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Original Article

Measuring life skills of adolescents in a secondary school of Kathmandu: an experience

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Abstract
Objective: The objective of this study was to develop a scale to measure life skills and to assess the levels of life skills in adolescents of a secondary school at Kathmandu. **Methodology:** a descriptive, cross sectional survey of adolescents from class VIII, IX, and X of a public co-educational secondary school of Kathmandu was done with the help of self-administered questionnaires prepared in English and translated into Nepali. *Focus Group Discussions* consisting of boys only, girls only and a mixed group comprising of one student from each section of each class were conducted to confirm the results of the study. All the data obtained from the questionnaire survey were edited, coded and entered into EPI info Version 6. **Results:** A total of 347 adolescents participating in the study. 176 adolescents (51%) had life skill scores above the mean, and was termed as having "high level" of life skills and 171(49%) , had "low level" of life skills scores. Mother's education was significantly associated with increased level of life skills in adolescents (P=.001). **Conclusion:** Most of the teachers were not aware of the concept of life skills. Maternal education was significantly associated with higher life skill levels in adolescents. Connectedness and family support were other important factors influencing the level of life skills in the adolescents.
Keywords: Life skill, adolescence, scale measuring life skill

Adolescence, the second decade of life, is a period of transition between childhood and adulthood. The terms adolescent and youth refer to individuals between the ages of 10 to 19 years and 15 to 24 years respectively, while the term young people covers the entire age groups between 10 to 24 years.[1,2] Adolescents comprise of 22.2 percent of the total population in Nepal. Total adolescent population of Nepal is 5.04 million (based on 1995 estimates) and the number is expected to increase up to 65 percent by the year 2020[3]

It is known that there remains a significant gap between adolescents having accurate information and its translation into behaviour. Skill development is a key to facilitate this process of transforming information into healthy behaviour.

Some of the common high risk behaviour which lead to adolescent health and development problems, and are, in turn, aggravated by these problems, in a vicious circle, are substance abuse (including the use of alcohol and tobacco),engaging in unwanted and/or unsafe sex, unhealthy eating habits, situations which increase the likelihood of accidents and violence, negative and possibly harmful peer relationships and affiliations, street children, child soldiers, child sexual exploitation and harmful work conditions. It is well known that alcohol and drugs impair judgements and increase the risk taking behaviour of the young people like dangerous driving, unprotected sexual relations, accidental injury or violence. Causes for high risk behaviours include inadequate information and skills, poor access to education and health services, unsafe and un-supportive environment (from family and friends, service providers, policies / legislation and the media), exploitation and abuse.

Adolescents with low levels of life skills are known to develop high risk behaviours which lead to long lasting health and social consequences. Many countries across the world have introduced life skills education in the school curriculum or for adolescents in special situations.[4] National adolescent Health and Development Strategy of Nepal, 2000[5] has also proposed to introduce life skills education to the schools, as an extra curricular activity, initially.

Life skills have been defined as follows:
"*Those skill needed by an individual to operate effectively in society in an active and constructive way*" (Edward de Bono)[6]

"*Personal and social skills required for young people to function confidently and competently with themselves, with other people and with the wider community"* (TACADE, UK)[1]

Life skill, or skill for psychosocial competence is the reflection of affective skill of an individual. The cognitive skill based on the assimilated information and knowledge, the socio-cultural environment, the value system and beliefs all play a role in the development of life skills. Although life skills differ from vocational training, or livelihood skill

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(Psychomotor competence) that enable a person to earn a living, some have envisaged life skills as competence and actual behaviours.

Life skills can be innumerable, some specific to certain risk situation and others of a generic nature. Common elements of life skills which were found across all cultures and settings, in the developed and the developing countries, are self awareness, empathy, interpersonal relationship skill, effective communication, decision making, problem solving, critical thinking, creative thinking, coping with stress and coping with emotions[6].

Objective

One of the objectives of this study was to develop a scale to measure life skills and to assess the levels of life skills in adolescents of a secondary school at Kathmandu.

Methodology

The study was a descriptive, cross sectional survey of adolescents, also supported by qualitative techniques with focus group discussion and interviews. Adolescents from class VIII, IX, and X of Shivapuri Madhyamic Vidyalaya, a public co-educational secondary school of Kathmandu, were selected for the study. With the permission of the headmistress of the school, self administered questionnaires , the method of development of which is outlined below, were distributed to the students to answer over a period of 40 minutes. The questionnaires were prepared in English and translated into Nepali for the purpose of administering. Due to the sensitivity of the topic and to prevent any possible negative consequence, the questions were kept anonymous and the students were encouraged to express their true opinions. The rights of the students not to participate in the study if they so wished was respected.

