

# An Investigation into underpinning criteria of ‘Subjective Happiness’ Index in an Educational Environment

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## Abstract

Happiness is a form of social capital, that aids in increasing the tangible benefits for the society. The countries rich in social capital (Human development Index) are less likely to spend their budget on hospitals, prisons, depressions and rehabilitation center. Recently, a greater amount of attention has been given to the ‘Subjective Happiness’ by academia and economists, that considers it as an essential variable for the welfare, economic and a guide for policy. The construct of the ‘Subjective Happiness’ Index can be used to develop a system to flourish a society. Over the years, the importance of the construct has been adopted in a number of fields and sectors in a society, of which education is a significant contributor to ensure a sustainable success. This study, therefore, intends to adopt an exploratory approach to understand the concept of Happiness as a construct and define a set of underpinning criteria that makes a ‘Subjective Happiness’ Index.

## Keywords

Happiness, Satisfaction, Academic Environment, Analytical Hierarchy Process (AHP)

## 1. Introduction

Happiness is considered as a form of social capital that aids in increasing the tangible benefits of a society. Being an essential variable for the welfare, economics and a guide for the policymaker, it results in ultimately flourishing the societies.

Over the years, the definition of ‘Happiness’ has evolved as a dynamic concept based on the perception of the person and environment. As Kahnenam (2005) in his book ‘The Science of Wellbeing’ explained ‘Happiness’ in terms of two distinct aspects of well-being. Firstly, the emotional state of the person at the moment, such as joy, excitement, anger, love, hope, sad and amusement, termed as experiential. Secondly, the individual reflection of the past feelings and how they contribute towards overall satisfaction termed as evaluation. Similarly, (Layard, 2003) defined ‘Happiness’ as a way to corresponds to how we feel (good or bad) or whether we are satisfied with life or not.

Though a number of definitions existed over last 5 decades (Bradburn & Caplovitz, 1965; Diener, 1984; Kammann et al., 1979), still the scientific study of happiness is considered as the most challenging issues in psychological research as shown in Figure 1 (a) and (b).

