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Barriers hindering nursing students from adopting health promoting lifestyles

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Significance of Study

Definition of Health-Promoting Lifestyle

It has been defined as a multidimensional pattern of self initiated actions and perceptions that serve to maintain or enhance the level of wellness, self actualization and fulfillment of the individual *(Pender, 1982)*.

Health-promoting lifestyle= major strategy to promote health and prevent illness

Nursing students are expected to assume the role of health promoter after graduation

The personal health practices of health promoters can affect their effectiveness

Nursing students may not be able to practice healthy lifestyles due to a variety of barriers

Knowledge Gap

- There are very limited studies to examine the health-promoting lifestyles of nursing students in Hong Kong.

- No study in worldwide has yet addressed the potential barriers that nursing students face to adopting the recommended behaviors

- No study in worldwide has yet examined the impacts of health-promoting lifestyles on their health at young age.

Research Objectives

1. To identify the patterns of HPL & QOL among nursing students in HK
2. To examine the association between sociodemographic variables including gender, age, year of study and monthly family income and HPL & QOL among nursing students in HK
3. To identify the barriers that may hurdle nursing students to adopt HPL in HK
4. To examine the relationship between HPL & QOL among nursing students in HK

Study Paradigms & Design

Quantitative

- Objectivity
- Systemically & carefully investigate phenomenon
- Precise measurement
- With ability to generalize

(Gillis & Jackson, 2002)

Survey Design

- Descriptive
- Cross-sectional
- Data collected through self-administered questionnaires

(Lobiondo-Wood & Haber, 2002)

Selection of Participants

Inclusion criteria:

- Full-time students
- Pre-registration nursing students at the Hong Kong Polytechnic University (HKPU)
- With status as a student in academic year 09/10

Exclusion criteria:

- Part-time students
- Registered/Enrolled nurses in HK
- Non-university students
- Deferred as a student in academic year 09/10

Bachelor of Science (Honours) in Nursing
(Self-financed)

Bachelor of Science (Honours) in Nursing
(Government-funded)

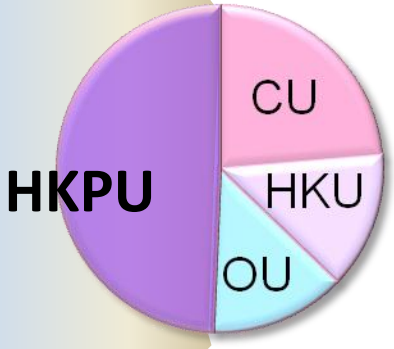
Higher Diploma in Nursing

Bachelor of Science (Honours) in Mental Health Nursing

Master of Nursing

Target population: 1,460

Pre-registration University Nursing Students in Hong Kong



Estimated Total Number: ~3000
(Source from JUPAS)

Questionnaire

Closed-ended & Structured questions

1. Health-Promoting Lifestyle Profile II (HPLP-II)

- ✓ **Walker, Sechrist and Pender (1995)**
- ✓ Measure how frequently students engaged in HPL

2. The World Health Organization Quality of Life (WHOQOL) - BREF

- ✓ **WHOQOL Group (1998)**
- ✓ Assess student's perceptions

(i.e. Their culture & value systems, personal goals, standards & concerns)

3. Barriers to adopt HPL

- ✓ Newly developed
- ✓ **Based on reviewed literatures**

4. Demographic Information

- ✓ Gender, age, year of study, monthly family income, etc.

Pilot Study

Content Validity

Reviewed by 3 experts in this area at HKPU

Amendments made according to their suggestions:

1) Giving example to illustrate terms like "physical environment"

2) Separating the education level of parents into father and mother

Test-retest Reliability

42 university students who were in late adolescent or early adulthood

Second trial done 2 weeks after the first

Results (Cronbach's alpha in inter-item correlations):

- HPLP-II: ***0.905*** (for whole HPLP-II), ***0.655-0.827*** (for subscales)
- WHOQOL-BREF: ***0.870*** (for whole WHOQOL-BREF), ***0.598-0.782*** (for domains)
- Barriers: ***0.787***

Data Collection

Period

- Between April and August 2010

Final year students

- During program leader's meeting
- Questionnaires distributed by research teams

Non-final year students

- During clinical placements
- Questionnaires distributed by clinical mentors
- *In both occasions, students had the choice either return the questionnaires to clinical mentors/ researchers or to the collection box in general office

