



The effect of Smoke Free Campus Plan intervention, TAIWAN

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Introduction





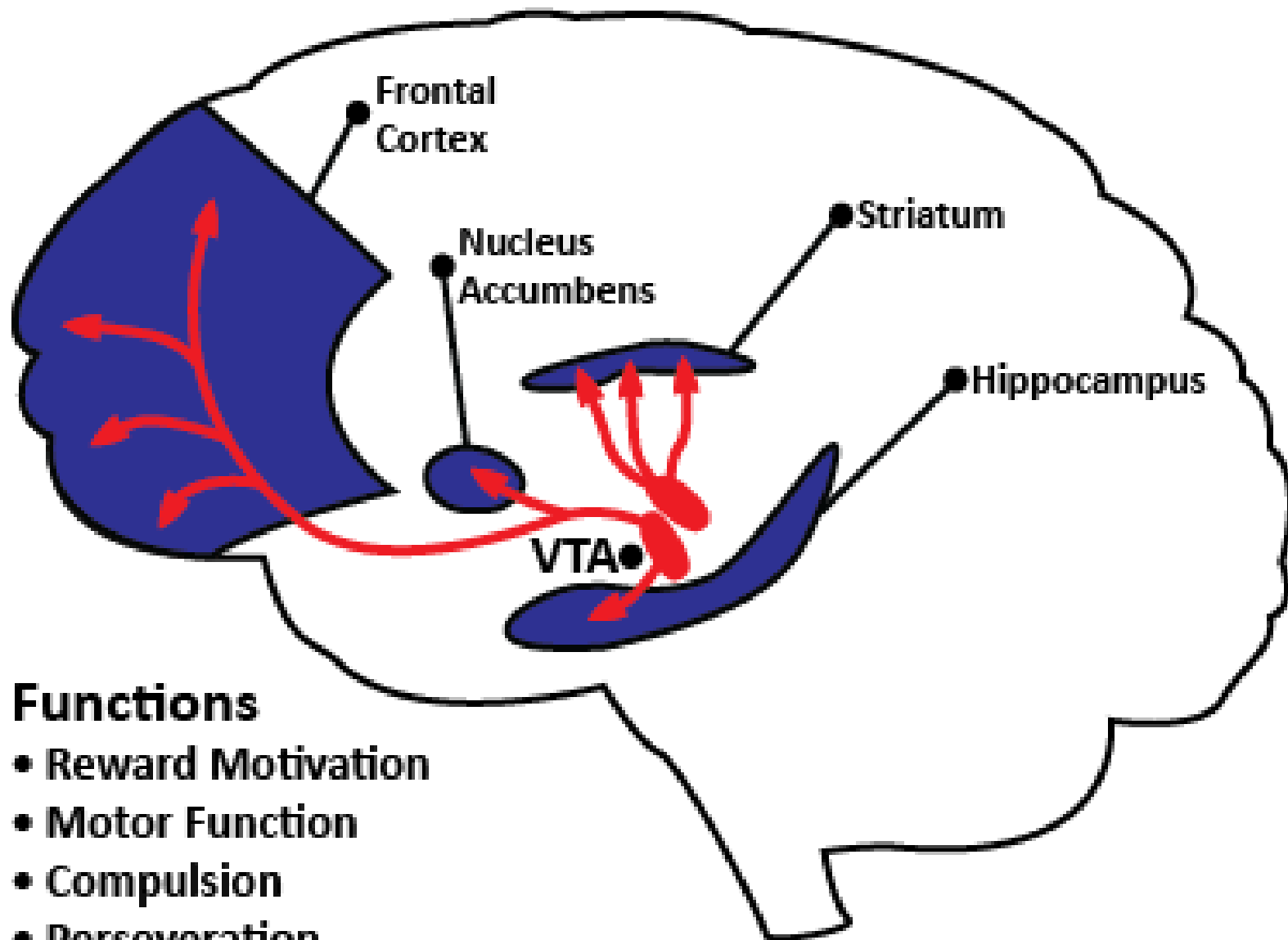
The addictive theory







Dopamine Pathways



Functions

- Reward Motivation
- Motor Function
- Compulsion
- Perseveration



SMOKING....