Focus Group Discussion were conducted to confirm the results of the quantitative study and to make the results more reliable. Three focus group discussions, with 7 adolescents in each group, were conducted .The groups consisted of boys only, girls only and a mixed group comprising of one student from each section of each class.

Key informant interview was conducted with class teachers of all the sections .The principal of the school was interviewed to generate overall information

All the data obtained from the questionnaire survey were edited, coded and entered into the EPI info Version 6. Cleaning of data was done, and several variables were generated by defining and using "if" "then" commands. Data obtained from FGD and interviews were transcribed, and sorted according to groups and themes. The hand notes and tape recorded information were both used in combination. The data was categorized into the domains as given in the guideline and relations between the domains, and between items within the domain were explored.

Development of tools for the measurement of life skills

In this study, life skills have been believed to reflect attitude. In his affective- cognitive consistency theory, Rosenberg[7] subscribes to the view that the affective and cognitive component of the attitude structure are so closely intertwined that one cannot be viewed in separation from the other.

Measurement scales for attitude have been surrounded by a lot of controversies. There is an extraordinary number and diversity of measurement scales.[8]

The following three types of scales are commonly used:

1. Judgement scales: Thurstone's scale of equal appearing intervals, or Bogardus social distance scale.
2. Scale based on item analysis: Likert's technique.
3. Technique of scale analysis: Cornell technique as devised by Louise Guttman.

It is well accepted that a scale should measure what it purports to measure and should yield consistent results when applied under the same conditions.

Hulka et al[9] in their study of patients' satisfaction towards medical care have found reliance on direct questions of unproven reliability and validity to be the main problem. One method proposed to overcome this difficulty is to choose the method adopted by Ware et al, 1975[10] of using an index score. He applied the concept of Factored Homogeneous Item Dimension (FHID) concept, during the development of a scale. FHID is a method based on a group of scale item having similar factor content, and will be combined to yield a single score which will be tested during subsequent analysis. Twenty two dimensions of attitude were hypothesized, each consisting of two to four scale items. A balance of positive and negative items was also maintained. He reports that a homogeneous index based on two or more scale items yield a more reliable score than would be achieved through the use of responses to an individual scale item of the same kind.

Ware et al [11] report the Aquisent Response Set (ARS) in the measurement . ARS is the tendency of the respondent to agree with statements regardless of their contents. This effect can be minimized by

balancing the number of positively and negatively phrased items. Measurements computed from a balanced scale were less likely to be biased by ARS than were single item or unbalanced scale measure. Score of individual statement within the dimension is used to give the index value, which is co- related with the composite score value for the dimension to test the internal consistency, validity and reliability.

Based on the theory of Ware, it was decided that a number of questionnaires will be developed for each life skill and given to the "Judges" to select the ones that were most likely to test the particular dimension of life skill because the statement to be used in this study had not been tested for validity and reliability by their use in previous researches. It was not possible to ascertain whether the instrument developed will be able to test the particular dimension of life skills or not. Therefore, several questions (to test life skills) were developed based on the WHO's definition of life skills, and they were given to the MBBS first year students (Batch of the 2001) to view them as "judges" They were asked to study each question and give their opinion on each of those in a five point scale as to whether it will be able to assess the particular life skill under study. Altogether 45 students were given 72 questions. The results were analyzed and the questions which secured the maximum mean score and had lowest standard deviation were chosen for inclusion as the final test instrument. For the final set of questionnaire, a balance of positive and negative statements was maintained and three questions were included for each life skill (except for Self Awareness which had four questions to test awareness of rights and responsibilities , separately.)

The test questions were developed based on WHO's definition of skills for a spectrum of adolescent health and development concerns.[12] In spite of extensive literature search as the researcher could not base her research on questions used and validated by other researchers, the 3 levels in each of the life skill dimension was used as a foundation for developing the statements for tasting the life skills. One statement for each level in all of the 10 life- skill dimensions was developed for the final set of questionnaire, except for self awareness, which had 4 statements, one each, separately for rights and responsibilities.

The statements that scored maximum marks and had the least standard deviations were chosen for inclusion in the final set of questions, as shown in the table below.

