

EFFECT OF APPLYING MOTIVATION PROTECTION THEORY TO CONTACT LENS  
KERATITIS PREVENTION PROGRAM AMONG VOCATIONAL STUDENTS IN THE BANGKOK  
METROPOLITAN AREA

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ABSTRACT

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At present, Keratitis is a common problem among teenagers. This is due to the incorrect use of contact lenses, which leads to complications that can ultimately result in vision loss. The objective of this quasi-experimental study was to examine the effect of applying motivation protection theory to contact lens keratitis prevention behaviors among first year vocational students in the Bangkok metropolitan area. The experimental group (n=30) received a contact lens keratitis prevention program that was based on motivation protection theory. The control group (n=30) received a guide to eye care and self-care instructions on the proper use of contact lenses, for study, over 5 weeks. Pre-test, post-test and follow-up data were collected by questionnaire. The data were analyzed using the repeated measures ANOVA and independent t-test. The results revealed that, the experimental group after the intervention had significantly better mean scores of perceived severity of keratitis, perceived susceptibility to keratitis, response efficacy expectations for prevention of keratitis, self-efficacy expectations for prevention of keratitis, and behaviors for the prevention of keratitis than at pre-test and better than those of the control group ( $p < .05$ ). The results of this study suggest that the application of motivation protection theory in preventing contact lens related keratitis can modify the behavior of contact lens users. Teaching, demonstration, role model and communication, and increasing awareness of contact lens users can reduce health problems and prevent disability. This will ultimately help vocational students, who are teenagers, have good quality of life.

**Keywords:** Contact lens, Keratitis, Motivation protection theory

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**Table 1:** Number and percentage of the experimental group and the comparison group classified by the level of perceived severity of keratitis, perceived susceptibility to keratitis, response efficacy expectations for prevention of keratitis, self-efficacy expectations for prevention of keratitis, and behaviors for prevention of keratitis during the pre-experiment, post-experiment, and follow-up period

Variables	Experimental group (n=30)			comparison group (n=30)		
	High	Moderate	Low	High	Moderate	Low
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
<b>Perceived severity</b>						
Pre-experiment	4( 13.33)	11(36.67)	15(50.00)	3(10.00)	9(30.00)	18(60.00)
Post-experiment	30(100)	0(0.00)	0(0.00)	3(10.00)	11(36.67)	16(53.33)
Follow-up	30(100)	0(0.00)	0(0.00)	3(10.00)	10(33.33)	17(56.67)
<b>Perceived susceptibility</b>						
Pre-experiment	5 (16.67)	10 (33.33)	15(50.00)	7 (23.34)	13 (43.33)	10(33.33)
Post-experiment	30 (100)	0 (0.00)	0 (0.00)	6 (20.00)	15 (50.00)	9 (30.00)
Follow-up	30 (100)	0 (0.00)	0 (0.00)	3 (10.00)	15 (50.00)	12(40.00)
<b>Response efficacy expectations for prevention of keratitis</b>						
Pre-experiment	6 (20.00)	14(46.67)	10(33.33)	3 (10.00)	12 (40.00)	15(50.00)
Post-experiment	30 (100)	0 (0.00)	0 (0.00)	4 (13.34)	10 (33.33)	16(53.33)
Follow-up	30 (100)	0 (0.00)	0 (0.00)	3 (10.00)	10 (33.33)	17(56.67)
<b>Self-efficacy expectations for prevention of keratitis</b>						
Pre-experiment	4 (13.34)	10 (33.33)	16(53.33)	4 (13.34)	12 (40.00)	14(46.66)
Post-experiment	30 (100)	0 (0.00)	0 (0.00)	5 (16.67)	10 (33.33)	15(50.00)
Follow-up	30 (100)	0 (0.00)	0 (0.00)	3 (10.00)	10 (33.33)	17(56.67)
<b>Behaviors for prevention of keratitis</b>						
Pre-experiment	7(23.33)	9(30.00)	14(46.67)	7(23.33)	10(33.33)	13(43.34)
Post-experiment	30(100)	0(0.00)	0(0.00)	5(16.67)	12(40.00)	13(43.33)
Follow-up	30(100)	0(0.00)	0(0.00)	6(20.00)	11(36.67)	13(43.33)

**Table2:** Comparison of average score within the experimental group and the comparison group in pre-test, post-test and follow-up periods