Ethical consideration

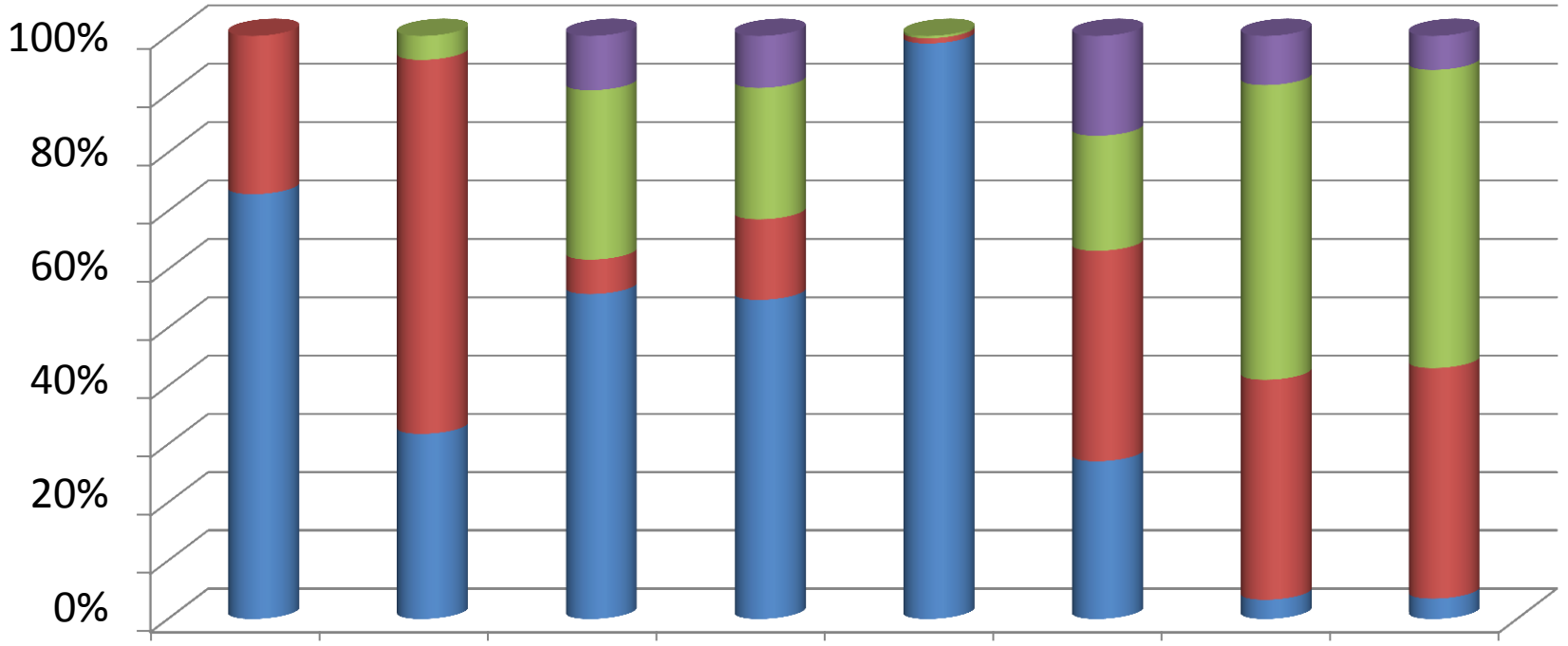
- Implied consent, autonomy, anonymity & confidentiality

Data Analysis

<table>
<tr><td colspan="3">Data analysis will be conducted using SPSS version 15.0</td></tr>
<tr><td>Variables</td><td colspan="2">Statistics Tests</td></tr>
<tr><td>Demographic variables, Health-Promoting Lifestyles, QOL</td><td colspan="2">Descriptive statistics
✓ Mean
✓ Range
✓ Percentage
✓ Standard Deviation</td></tr>
<tr><td>Compare health promoting lifestyles profiles & QOL of nursing students with sociodemographic characteristics</td><td>T-test
(2 groups comparison)</td><td>ANOVA
(> 2 groups comparisons)</td></tr>
<tr><td>Barriers to adopting healthy lifestyles</td><td>Descriptive statistics
✓Percentage</td><td>T- test (between groups who agree and disagree with the statement)</td></tr>
<tr><td>Correlation between HPLP II & QOL</td><td colspan="2">Pearson Correlation Analysis</td></tr>
<tr><td colspan="3">The statistical significance level for each test was set at $P \leq 0.05$, based on a two-tailed test, & the 95% confidence intervals (CI) are presented</td></tr>
</table>

Sample Characteristics, Results & Discussion

Distribution of nursing students' socio-demographic characteristics (N=538)



Gender	Age Group	Programme	Year of Study	Marital Status	Monthly Family Income	Education Level of Father	Education Level of Mother
Male = 146 (27.1)	Above 25 = 22 (4.1)	MN = 50 (9.3)	Year 4 = 48 (8.9)	Other = 2 (0.4)	30k & over = 92 (17.1)	Post-sec = 45 (8.4)	Post-sec = 31 (5.8)
Female = 392 (72.9)	21-25 = 345 (64.1)	HD = 156 (29.0)	Year 3 = 121 (22.5)	Married = 5 (0.9)	20k – 29,999 = 106 (19.7)	Secondary = 271 (50.4)	Secondary = 275 (51.1)
	Under 21 = 171 (31.8)	Mental = 32 (5.9)	Year 2 = 74 (13.8)	Single = 531 (98.7)	10k – 19,999 = 194 (36.1)	Primary = 203 (37.7)	Primary = 213 (39.6)
		BSc = 200 (55.8)	Year 1 = 295 (54.8)		Under 10k = 146 (27.1)	No/Pre-prim = 18 (3.3)	No/Pre-prim = 19 (3.5)

Number of questionnaires discarded = **18**

Objective 1

Patterns of HPL & QoL among nursing students in HK

HPLP Subscales

- Interpersonal Relations (2.78)
- Spiritual Growth (2.69)
- Nutrition (2.50)
- Stress Management (2.41)
- Health Responsibility (2.29)
- Physical Activity (2.06)

QOL Domains

- Social (13.7)
- Environment (13.5)
- Psychological (13.1)
- Physical (12.2)

Discussion

Comparison of HPLP Scores among different Hong Kong studies

Current study

128.23

Hui (2002)
116.28

Lee & Loke (2005)
119.85

Students' HPL Total Scores from Local Studies

Discussion

Nursing students scored highest in Interpersonal Relations (HPLP) and Social Domains (QOL)

Interpersonal Relations

Relatively Able to:

- Spend time and maintain meaningful and fulfilling relationships with others
- Discuss problems and concerns with other people
- Settle conflicts with others through discussion and compromise
- Show concern, love and warmth to others
- Praise other people for their achievement

Satisfied with:

- Personal Relations Sex life, Support from friends

*All of these are prerequisites for effective health teaching during health promotion

Discussion

Nursing students scored lowest in Physical Activity (HPLP) & Physical Domain (QOL)

Physical Activity

Relatively unable to:

- Follow a planned exercise program
- Take part in vigorous/ light to moderate leisure-time physical activities or stretching exercise
- Get exercise during usual daily activities
- Check pulse rate and reach target heart rate when exercising

Consequences of lack of exercise

- Global trend in which people do not prioritize physical activity in their lifestyles
- Associated with common medical conditions
- Create future health problems

Suggestions

- Revised school timetable settings to accommodate a schedule exercise program
- Integration into peer and school contexts