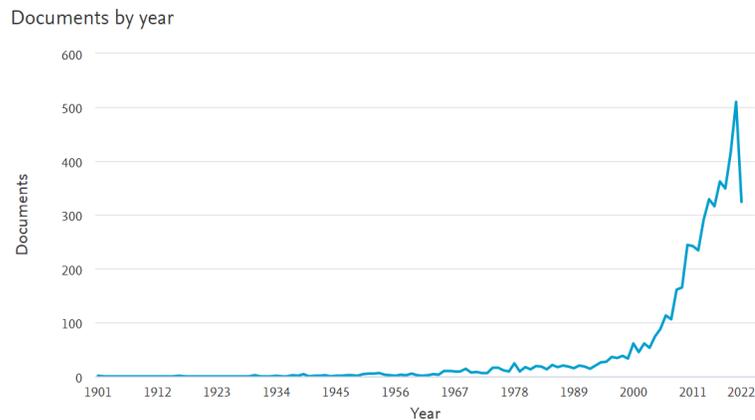


Fig 1 (a). Definition of happiness over the years

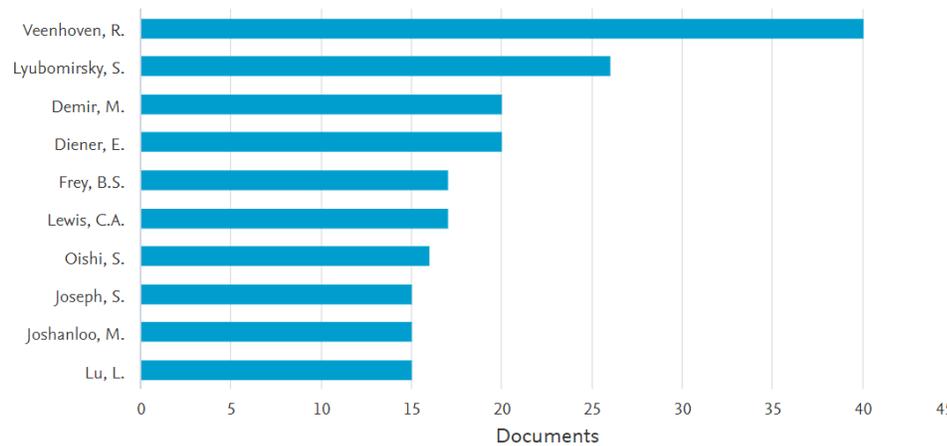


Fig 1 (b). Definition of “Happiness” by authors

The relationship with this construct has been influenced by other areas such as Philosophy, Economics, Psychiatry, and Neurosciences (Extrema, 2013). One of the earliest study linking happiness with economics were Easterlin (1974) and Scitovsky (1976). The research sparked interest among economists to measure and categorise the determinants of subjective happiness and well-being. In this research the terms “happiness,” “well-being” and “life satisfaction” will be used interchangeably.

The broad concept of happiness can be categorised into two: objective and subjective happiness. The concept of ‘Objective Happiness’ was first proposed in 1999 by Kahneman in 1999. The objective happiness as argues by Michalos, in his book can be derived by a record of instant utility (‘Decision Utility’) over a relevant period, though the objective happiness is ultimately based on subjective data, it is termed objective because the blend of instant utility is administered by a logical rule and should on a fundamental level be done by an observer with access to the temporal profile of instant utility (Alex, 2017). Likewise, (Anna, 2005) in her paper explains how objective happiness can be measured by using Instant utility:

*“Instant utility is obtained by prompting a person (via a palmtop computer that beeps at regular or random intervals) while she is undergoing a particular experience (laughing at a joke, solving a math problem, going through a medical procedure, etc.) to report the intensity of positive and negative emotions connected with the current moment, for example, on a scale from 0 to 10. A temporal integral of instant utility is approximately the product of average instant utility and duration, and it is logically justified to consider it a measure of total utility .... It is objective because it does not rely on retrospection and instead computes total happiness without violating the effects of duration, as our own memory does. On the other hand, it is not objective in two senses. First, the objective conditions of one’s life or the society in which one lives are not considered. Second, it still relies on the report’s individuals make of their own state rather than on some non-subject-dependent method of measuring those states.”*

Similarly, (Izyani Zulkifli, 2013) defined objective function as a physiological approach that requires measuring an individual’s brain waves. However, an exclusive dependence on the objective approach was criticized by academia as human happiness cannot be understood standalone without any input from the individual. Therefore, social scientists, academia, and economists adopts ‘Subjective Happiness’ as a construct to develop policies and future plan for the society to increase the Human development Index.

As the concept of ‘Subjective Happiness’ provides a rich analysis and more profound insight into an individual’s well-being. The approach depends on the surveys and questionnaires to get an individuals’ review of its satisfaction with life or happiness. The subjective approach adopts ‘experienced utility,’ which is a much broader concept than the ‘decision utility’. It is based on an individual’s experiences or life events in the past, as well as ‘procedural’ utility or the utility gained by engaging in an activity of interest by the individual. It provides a better insight into human happiness and well-being by creating a basis for explicitly testing fundamental assumptions and propositions in economic theory.

Therefore, the information gain through subjective evaluation of an individual happiness and satisfaction measured using defined scales, allow the governments, communities and businesses to develop their future policies and plans accordingly in order to increase the happiness index.

## 2. Happiness Scales

A significant number of instruments were reported in the literature to measure happiness such as: Affect Balance Scale (Bradburn, 1969), Affectometer (Kammann & Flett, 1983), Affective Intensity Measure (Larsen, 1984), Global Happiness Scale (Fordyce, 1977), Positive and Negative Affect Schedule (PANAS); (Watson, Clark, & Tellegen, 1988). The main idea behind these instruments was that happiness is the frequency associated with the affect: High-positive affect (PA) and low-negative affect (NA). However, the idea was rejected by implementing empirical evidence by authors such as (Larsen & Prizmic, 2008) suggested that people that face adverse events can show a high level of happiness depending on the situation and process of adaptation. In addition to, (Lyubomirsky, 2010) defined the concept of hedonic adaptation and ruled out the direct relationship between happiness and positive affect (Bruno, 2013).