Variables	Experimental gr. (n=30)				Comparisons gr. (n=30)			
	$\bar{x}$	S.D.	t	p	$\bar{x}$	S.D.	t	P
<b>Perceived severity</b>								
Pre-experiment	17.10	1.02			12.57	2.01		
Post-experiment	22.10	1.03	-18.8	< .001	12.90	1.47	0.76	.45
Pre-experiment	17.10	1.02			12.57	2.01		
Follow-up	23.63	0.85	-26.8	< .001	11.73	1.94	-1.60	.12
Post-experiment	22.10	1.03			12.90	1.47		
Follow-up	23.63	0.85	-6.29	< .001	11.73	1.94	0.86	.38
	F=549.25, df=2, p < .001				F=2.09, df=2, p= .13			
<b>Perceived susceptibility</b>								
Pre-experiment	25.63	3.40			24.30	3.50		
Post-experiment	45.17	2.42	-28.4	< .001	24.07	2.47	0.05	.96
Pre-experiment	25.63	3.40			24.30	3.50		
Follow-up	48.30	1.29	-36.5	< .001	23.10	2.83	1.24	.22
Post-experiment	45.17	2.42			24.07	2.47		
Follow-up	48.30	1.29	-6.25	< .001	23.10	2.83	1.40	.16
	F=891.21, df=2, p < .001				F=1.22, df=2, p= .30			
<b>Response efficacy expectations for prevention of keratitis</b>								
Pre-experiment	27.87	2.82			25.93	2.67		
Post-experiment	42.80	2.10	-21.3	< .001	27.07	3.63	1.47	.15
Pre-experiment	27.87	2.82			25.93	2.67		
Follow-up	45.70	1.39	-30.0	< .001	26.33	2.18	0.86	.39
Post-experiment	42.80	2.10			27.07	3.63		
Follow-up	45.70	1.39	-6.28	< .001	26.33	2.18	0.96	.34
	F=535.45, df=2, p < .001				F=1.38, df=2, p= .25			

**Table2:** Comparison of average score within the experimental group and the comparison group in pre-test, post-test and follow-up periods (continuous)

Variables	Experimental gr. (n=30)				Comparisons gr. (n=30)			
	$\bar{x}$	S.D.	t	p	$\bar{x}$	S.D.	t	P
<b>Self-efficacy expectations for prevention of keratitis</b>								
Pre-experiment	21.10	1.95			17.23	1.87		
Post-experiment	27.00	1.59	-17.8	< .001	16.73	2.34	-0.82	.41
Pre-experiment	21.10	1.95			17.23	1.87		
Follow-up	28.17	1.46	-18.0	< .001	17.07	3.26	-0.21	.83
Post-experiment	27.00	1.59			16.73	2.34		
Follow-up	28.17	1.46	-2.94	.005	17.07	3.26	0.27	.78
	F=245.83 df=2, p < .001				F=0.28, df=2, p= .75			
<b>Behaviors for prevention of keratitis</b>								
Pre-experiment	18.70	3.09			18.77	2.88		
Post-experiment	34.40	2.07	-25.7	< .001	17.80	3.07	-1.14	.26
Pre-experiment	18.70	3.09			18.77	2.88		
Follow-up	36.17	1.91	-30.6	< .001	17.83	3.79	-1.06	.29
Post-experiment	34.40	2.07			17.80	3.07		
Follow-up	36.17	1.91	-3.42	.001	17.83	3.79	0.22	.82
	F=625.81, df=2, p < .001				F=0.56, df=2, p= .57			

**Table 3** Comparison of mean score between the experimental group and the comparison group pre-test, post-test and follow-up

Variables	Experimental Group (n=30)		Comparison Group (n=30)		t	df	p
	$\bar{x}$	SD	$\bar{x}$	SD			
	<b>Perceived severity</b>						
Pre-experiment	17.10	1.02	16.97	1.18	0.46	58	.64
Post-experiment	22.10	1.02	16.93	1.87	13.23	58	< .001
Follow-up	23.63	0.85	16.56	1.35	24.17	58	< .001
<b>Perceived susceptibility</b>							
Pre-experiment	25.63	3.40	24.37	3.06	1.51	58	.13
Post-experiment	45.17	2.42	24.07	2.47	33.36	58	< .001
Follow-up	48.30	1.29	23.10	2.83	44.34	58	< .001
<b>Response efficacy expectations for prevention of keratitis</b>							
Pre-experiment	27.87	2.82	27.00	2.50	1.25	58	.21
Post-experiment	42.80	2.10	26.90	3.61	20.81	58	< .001
Follow-up	45.70	1.39	26.17	2.08	42.65	58	< .001
<b>Self-efficacy expectations for prevention of keratitis</b>							
Pre-experiment	21.10	1.95	20.50	1.43	1.35	58	.18
Post-experiment	27.00	1.59	20.60	1.42	16.35	58	< .001
Follow-up	28.17	1.46	20.53	1.40	20.58	58	< .001
<b>Behaviors for prevention of keratitis</b>							
Pre-experiment	18.70	3.09	18.77	2.88	-0.08	58	.93
Post-experiment	34.40	2.07	18.03	2.96	24.75	58	< .001
Follow-up	36.17	1.91	17.83	3.79	23.61	58	< .001

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