Result

Objective 1: Prevalence of Health-risk behaviors among nursing students

Table 3. Health-risk behaviors of nursing students in a HK university

Health-risk behaviors	N (Percentage)
Cigarette Use	
Never	513 (95.4%)
Past but not current	12 (2.2%)
Current	13 (2.4%)
Alcohol Use	
Never	305 (56.7%)
Past but not current	111 (20.6)
Current	122 (22.7)
Illegal drug Use	
Never	530 (98.5%)
Past but not current	4 (0.75%)
Current	4 (0.75%)
Using Preventive Measures during Sexual Intercourse	
Never had sexual intercourse	426 (79.2)
Currently use preventive measures	104 (19.3%)
Never use preventive measures	8 (1.5%)
Lose weight with inappropriate methods	
Never attempt to lose weight	293 (54.5%)
Never use these methods	148 (27.5%)
Currently use these methods	97 (18%)

Discussion

Nursing Students' Engagement in Health Risk-Behaviors in comparison with the general population

Smoking

2.3%

vs 24.2 % in

General Population

(Department of Health, 2009)

Alcohol Con-sumption

22.7%

vs 36.3% in

General Population

(Depart of Health, 2009)

Illegal Drug Use

0.75%

vs 9.3% in

Young People

(Lau et al., 2005)

Unsafe Sexual Intercourse

7.1%

vs 10% in

University students

(Abdullah et al., 2004)

Unhealthy weight loss

18.0%

vs 22.6% in

Teenager

(Lee & Tsang, 2004)

Low engagement in health-risk behaviors

Could be due to their exposure to health promotion knowledge

Benefit for personal health: Less vulnerable to conditions which are likely to imperil their health

Benefit for future practice: Clients are more likely to comply with health-related behavior if it is modeled by health professionals

Encourage them to continue with their good practice

Objective 2: The association between Gender and HPL & QOL

Table 4. The association between gender, HPL & QOL among nursing students in a Hong Kong University.

Variable	HPL	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Inter-personal Relations	Stress Management
Gender							
Female	128.05 (16.68)	2.30 (0.42)	1.96 (0.46)	2.53 (0.42)	2.70 (0.45)	2.82 (0.43)	2.41 (0.41)
Male	128.71 (19.16)	2.29 (0.47)	2.33 (0.55)	2.44 (0.42)	2.67 (0.48)	2.69 (0.45)	2.41(0.46)
Mean diff	-0.657	0.006	-0.361	0.091	0.028	0.127	0.0017
T-Test	-0.390	0.012	-7.091	2.222	0.626	3.018	0.041
P-value	0.697	0.990	0.000	0.027	0.531	0.003	0.967

Variable	QOL Physical	QOL Psychological	QOL Social	QOL Environment
Gender				
Female	12.20 (1.85)	13.16 (1.77)	13.98 (2.17)	13.57 (2.00)
Male	12.02 (1.90)	12.95 (1.73)	13.13 (2.53)	13.38 (2.15)
Mean Difference	0.183	0.191	0.844	0.193
T-Test	1.012	1.123	3.835	0.973
P-value	0.312	0.262	0.000	0.331

Discussion

Gender as a key factor determining health-promoting behaviors

Performed Better in: Nutrition and Interpersonal Relations

Possible Explanations:

- More confident in social and communication skills (Lee & Loke, 2005) and be more empathetic and with more emotionally awareness (Weisman & Teitelbaum, 1988)
- Societal expectations that women must fulfill certain functions within the family
- More concerned on their health considerations (Oksuzyan et. al., 2008) and weight control (Wardle et.al., 2004)

Discussion

Gender as a key factor determining health-promoting behaviors

Performed Better in: Physical Activity

Possible Explanations:

- Physical activities are always reflected as masculine events (Vilhialmsson & Thorlindsson, 1998)
- Young female were always discourage from participating exercise by their previous "bad experience" in the physical education classes (Ennis et al., 1996)

Recommendation

Tailor-made health education programs

Health education programs should be planned to cater to the **different and specific needs of male and female students** according to their inclinations and characteristics

Result

Objective 2: The association between **Year of study** and HPL & QOL

Table 5. The association between year of study, HPL & QOL among nursing students in a Hong Kong University.

Variable	HPL	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Interpersonal Relations	Stress Management
Year of study							
1	129.75 (17.86)	2.286 (0.46)	2.095 (0.53)	2.541 (0.43)↑	2.741 (0.46)↑	2.809 (0.44)	2.449 (0.43)
2	128.49 (18.61)	2.279 (0.46)	2.091 (0.56)	2.526 (0.44)	2.700 (0.48)	2.776 (0.47)	2.404 (0.49)
3	125.77 (15.46)	2.325 (0.38)	1.990 (0.44)	2.457 (0.40)	2.613 (0.43)↓	2.714 (0.39)	2.359 (0.37)
4	124.67 (16.16)	2.299 (0.42)	1.997 (0.40)	2.368 (0.42)↓	2.588 (0.44)	2.773 (0.46)	2.305 (0.41)
F	2.256	0.267	1.553	2.982	3.268	1.368	2.434
Sig	0.081	0.849	0.200	0.031	0.021	0.252	0.064

Variable	QOL_Physical	QOL_Psychological	QOL_Social	QOL_Environment
Year of study				
1	12.217 (1.86)	13.137 (1.80)	13.862 (2.31)	13.649 (2.03) ↑
2	11.992 (1.84)	13.135 (1.62)	13.622 (2.28)	13.858 (2.03) ↑
3	12.104 (2.00)	12.915 (1.80)	13.609 (2.35)	13.273 (2.00)
4	12.131 (1.62)	13.320 (1.58)	13.583 (2.14)	12.833 (2.07) ↓
F	0.328	0.750	0.546	3.520
Sig	0.805	0.523	0.651	0.015

