

Table 59  
Influence of Perspective-Taking on Attitude Change Time 1—Time 3

Cognitive Effort Group	Difference Score			F	
	n	Mean	S.D.	Between	Linearity
Gender	95	-.57	13.5	0.21	0.00
Missing	31	-1.40	13.9		
No Difference	19	.93	15.3		
Degree	19	.62	14.2		
Type	26	-1.56	11.0		

Comparison of Multimedia Treatment Difference Scores with Semester Difference Scores

Hypothesis 5 predicted that attitude change over the semester would be larger than attitude change over the individual multimedia treatments. T-tests were used to compare differences over the semester (Time 1 to Time 3) to the differences within the early and late semester attitude surveys (Time 1 to Time 2 and Time 3 to Time 4, respectively).

Table 60 includes results of testing for multimedia session attitude shifts, both early in the semester, Time 1 to Time 2, and late in the semester, Time 3 to Time 4. Sexual orientation was the only topic to show significant differences between the semester scores (Time 1 to Time 3) and both the early and the late session scores (Times 1 to 2 and Times 3 to 4, respectively). Sex education and sexual coercion were significantly different only between the semester scores and the early multimedia session scores. Late session scores were not significantly different from semester scores. Attitude score differences did not vary significantly across any sessions for the gender topic.

Table 60  
Semester Difference Scores Compared to Multimedia Session Difference Scores in Attitudes

Attitudes	Means			T-test	
	Time 1— Time 3	Time 1— Time 2	Time 3— Time 4	T1-T3— T1-T2	T1-T3— T3-T4
Gender	-.71	0.48	0.67	-0.97	-0.71
Orientation	7.27	1.37	0.35	4.46***	4.17***
Education	2.02	-.99	0.54	2.02*	0.88
Coercion	3.46	-1.12	0.69	3.28***	1.75
Average	2.11	-.59	0.41	2.69**	1.16

\* $p < .05$     \*\* $p < .01$     \*\*\* $p < .001$ .

#### Relationships Among Attitude Scores Across Human Sexuality Topics

Hypothesis 6 predicted that mean scores of attitudes at Time 1 and Time 3 would not be equal across the four topics of gender, sexual orientation, sex education, and sexual coercion. Table 61 displays the means, standard deviations, and 95% confidence intervals for each topic at Time 1 and Time 3. Confidence intervals of 95% reveal very little overlap among the four topic groups.

Pearson product moment correlations were computed to determine the associations among the four topic areas. Table 62 shows that at Time 1, gender significantly correlated to all three of the other topics and sexual orientation correlated significantly to sex education. At Time 3, sexual coercion significantly correlated to all three of the other topics and sexual orientation was still significantly correlated to sex education.

Regression plots performed to determine the goodness of fit of a linear trend between the paired topics' coefficients of determination showed that the highest  $R^2$  value at Time 1 was between gender and sexual coercion at .145. The highest  $R^2$  value at Time 3 was also between gender and sexual coercion at .184 (see Table 63). Although some correlation and goodness of fit indicators show statistical significance, the question remains as to whether the constructs measured by the four scales are similar enough that they could reasonably be combined into a single scale or are dissimilar enough to support their remaining separate in analyses for this study.

If the scales did measure similar constructs, then combination of the four topic scores to an average human sexuality score would be logical. Cronbach's alpha and Hotelling's  $T^2$  were computed in an investigation of the reasonableness of combining scores. Cronbach's alpha at both Time 1 and Time 3 was .57 for the combined topic scores. Hotelling's  $T^2$  measure of mean equality revealed significant differences among the topic means at both Time 1 and Time 3 (see Table 64). These indicators show that the four topic scores had different patterns of association and should not be combined or considered as measuring the same construct.