In 1999, the first non-theoretical based approach was introduced by Lyubomirsky and Lepper (1999). The research presented a ‘Subjective’ measure of happiness. The scale was titled a Subjective Happiness Scale (SHS); it was the first scale that measures happiness without considering what happiness is.

(Lyubomirsky And Lepper, 1997) used this approach to measure happiness in college students. The data was collected from a total of 2 732 participants from the United States (two college campuses and one high school campus), the Adult community in two California cities and Russia. The research was based on Subjective Happiness Scale. Five measures of happiness and wellbeing were used to validate SHS i.e. Affect Balance Scale burn: positive affect (5 items) and negative affect (5 items).; The Delighted-Terrible Scale: a single item measuring ; The Global Happiness Item: a single item ; The Recent Happiness Item; The Satisfaction With Life Scale: 5-item; Five dispositional measures theoretically related to happiness were also administered; The Self-Esteem Scale: a 10-item instrument; The Life Orientation Test: 8-item measure of dispositional optimism; Positive Emotionality and Negative Emotionality were assessed with two subscales (15-item and 16-item, respectively) of the Differential Personality Questionnaire; Extraversion and Neuroticism were measured using two 10-item subscales from the Eysenck Personality Questionnaire. These four scales assess an individual’s level of traits related to positive and negative experiences and emotions. Finally, the 21-item Beck Depression Inventory.

Some of the other validated and reliable scales found from the literature are: Satisfaction with Life Scale (SWLS; Diener et al. 1985), Beck Depression Inventory (BDI; Beck et al. 1979), Trait subscale of the State-Trait Anxiety Inventory (STAI-T; Spielberger et al. 1983), Oxford Happiness Questionnaire (OHQ; Hills & Argyle 2002), Dispositional Hope Scale (DHS). Table 1. Summarises the instruments found from literature, used to measure happiness.

Table 1 Instruments to measure ‘Subjective Happiness.’

<b>Instrument</b>	<b>Method</b>
Subjective Happiness Scale (SHS; Lyubomirsky and Lepper 1999).	4-item instrument rated on a 1–7 Likert-type scale that measures global subjective happiness by means of statements with which participants either self-rate themselves or compare themselves to others
Scales of Psychological Well-being (Ryff & Keyes, 1995).	Eighteen items assess six dimensions of psychological well-being (three items per dimension: autonomy, environmental mastery, positive relations with others, personal growth, purpose in life, and self-acceptance). Participants responded using a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), giving a potential range of 18–108
Perceived Happiness subscale (King, 2014)	(16 items) assessed students’ happiness and requested them to indicate how happy or unhappy they felt by using a five-point scale (1 = extremely unhappy; 2 = unhappy; 3 = neither happy nor unhappy; 4 = happy; 5 = extremely happy).
The PANAS (Watson, Clark & Tellegen, 1988)	It includes two subscales measuring positive and negative effects independently. Each scale is composed of 10 adjectives expressing different feelings and emotions like “excited,” “interested” or “distressed” and participants indicate the correspondence of their average feeling to each provided adjective on a five-point Likert scale from “not at all or very slightly” = 1 to “extremely” = 5
WHOQOL-BREF quality of life questionnaire (WHOQOL Group, 1998a)	It includes 26 items with a five-point Likert scale response format representing four different domains.
Oxford Happiness Questionnaire, Argyle and Hills (2002)	This happiness questionnaire consists of 29 statements. The items are a combination of positively and negatively phrased statements and pertain to different areas of well-being. This ensures that the respondent takes time to carefully read each item before answering. The survey asks you to evaluate each statement and rate it according to how