Discussion

Effect of year of study on HPL and QOL

Total HPL

Health responsibility

Nutrition

Spiritual growth

Stress management

Social and environment domain of QOL

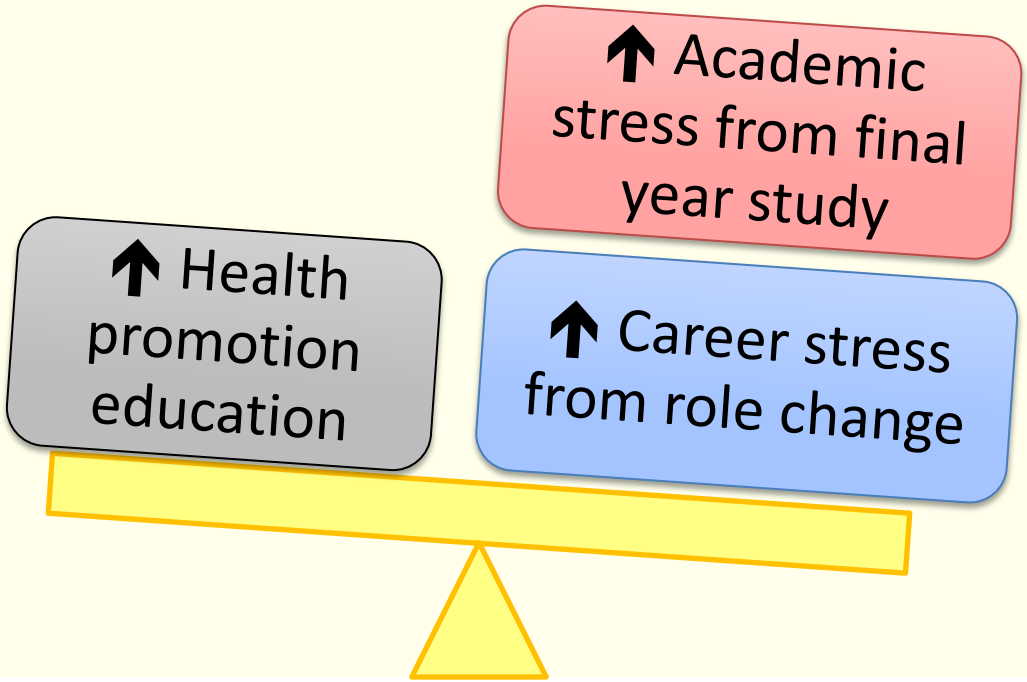
Year of nursing study

(Hui, 2002; Staib, Fusner & Consolo, 2006)

Discussion

Effect of year of study on HPL and QOL

Emphasis on health promotion in nursing curriculum → ? → Impact on nursing students' perception of health and practices



Suggestion:
1) Technical consultation
2) Emotional Support

(Alpar, Senuran, Karabacak & Sabuncu, 2008; Cubit, 2010; Stark, Manning & Vliem, 2005)

Objective 2: The association between Age and HPL & QOL among nursing students at a university in HK

Table 6. The association between age, HPL & QOL among nursing students in a Hong Kong University.

Variable	HPL	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Interpersonal Relations	Stress Management
Age							
Under 20	132.63(16.85)	2.337 (0.45)	2.155 (0.50)	2.585 (0.41)	2.784 (0.42)	2.872 (0.45)	2.524 (0.40)
21-25	126.21(17.21)	2.278 (0.42)	2.017 (0.51)	2.468 (0.43)	2.646 (0.46)	2.738 (0.42)	2.361 (0.42)
Above 25	125.27(18.23)	2.212 (0.48)	2.028 (0.54)	2.450 (0.43)	2.707 (0.56)	2.722 (0.49)	2.278 (0.46)
F	8.392	1.437	4.295	4.557	5.366	5.718	9.854
Sig	0.000	0.238	0.015	0.011	0.005	0.003	0.000

Variable	QOL_Physical	QOL_Psychological	QOL_Social	QOL_Environment
Age				
<=20	12.462 (1.72)	13.357 (1.67)	14.109 (2.19)	13.881 (1.94)
21-25	12.010 (1.90)	12.984 (1.74)	13.597 (2.33)	13.330 (2.02)
25+	11.974 (2.16)	12.970 (2.44)	13.273 (2.31)	13.682 (2.70)
F	3.503	2.652	3.360	4.297
Sig	0.031	0.071	0.035	0.014

Objective 2: To examine the association between Family Income and HPL & QOL among nursing students at a university in HK

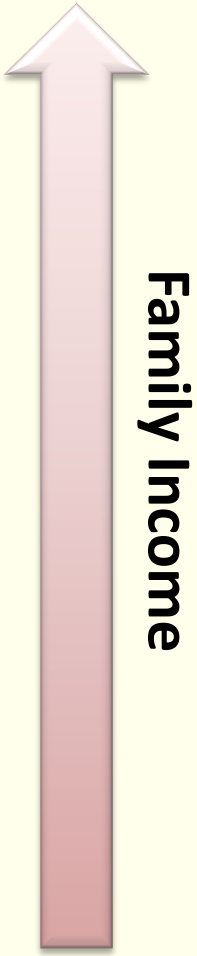
Table 7. The association between family income, HPL & QOL among nursing students in a Hong Kong University.