The framing of words of some of the questions was changed based on the comments and suggestions of the students at the time of pretesting.

Dimensions of life skill

Life Skills Dimensions	Basis for the statements on affective life skills	Questions
Self Awareness	1. Learning about "me as a special person".	Q1
	2. Self Control	Q2
	3. My rights and responsibilities	Q3 + Q4
Empathy	1. Understanding how people are alike and how they differ, and learning how to appreciate differences between people	Q5
	2. Avoiding prejudice and discrimination against people who differ	Q6
	3. Caring for people with AIDS	Q7
Interpersonal relationship skills	1. Learning to value relationships with friends and families	Q8
	2. Forming new relationships and surviving loss of friendships	Q9
	3. Seeking support and advice from others in a time of need	Q10
Communication	1. Basic verbal and nonverbal communication skills.	Q11
	2. Assertive communication in the face of peer pressure	Q12
	3. Using assertiveness to resist pressure to engage in potentially health damaging activities (e.g. unprotected sex)	Q13
Critical thinking	1. Learning the basic processes in critical thinking	Q14
	2. Making objective judgements about choices and risk	Q15
	3. Resisting media influence on attitude towards smoking and alcohol	Q16
Creative thinking	1. Developing capacity to think in creative ways	Q17
	2. Generating new ideas about things that are taken for granted	Q18
	3. Adapting to changing social circumstances	Q19
Decision making	1. Learning the basic steps for decision making	Q20
	2. Making difficult decisions	Q21
	3. Decision making about important life plans	Q22
Problem solving	1. Learning the basic steps for problem solving	Q23
	2. Generating solutions to difficult problems or dilemmas	Q24
	3. Conflict resolution	Q25
Coping with stress	1. Identifying sources of stress	Q26
	2. Methods for coping in stressful situations	Q27
	3. Coping in situations of adversity	Q28
Coping with emotions	1. Recognition of the expression of different emotions	Q29
	2. Understanding how emotions affect the way we behave	Q30
	3. Coping with emotional distress	Q31

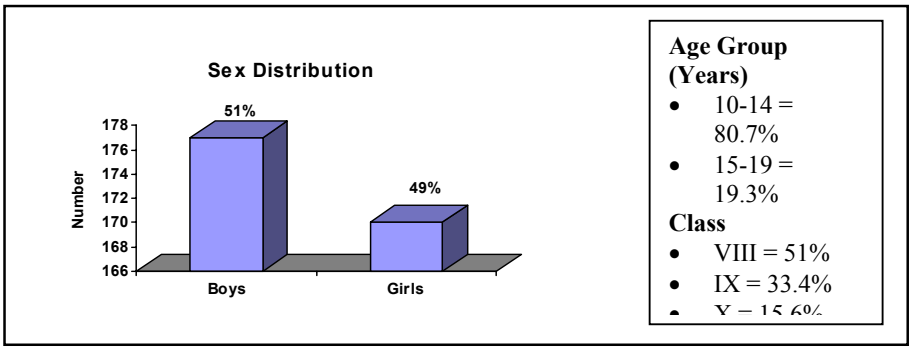
The adolescents were asked to mark the statements as strongly agree, agree, uncertain, disagree or strongly disagree as per their level of agreement or disagreement with the statements. The scores ranged from 1 to 5 according to the Likert's scale, each positive statement getting a score of 5 for strongly agree, and each negative statement getting a score of 5 for strongly disagree and so on. The Likert's technique of summated rating has been chosen as it avoids the cumbersome procedure of having a group of judges sort the statements for the purpose of analysis(Young). This method has also been reported to be consistently superior to Thurstone's dichotomous method of scoring.[13]

Reliability and validity

The correlation coefficient of all the statements was calculated to give an estimate of the validity of measurement of the particular life- skill dimension by the given statement. Correlation coefficient was obtained by dividing the sum of weighted individual statements (index value)by the maximum possible score total of all the statements(Composite score).

For most statements, the correlation coefficient ranged between 0 .74 to 0 .89.

Results



1. General Characteristics

Total number of adolescents participating in the study was 347.

177 (51%) of them were boys and 170 (49%) were girls. 80.7% (280) adolescents were in the age group 15-19 and 19.3% (67) were in the age group 10-14 years. Adolescents from class VIII, IX and X were 51%, 33.4% and 15.6%, respectively. The mean number of siblings was 3.46 with a range of 1 (5.2%) to more than 5 (5.8%). One to more than 4 people slept in one room (average 2.4).