	much you disagree or agree with the statement. It uses a 6-point Likert scale with 6 being the highest as “strongly agree.”
Rosenberg Self-Esteem Scale (RSS), Rosenberg, M. (1965)	It is a one-dimensional measure, composed of ten items, which evaluate general self-esteem
Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985).	The instrument is composed of five items, which evaluate life-satisfaction from a subjective perspective
Dispositional Hope Scale (DHS), (Snyder et al., 1991)	It is composed of 12 items (4 are distractors and are not considered in the analysis), which evaluate hope in a single-factor structure. Four items are related to the sense of determination through personal objectives, and four items are related to cognitive evaluation, people do about the way they will achieve their objectives
Satisfaction with specific aspects of life. (Chow, 2005)	This study sought to measure students’ satisfaction with specific aspects of life by using a scale. Students were asked to state their degree of satisfaction with several aspects of life including educational experience, academic performance, friendships, health, and living environment. This measure used a 5-point Likert type scale, with 1 = very dissatisfied to 5 = very satisfied

Table 1 summarises the scales used to measure Happiness. These scales are validated over the years in different environments.

Having defined the dynamic concept of happiness and its scales, that have matured over the years, it is within the intent of the study to define the underpinning criteria of ‘Subjective Happiness’. However, as argued by Walter (2000), education sector is one of the most vital sectors that play a significant role in the development of any society. In addition, recently a greater amount of attention has been given to the construct of ‘Subjective Happiness’ by academia and economists, which is considered as an essential variable for the welfare, economic and a guide for policy as can be witnessed through an increasing trend of number of articles in subject area such as social sciences, psychology, arts and humanitarian and economics in figure 2 (a) & (b).

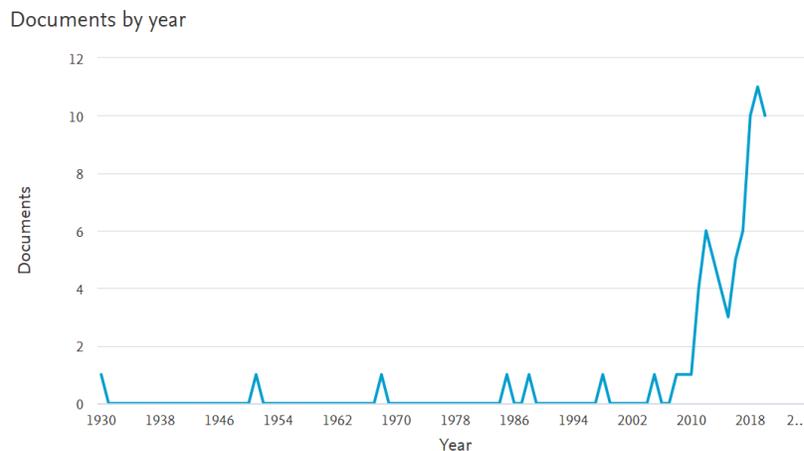


Fig 2 (a). Research on “Happiness” by year

Documents by subject area

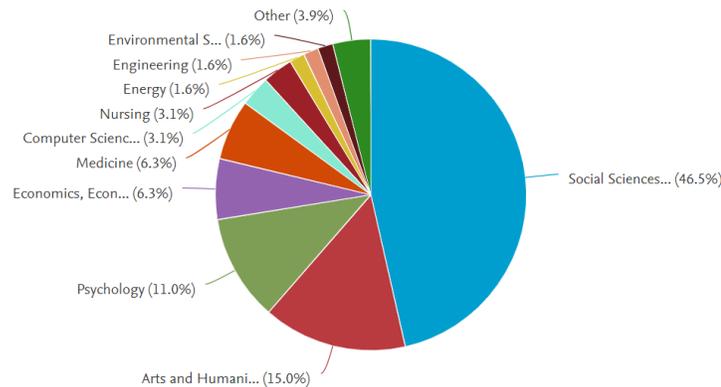


Fig 2 (b). Research on “Happiness” by subject

Therefore, due to the significance of the construct and its importance in education, the study delimited its focus on the educational environment. Thus, it is within the intention of this study to define a comprehensive set of criteria of ‘Subjective Happiness’ in an educational environment.