Table 61  
Comparison of Means Across Attitude Topics in Human Sexuality

Topics	Time 1 (n=66)			Time 3 (n=70)		
	Mean	S.D.	95% C.I.	Mean	S.D.	95% C.I.
Gender	58.51	14.4	54.9-62.0	56.67	14.2	53.3-60.1
Orientation	50.64	24.7	44.6-56.7	59.34	26.6	53.5-65.2
Education	74.07	17.6	69.8-78.4	75.31	18.6	70.9-79.7
Coercion	65.72	16.4	61.7-69.7	66.71	16.6	62.7-70.7

Note. C.I.= Confidence Interval.

Table 62  
Correlation Among Attitude Topic Scores at Time 1 and Time 3

	Gender	Sexual Orientation	Sex Education	Sexual Coercion
Gender	-	.21*	.23*	.38**
Orientation	.17	-	.31**	.11
Education	.06	.36**	-	.12
Coercion	.43**	.29**	.26*	-

Note. Correlations reported above the diagonal are for Time 1. Correlations reported below the diagonal are for Time 3.

Table 63  
Goodness of Fit Among Attitude Topic Scores at Time 1 and Time 3

	Gender	Sexual Orientation	Sex Education	Sexual Coercion
Gender	-	.04*	.05*	.145**
Orientation	.03	-	.09**	.01
Education	.00	.13**	-	.01
Coercion	.18**	.08**	.07*	-

Note.  $R^2$  values reported above the diagonal are for Time 1.  
 $R^2$  values reported below the diagonal are for Time 3.

Table 64  
Reliability and Equality of Means Among Topic Scores at Time 1 and Time 3

Variables	Time 1	Time 3
Overall Cronbach's	.57	.57
Cronbach's without:		
Gender	.43	.57
Sexual Orientation	.54	.42
Sex Education	.50	.54
Sexual Coercion	.53	.43
Hotelling's $T^2$	73.0	62.3
F	23.6	20.2
Probability	.0000	.0000

#### Influence of Attitude Commitment on Attitude Change

According to Hypothesis 7, individuals expressing strong commitment to their opinion in their end-of-class comment would experience less attitude change over the semester than those individuals expressing a weaker commitment to their opinion. Additionally, those with extreme attitude scores at the beginning of the semester would remain at that extreme end of the continuum at the end of the semester.

These predictions were tested by analyzing the extent of change in attitude scores from Time 1 to Time 3 for the three different levels of expression of commitment to one's opinion: not sure at all of one's opinion, willing to reconsider a previously held opinion, and still sure of one's opinion. Analysis of variance for effect of expressed commitment to one's opinion on attitude by time of measurement appears in Table 65 for the topic of gender, Table 66 for the topic of sexual orientation, Table 67 for sex education, and Table 68 for sexual coercion. The only significant attitude difference among expressions of commitment occurred for the Time 1—Time 3 difference score for sexual orientation. In this case, the mean attitude difference score for those who indicated they were willing to reconsider their opinion was significantly smaller than the attitude difference scores for those who indicated that they either were unsure of their opinion or that they would not change their opinion as a result of the class presentation. This was the opposite of the expected pattern of attitude change.

Table 65  
Commitment to Attitudes About Gender by Time of Measurement

Type of Commitment	Attitudes About Gender			F	
	n	Mean	S.D.	Between	Linearity
Time 1	100	58.4	16.8	1.03	1.74
Unsure, open	13	61.56	16.9		
Will reconsider	25	61.38	18.5		
Still sure	62	56.48	16.1		
Time 3	101	58.2	15.8	.39	.33
Unsure, open	14	58.59	16.9		
Will reconsider	24	60.56	18.0		
Still sure	63	57.25	14.6		
Difference T1 to T3	95	-.57	14.4	0.46	0.90
Unsure, open	13	-3.52	14.4		
Will reconsider	23	-1.15	16.8		
Still sure	59	00.31	09.2		

Table 66  
Commitment to Attitudes About Sexual Orientation by Time of Measurement

Type of Commitment	Attitudes About Sexual Orientation			F	
	n	Mean	S.D.	Between	Linearity
Time 1	123	50.7	23.7	0.33	0.60
Unsure, open	28	53.84	22.2		
Will reconsider	19	50.23	22.5		
Still sure	76	49.61	24.5		
Time 3	124	58.1	24.0	1.90	0.17
Unsure, open	27	63.03	23.6		
Will reconsider	20	49.43	23.5		
Still sure	77	58.68	24.2		
Difference T1 to T3	120	07.4	14.1	4.08*	0.03
Unsure, open	27	9.91	15.8		
Will reconsider	19	-.98	17.2		
Still sure	74	8.64	12.5		

\* $p < .05$ .

