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ABSTRACT

Three before-and-after questionnaire studies were made to test the effectiveness of a simulation game called "Ghetto." In this game the player takes the role of a poor person living in an inner-city slum neighborhood. The education purpose of the game was to increase the players' understanding of the obstacles and hazards that the poor must face in their daily lives. Tests administered immediately after the game showed the players' attitudes toward the poor became more favorable. The results of later tests however did not show this effect. It was suggested that the game would be valuable at the beginning of a unit of instruction so that the temporary attitude change induced by the game would make the students more receptive to the related instruction which followed. (JY)

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OCTOBER, 1971

SIMULATION GAMES AND ATTITUDES TOWARD THE POOR: THREE QUESTIONNAIRE STUDIES

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INTRODUCTORY STATEMENT

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through five programs to achieve its objectives. The Academic Games program has developed simulation games for use in the classroom. It is evaluating the effects of games on student learning and studying how games can improve interpersonal relations in the schools. The Social Accounts program is examining how a student's education affects his actual occupational attainment, and how education results in different vocational outcomes for blacks and whites. The Talents and Competencies program is studying the effects of educational experience on a wide range of human talents, competencies, and personal dispositions in order to formulate--and research--important educational goals other than traditional academic achievement. The School Organization program is currently concerned with the effects of student participation in social and educational decision-making, the structure of competition and cooperation, formal reward systems, effects of school quality, and the development of information systems for secondary schools. The Careers and Curricula program bases its work upon a theory of career development. It has developed a self-administered vocational guidance device to promote vocational development and to foster satisfying curricular decisions for high school, college, and adult populations.

This report, prepared by the Academic Games Program, presents the findings of three studies designed to determine the effectiveness of a simulation game (Ghetto) as a device for changing players' attitudes.

ABSTRACT

Three before-and-after questionnaire studies with the simulation game Ghetto showed the players' attitudes to be more favorable to the poor immediately after the game than before. A retest given four months after the game in one of the studies and a delayed post-test given one week after the game in another study did not show this effect. No consistent relationships were found between attitude change and understanding of the game.

INTRODUCTION

This report presents the findings of three studies designed to determine the effectiveness of the simulation game Ghetto[1] as a device for changing the players' attitudes. In this game the player takes the role of a poor person living in an inner-city slum neighborhood. The educational purpose of the game is to increase the players' understanding of the obstacles and hazards that the poor must face in their daily lives. We might expect, therefore, that players' attitudes toward the poor would be more favorable (less hostile and more sympathetic) after playing the game than before.

In a previous study (Livingston, 1970), the author found that players' attitudes did change after they played the Ghetto game, and the change was in the expected direction. The subjects for that study were seniors at an all-boys Catholic high school, and the post-game data were collected immediately after the students had finished playing the game. The studies reported here represent an attempt to determine whether the results of the earlier study would generalize to other kinds of players and situations and whether the results would persist over longer periods of time. One of the studies also attempted to relate differences in attitude change to differences in understanding of the game.

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[1]Designed by Dove Toll; published by Western Publishing Company, Inc. 866 Third Avenue, New York, New York 10022.

METHOD

The three studies reported here represent three different situations in which the Ghetto game is often used. The subjects for Study 1 were two groups of teachers attending graduate-level evening courses in education. The twenty-six subjects in Group 1 were taking a course in "Education of the Disadvantaged" at a private university; the sixteen subjects in Group 2 were taking a course in "Innovative Professional Laboratory Experiences" at a state university. Both courses were taught by the same instructor. Each group answered a pre-game questionnaire, played the game, and answered a post-game questionnaire in a single two-hour session. These two questionnaires contained the same items, in different order.

Study 2 took place on a church-sponsored retreat; the players were seventeen high school students from a middle-class community. A pre-game questionnaire was administered on the morning of the first day of the retreat. The game was played for four hours that evening and another four hours the next morning. A post-game questionnaire was administered on the afternoon of the second day. A follow-up questionnaire containing the same items was administered four months later to eight of the players.