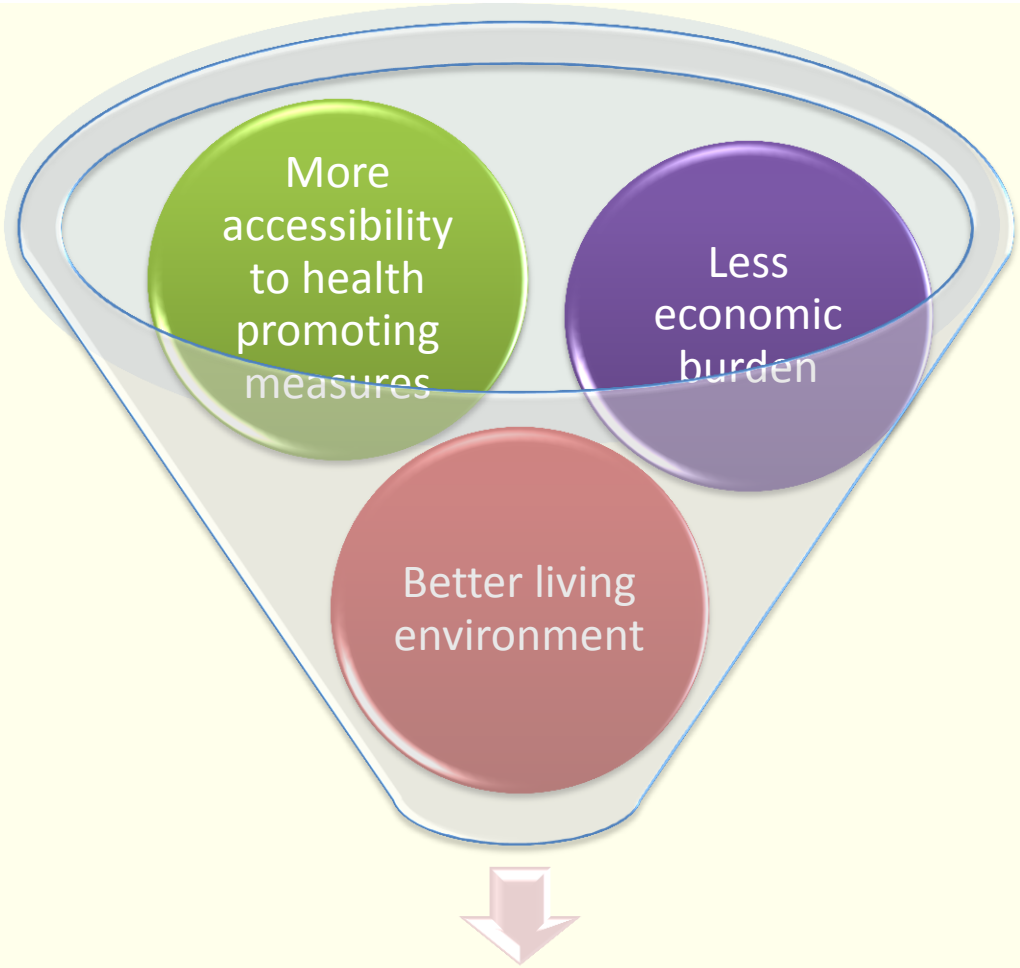
Variable	HPL	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Interpersonal Relations	Stress Management
Family Income							
Below 10,000	125.60 (17.61)	2.25 (0.42)	2.02 (0.50)	2.47 (0.44)	2.62 (0.45)	2.72 (0.43)	2.36 (0.42)
10,000-19,999	128.39 (17.21)	2.30 (0.46)	2.06 (0.49)	2.51 (0.41)	2.70 (0.45)	2.77 (0.41)	2.42 (0.43)
20,000-29,999	128.29 (17.33)	2.30 (0.44)	2.08 (0.52)	2.53 (0.42)	2.66 (0.44)	2.77 (0.43)	2.41 (0.42)
Above 30,000	131.98 (16.92)	2.34 (0.41)	2.11 (0.55)	2.50 (0.44)	2.83 (0.48)	2.90 (0.48)	2.48 (0.42)
F	2.576	0.831	0.630	0.468	4.581	3.400	1.594
Sig	0.053	0.477	0.596	0.705	0.004	0.018	0.190

Variable	QOL_Psychological	QOL_Social	QOL_Environment	QOL_Physical
Family Income				
Below 10,000	11.89 (1.74)	13.00 (1.72)	13.82 (2.23)	13.05 (2.07)
10,000-19,999	12.02 (1.90)	12.92 (1.84)	13.43 (2.29)	13.29 (1.99)
20,000-29,999	12.19 (1.85)	13.08 (1.73)	13.67 (2.23)	13.59 (1.91)
Above 30,000	12.81 (1.89)	13.67 (1.55)	14.39 (2.38)	14.67 (1.82)
F	5.291	4.188	3.785	14.183
Sig	0.001	0.006	0.010	0.000

Discussion

Effect of family income on HPL and QOL





More compliance in HPL

Better QOL

(Alder et.al, 1994)

Result

Objective 3: The barriers that may hurdle nursing students to adopt HPL

Barriers	N (Percentage)	HPL Scores	P-value
Heavy Study Load			
Disagree	107 (19.8)	132.48 (15.22)	0.002 **
Agree	431 (80.1)	127.17 (17.72)	
Academic Stress			
Disagree	91 (16.9)	132.08 (16.59)	0.020 *
Agree	447 (83.1)	127.44 (17.44)	
Fatigue After Placement			
Disagree	70 (13)	133.83 (18.41)	0.004 **
Agree	468 (87)	127.39 (17.07)	

* $p < 0.05$ ** $p<0.01$ ***$p<0.001$

Objective 3: The barriers that may hurdle nursing students to adopt HPL

Barriers	N (Percentage)	HPL Scores	P-value
Lack of exposure to school education in health promotion			
Disagree	294 (54.8)	131.21 (16.73)	0.000***
Agree	244 (45.1)	124.64 (17.48)	
See no value in engaging health-promoting lifestyles			
Disagree	404 (75.1)	129.89 (16.94)	0.000***
Agree	134 (24.9)	123.21 (17.74)	
Lack of encouragement and support from family in adopting healthy lifestyles			
Disagree	390 (72.5)	130.19 (17.04)	0.000***
Agree	148 (27.5)	123.06 (17.23)	
Lack of encouragement and support from peer in adopting healthy lifestyles			
Disagree	389 (72.3)	130.19 (16.97)	0.000***
Agree	149 (27.7)	123.11 (17.41)	
Lack of money to access the facilities for health-promoting activities			
Disagree	341 (63.4)	130.54 (16.69)	0.000***
Agree	197 (36.6)	124.23 (17.83)	
Lack of convenient access to adequate facilities for health-promoting activities			
Disagree	353 (65.6)	130.54 (17.27)	0.000***
Agree	185 (34.4)	123.81 (16.74)	