Table 67  
Commitment to Attitudes About Sex Education by Time of Measurement

Type of Commitment	Attitudes About Sex Education			F
	n	Mean	S.D.	Between
Time 1	98	74.50		0.19
Unsure, open	2	69.00	08.8	
Still sure	96	74.61	17.9	
Time 3	95	76.0	19.1	0.44
Unsure, open	2	84.88	02.7	
Still sure	93	75.79	19.2	
Difference T1 to T3	95	01.60	14.3	2.03
Unsure, open	2	15.88	11.5	
Still sure	93	01.29	14.4	

Note. Cases with values of 0 or 1 are not reported.

Table 68  
Commitment to Attitudes About Sexual Coercion by Time of Measurement

Type of Commitment	Attitudes About Sexual Coercion			F	
	n	Mean	S.D.	Between	Linearity
Time 1	106	62.38	15.5	0.35	0.03
Still sure	6	60.38	11.9		
Will reconsider	11	65.91	13.8		
Unsure, open	89	62.08	15.9	1.07	1.90
Time 3	107	66.33	15.2		
Still sure	6	74.88	04.1		
Will reconsider	11	67.45	12.2	1.99	1.88
Unsure, open	90	65.62	15.9		
Difference T1 to T3	104	3.81	13.8		
Still sure	6	14.50	11.9	03.35	14.2
Will reconsider	11	01.55	10.4		
Unsure, open	87	03.35	14.2		

A second manner of looking at the consistency of extreme Time 1 attitude scores is to examine whether they remain extreme at the end of the semester at Time 3. Time 1 participants were ranked as top 10%, middle 80%, and low 10% and their scores then compared to their scores at Time 3. For example, the top 10% of gender attitude scorers at Time 1 were compared as a group to their Time 3 scores. This was repeated for the Time 1 low 10% and again for the Time 1 middle 80%.

Regression toward the mean is again evident, rather than the expected consistency of extreme scores. Time 1 High scoring groups for gender and sexual coercion attitudes decreased significantly in mean score at Time 3. Time 1 Low scoring groups for gender, sexual orientation, and sexual coercion attitudes increased significantly in mean attitude score at Time 3 in the expected direction. Time 1 Middle scoring groups for sexual orientation and sexual coercion attitudes increased significantly in mean score at Time 3 (see Table 69).

Table 69  
Extreme Attitude Score Consistency Time 1 to Time 3

	Time 1			Time 3			t-score
	n	Mean	S.D.	n	Mean	S.D.	
Gender	99	58.6	16.7	99	58.1	15.9	-.33
Low	9	26.0	6.2	9	43.2	16.5	3.92**
Middle	80	58.8	10.9	80	57.6	13.8	-.88
High	10	86.5	4.9	10	75.7	16.1	-2.28*
Orientation	122	50.3	23.4	122	57.6	24.4	5.62***
Low	12	12.7	6.2	12	29.9	13.8	5.56***
Middle	98	49.8	16.8	98	57.0	21.9	4.97***
High	12	92.6	4.3	12	90.7	12.1	-.6
Education	101	74.1	18.1	101	76.1	18.6	1.4
Low	10	36.7	5.3	10	51.7	21.4	2.04 <sup>+</sup>
Middle	80	75.7	12.8	80	76.7	16.1	0.66
High	11	96.5	2.0	11	94.3	6.2	-1.08
Coercion	108	62.8	16.1	108	66.3	15.5	2.6**
Low	11	34.7	9.7	11	47.6	15.0	3.4**
Middle	87	63.2	10.9	87	67.2	13.8	2.82**
High	10	90.3	6.8	10	79.0	13.2	-4.0**

<sup>+</sup>p < .10

\*p < .05

\*\*p < .01

\*\*\*p < .001.