### 3. Underpinning Criteria of Happiness

The focus of this section is to define a comprehensive set of underpinning criteria of ‘Subjective Happiness’ in an educational environment.

In (Henry, 2004) focused his study on 315 university students in Regina to measure life satisfaction or ‘subjective happiness’ in the university students. The measures proposed by the study were: 5-item Satisfaction with Life Scale (SWLS) and Satisfaction with specific aspects of life. The criteria for the satisfaction among university students used were school performance, courses taking, school facilities, instructors’ quality of teaching, relationships with close friends, relationship with father, relationship with mother, relationships with siblings, relationship with spouse/partner/significant other, physical appearance, self-image, leisure or recreational activities, financial security, material possessions/comfort, physical health, living environment, living arrangements, job situation, social life, school life and spiritual life. The study concluded that familial relationships, living environment, relationships with close friends, and living arrangements were the determinants of satisfaction. Additionally, students who are more satisfied with their academic experience, self-esteem, relationship with significant other, and living conditions were more satisfied with life. Whereas, self-esteem was considered as the strongest predictor.

In 2005, (Chan et al., 2005) targeted 1300 students from University of Western Australia, to identify the determinants of happiness. The study was based on collecting data through survey with two main questions SA1: "Overall, I am happy with my life", SA2: "Overall, I am happy with my university life". The criteria used to determine the happiness of university students were incomes (all), extracurricular activities, satisfaction with schoolwork, satisfaction with resources and school environment, relationships formed, time management, health and university reputations. The findings suggested that Happiness has a relationship with a range of factors, i.e. grades achieved, friendships developed, school facilities, opportunities to participate in extracurricular activities, and lecture quality. However, the most important influences on the levels of satisfaction of students are schoolwork, time management and relationships formed in university.

Moreover, in 2010, (Mary et al., 2010) assessed the satisfaction of 172 undergraduate university students from the University of the West Indies, Barbados. The research was based on using multiple instruments to determine the happiness/ satisfaction in university students such as: Satisfaction with Life Scale (SWLS) developed by Diener et al. (1985), Satisfaction with specific aspects of life by Chow (2005, p.144) and The Perceived Stress Scale (PSS; Cohen et al., 1983). The findings of the research indicate that relationships, self-image and physical appearance were the determinants of satisfaction in university students. Particularly, relationships with family and significant others can influence one’s life satisfaction. However, lower levels of satisfaction were found with campus facilities, quality of teaching, financial security and job situation.

Furthermore, (Zang, Lu and Sui, 2012) in their paper assessed the student’s happiness in order to develop a system of campus planning and design evaluation. The authors proposed a happiness index depending upon two levels i.e. Constrained level (Functions: campus life of students, learning environment, living environment, transportation

and recreation) and Criterion level (best indicators of the functions). In order to measure the student's happiness and satisfaction based on the proposed index, Likert scale was used to characterize the attitudes in the scale, turns it into a visual expression, followed by the classification of attitudes in 5 grades i.e. very satisfied (10), satisfied (8) in general (6), not satisfied (4) and very dissatisfied (2). The paper applied AHP technique to calculate the happiness index. Initially weights were assigned to the indexes (X1, X2, X3, .... Xn) in the whole system followed by the quantization of the indicators and synthesis of the happiness index according to the formula. A judgement matrix was constructed based on the levels. According to AHP, in order to ensure the validating of the evaluation results the consistency of judgment matrix must be examined. The study found that the school life and function is a significant parameter.