HELPS YOU

RELAX!



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wiseGEEK

Education Program



- Self-Confidence Improve
- Knowing smoking hazard
- Establish Social support to stop smoking
- Knowing Your Media of Smoking Advertisement

<http://tobacco.bhp.doh.gov.tw/readsmoke/>

- Refusion of smoking technique

http://tobacco.bhp.doh.gov.tw:8080/no_smoking2004/index.htm



PREVELANCE

- ◆ the age of initiation seems to be dropping
- ◆ The prevalence of smoking among 7–13 year olds in Taiwan is 8.0% (11.2% among boys and 4.2% among girls).
- ◆ that the mean age at which adolescents started smoking was 11.7 \pm 1.6 years
- ◆ 82.9% of adolescents had never smoked before, 13.4% had tried smoking at least once, and 3.7% smoked regularly
- ◆ behavior for Taiwan adolescents were: **curiosity, parent's smoking habits, peer pressure, negative self-perception, high smoking prevalence at the school level, male gender, increased second-hand smoking, changing social relationships and low academic performance**



PREVELANCE in USA



- ◆ Tobacco kills nearly **six million people each year**, of whom more than five million are users and ex-users and more than 600 000 are non-smokers exposed to second-hand smoke In the US,
- ◆ In the US , smoking is responsible for **69% and 74% of all cancer deaths and 69% and 61% of deaths from cardiovascular disease** in female and male smokers.
- ◆ Up to **half of current users** will eventually die of a tobacco-related cause .





Preventing Tobacco Use Among Youth and Young Adults

- ◆ Tobacco use is a **heritable trait**, more so for regular use than for onset
- ◆ JAMA in 1964 , Why some teenagers smoke and others do not is not fully understood , reduction or elimination of cigarette smoking can only be achieved if today's nonsmokers never start
- ◆ Even though substantial reductions in smoking rates have occurred in some countries , the number of smokers worldwide is still increasing. That the largest reduction in daily smoking between 1980 and 2015 was among 15-19 year-olds is encouraging but gains are still modest.



smoking initiation (SI) and nicotine dependence (ND)

- ◆ heritability estimates for SI from 40 to 70% with family environmental influences more pronounced in adolescence than in adulthood.
- ◆ partly the same genes contribute to liability to SI and ND
- ◆ This evidence for a correlated liability of SI and ND makes it more important to study SI as a necessary stage to nicotine addiction



Stop SI smoking initiation



◆ free campus program

◆ - smoking prevention, Control and Education Intervention

◆ 4514 Junior and High School Students

◆ into experimental group and control group

◆ pre-test and post-test

◆ experimental students accepted 6-month smoke free campus plan intervention



Abstract



Background: Cigarette smoking is one of the leading preventable risk factors contributing to morbidity and mortality.

The age of smoking is getting younger and younger. We designed an smoke free campus plan to reduce the smoking rate in adolescents.



Abstract



Objective: To evaluate the effectiveness of smoke free campus program - smoking prevention, Control and Education Intervention on smoking rate, smoking refusing intention, behavior change, and cognition of smoking hazard for in Junior and High School students in Taiwan.



Abstract



Method: After developing the smoke free campus plan with health promoting school model, we enrolled 4514 Junior and High School Students. All the students assigned into experimental group and control group, 2236 in Experiment group, and 2278 in Control group. All the students completed pre-test and post-test. The experimental students accepted 6-month smoke free campus plan intervention, all the same intervention, including

- ✓Self-Confidence Improve
- ✓Knowing Smoking Hazard
- ✓Establish Social support to stop Smoking
- ✓Knowing Your Media of Smoking Advertisement
- ✓Refusion of Smoking Technique

while control group students didn't. The effectiveness of the smoke free campus plan intervention will be evaluated by t-test with SPSS.