Other indicators of commitment were also evaluated for possible influence on attitudes and attitude change. Life experience, affect, and sense of personal relevance value groups were compared using analysis of variance to attitude scores at Time 1 and Time 3 and the attitude difference scores Time 1—Time 3.

As shown in Table 70, life experience had no effect on attitudes about gender or on changes in gender attitudes across the semester. Life experience was significant for attitudes about sexual orientation at Time 1 and Time 3 as well as for the attitude difference score from Time 1 to Time 3. Linearity showed a trend toward significance at Time 1. Participants indicating life experience of an abstract nature were consistently lower in attitudes about sexual orientation scores than those who made no mention of life experience. Those who indicated personal knowledge of someone who had experience with issues of sexual orientation were consistently higher than the others (see Table 71). Life experience did not have a significant influence on attitudes about sex education or sexual coercion (see Tables 72 and 73).

For attitudes about gender, differences between affect level groups tended toward significance (see Table 74). Regarding the effects of affect on attitudes, the test for linearity was significant for gender at Time 1, Time 3, and the Time 1—Time 3 difference. Participants expressing more affect tended to score higher in attitude about gender at Time 1 and Time 3. Affect groups did not differ significantly on any other attitude topic (see Tables 75, 76, and 77).

Personal relevance of the message had a significant effect on attitudes about gender at both Time 1 and Time 3, for both between group differences and linearity. Personally felt relevance, whether anticipated or historical, was associated with a higher attitude about



gender score than if the participant indicated no personal relevance, not me, or a hypothetical relevance (see Table 78).

Personal relevance groups differed significantly also for attitudes about sexual orientation at Time 1, for both between group differences and linearity. Participants indicating a lack of personal relevance scored much lower on attitudes about sexual orientation than the other groups (see Table 79).

Personal relevance was not significant for attitudes about sex education (see Table 80).

However, an interesting curvilinear trend with significant between group differences was present in personal relevance and attitudes about sexual coercion at Time 1. The high attitude scorers were those whose relevance was hypothetical. Felt personal relevance, both anticipated and historical, was associated with a lower attitudes about sexual coercion score. The participants making no mention of personal relevance or stating a hypothetical relevance had the lowest attitude scores (see Table 81).

Table 70  
The Influence of Life Experience on Attitudes About Gender  
 by Time of Measurement

Life Experience	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	100	58.37	16.8	1.54	1.94
No mention	73	56.40	17.4		
Abstract	13	66.44	13.5		
Personal other	5	58.55	9.7		
Personal own	9	62.53	16.6		
Time 3	101	58.23	15.6	1.31	0.13
No mention	74	57.37	15.7		
Abstract	14	64.46	13.1		
Personal other	4	49.00	25.1		
Personal own	9	59.69	13.0		
Difference T1 to T3	95	-.57	13.4	.66	1.21
No mention	65	0.39	12.8		
Abstract	13	-1.8	13.6		
Personal other	4	-8.1	25.2		
Personal own	9	-2.8	14.0		

Table 71  
The Influence of Life Experience on Attitudes About Sexual Orientation by Time of  
 Measurement

Life Experience	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	123	50.67	21.8	7.67***	2.75 <sup>+</sup>
No mention	93	50.97	22.5		
Abstract	17	33.25	15.7		
Personal other	12	69.87	24.0		
Time 3	124	58.13	23.3	3.85*	.98
No mention	94	58.35	24.9		
Abstract	16	44.20	18.2		
Personal other	13	73.75	15.6		
Difference T1 to T3	120	7.40	14.1	2.81*	1.45
No mention	92	7.63	14.3		
Abstract	16	10.33	12.0		
Personal other	11	4.76	15.8		

Note. Cases with values of 0 or 1 are not reported.

<sup>+</sup>p < .10

\*p < .05

\*\*\*p < .001.