Similarly, in his paper, (Natalio, 2013) investigated the psychometric properties of the Subjective Happiness Scale for the Spanish population. A sample of 1155 participants from (high school students, college students, and community adult participants) were surveyed. The scale used to measure happiness was the Spanish version of SHS, the Satisfaction with Life Scale, the Beck Depression Inventory and the Spielberger Trait Anxiety Inventory.

Similarly, in their paper, (Ji and Wang, 2013) proposed a three staged framework to determine the student satisfaction based on AHP and Topsis method. The student satisfaction index model was further divided into three levels: macro influencing, campus influencing and individual factors. The index has three-level framework structure: three first grade indexes, nine second grade indexes and 23 third grade indexes i.e. political factor (government ability to govern the social environment), economic factor (family economic status, the family development prospects), cultural factor (social and cultural environment, media management), teaching management (teaching content, teachers, examination), student management (student cadres selection, student disciplinary treatment, the students employment situation), service facilities (classroom environment, dormitory environment, canteen condition, sports facilities, library facilities), campus security (campus safety, campus order), economic rescue (work-study, poor students seeking), psychological counselling (student employment counselling and student mental health education).

Moreover, (Vigneswaran et al., 2014) targeted the School of engineering at Taylor's University in Malaysia as a case study to measure happiness in the academic environment. The research focuses on developing a Gross National Happiness Index (GIHI) based on nine key areas that fulfilled various criteria. The traditional areas of social concern are identified as living standards, health and education while the less traditional areas are time use, psychological wellbeing, environmental diversity, cultural diversity and community vitality. The core determinants of happiness used to develop the GIHI were: Psychological wellbeing, Health, Time use, Education, Cultural diversity, Good governance, Community vitality, Ecological diversity, Living standard. Each of these core determinants were further divided into subcategories which reflect the questions of the survey. Based on which the GIHI index was designed in order to assist and provide policy incentives to increase the happiness of people and also to increase the sufficiency levels of the not-yet happy-people.

Followed by (Krsmanovic, 2017), who used a case study in order to quantify the quality of life indexes by targeting 100 students of Belgrade Business School. The research is based on using AHP techniques to rank the subjective parameters of quality of life. The study was conducted in two steps: First step proposed 8 indicators of quality of life deduced from the literature i.e. the quality of leisure time, money-material conditions, advancement in education, health condition, personal motivation and energy, culture of living and sustainability, politics and political circumstances, emotional state. During the first step the students were offered to choose 5 out of 8 parameters and mention one parameter which they think is necessary. In Second step, the survey allows to compare the 5 parameters with each other by using AHP method. The authors used a software tool of Expert Choice 2000 in order to calculate the average values. The concept being the software tool is that it compares in pairs based on the Saaty's scale and then the software itself by mathematical method calculates firstly coefficient of consistency and weight indexes. The research concluded that money, as an economic factor, is dominant what was interesting is that students as a special group of young people in the population both in social and intellectual development, showed high level of maturity by favouring economic parameters, education and culture of life and sustainability.

Finally, (Oleg, 2018), the author targeted 180 university student from The Auckland University of Technology Ethics Committee, New Zealand. The authors used wellbeing measures including the Oxford Happiness Questionnaire (OHQ), the World Health Organization Quality of Life Questionnaire, the Satisfaction with Life Scale, and the Positive and Negative Affect Scale. The analysis was based on the use of correlation, regression, and exploratory factor analysis. The research concluded high positive correlations between happiness, psychological and health domains of quality of life, life satisfaction, and positive affect. Social and environmental domains of quality of life were poor predictors of happiness and subjective well-being after controlling for psychological quality of life.

Therefore, it can be concluded from the literature review, that different techniques such as regression model, utility function, AHP has been used to measure 'Subjective happiness' in educational environment and the set of criteria to

measure the happiness in students differ based on the case study. Thus, Table 2. summaries the most commonly used criteria found from the literature, to measure happiness in an educational environment .