* $p < 0.05$ ** $p<0.01$ ***$p<0.001$

Result

Objective 3: The barriers that may hurdle nursing students to adopt HPL

Barriers	N (Percentage)	HPL Scores	P-value
Time Constraints Related to the Academic Commitments			
Disagree	100 (18.6)	130.92 (16.37)	0.086
Agree	438 (81.4)	127.61 (17.55)	
Time Constraints Related to the Social Commitments of University Life			
Disagree	204(37.9)	130.06 (16.37)	0.056
Agree	334 (62.1)	127.11 (17.89)	
Time Constraints Related to the Family Responsibility			
Disagree	248 (46.1)	128.85 (16.96)	0.441
Agree	290 (53.9)	127.69 (17.73)	

* $p < 0.05$ ** $p<0.01$ ***$p<0.001$

Result

Objective 4: The relationship between HPL and QOL

Table 9. Pearson correlation between Health Promotion Lifestyle Profile II and World Health Organization Quality of Life Instrument-BREF scores

	QOL Physical	QOL Psycho-logical	QOL Social	QOL Environ-ment
HPLP Total	0.392**	0.443**	0.324**	0.457**

** Correlation is significant at the 0.01 level (2-tailed).

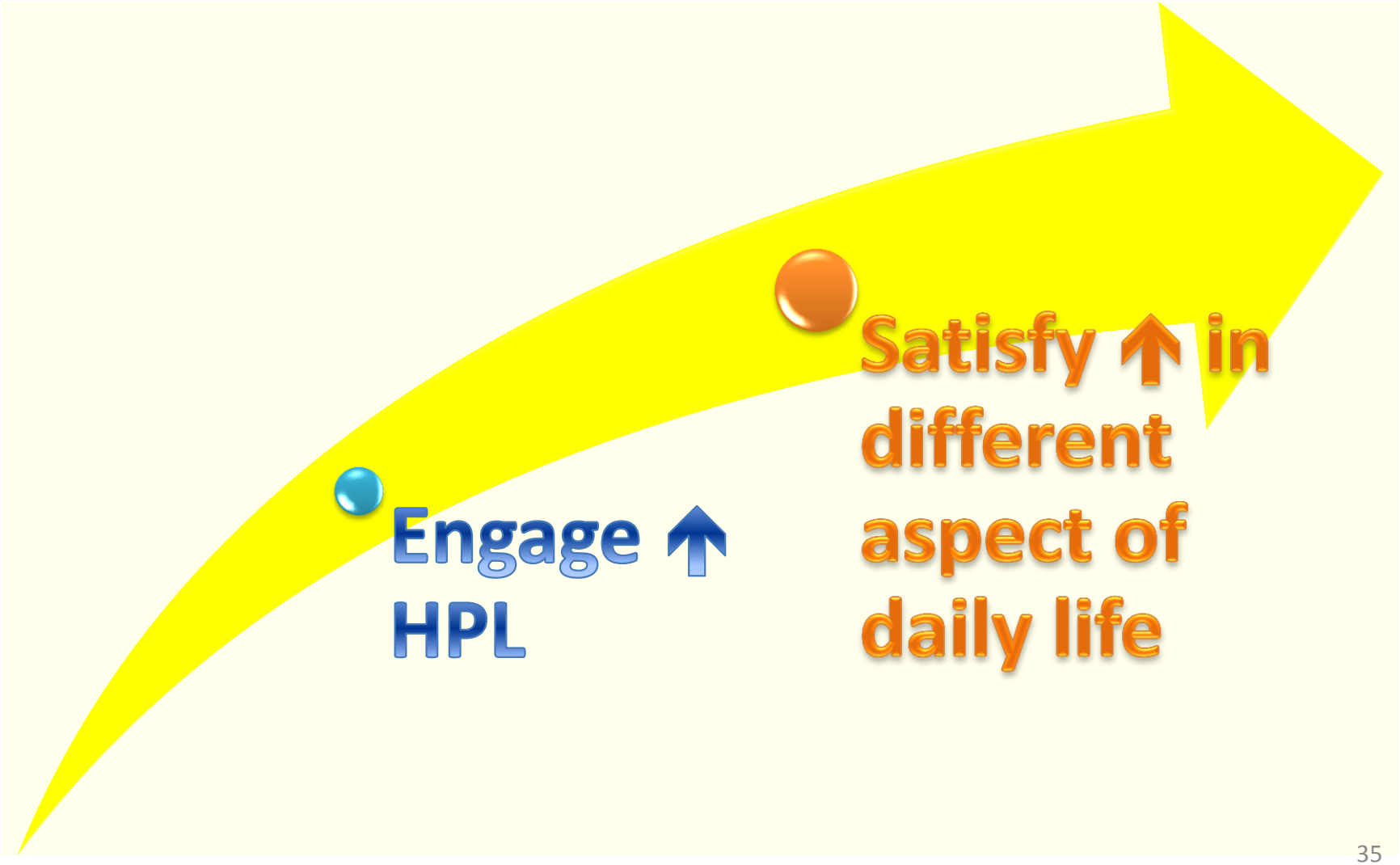