Study 3 took place in two social studies classes in a high school located in a small town near Baltimore; the players were sixty ninth-grade students. In both classes, a pre-game questionnaire was administered three days before the game. The game was played 45 minutes a day for four days. One class (Group 1) answered a post-game questionnaire the day after the game; the other class (Group 2) answered it a week after

the last day of the game. In each class, a test on understanding of the game was administered at the same time as the post-game questionnaire.

All activities in each of the three studies were administered by the regular class teacher or group leader. The author was present as an observer only for Group 1 of Study 1.

The questionnaire used to measure the players' attitudes toward the poor contained twelve items. Each item called for the player to agree or disagree with a general statement about poverty or poor people. The statements were the following:

1. Poor people are as honest as people who aren't poor.
2. Poor people generally have low moral standards.
3. Sometimes poor people engage in illegal activities because they have no choice.
4. Poverty is no excuse for breaking the law.
5. Poor people are as hard-working and ambitious as anyone else.
6. A lot of people who are unemployed just don't want to work.
7. Being on welfare is nothing to be ashamed of.
8. Most people on welfare probably could get along all right without it if they had to.
9. Most poor people really try to keep their homes clean.
10. Poor people make their own slums.
11. If a person is poor, it's probably because he never had the opportunities that other people have.
12. If a person is poor, it's probably his own fault.

The twelve statements make up six pairs, each dealing with a specific topic: morality, illegal activities, willingness to work, acceptance of welfare, cleanliness, and responsibility for poverty. Within each

pair, the first statement expresses a favorable attitude and the second expresses an unfavorable attitude. On the questionnaires that were given to the players, these statements appeared in randomly determined order--a different random ordering each time the questionnaire was administered. The questionnaires were scored by assigning two points for a favorable response, no points for an unfavorable response, and one point for an omission or for any ambiguous response (for example, players occasionally wrote "it depends").

Understanding of the game was measured by a nine-item multiple-choice test. (A copy of this test appears in Appendix A.)

RESULTS

Table 1 presents the results of the immediate post-tests given in all three studies, along with the corresponding pre-test results. Figure 1 shows the means and 95% confidence intervals. Attitude change is in the expected direction for all four groups and is statistically significant for three of the four groups, as determined by the t-test for correlated samples. The change is largest in Study 2 (the church group); smallest in Study 1 (the teachers), especially for Group 2.

Table 2 presents the results of Study 2; Figure 2 shows the means and 95% confidence intervals. Here the subjects are divided into two groups: those who were available for retesting four months after playing the game, and those who were not. Although the game had a much stronger effect in the group that was available for retesting, this effect had disappeared after four months.

Table 3 presents the results of Study 3 (the students who played the game in class); Figure 3 shows the means and 95% confidence intervals. Group 1, which was tested immediately after playing the game, shows significant attitude change. Group 2, which was tested one week after playing the game, does not.

Study 3 also included a test of nine multiple-choice items intended to measure understanding of the game. Each group took this test at the same time as the post-game questionnaire: Group 1 immediately after the game; Group 2 a week later. Table 4 presents the results of this test. The scores are quite high for both groups, though not as high

for Group 2 as for Group 1. The small standard deviation and low internal consistency of the scores in Group 1 are probably the result of a ceiling effect.

Table 5 presents the correlations of the three variables: attitude before the game, attitude after the game, and understanding of the game. The variable labeled "attitude change (residual)" represents the difference between a student's post-test attitude score and the score that would be predicted for him on the basis of his pre-test attitude score. None of the correlations involving understanding of the game is significantly different from zero.

The mean responses to the specific items, before and after the game, for each group in each of the three studies are given in Appendix B. The item numbers correspond to those of the list on page 2. The possible range of scores is from 0.00 to 2.00. Scores below 1.00 indicate attitudes unfavorable to the poor; scores above 1.00 indicate attitudes favorable to the poor.

DISCUSSION

The results of these three studies indicate that the Ghetto game can change the attitudes of both adults and teen-agers, in classrooms and outside of school. The results also indicate that the changes in attitudes which the game produces are not likely to endure over long periods of time and may last for only a few days. No conclusions can be drawn from these studies about the relationship between attitude change and understanding of the game.