Baseline 1



觀察值處理摘要

	有效		觀察值 遺漏		總計	
	N	百分比	N	百分比	N	百分比
Taitung, Hualien, Hsinchu * experimental, control	9028	98.1%	178	1.9%	9206	100.0%
Taitung, Hualien, Hsinchu * pre, post, test	9028	98.1%	178	1.9%	9206	100.0%



Baseline 2



Taitung, Hualien, Hsinchu*experimental, control 交叉列表

計數

		experimental, control		
		實驗組	對照組	總計
Taitung, Hualien, Hsinchu	.00	5	11	16
	台東縣	1287	1493	2780
	花蓮縣	1348	1356	2704
	新竹縣	1770	1758	3528
總計		4410	4618	9028



Baseline3



Taitung, Hualien, Hsinchu*pre, post, test 交叉列表

計數

		pre, post, test		
		前測	後測	總計
Taitung, Hualien, Hsinchu	.00	7	9	16
	台東縣	1331	1449	2780
	花蓮縣	1270	1434	2704
	新竹縣	1906	1622	3528
總計		4514	4514	9028



Baseline4



group*txt*是否有吸菸 交叉列表

計數

			txt		總計
是否有吸菸			前測 Pre	後測 Post	
無吸菸 Non-Smoking	group	Exp.	2147	2133	4280
		Con.	2252	2277	4529
	總計		4399	4410	8809
有吸菸 Smoking	group	Exp.	89	41	130
		Con.	26	63	89
	總計		115	104	219
總計	group	Exp.	2236	2174	4410
		Con	2278	2340	4618
	總計		4514	4514	9028



Pre-Test, Exp. Con.

群組統計量

	group	N	平均值	標準差	標準誤平均值
是否有吸菸 Smoking Rate	實驗組	2236	.0398		
	對照組	2278	.0114		
拒絕菸害意向總分 smoking refusing intention	實驗組	517	7.5667	3.20457	.14094
	對照組	484	7.6260	2.96470	.13476
戒菸行為改變階段總分 behavior change	實驗組	875	14.3189	6.17388	.20872
	對照組	874	13.8101	6.15460	.20818
菸害認知總分 cognition of smoking hazard	實驗組	2236	24.2366	4.70745	.09955
	對照組	2278	24.0140	4.48525	.09397





Pre-Test, Exp. Con.

獨立樣本檢定

		變異數等式的 Levene 檢定		平均值等式的 t 檢定						差異的 95% 信賴區間	
		F	顯著性	t	自由度	顯著性 (雙尾)	平均值差異	標準誤差異		下限	上限
是否有吸菸	採用相等變異數	152.427	.000	6.076	4512	.000	.02839	.00467		.01923	.03755
	不採用相等變異數			6.045	3434.885	.000	.02839	.00470		.01918	.03760
拒絕菸害意向總分	採用相等變異數	3.658	.056	-.303	999	.762	-.05930	.19550		-.44293	.32433
	不採用相等變異數			-.304	998.862	.761	-.05930	.19500		-.44195	.32335
戒菸行為改變階段總分	採用相等變異數	.069	.792	1.726	1747	.085	.50879	.29479		-.06939	1.08697
	不採用相等變異數			1.726	1746.993	.085	.50879	.29479		-.06939	1.08697
菸害認知總分	採用相等變異數	1.012	.314	1.626	4512	.104	.22254	.13684		-.04574	.49081
	不採用相等變異數			1.626	4491.894	.104	.22254	.13690		-.04586	.49093



Experimental Group pre vs post



	群組統計量				
	1前側，2後側	N	平均值	標準差	標準誤平均值
是否有吸菸 Smoking Rate	前測 Pre	2236	.0398		
	後測 Post	2174	.0189		
拒絕菸害意向總分 smoking refusing intention	前測 Pre	502	7.2550	3.03912	.13564
	後測 Post	423	7.6761	3.19457	.15533
戒菸行為改變階段總分 behavior change	前測 Pre	2176	10.2426	3.93405	.08434
	後測 Post	2083	10.5310	4.15425	.09102
菸害認知總分 cognition of smoking hazard	前測 Pre	2236	24.2366	4.70745	.09955
	後測 Post	2174	24.7976	4.15966	.08921