Table 72  
The Influence of Life Experience on Attitudes About Sex Education by Time of Measurement

Life Experience	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	98	74.50	17.8	.42	.00
No mention	82	74.27	17.8		
Abstract	2	86.00	1.4		
Personal own	14	72.21	19.0		
Time 3	95	76.98	19.2	.35	.00
No mention	79	75.78	19.8		
Abstract	2	87.25	8.1		
Personal own	14	75.50	16.0		
Difference T1 to T3	95	1.60	14.6	.00	.01
No mention	79	1.66	15.4		
Abstract	2	1.25	9.6		
Personal own	14	1.29	8.1		

Note. Cases with values of 0 or 1 are not reported.

Table 73  
The Influence of Life Experience on Attitudes About Sexual Coercion by Time of Measurement

Life Experience	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	106	62.38	15.6	.14	.00
No mention	49	62.15	14.1		
Abstract	20	64.01	17.8		
Personal other	12	60.42	14.0		
Personal own	25	62.45	17.3		
Time 3	107	66.33	15.0	2.20 <sup>+</sup>	.33
No mention	50	65.35	13.7		
Abstract	20	69.91	16.0		
Personal other	12	57.63	15.3		
Personal own	25	69.60	16.6		
Difference T1 to T3	104	3.81	13.8	1.63	.60
No mention	47	2.82	14.7		
Abstract	20	5.90	13.9		
Personal other	12	-2.79	11.7		
Personal own	25	7.15	12.9		

<sup>+</sup>p < .01.

Table 74  
The Influence of Affect on Attitudes About Gender by Time of Measurement

Affect	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	100	58.37	16.4	2.49 <sup>+</sup>	6.7*
No mention	8	49.28	18.4		
Low	23	52.76	13.7		
Medium	37	60.55	18.9		
High	32	62.14	14.6		
Time 3	101	58.23	15.3	2.51 <sup>+</sup>	6.3*
No mention	8	47.00	17.2		
Low	24	54.65	12.5		
Medium	38	60.47	15.6		
High	31	61.14	14.4		
Difference T1 to T3	95	-.57	13.5	.20	.01
No mention	6	-4.33	17.4		
Low	22	0.53	12.9		
Medium	36	-.44	13.4		
High	31	-.78	13.4		

<sup>+</sup>p < .10.

\*p < .05.

Table 75  
The Influence of Affect on Attitudes About Sexual Orientation by Time of Measurement

Affect	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	123	50.67	23.3	1.78	1.28
No mention	22	45.93	21.0		
Low	51	48.66	21.0		
Medium	41	57.24	27.3		
High	9	43.67	24.2		
Time 3	124	58.13	24.0	1.59	.17
No mention	21	53.38	24.2		
Low	51	58.09	21.3		
Medium	42	63.18	26.7		
High	10	47.16	23.9		
Difference T1 to T3	120	7.40	14.4	1.14	2.25
No mention	21	8.76	14.5		
Low	50	8.88	13.9		
Medium	40	6.59	13.6		
High	9	-.31	20.2		

Table 76  
The Influence of Affect on Attitudes About Sex Education by Time of Measurement

Affect	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	98	74.50	17.7	1.19	.65
No mention	47	72.05	17.3		
Low	37	77.99	17.4		
Medium	14	73.50	19.9		
Time 3	95	75.98	19.2	.25	.00
No mention	46	75.22	17.8		
Low	36	77.70	20.2		
Medium	13	73.90	21.3		
Difference T1 to T3	95	1.60	14.5	.53	.72
No mention	46	3.16	14.5		
Low	36	-.05	14.5		
Medium	13	0.62	14.2		

Note. Cases with values of 0 or 1 are not reported.

Table 77  
The Influence of Affect on Attitudes About Sexual Coercion by Time of Measurement

Affect	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	106	62.38	15.6	.40	.57
No mention	18	58.75	12.1		
Low	27	63.08	12.9		
Medium	41	63.34	18.3		
High	20	62.73	15.5		
Time 3	107	66.33	15.1	1.75	2.99 <sup>+</sup>
No mention	17	59.09	11.5		
Low	26	66.23	15.3		
Medium	43	68.94	15.0		
High	21	66.95	17.4		
Difference T1 to T3	104	3.81	14.0	.46	.93
No mention	17	0.31	16.2		
Low	26	3.73	13.7		
Medium	41	4.97	13.1		
High	20	4.49	14.4		

<sup>+</sup>p < .10.