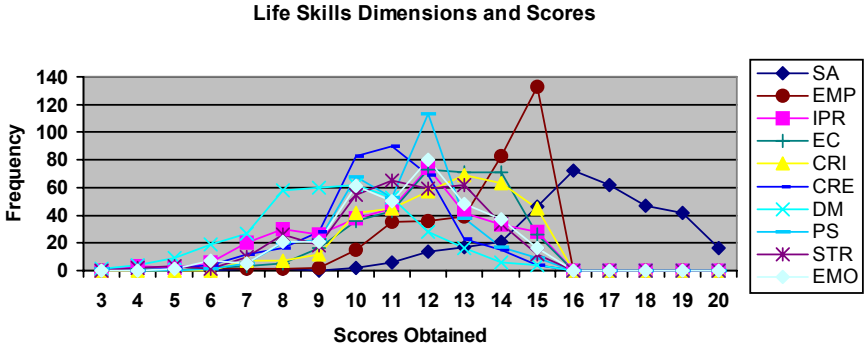
The distribution of adolescents by their casts showed a more or less uniform pattern, although Chhetries predominated at 29.4 percent. Brahman, Newar, Rai, Lama were at 16.1, 16.7, 14.1 and 14.1 percent, respectively. Adolescents from other casts comprised of 9.5 percent only.

2. Life Skills

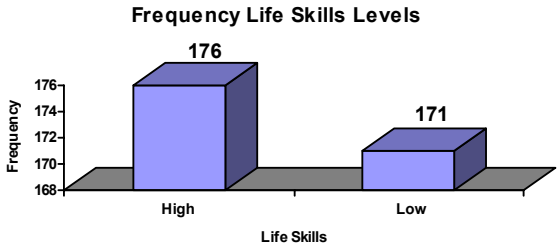
Individual Scores

The score obtained by the adolescents in each of the 10 dimensions of life skills tested are graphically presented below:

From the Chart one can see that the scores obtained for self awareness and empathy are higher compared to other dimensions. As four statements were given to test for self awareness unlike 3 statements for each of the other dimensions, the score for this dimension was higher than the others.



Mean scores and life skill levels: The mean score was 119. 176 adolescents (51%) had life skill scores above the mean, and were termed as having "high level" of life skills and 171(49%) , had "low level" of life skills scores.



3. *Life Skills as Dependant Variable*

An attempt was made to assess the effects of some variables for the levels of life skills particularly that of parental education, connectedness with family and knowledge level.

i) Mothers education & life skills

Mother's education was significantly associated with increased level of life skills in adolescents (P=.001). This effect was noted even with primary level education in the mother.

Mother's education	Life Skills levels			
	High		Low	
	Freq	%	Freq	%
Illiterate	55	31.3	76	44.5
Primary	103	58.6	67	39.1
Secondary	18	10.1	28	16.4
Total	176	100	171	100

ii) Father's Education & Life Skills

2 of the adolescent did not know about the level of education of the father, hence 345 responses. Level of education of the father was seen to be significantly associated with increased life skill levels in adolescents (P=0.05), 31% of children with illiterate fathers had high life skill levels compared to more than 50% for those with primary & secondary or higher level of education

Father's education	Life Skills levels			
	High		Low	
	Freq	%	Freq	%
Illiterate	11	6.3	24	14.1
Primary	89	50.9	82	48.2
Secondary	75	42.8	64	37.7
Total	175	100	170	100

iii) Knowledge levels and life skills

The adolescent with higher level of knowledge about the risk factors for high risk behaviours had higher level of life skills as shown in table (P = 0.01)

Knowledge level	Life Skills levels			
	High		Low	
	Freq	%	Freq	%
High	83	47.2	59	34.5
Low	93	52.8	112	65.5
Total	176	100	171	100

iv) Connectedness with family and life skills

Feeling of closeness with the family (346 responses) was associated with higher level of life skills of adolescents (P = .02) as shown in table.

Connectedness	Life Skills levels			
	High		Low	
	Freq	%	Freq	%
Yes	141	80.6	120	70.2
No	34	19.4	51	29.8
Total	175	100	171	100

Discussion

The focus group discussions revealed that the adolescents had found the first statement on self awareness a bit unclear and difficult to answer. Other statements were mostly clear, and the adolescents felt that sincere and truthful opinions were expressed by the respondents.

