n = 28 $\bar{X}$ = 2.39 sd = .96	n = 28 $\bar{X}$ = 2.82 sd = 1.15	$\bar{X}$ = 3.11
MID	n = 28 $\bar{X}$ = 2.39 sd = 1.20	n = 28 $\bar{X}$ = 3.43 sd = 1.03	$\bar{X}$ = 3.41
OLD	n = 28 $\bar{X}$ = 2.79 sd = 1.23	n = 28 $\bar{X}$ = 3.11 sd = 1.34	$\bar{X}$ = 2.95
	$\bar{X}$ = 3.19	$\bar{X}$ = 3.12	

Table 8 . Results of the analysis of variance for question 4.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	45.976	27			
AGE	6.226	2	3.113	2.279	.110
ERROR	73.774	54	1.366		
SEX	.214	1	.214	.178	
ERROR	32.452	27	1.202		
AGE SEX	5.821	2	2.911	2.400	.098
ERROR	65.512	54	1.213		
TOTAL	229.976	167			
(RESIDUAL)	171.738	135			

Table 9 . Group means and standard deviations for question 5.

	M	F	
YOU	n = 28 $\bar{X}$ = 3.25 SD = 1.43	n = 28 $\bar{X}$ = 2.89 SD = 1.07	$\bar{X}$ = 3.07
MID	n = 28 $\bar{X}$ = 3.25 SD = 1.38	n = 28 $\bar{X}$ = 3.61 SD = 1.29	$\bar{X}$ = 3.43
OLD	n = 28 $\bar{X}$ = 2.86 SD = 1.18	n = 28 $\bar{X}$ = 3.71 SD = 1.12	$\bar{X}$ = 3.29
	$\bar{X}$ = 3.12	$\bar{X}$ = 3.40	

Table 10 . Results of the analysis of variance for question 5.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	48.476	27			
AGE	3.619	2	1.810	1.797	.173
ERROR	54.381	54	1.007		
SEX	3.429	1	3.429	2.360	.132
ERROR	39.238	27	1.453		
AGE SEX	10.429	2	5.214	2.538	.086
ERROR	110.905	54	2.054		
TOTAL	270.476	167			
(RESIDUAL)	204.524	135			

Table 11 . Group means and standard deviations for question 6.

	M	F	
YOU	n = 28 $\bar{X}$ = 3.43 SD = 1.20	n = 28 $\bar{X}$ = 2.36 SD = 1.37	$\bar{X}$ = 3.39
MID	n = 28 $\bar{X}$ = 3.18 SD = 1.31	n = 28 $\bar{X}$ = 3.42 SD = 1.23	$\bar{X}$ = 3.30
OLD	n = 28 $\bar{X}$ = 2.89 SD = 1.26	n = 28 $\bar{X}$ = 3.11 SD = 1.20	$\bar{X}$ = 3.00
	$\bar{X}$ = 3.17	$\bar{X}$ = 3.30	

Table 12 . Results of the analysis of variance for question 6.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	62.113	27			
AGE	4.750	2	2.375	1.275	.287
ERROR	100.583	54	1.863		
SEX	.720	1	.720	.543	
ERROR	35.780	27	1.325		
AGE SEX	.869	2	.435	.397	
ERROR	59.131	54	1.095		
TOTAL	263.946	167			
(RESIDUAL)	195.494	135			

Table 13 . Group means and standard deviations for question 7.

	M	F	
YOU	n = 28 $\bar{X}$ = 3.36 SD = 1.06	n = 28 $\bar{X}$ = 3.25 SD = 1.02	$\bar{X}$ = 3.30
MID	n = 28 $\bar{X}$ = 3.39 SD = 1.31	n = 28 $\bar{X}$ = 3.64 SD = 1.31	$\bar{X}$ = 3.52
OLD	n = 28 $\bar{X}$ = 2.79 SD = 1.47	n = 28 $\bar{X}$ = 3.07 SD = 1.27	$\bar{X}$ = 2.93
	$\bar{X}$ = 3.18	$\bar{X}$ = 3.32	

Table 14 . Results of the analysis of variance for question 7.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	55.833	27			
AGE	9.964	2	4.982	3.175	.048
ERROR	84.702	54	1.569		
SEX	.857	1	.857	.677	
ERROR	34.143	27	1.265		
AGE SEX	1.321	2	.661	.362	
ERROR	98.679	54	1.827		
TOTAL	285.500	167			
(RESIDUAL)	217.524	135			

Table 15 . Group means and standard deviations for question 8.

	M	F	
YOU	n= 28 $\bar{X}$=3.32 SD=1.19	n= 28 $\bar{X}$=2.82 SD= .98	$\bar{X}$= 3.07
MID	n=28 $\bar{X}$=3.32 SD=1.32	n=28 $\bar{X}$=3.71 SD= .98	$\bar{X}$= 3.52
OLD	n= 28 $\bar{X}$=3.04 SD=1.32	n= 28 $\bar{X}$=3.04 SD=1.35	$\bar{X}$= 3.04
	$\bar{X}$=3.23	$\bar{X}$=3.19	

Table 16 . Results of the analysis of variance for question 8.

SOURCE	SS	DF	MS	F	P
BLOCKS/SUBJECTS	71.542	27			
AGE	8.083	2	4.042	3.487	.036
ERROR	62.583	54	1.159		
SEX	.054	1	.054	.035	
ERROR	41.446	27	1.535		
AGE SEX	5.607	2	2.804	2.594	.082
ERROR	58.393	54	1.081		
TOTAL	247.708	167			
(RESIDUAL)	162.423	135			