



The World Book of Happiness and Sufficiency Economy

Professor Peter Calkins

Faculty of Economics, Chiang Mai University, Chiang Mai 50200, Thailand

peter_calkins2004@yahoo.com

Abstract

To identify the causes of happiness, we combine the six concepts of the King's sufficiency economy with an extended 10-phase version of the renowned Maslow's needs hierarchy. We apply the resulting matrix to textually analyze Leo Bormans' (2011) *World Book of Happiness*. We find that the King's sufficiency economy provides a closer "fit" to the secrets of happiness across cultures, genders, academic disciplines and geo-cultural and economic backgrounds than the Maslow hierarchy. The six concepts of the King's sufficiency philosophy may therefore be used as both a working summary of the lessons from the *World Book of Happiness* and a general framework for future happiness research. In contrast, the elements believed to most effectively promote happiness are not the top needs cited by Maslow; and the extended Maslow pyramid does not even form a true hierarchy of happiness.

The analysis further shows that male and female authors from around the world fundamentally agree on what causes happiness; but that authors from different disciplines, geo-cultural groupings, and countries with different GDP/capita propose widely varying keys to happiness. An un-weighted reading of the 102 essays in the *World Book of Happiness* may therefore be misleading for Thailand.

Based on these findings, we recommend how both Thai individuals and planners in Thai governmental and non-governmental organizations can most appropriately increase happiness.

Key words: happiness, subjective well-being, King Bhumibol, sufficiency economy philosophy, Maslow.



The real-world problem and its social significance

In Thailand today, as around the world, unhappiness and subjective ill-being appear to be intensifying. The causes are urbanization, pollution, unemployment, mental stress, crime, political strife, random violence for both ideological and psychological reasons, and the increasingly frequent occurrence of natural disasters. In the face of such unhappiness, Thai society has a potential advantage over many other societies in reducing such subjective ill-being because it is endowed with King's sufficiency economy philosophy (SEP). The SEP – which integrates ethics, knowledge, self-immunization, reasonableness, moderation, and balance as a working system -- could show the path to increasing life satisfaction on both the personal and social levels.

For many individuals and social managers in Thailand this philosophical system still lies just beyond empirical reach; so they are not yet sure about how to apply that philosophy in their personal lives or social management. The publication of the *World Book of Happiness* may help to fill that gap. It provides a set of 102 expert essays, including two by Thai researchers, on the keys to happiness that could assign quantitative weights and statistical validity to theoretical concepts of the King's sufficiency economy. In turn, the SEP prism may pull into focus the scattered content of the *World Book of Happiness* more clearly than other systems of thought, notably the extended Maslow needs hierarchy.

Conceptual framework and review of the theoretical literature

The search for happiness has been pursued over the past 3000 years on every continent by philosophers, theologians, psychologists, sociologists, economists and other researchers. But to date there has been no universal consensus on the 5 or 6 true "keys" to happiness for individuals and societies. Leo Bormans' *World Book of Happiness* (2011) provides an unprecedented qualitative database for testing convergence among happiness experts from different genders, disciplines, countries, cultures, and levels of economic development. Hoping to unite the "knowledge and wisdom of one hundred happiness professors from around the world," Bormans invited happiness experts from 47 nations to compose an essay of no more than 1000 words on the "secret of optimism." He instructed them to :-

1. Write texts in everyday language. The tone and methodology of the book are therefore qualitative.
2. Discuss both individual happiness and that of groups, organizations, and countries
3. Use empirical research to translate information into knowledge and wisdom.
4. Help create a global vision based on the cross-fertilization of ideas.

In the end, 102 single- or double-author entries were contributed by researchers in happiness studies from countries ranging from Thailand to Canada, China to the USA, Bhutan to the Czech Republic, India to Australia, Algeria to Denmark, and Iran to Mexico. The major cultural blocs of the world (East and



Southeast Asian, South Asian, Middle Eastern, Eastern European, Slavic, Western European, Scandinavian, Latin American, and English-speaking) were therefore also represented. The experts had been trained in no less than eleven academic disciplines: economics, education, environmental studies, management, medicine, philosophy, political science, psychiatry, psychology, sociology, and statistics.

One would thus have expected Bormans to organize his book into sub-parts or sections along geographical or disciplinary lines. Surprisingly, however, the ordering of the entries in the volume appears entirely random, with no apparent grouping by gender, academic discipline, country, GDP/capita, or culture. For example, the three psychiatry chapters are found in positions 13, 26, and 96; while the 21 economics chapters occupy positions as 2, 30, 58, and 101. The greatest number of chapters is in psychology (38), but again they are not found in consecutive order. The entries from Mexico are found in positions 18, 26, and 62; while those from South Africa are in positions 34, 54, and 96.