These results suggest that the most effective placement of a simulation game in a unit of instruction may be at the beginning of the unit. The temporary attitude change induced by the game may make the students more receptive to the related instruction which follows the game.

REFERENCE

Livingston, S. A. Simulation games and attitude change: attitudes toward the poor. Report No. 63, Center for Social Organization of Schools, Johns Hopkins University, April, 1970.

Table 1. Results of immediate post-tests.

	Study 1				Study 2		Study 3	
	Group 1		Group 2		All subjects		Group 1 only	
	Before	After	Before	After	Before	After	Before	After
Mean	18.07	19.65	16.56	17.63	15.35	19.41	16.21	19.04
S.D.	3.33	3.35	3.32	3.59	4.60	4.84	4.06	3.58
alpha*	.36	.49	.35	.42	.60	.79	.59	.57
t	2.33		1.77		2.87		3.68	
df	25		15		16		23	
p	$< .05$		$< .10$		$< .02$		$< .01$	

*Coefficient alpha is a measure of the internal consistency of the scores. It is computed from a more general form of Kuder-Richardson Formula 20.

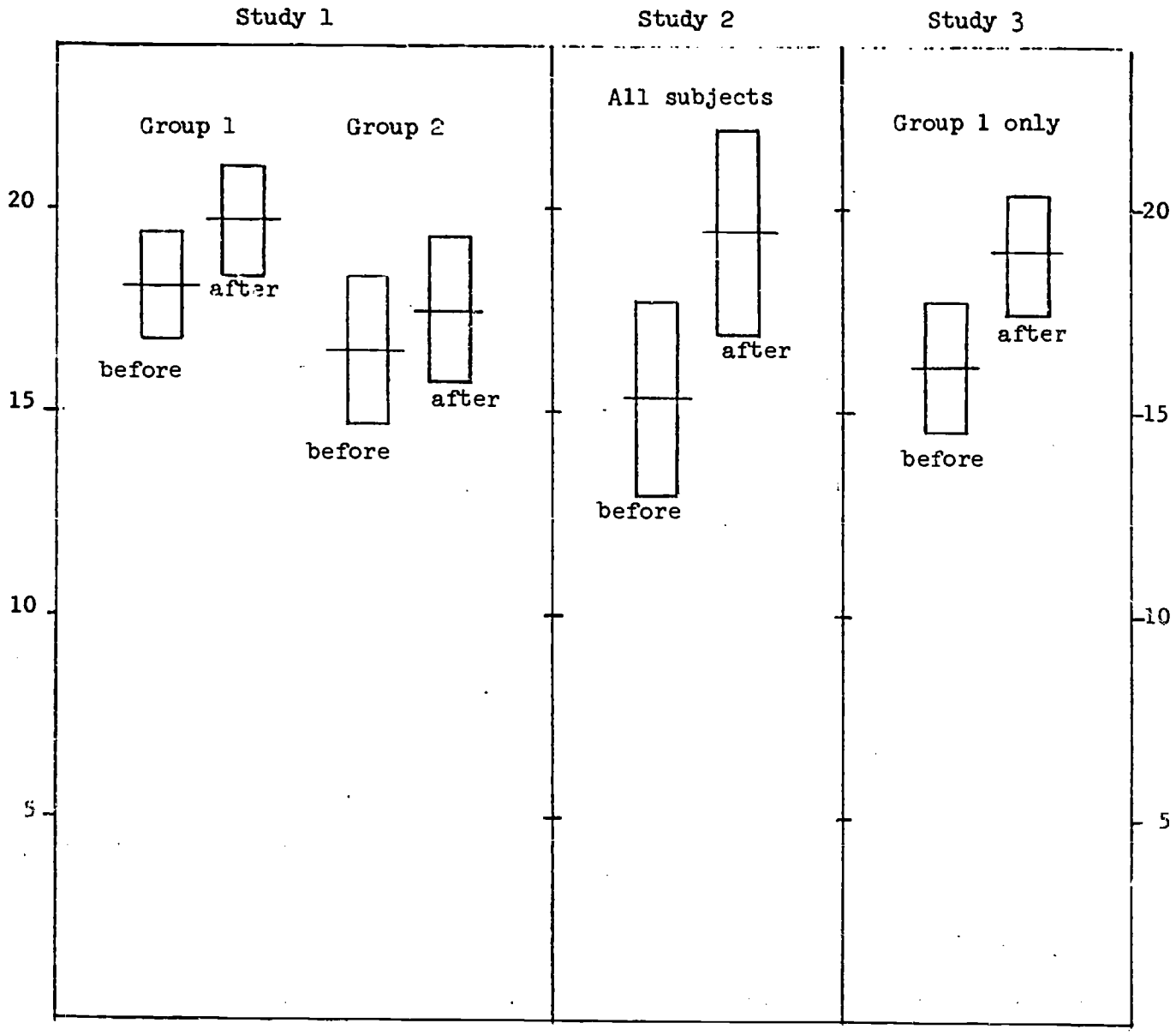

Figure 1. Immediate post-test results: means and 95% confidence intervals.

Table 2. Results of Study 2

	Not Available For Retest		Available for Retest		
	Before	After	Before	After	Retest
Mean	15.22	17.22	15.50	21.88	15.00
S.D.	5.37	5.47	3.38	1.36	3.54
t	0.87		5.21		
df	8		7		
p	N.S.		$<.01$		