Table 2 Underpinning Criteria of ‘Subjective Happiness’

<b>Criteria</b>	<b>Authors</b>
<b>School Life</b>	(Henry, 2004), (Ramzi, 2007), (Esa and Tatu, )
<b>Academic quality/ Education</b>	(Henry, 2004), (Chan et al., 2005), (Mary et al., 2010), (Zang, Lu and Sui, 2012), (Izyani Zulkifli, 2013), (Ramzi, 2007), (Ji and Wang, 2013), (Vigneswaran et al., 2014), (Diana,2014), (Krsmanovic, 2017), (Esa and Tatu, )
<b>School facilities/Services</b>	(Henry, 2004), (Chan et al., 2005), (Mary et al., 2010), (Zang, Lu and Sui, 2012), (Ramzi, 2007), (Ji and Wang, 2013), (Esa and Tatu, )
<b>Social Life</b>	(Henry, 2004), (Chan et al., 2005), (Zang, Lu and Sui, 2012), (Ji and Wang, 2013), King et al., 2014), (Krsmanovic, 2017), (Oleg, 2018)
<b>Relationship (Family/Significant other)</b>	(Henry, 2004), (Mary et al., 2010), (Izyani Zulkifli, 2013), (Diana,2014), King et al., 2014)
<b>Relationship with peers</b>	(Henry, 2004), (Chan et al., 2005), (Mary et al., 2010), (Izyani Zulkifli, 2013), King et al., 2014)
<b>Self-Image/ Achievement</b>	(Henry, 2004), (Diana,2014), King et al., 2014), (Esa and Tatu, )
<b>Leisure/Extracurricular activities</b>	(Henry, 2004), (Chan et al., 2005), (Zang, Lu and Sui, 2012), (Izyani Zulkifli, 2013), (Diana,2014), (Krsmanovic, 2017), (Esa and Tatu, )
<b>Security</b>	(Henry, 2004), (Ji and Wang, 2013)
<b>Health</b>	(Henry, 2004), (Chan et al., 2005), (Zang, Lu and Sui, 2012), (Izyani Zulkifli, 2013), (Ji and Wang, 2013), (Vigneswaran et al., 2014), (Diana,2014), King et al., 2014), (Krsmanovic, 2017), (Oleg, 2018)
<b>Living Environment</b>	(Henry, 2004), (Ramzi, 2007), (Vigneswaran et al., 2014), (Diana,2014), (Oleg, 2018)
<b>Economic (Income &amp; Job)</b>	(Henry, 2004), (Chan et al., 2005), (Mary et al., 2010), (Ji and Wang, 2013), King et al., 2014), (Krsmanovic, 2017), (Esa and Tatu, )
<b>Time management</b>	(Henry, 2004), (Chan et al., 2005), (Mary et al., 2010), (Izyani Zulkifli, 2013), (Ji and Wang, 2013), (Vigneswaran et al., 2014), (Esa and Tatu, )
<b>Development opp</b>	(Ramzi, 2007)
<b>Political</b>	(Ji and Wang, 2013), (Vigneswaran et al., 2014), (Krsmanovic, 2017)

Thus, the exploratory study assists in developing an understanding of the Happiness, its types, commonly used scales and define a set of underpinning criteria to measure the construct.

#### 4. Conclusion

Happiness is considered as form of social capital, which has resulted in an increase in the tangible benefits for the society. As the communities that are rich in social capital are less likely to spend on hospitals, prisons, and depressions centres. Therefore, it is important for a community or country to determine the happiness and satisfaction level of its people. One of the most important aspect is the university, it is of profound importance for the institution to measure the happiness and satisfaction of its students to keep on improving. However, being subjective in nature, it is difficult to measure the construct. Therefore, this study defines a comprehensive set of underpinning criteria of ‘Subjective Happiness’ from a number of case studies found in the literature.

The study based on the findings aims develop a ‘Subjective Happiness Index’ by adopting a mixed method approach based on semi-structure interviews, surveys and Analytical Hierarchy process (AHP) method as a future work.

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## Biographies

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