Such careful shuffling of content by gender, discipline, country origin, and culture clearly took some time, and hence must have been intentional. Bormans also omitted any conceptual diagram as a guide. He obviously wished the reader to undertake a personal synthesis through a process of induction, rather than letting him or her zero in on only the discipline or geographic region of his/her choice. In this way, each reader would have to test in his/her own life a hundred sets of partial answers to the quest for subjective well-being.

Although Bormans seemed to have no intention that his important book be subjected to statistical analysis, the volume still constitutes a 102-observation sample of world experts¹ on the causes of happiness. If the opinions of those experts converge on the 5 or 6 universal elements that lead to happiness, then that set may truly be deemed a universal recipe applicable to human beings of whatever gender, age, economic level, culture, or ethnicity. If not, then happiness must not be absolute but relative: it must depend upon how well we can integrate the values and perceptions of our particular culture, development level, age cohort, gender, and/or ethnicity. Whatever the final result, the King's philosophy should be of great help in searching for convergence among the essays.

Goal and specific objectives of the study

The goal of this paper is to search *The World book of happiness* for a small set of keys to happiness and to make recommendations for Thai individuals and public policy-makers based on the results. That goal implies meeting five specific objectives:

¹ Six contributions were submitted by two authors. In this case, the first author was taken as the reference. This said, the second author generally came from the same country background and in four of six cases was of the same gender.



1. Synthesize the lessons from the *World Book of Happiness* based on both the Sufficiency Economy philosophy and the well-known Maslow hierarchy of needs.
2. Examine whether the SEP or the Maslow needs hierarchy provides a more appropriate summary of the conceptual content of the volume.
3. Test for convergence or divergence about what makes people happy by gender, academic discipline, level of economic development, and geo-cultural grouping.
4. Compare recipes for happiness suggested by Asian and middle-income researchers with those proposed by experts from other parts of the world less similar to Thailand.
5. Make recommendations as to how the book may be best used in Thailand by both individuals and community managers.

Conceptual and operating framework

Before undertaking textual analysis of a set of essays, one should elaborate a comprehensive logical structure into which the ideas of may be classified. For the present study of happiness, Maslow's (1943) needs hierarchy may be taken as part of that structure, since it portrays a theory of human motivation based on need fulfilment. Maslow's original pyramid was divided into five stages (from bottom to top, the "basic" physiological, safety/security, love/belonging, and esteem needs; and the "being" need for self-actualization). Maslow listed a total of 28 specific needs: 7 physiological, 7 safety/security, 3 love/belonging, 5 esteem, and 6 self-actualization needs (Figure 1).

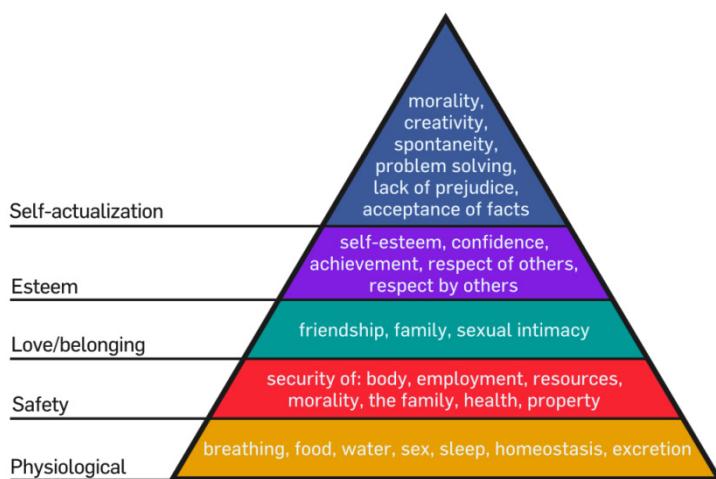


Figure 1. Maslow's original five-level pyramid of needs. DOI.

http://en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs#cite_note-honolulu-0



The motivation for need fulfilment at the lowest four levels was to complete the fundamental human requirements for a balanced life; while the motivation for self-actualization was to realize one's long-term potential as an individual.