Experimental Group



獨立樣本檢定

		變異數等式的 Levene 檢定		平均值等式的 t 檢定						
		F	顯著性	t	自由度	顯著性 (雙尾)	平均值差異	標準誤差異	差異的 95% 信賴區間	
是否有吸菸	採用相等變異數	68.901	.000	4.118	4408	.000	.02094	.00509	.01097	.03092
	不採用相等變異數			4.138	3995.957	.000	.02094	.00506	.01102	.03087
拒絕煙害意向總分	採用相等變異數	2.237	.135	-2.051	923	.041	-.42114	.20534	-.82413	-.01816
	不採用相等變異數			-2.042	879.990	.041	-.42114	.20622	-.82587	-.01641
戒煙行為改變階段總分	採用相等變異數	12.657	.000	-2.326	4257	.020	-.28832	.12394	-.53130	-.04533
	不採用相等變異數			-2.324	4216.484	.020	-.28832	.12409	-.53159	-.04504
菸害認知總分	採用相等變異數	45.706	.000	-4.190	4408	.000	-.56102	.13391	-.82355	-.29850
	不採用相等變異數			-4.197	4368.442	.000	-.56102	.13368	-.82310	-.29895

Control Group pre vs post



群組統計量

	1前側，2後側	N	平均值	標準差	標準誤平均值
是否有吸菸 Smoking Rate	前測 Pre	2278	.0114		
	後測 Post	2340	.0269		
拒絕菸害意向總分 smoking refusing intention	前測 Pre	483	7.4665	2.96317	.13483
	後測 Post	365	7.4192	2.92435	.15307
戒菸行為改變階段總分 behavior change	前測 Pre	874	14.8101	6.15460	.20818
	後測 Post	882	14.4501	6.33534	.21332
菸害認知總分 cognition of smoking hazard	前測 Pre	1572	24.0496	5.04595	.12727
	後測 Post	1799	24.0499	4.65037	.10964

Control Group



獨立樣本檢定

		變異數等式的 Levene 檢定		平均值等式的 t 檢定						差異的 95% 信賴區間	
		F	顯著性	t	自由度	顯著性 (雙尾)	平均值差異	標準誤差異		下限	上限
是否有吸菸	採用相等變異數	59.695	.000	-3.838	4616	.000	-.01551	.00404		-.02343	-.00759
	不採用相等變異數			-3.859	4051.779	.000	-.01551	.00402		-.02339	-.00763
拒絕煙害意向總分	採用相等變異數	.001	.977	-.258	846	.796	-.05272	.20436		-.45382	.34839
	不採用相等變異數			-.258	789.190	.796	-.05272	.20398		-.45313	.34769
戒煙行為改變階段總分	採用相等變異數	.714	.398	-2.147	1754	.032	-.64004	.29811		-1.22473	-.05536
	不採用相等變異數			-2.147	1753.311	.032	-.64004	.29807		-1.22466	-.05543
菸害認知總分	採用相等變異數	31.835	.000	-4.790	3369	.000	-.80030	.16706		-1.12785	-.47274
	不採用相等變異數			-4.764	3219.017	.000	-.80030	.16798		-1.12966	-.47094



Post-Test, Exp. Con.



群組統計量

	group	N	平均值	標準差	標準誤平均值
是否有吸菸 Smoking Rate	實驗組 Exp.	2174	.0189		
	對照組 Con.	2340	.0269		
拒絕菸害意向總分 smoking refusing intention	實驗組 Exp.	423	7.3239	3.19457	.15533
	對照組 Con.	365	7.2808	2.92435	.15307
戒菸行為改變階段總分 behavior change	實驗組 Exp.	996	14.6432	6.46453	.20484
	對照組 Con.	882	14.0501	6.33534	.21332
菸害認知總分 cognition of smoking hazard	實驗組 Exp.	2174	24.7976	4.15966	.08921
	對照組 Con.	2340	24.0821	4.22764	.08740





Post-Test, Exp. Con.