The scores obtained for empathy which was tested using three statements as other life skills was the highest compared to the other dimensions (except self awareness which used 4 statements). It was learnt that the adolescents were familiar with the statements for empathy, by having similar statements written down on the wall of the school building. This is most likely, the reason for higher score for this dimension.

The low score obtained for decision making skill was explained during the course of FGD, the adolescents felt it was culturally and traditionally more appropriate to have the parents decide their career options for them - hence the score obtained for this aspect of the statement was relatively lower. However, the adolescents generally either disagreed or strongly disagreed to the statement that adolescents do not have the ability to decide for themselves. It indicates that although the adolescents feel they have the ability to decide for themselves, they feel it is appropriate to have the parents decide major life events for them.

During the course of FGD it was felt that adolescents were not generally aware of the concept of life skills. They felt practical demonstrations for teaching of life skills would be more useful. Most of the adolescents felt that tips for sexual decision making and problem solving skills were taught to them in the population education classes.

When the teachers were asked about the need for life skills education they understood life skills as vocational training and livelihood skills. Most of the teachers had been teaching in the school for 4 years to 15 years. Most of them had no refresher courses or skills update except occasional subject related refresher course.

It has been proven that drug abuse prevention programs produce meaningful and durable reductions in tobacco, alcohol and marijuana use if they 1. teach a combination of social resistance skills and general life skills 2. are properly implemented 3. Include at least 2 years of booster sessions. Training for the teachers should be given priority if one is planning to introduce life skills education in the schools.[14]

Dusenbury and Botvin[15] have identified effective approaches to prevention of substance abuse, using life skills training program which is an example of a competence enhancement approach.

Limitation of the study: The correlation coefficient of the instruments were mostly in the range in the range of 0.74 to 0.84

Conclusion

1. A little over half 51% adolescents had higher level of life skills.
2. Most teachers were not aware of the concept of life skills. They equated life skills with livelihood skills and vocational training.
3. Parental education, specially maternal education was significantly associated with higher life skill levels in adolescents.
4. Connectedness and family support are important factors to develop life skills

Recommendations

1. Teachers should be provided with knowledge and skills to impart life skill education to the adolescents and to enable them to deal with adolescents having high risk behaviour, specially counselling skills.
2. As parental education was seen to be significantly associated with higher life skill levels of adolescents, the policy of compulsory primary education to all should strengthened.

References

1. WHO Health Needs of Adolescents, Geneva 1977 (WHO Technical Report Series No. 609)
2. Jeanet Van de Korput " Working with Young People" An assessment on adolescent sexual and reproductive health needs for Family Planning Association of Nepal, 1999.
3. Country paper, Nepal UNFPA South Asian Conference on Adolescents 21-23 July 1998, New Delhi, India.

4. The development and dissemination of life skills education : an overview. Division of mental health, WHO Geneva, Health Promotion Unit, UNICEF, New York MNH/PSF/9407
5. National Adolescent Health and Development Strategy 2000, FHD?MOH
6. Life Skills education for children and adolescents in schools, Geneva, WHO 19993 WHO/MNH/PSF/93.7 A
7. Hergenhahn BR, Matthew H Olson: An introduction to theories of learning, 5th edition, Prentice Hall International Inc 1997.
8. Pauline V. Young, Scientific Social Surveys and Research, Fourth Edition, Prentice Hall, India Publisher, New Delhi 2000.
9. Hulka BS, Kupper L, Daly M,et al 1975: Correlates and satisfaction and dissatisfaction with medical care: A community perspective. Med Care 648-658
10. Ware JE, Synder MK, 1975: Dimension of patient attitude regarding doctor and medical care services: Med Care Vol 13, No8, 669-681
11. Ware JE, Wright WR CHU GC, Synder MK 1975: Consumer perception of health care services: Implications for academic medicine: Journal of Medical Education 50:839
12. WHO: Programming for Adolescent Health and Development WHO Technical report series 886, Geneva 1999
13. Zyzanski SJ, Hulka BS, Cassel JC, 1974 : Scale for measurement of satisfaction with medical care: modification of content format scoring: Med care Vol !3, No3, 294-323
14. Botvin GJ, Baker E, Dusenbury L, Botvin EM, Diaz T Long term follow up of drug abuse prevention trial in a white middle class population JAMA 1995 Apr 12: 273 (14): 1106-12
15. Dusenbury L, Botvin GJ, J. Addict Dis 1992; 11 (3); 29-45