Maslow's work has inspired much applied research in such varied fields as medicine, physical education, women's studies, employee commitment, and marketing. Stages have also been added. The earliest was "(self) transcendence." Frankl (1946) separated it out from the rest of "self-actualization" and placed it at the top of the pyramid. More recently, Psyche Truth² has enumerated nine (9) levels, including "contribution to society" (stage 5 in Table 1), "knowledge and understanding" (stage 6), "esthetics and beauty" (stage 7), and Frankl's "transcendence" (stage 10). To reflect all the ideas advanced in the *World Book of Happiness*, the present paper also adds as stage 1 "the avoidance of pain and the maximization of pleasure" at a level even more fundamental than Maslow's original "physiological" needs. Thus the operating framework for this paper contains a total of 10 stages.

Even with such extensions, the Maslow pyramid must be used with caution. It remains a hierarchy of needs, rather than of subjective well-being or happiness. It has also been empirically criticized for not operating as a cumulative pyramid at all (Wahba and Bridwell 1976). It is thus possible that the King's sufficiency economy philosophy may clarify the Maslovian hierarchy as a paradigm of happiness, and *vice versa*.

Table 1 summarizes the two-dimensional conceptual framework for this paper. Our operating matrix crosses the extended Maslow pyramid as rows from bottom to top with the six key concepts of the King's philosophy as left to right columns.

² www.youtube.com/watch?v=yM8SwZkvCIY



Table 1. The conceptual matrix* linking Maslovian needs fulfilment with the King's sufficiency economy

Maslow needs hierarchy	A = Ethics	B = Knowledge	C = Self-immunization	D = Reasonableness	E = Moderation	F = Balance
10 = Transcendence	Transcendence compassion sacrifice, enlightenment		Problem solving	Creativity, acceptance, spontaneously, optimism	Order/art, nature care, Leisure/fun	
9 = Self-actualization	Morality, non-prejudice			Nature care		
8 = Esthetics and beauty						
7 = Knowledge/understanding		Knowledge, understanding				
6 = Need to contribute		Social contribution, social value				
5 = Esteem		Esteem for others, other social		Achievement, confidence, trust		
4 = Love and belonging				Relationships, family, friends		
3 = Safety/security				Health, property, employment, family, body, morality		
2 = Physiological					Homeostasis, breathe-exercise, sleep, food, sex, water, excretion	
1 = Instinct					Avoid pain, experience pleasure	

*Note: the items listed in the boxes of the table are drawn directly from citations by one or more authors in the *World Book of Happiness*.



Research questions

The scientific challenge of the present study becomes to assign numerical weights to each cell in Table 1, as given by the 102 happiness researchers who contributed to the *World Book of Happiness*. Doing so will allow us to give answers to eight (8) research questions of interest to both happiness researchers and scholars of the King's philosophy:

Question 1: *Is the World Book of Happiness "representative" of the academic disciplines, geo-cultural diversity, levels of economic development, and gender balance of planetary humanity?*

Question 2: *Do the essential keys to happiness reported in the World Book of Happiness all lie at the top of Maslow's needs hierarchy?*

Question 3: *Are the ten phases of the Maslow hierarchy strongly correlated enough to be considered a happiness pyramid?*

Question 4: *What priority should each of the King's six SEP concepts (ethics, knowledge, self-immunization, reasonableness, sufficiency and balance) receive if we wish to promote the happiness of individuals and society?*

Question 5: *Which of the King's six SEP concepts are so strongly correlated with the others that they may be considered preconditions to their realization?*

Question 6: *Can the Maslow needs hierarchy help us to better understand the meaning and application of the King's philosophy?*

Question 7: *Can the SEP principles help us to better understand the meaning and application of the extended Maslow needs hierarchy?*

Question 8: *Do 102 happiness researchers agree on the essential keys to happiness, regardless of their gender, academic discipline, broad geo-cultural group, or the income level of their country? In other words, is the recipe for happiness universal?*

Methods of data analysis

To answer these questions, we used qualitative (textual analysis) and quantitative (descriptive statistics, significant differences of means, correlation matrices) methods. The first step was to transform the words and phrases of the 349-page *World Book of Happiness* into a numerical database. To maintain objectivity, exceptional rigor must be used when conducting such qualitative analysis. One must first develop a set of synonyms or similar concepts for each of the 60 cells in Table 1, and count the number of occurrences of each term in each contribution.