Discussion

An Intricate Linkage between HPL and QOL

OVERALL HPL

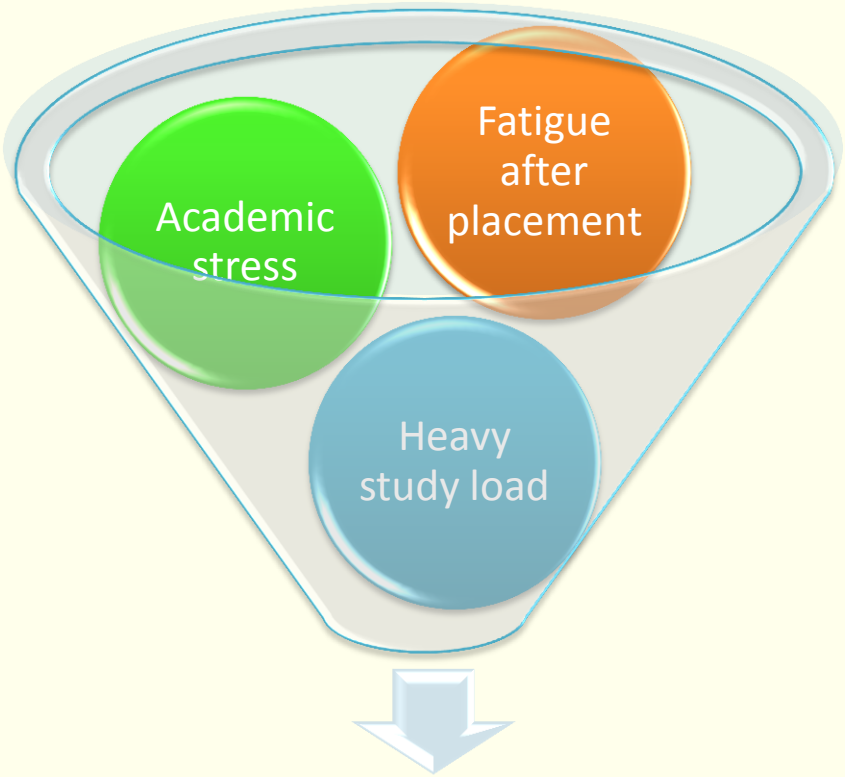
QOL

Implication of the Positive Relationship between HPL and QOL



Discussion

Identification of Barriers to HPL



Little time in HPL

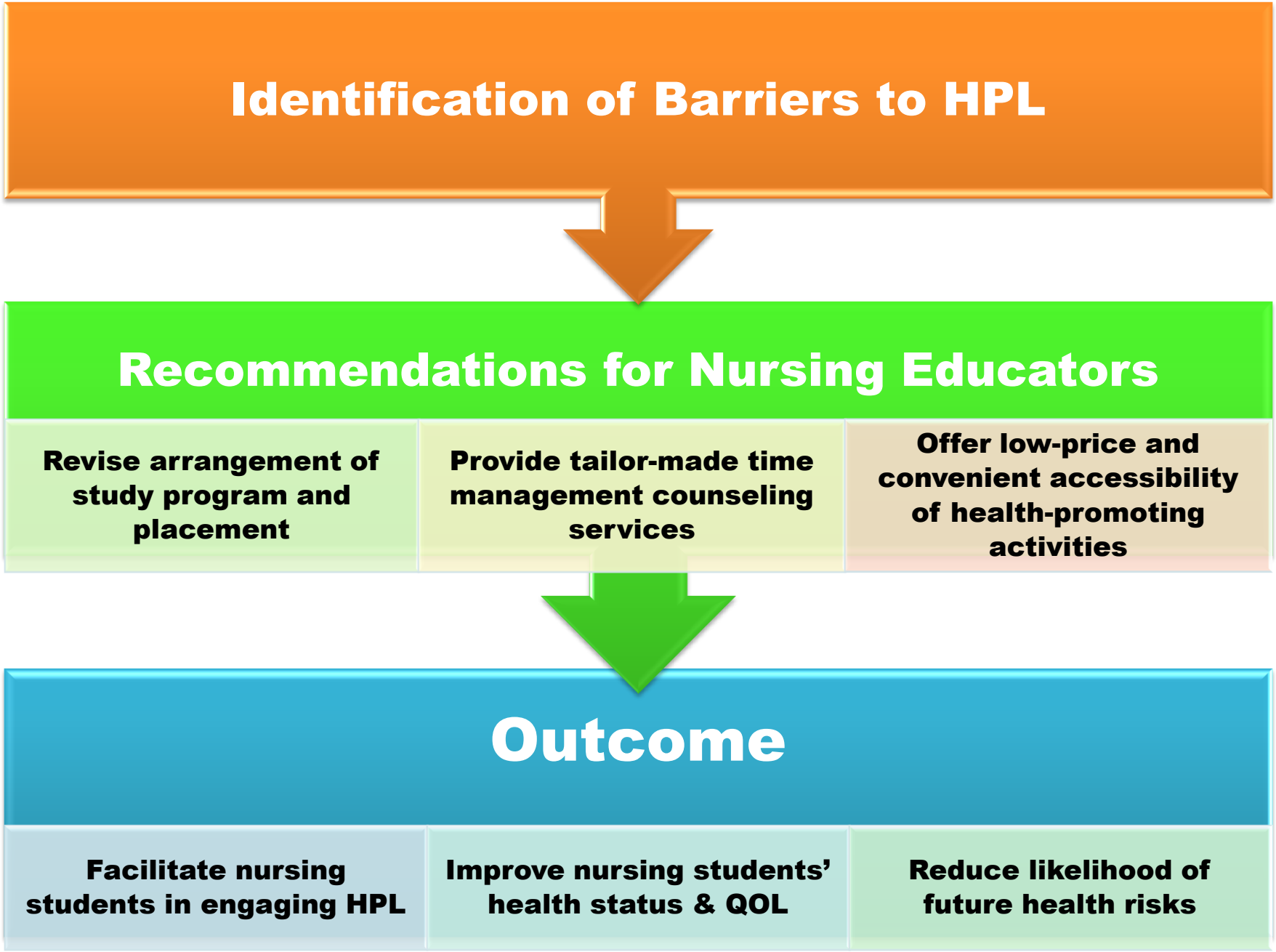
(i.e. physical activities)

In view of undergraduates' age & health status…

Poor health practices not be considered as an imminent future health threat

Our findings

- Increase organizational awareness
- Strengthen rationales for encouraging them in adopting HPL before too late to restore health in later life (Lee & Yuen-Loke, 2005)


Identification of Barriers to HPL
Recommendations for Nursing Educators
Revise arrangement of study program and placement
Provide tailor-made time management counseling services
Offer low-price and convenient accessibility of health-promoting activities
Outcome
Facilitate nursing students in engaging HPL
Improve nursing students' health status & QOL
Reduce likelihood of future health risks