獨立樣本檢定

		變異數等式的 Levene 檢定		平均值等式的 t 檢定						
		F	顯著性	t	自由度	顯著性 (雙尾)	平均值差異	標準誤差異	差異的 95% 信賴區間	
是否有吸菸	採用相等變異數	68.901	.000	4.118	4408	.000	.02094	.00509	.01097	.03092
	不採用相等變異數			4.138	3995.957	.000	.02094	.00506	.01102	.03087
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Baseline4

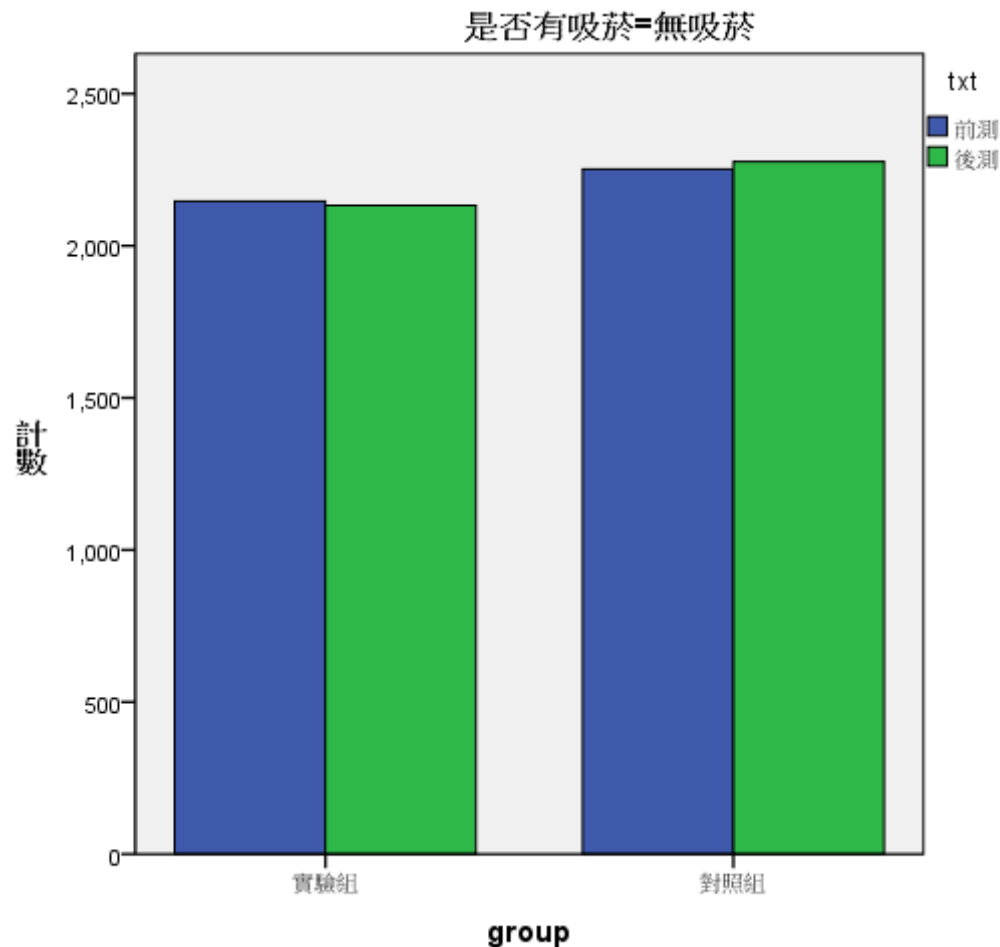


group*txt*是否有吸菸 交叉列表

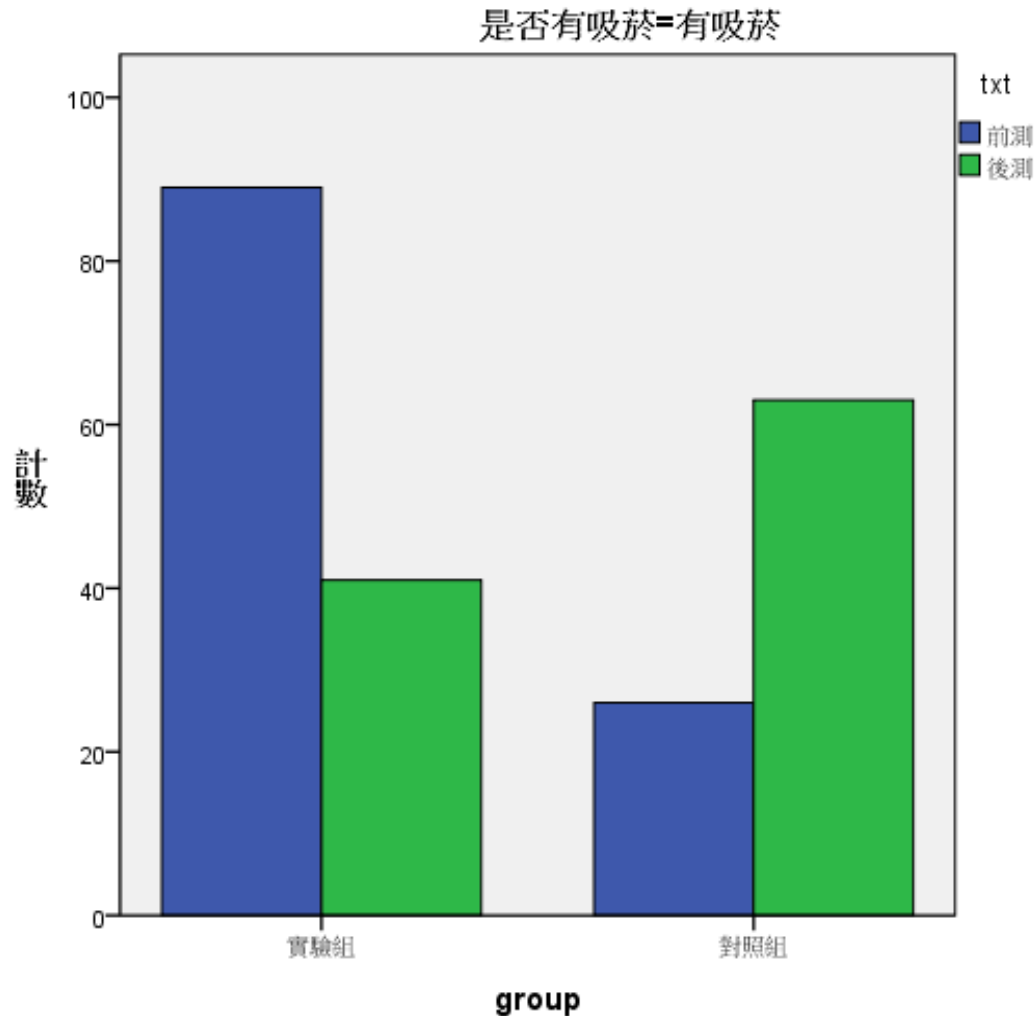