The second step was to develop a socio-economic profile by carefully reading and noting down all data presented on each first author at the end of each contribution. We frequently had to supplement those data with internet searches of gender, profession, place-of-work or position, and nationality. We



categorizing the “country of origin” (to the extent that that could be determined)³ by broad cultural/geographic grouping; and determined from the World Bank database the current GDP/capita of the same country of origin. This process of data collection was quite time-consuming and subject to inevitable guesswork and personal judgment.⁴

The third step was to carefully read and reread each contribution in search of the handful of essential keys to happiness it proposed. Although some of these are summarized in a section appropriately called “the keys” at the end of each contribution, careful reading often pointed to others, or even the need for clarifications in those telegraphic statements; thereby adding to, or even changing the initial classification of the response.⁵ In some cases, definitions, rather than causes, of happiness were given in the “keys” section; these were eliminated for the analyses in this paper.

Research results

Question 1: Is the World Book of Happiness “representative” of the academic disciplines, geo-cultural diversity, levels of economic development, and gender balance of planetary humanity?

The book is quite representative in terms of the academic disciplines of the researchers. The left-hand third of Table 2 reflects impressively broad scope in the disciplinary backgrounds of the contributors. Bormans clearly sought as multidisciplinary a base as possible – among the considerable number of researchers of his acquaintance.

However, the cultural and geographic heritage of the researchers (middle third of Table 2) does not show overall representativeness in terms of the human condition worldwide. Instead, there is a strong bias to the societies, economies and cultures of North America and Europe. Asia, where a third of the world's people live, is vastly under-represented in comparison with North America and Europe. For example, if done on a strictly per capita basis, one in five of the contributors should have been from China, vs. only one in 20 from the United States. So if a Thai reader aggregated the 102 entries by assigning an equal weight to each, he or she might therefore come away with a distorted view of what humans as a whole feel are the keys to happiness.⁶ This is why the remainder of this paper will carefully test for significant differences in means by geo-cultural bloc and level of economic development of the reference country, rather than taking simple averages across all contributors.

³ Thus, for example, an Indian researcher working in the United States would be classified under India as the reference country. In the volume itself, the contributor would be considered as coming from the United States.

⁴ With this disclaimer, we still believe that if there is truly a strong convergence, it should be clear despite occasional well-meaning misassumptions.

⁵ Once again, an enormous amount of judgment is involved in this kind of research; and another researcher might have come to different choices; but our working assumption was that the broad conclusions of the study would change little if the same process was applied conscientiously to each contribution.

⁶ It should be noted, however, that the imbalance in contributions is in no way Bormans' fault. It is quite likely that there are simply many more happiness researchers per capita in the wealthy, English-speaking and European countries.



Table 2. Sociodemographic profiles or the first author contributors to the World Book of Happiness.

Academic discipline	Author frequency	Percent of sample	Cultural background	Author frequency	Percent of sample	GDP/cap quintile	Author frequency	Percent of sample
Psychology	38	37.3	English-speaking	36	35.3	Highest (\$ 36,274-51,959 per capita)	35	34.3
Economics	20	19.6	West Europe	23	22.5	High (\$24,950-36,273 per capita)	31	30.4
Sociology	17	16.7	East/Southeast Asia	9	8.8	Middle (\$14,406-24,949 per capita)	15	14.7
Management	6	5.9	Latin America	8	7.8	Low (\$ 9,221-14,405 per capita)	10	9.8
Medicine	6	5.9	Scandinavia	6	5.9	Lowest (\$ 1,269-9,220 per capita)	11	10.9
Political science	5	4.9	Mideast	6	5.9			
Psychiatry	3	2.9	East Europe	5	4.9			
Philosophy*	2	2	South Asian	4	3.9			
Education*	2	2	Other region	1	1			
Statistics	1	1						
Missing	1	1						
Total	102	100	Total	102	100	Total	102	100

* Because of limited observations, medicine and psychiatry will be combined into a single category; as will management and political science. Philosophy, education, and statistics will be combined into a category termed "Other."



Similarly, poor nations -- as measured by the World Bank's reported GDP/capita of the home or reference countries of the authors (right-hand side of Table 2) -- and such middle-income countries as Thailand are also distinctly underrepresented in the volume. A full 76 of 102 contributors come from the upper middle or wealthy quintiles (i.e. the richest 40%) of the world population. Finally, the book lacks gender representativeness. A full 73 first authors⁷ are male, while only 29 are female. Further research will be required to explain the underrepresentation of women among the authors of these studies and even perhaps among happiness researchers in general.

Question 2: Do the essential keys to happiness reported in the World Book of Happiness all lie at the top of Maslow's needs hierarchy?