Table 78  
The Influence of Personal Relevance on Attitudes About Gender by Time of Measurement

Personal Relevance	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	100	58.37	16.0	3.64**	7.26**
Other, Not me	5	46.35	18.4		
Hypothetical	14	45.64	19.4		
Felt Anticipated	60	61.61	15.6		
Felt Historical	20	60.53	13.9		
Time 3	101	58.23	14.6	4.64***	3.97*
Other, Not me	4	48.69	12.1		
Hypothetical	12	43.10	15.6		
Felt Anticipated	64	61.75	14.6		
Felt Historical	20	57.54	14.4		
Difference T1 to T3	95	-.57	13.4	.77	.86
Other, Not me	4	6.81	11.4		
Hypothetical	12	-3.69	11.4		
Felt Anticipated	58	0.26	12.8		
Felt Historical	20	-2.99	16.3		

Note. Cases with values of 0 or 1 are not reported.

<sup>+</sup>p < .10.      \*p < .05.      \*\*p < .01.      \*\*\*p < .001.

Table 79  
The Influence of Personal Relevance on Attitudes About Sexual Orientation by Time of Measurement

Personal Relevance	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	123	50.67	23.1	2.65*	4.29*
Other, Not me	13	34.09	19.8		
Hypothetical	45	50.97	22.1		
Felt Anticipated	51	54.17	23.4		
Felt Historical	14	52.31	27.6		
Time 3	124	58.13	23.9	2.20 <sup>+</sup>	1.74
Other, Not me	13	42.66	14.5		
Hypothetical	46	59.92	26.9		
Felt Anticipated	50	61.06	22.4		
Felt Historical	15	56.31	24.03		
Difference T1 to T3	120	7.40	14.5	.54	1.27
Other, Not me	13	8.57	9.9		
Hypothetical	45	8.86	15.9		
Felt Anticipated	49	6.82	14.0		
Felt Historical	13	3.40	15.3		

<sup>+</sup>p < .10.

\*p < .05.

Table 80  
The Influence of Personal Relevance on Attitudes About Sex Education by Time of Measurement

Personal Relevance	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	98	74.50	17.7	1.09	.57
Hypothetical	80	74.25	17.9		
Felt Anticipated	8	67.38	20.7		
Felt Historical	9	82.75	12.2		
Time 3	95	75.98	19.2	.60	1.14
Hypothetical	77	75.44	20.0		
Felt Anticipated	8	73.38	19.4		
Felt Historical	9	83.69	7.6		
Difference T1 to T3	95	1.60	14.5	.41	.21
Hypothetical	77	1.34	15.6		
Felt Anticipated	8	6.00	7.2		
Felt Historical	9	.94	8.0		

Note. Cases with values of 0 or 1 are not reported.

Table 81  
The Influence of Personal Relevance on Attitudes About Sexual Coercion by Time of Measurement

Personal Relevance	Attitude			F	
	n	Mean	S.D.	Between	Linearity
Time 1	106	62.38	14.9	2.88*	.04
No mention	2	56.63	2.3		
Other, Not me	14	54.21	18.8		
Hypothetical	30	69.28	13.7		
Felt Anticipated	30	60.45	13.9		
Felt Historical	30	61.59	15.3		
Time 3	107	66.33	15.4	.53	.41
Other, Not me	14	62.02	15.8		
Hypothetical	29	68.53	13.4		
Felt Anticipated	33	65.24	15.9		
Felt Historical	30	67.54	16.3		
Difference T1 to T3	104	3.81	13.9	1.16	.19
Other, Not me	14	7.80	10.1		
Hypothetical	29	-.44	14.1		
Felt Anticipated	30	3.79	15.9		
Felt Historical	30	5.95	12.9		

\* $p < .05$ .