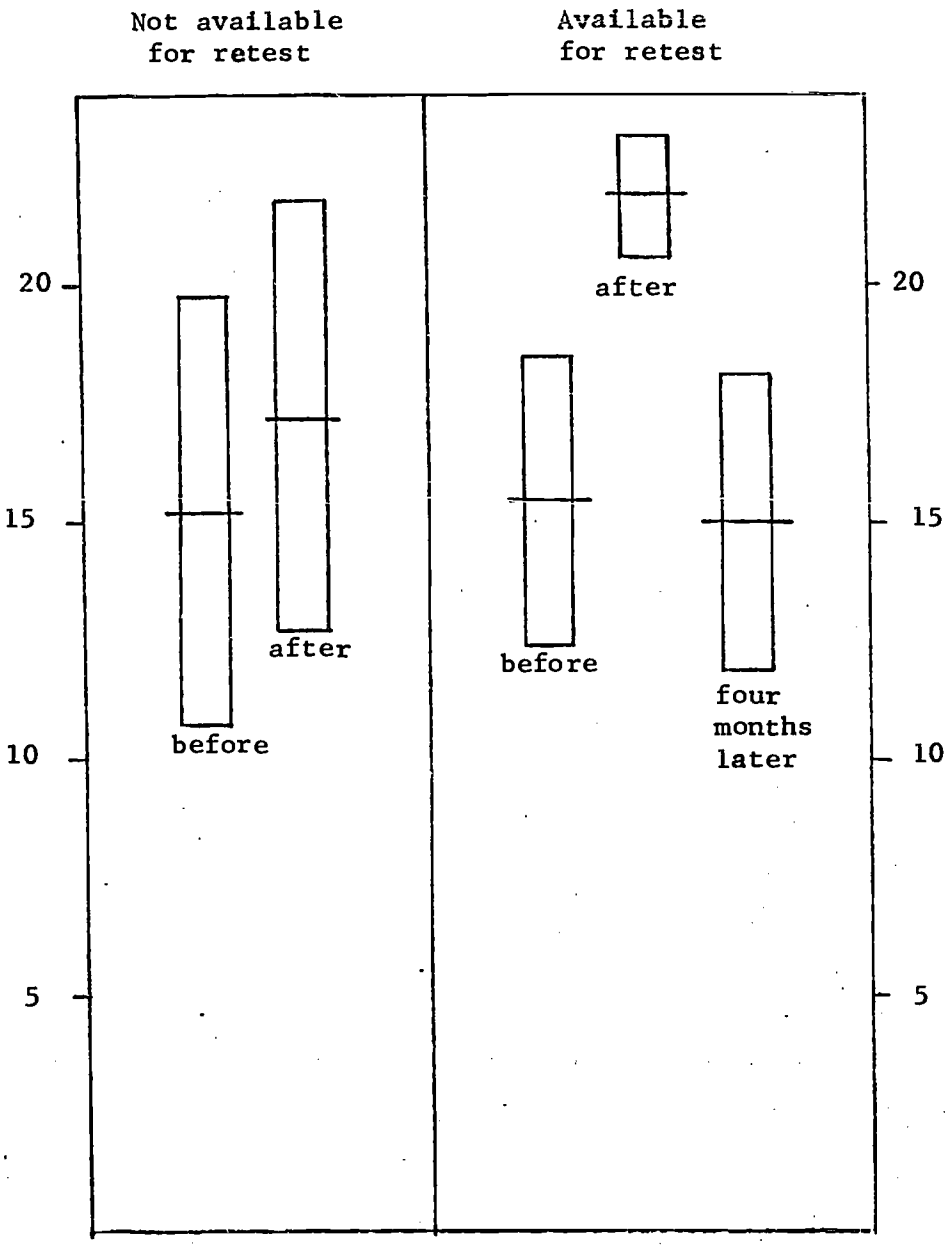

Figure 2. Results of Study 2: means and 95% confidence intervals.

Table 3. Results of Study 3

	Group 1 (immediate post-test)		Group 2 (delayed post-test)	
	Before	After	Before	After