Based on the results of Table 3, the answer to this question is clearly "no." Of the 42 possible terms (and their synonyms) given in Table 1, 39 were actually cited in one or more contributions. 12 of those items were cited by 15% or more of the sample (second-to-last column); ranging from a mean of 34.3% for *creativity* to 15.7% for *friends*. These correspond to extended Maslow levels nine and four, respectively, hardly the top of the pyramid; while *transcendence* (Maslow level 10) was cited by only 2% of the respondents, pushing it downward to the fourth-from-bottom position.

⁷ Including second authors, there are 74 males and 31 females.



Table 3. Descriptive statistics of the happiness factors cited (N = 102)

Variable	SEP	Maslow level	Minimum	Maximum	Mean
Creativity	<i>Reasonableness</i>	Self-actualization	0	1	0.343
Relationships	<i>Self-immunization</i>	Love/belonging	0	1	0.294
Confidence	<i>Self-immunization</i>	Esteem	0	1	0.265
Problem-solving	<i>Self-immunization</i>	Self-actualization	0	1	0.245
Public policy	<i>Reasonableness</i>	Need to contribute	0	1	0.245
Acceptance	<i>Reasonableness</i>	Self-actualization	0	1	0.235
Morality	<i>Ethics</i>	Self-actualization	0	1	0.196
Love	<i>Moderation</i>	Love/belonging	0	1	0.167
Esteem for others	<i>Ethics</i>	Esteem	0	1	0.167
Nature care	<i>Self-immunization</i>	Esthetics/Safety	0	1	0.167
Leisure/fun	<i>Balance</i>	Esthetics	0	1	0.167
Friends	<i>Self-immunization</i>	Love/belonging	0	1	0.157
Health	<i>Self-immunization</i>	Safety	0	1	0.137
Knowledge	<i>Knowledge</i>	Knowledge/understanding	0	1	0.137
Spontaneity	<i>Reasonableness</i>	Self-actualization	0	1	0.137
Property	<i>Self-immunization</i>	Safety	0	1	0.127
Contribution	<i>Ethics</i>	Contribution	0	1	0.118
Optimism	<i>Reasonableness</i>	Self-actualization	0	1	0.118
Intimacy	<i>Moderation</i>	Love/belonging	0	1	0.098
Achievement	<i>Self-immunization</i>	Esteem	0	1	0.098
Social value	<i>Ethics</i>	Contribution	0	1	0.098
Trust	<i>Self-immunization</i>	Esteem	0	1	0.098
Self esteem	<i>Moderation</i>	Esteem	0	1	0.088
Employment	<i>Self-immunization</i>	Safety	0	1	0.078
Homeostasis	<i>Moderation</i>	Physiological	0	1	0.069
Esteemed by others	<i>Moderation</i>	Esteem	0	1	0.069
Other emotional	<i>Moderation</i>	Love/belonging	0	1	0.069
Avoid pain/ maximize pleasure	<i>Moderation</i>	Instinct	0	1	0.059
Artistic order	<i>Balance</i>	Esthetics	0	1	0.059
Exercise	<i>Moderation</i>	Physiological	0	1	0.049
Family	<i>Self-immunization</i>	Love/belonging	0	1	0.039
Emotions	<i>Moderation</i>	Love/belonging	0	1	0.039
Bodily safety	<i>Self-immunization</i>	Safety	0	1	0.029
Lack of prejudice	<i>Ethics</i>	Self-actualization	0	1	0.029
Other social	<i>Ethics</i>	Love/belonging	0	1	0.029
Sleep	<i>Moderation</i>	Physiological	0	1	0.02
Transcendence	<i>Ethics</i>	Transcendence	0	1	0.02
Food	<i>Moderation</i>	Physiological	0	1	0.01
Sex	<i>Moderation</i>	Physiological	0	1	0.01
Water	<i>Moderation</i>	Physiological	0	0	0
Excretion	<i>Moderation</i>	Physiological	0	0	0
Secure morality	<i>Ethics</i>	Safety	0	0	0



We may use a second technique to confirm this answer to question 2. The top half of table 4 aggregates the 39 responses by broad concept under the Maslovian system. The results confirm that Maslow *self-actualization* (level 9) is the foremost key to happiness, with between 0 and 3 citations by first author. It is followed by *esteem* (level 5), *belonging* (level 4), *contribution* (level 6), *safety* (level 3), *esthetics* (level 8), *transcendence* (level 10), *physiology* (level 2), *knowledge* (level 7), and the instinctual avoidance of pain and maximization of pleasure (1). The hierarchy of needs posited by Maslow and subsequent researchers does not seem to correspond to a hierarchy of happiness. Also, despite the strong emphasis placed on *knowledge* (level 7) by historical philosophers and religions noted above, this level is given virtually no weight (3.1% of all responses) by happiness researchers.