Study Limitation, Future Studies & Conclusion

Study Limitations

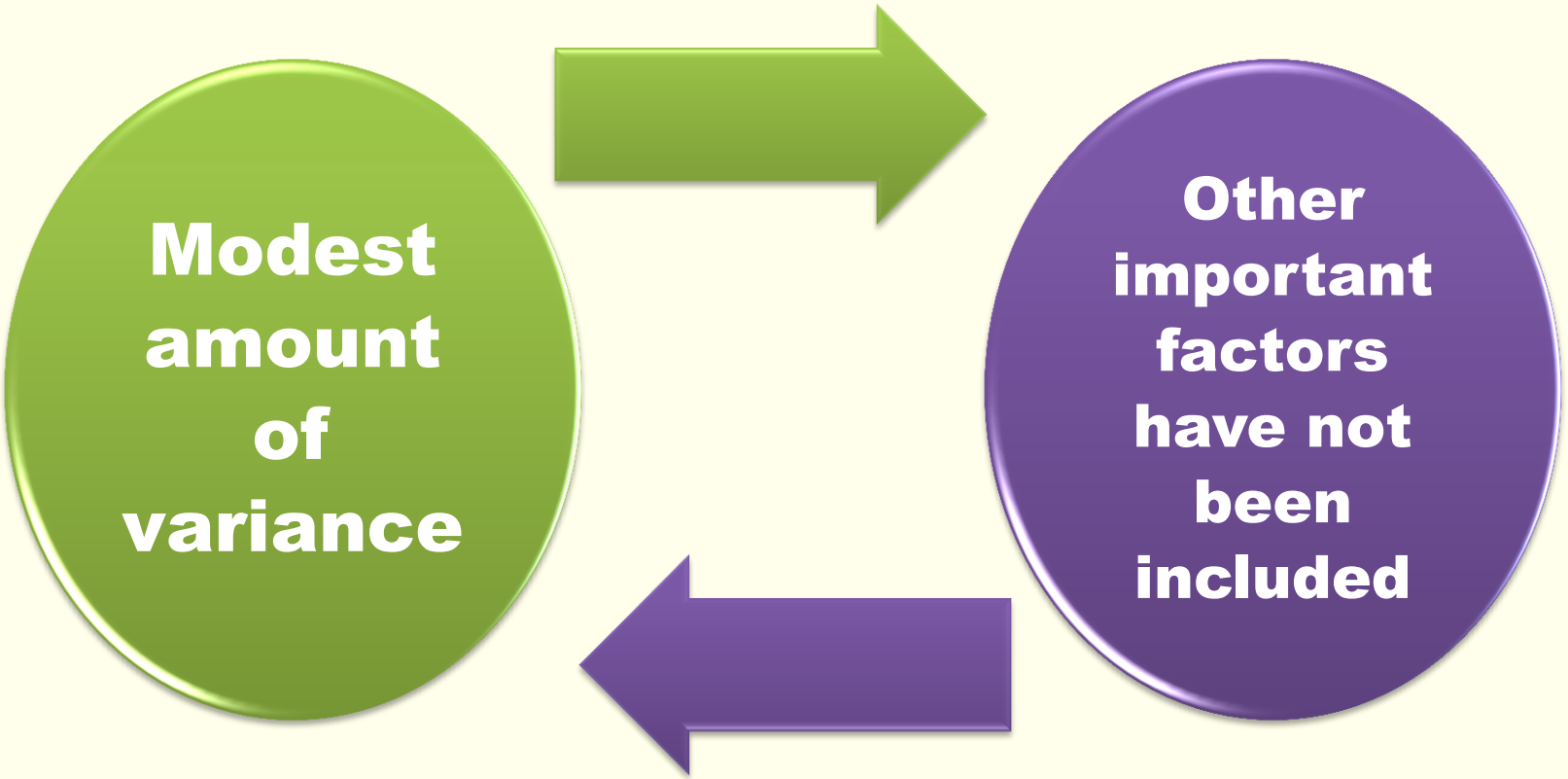
Cross-sectional design	• Precludes any conclusive causal linkage between HPL & QOL • Unable to study the change of HPLP & QOL throughout the nursing training • Further longitudinal studies are needed
Survey	• Trends to produce superficial information • Lack of in-depth exploration of the phenomenon
Self-administrated questionnaire	• Respondent may give social desirable answers & distorted from reality → Bias
Limited time & resources	• Restricted the researcher to invite more participants from different institutes to further increase reliability

Study Limitations

Various kinds of health promoting behavior

Important predictors of QOL

Study Limitations



Further Studies

- To explore more proximal factors that may be related to health promoting behaviors in nursing students

FUTURE STUDIES

- Further explicate the causal linkages between variables
- Predict long term effects of health promoting behavior on QOL during nursing students' university years
- Promote health of future nurses in long term

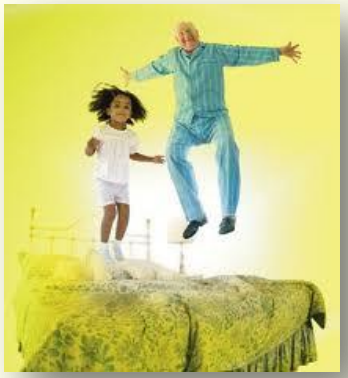
Longitudinal studies

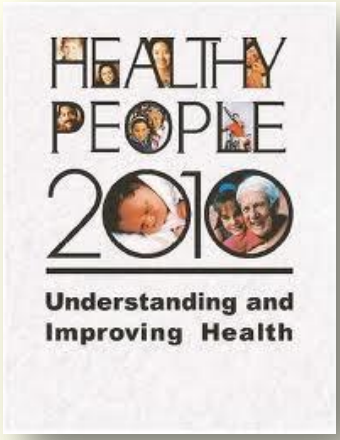
Conclusion

Expansion of coherent body of knowledge about QOL

Awareness of nursing students' acquiescence in HPL and QOL

Current Study





Conclusion

Facilitate health promotion behaviors through health promoting activities

Improve overall health of nursing students

Finally enhance their QOL

Examples for patients and public with regard to health-related behaviors in future

THE END

Thank You

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