Mean	16.21	19.04	13.08	13.83
S.D.	4.06	3.58	4.53	4.87
alpha	.59	.57	.53	.66
t	3.68		1.00	
df	23		35	
p	< .01		N.S.	

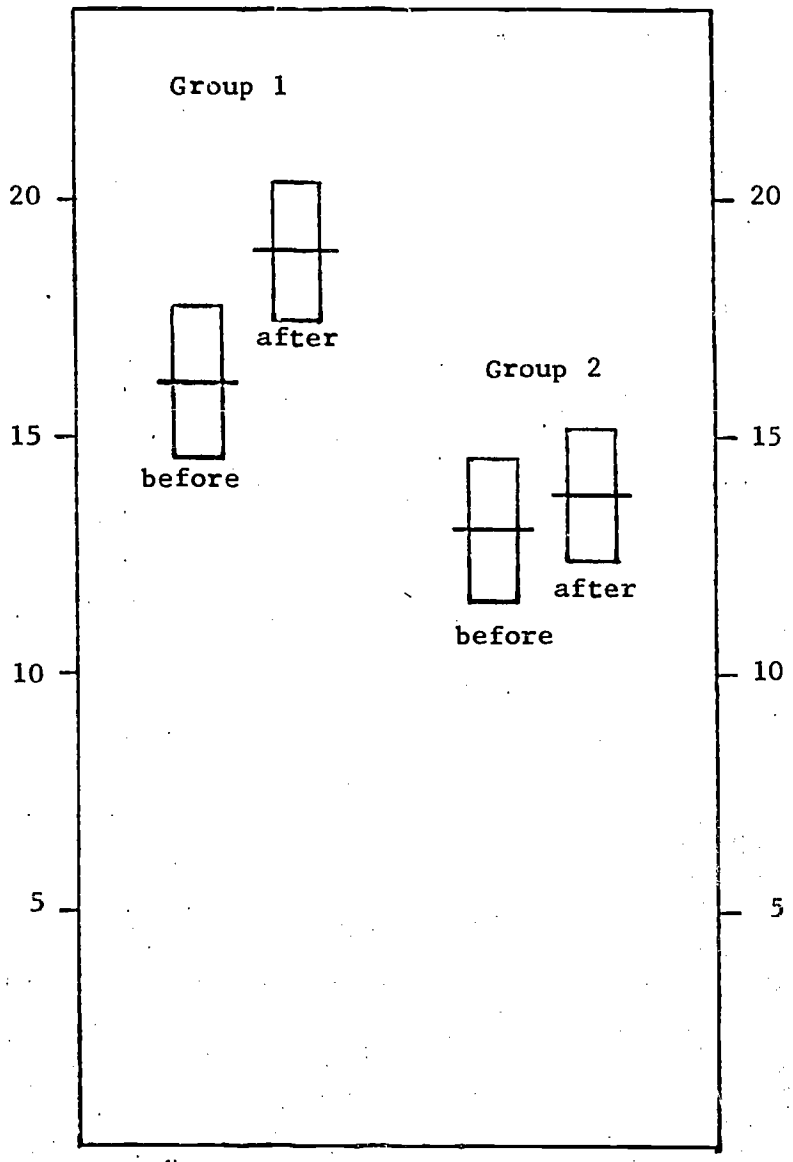

Figure 3. Results of Study 3: means and 95% confidence intervals.