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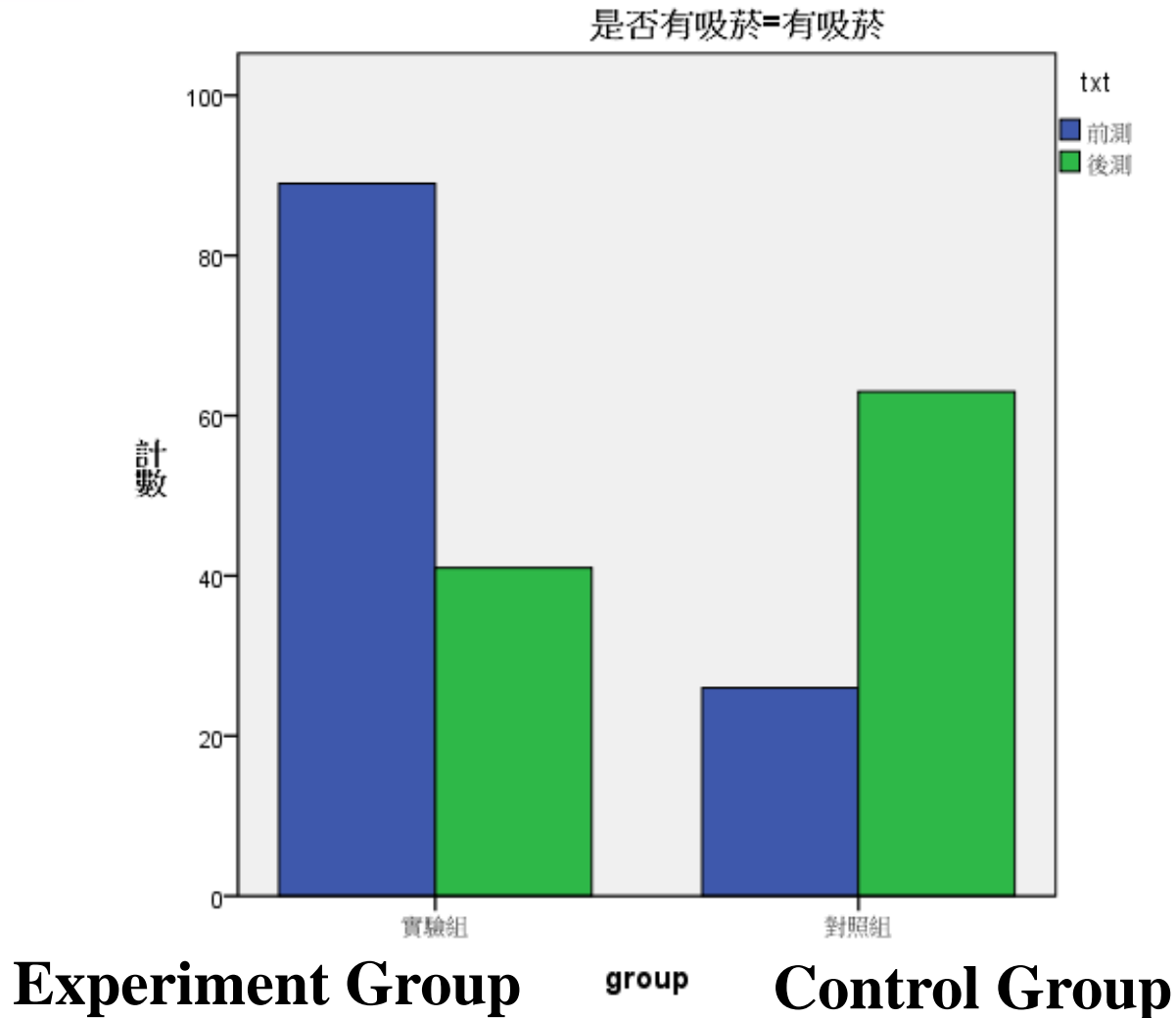
Result 1(Non-Smoker)



Result 2 (Smoker)



Result 2 (Smoker)



Results:



The smoke free campus plan with health promoting school model. After the smoke free campus intervention, **smoking rate** decreased from **3.98% to 1.89% (t-test $p < 0.05$)**. The smoking refusing intention, behavior change, and cognition of smoking hazard of experimental group were significantly improved.



Conclusion and suggestion:



Junior and high school students' smoking rate decreased and **smoking refusing intention**, **behavior change**, and **cognition of smoking hazard** significantly improved after intervening smoke free campus plan with health promoting school model. To prevent smoking for adolescent, the smoke free campus plan with health promoting school model was suggested.