Table 4. Results of test on understanding of game (Study 3).

	Group 1 (n = 24)	Group 2 (n = 36)
Mean	8.00	7.14
S.D.	1.06	1.60
alpha	.31	.60

Table 5. Correlations of variables (Study 3).

Variables correlated	Group 1 (n = 24)	Group 2 (n = 36)
Understanding/ attitude before	-.25	-.02
Understanding/ attitude after	-.18	-.19
Attitude before/ attitude after	.52	.[illegible]
Understanding/ attitude change (residual)	-.06	.24

APPENDIX A

Test Used To Measure Understanding Of

The Ghetto Game

1. The number of points you get from each chip invested in work depends on your

   ( ) age
   ( ) sex
   ( ) education
   ( ) race

2. There is a limit on the number of people who can invest chips in

   ( ) trade school
   ( ) unskilled work
   ( ) "hustling"
   ( ) neighborhood action for safety

3. The number of victims each round depends directly on

   ( ) the number of people working
   ( ) the "recreation" level of the neighborhood
   ( ) the "safety" level of the community
   ( ) the amount of "hustling" in the neighborhood

4. If you invest chips in "hustling" you should not invest in

   ( ) trade school
   ( ) high school
   ( ) unskilled work
   ( ) neighborhood action for safety

5. It makes most sense to invest in school if the game will be

   ( ) 2 rounds long
   ( ) 6 rounds long
   ( ) 12 rounds long
   ( ) the length of the game doesn't matter

6. The colored chips you place on the board represent

( ) time
( ) money
( ) prestige in the community
( ) all of these

7. "Hustling" represents

( ) any kind of hard work
( ) owning your own business
( ) any illegal way of making money
( ) spare-time activities with members of the opposite sex

8. Each round of the game represents

( ) one month
( ) six months
( ) one year
( ) two years

9. When the "recreation" level of the neighborhood goes up, mothers get an extra chip. The reason for this rule is that

( ) they can now have more fun in their spare time
( ) they have worked hard to improve the neighborhood and they deserve a reward
( ) they are less likely to be victims of crime
( ) they don't have to spend so much time looking after their children

APPENDIX B

Item Means

Item	Study 1				Study 2		Study 3			
	Group 1		Group 2				Group 1		Group 2	
	before	after	before	after	before	after	before	after	before	after
1	1.62	1.42	1.81	1.38	1.12	1.35	1.71	1.75	1.31	0.94
2	1.73	1.69	1.69	1.19	1.06	1.29	1.46	1.42	0.75	0.83
3	1.46	1.77	1.75	2.00	1.47	1.88	1.67	1.79	1.39	1.61
4	0.73	1.12	0.38	1.00	1.18	1.88	0.13	0.83	0.22	0.47
5	1.38	1.65	1.00	1.50	1.41	1.65	1.33	1.75	0.97	0.94
6	1.42	1.62	1.19	1.63	1.12	1.88	1.13	1.33	1.00	1.00
7	1.38	1.81	1.63	1.88	1.71	1.47	1.67	1.96	1.39	1.61
8	1.85	1.65	1.94	1.88	1.47	1.47	1.08	1.50	1.44	1.39
9	1.42	1.81	0.81	0.94	1.06	1.41	1.50	1.58	1.06	1.08
10	1.58	1.46	1.06	0.88	0.94	1.71	1.47	1.63	0.83	0.83
11	1.54	1.69	1.56	1.50	1.24	1.65	1.38	1.63	1.44	1.64
12	1.96	1.96	1.75	1.88	1.59	1.76	1.75	1.88	1.28	1.50
All items	1.51	1.64	1.38	1.47	1.28	1.62	1.35	1.59	1.09	1.15