Table 4. Frequency ordering by system concept (N = 102)

Frequency ordering by Maslow level	Minimum	Maximum	Mean	Std. Deviation	% of all responses
9Maslow: actualization	0	3.5	0.907	0.964	20.40%
5Maslow: esteem	0	3	0.784	0.886	17.70%
4Maslow: belonging	0	4	0.716	0.894	16.10%
6Maslow: contribution	0	2.5	0.632	0.682	14.20%
3Maslow: safety	0	3	0.495	0.779	11.10%
8Maslow: esthetics	0	1.5	0.309	0.428	7.00%
10Maslow: transcendence	0	2	0.245	0.455	5.50%
2Maslow: physiological	0	3	0.157	0.461	3.50%
7Maslow: knowledge	0	1	0.137	0.346	3.10%
1Maslow: instinct	0	1	0.059	0.236	1.30%
TOTAL			4.441		100.00%
Frequency ordering by SEP concept	Minimum	Maximum	Mean	Std. Deviation	% of all responses
<i>Self-immunization</i>	0	6	1.99	1.368	43.5%
<i>Reasonableness</i>	0	4	0.907	0.814	19.8%
<i>Ethics</i>	0	4	0.657	0.862	14.4%
<i>Moderation</i>	0	4	0.578	0.801	12.6%
<i>Balance</i>	0	2	0.309	0.428	6.7%
<i>Knowledge</i>	0	1	0.137	0.346	3.0%
TOTAL			4.578		100.00%



Question 3: Are the ten phases of the Maslow hierarchy strongly correlated enough to be considered a happiness pyramid?

The answer to this question is also a clear "no." Table 5 presents a correlation matrix of author responses where the 10-part Maslovian hierarchy is shown as both the row and column headings. Correlations at the 0.25 level or higher are shown in bold, while negative correlations are underlined.

Table 5. Significant internal correlations among the phases of the Maslow hierarchy.

Maslow levels	10 Maslow: transcendence	9 Maslow: actualization	8 Maslow: esthetics	7 Maslow: knowledge	4 Maslow: belonging	2 Maslow: physiological
7 Maslow: knowledge		0.187 (0.060)				
6 Maslow: contribution	0.357 (0.000)					
4 Maslow: belonging	0.271 (0.006)		-0.284 (0.004)			
3 Maslow: safety			-0.175 (0.078)	0.278 (0.005)	0.240 (0.015)	
2 Maslow: physiological				0.178 (0.073)		
1 Maslow: instinct				0.233 (0.018)	0.278 (0.005)	



For a set of concepts to be considered a cumulative pyramid, there must be no negative correlations. However, the results in Table 5 show that self-actualization is negatively correlated with both belonging and safety. Among positive correlations, transcendence (level 10) is mostly based on level-6 social contribution (0.357) rather than level-9 self-actualization; followed by level-4 belonging (.271), level-1 instinctual avoidance of pain (0.233), and level-2 physiological needs (0.193). Safety is correlated with knowledge (0.278) and belonging (0.240); while physiological needs are correlated with a mixture of transcendence (0.193) and esthetics (0.178). When it comes to the determinants of happiness, the Maslow scale of needs obviously fails to act as a cumulative system.

Question 4: *What priority should each of the King's six SEP concepts (ethics, knowledge, self-immunization, reasonableness, sufficiency and balance) receive if we wish to promote the happiness of individuals and society?*

To answer this question, we return to the bottom half of Table 4. Happiness researchers most frequently cite components of *self-immunization* as the essential key to happiness; suggesting that humans cannot feel truly happy if they feel vulnerable due to excessive exposure to risks of all types. Self-immunization is followed by *reasonableness*, *ethics*, *moderation*, *balance*, and *knowledge*, in that order. To arrive at numerical weights on how Thai people might consider spending their time and energy working on the SEP principles, we may calculate for each SEP concept the ratio of its mean score to the total scores across all six. The results of this *ad hoc* calculation seem to indicate that, to be happy, we might allocate 43% to self-immunization, 20% to reasonableness, 14% to ethics, 13% to moderation, 7% to balance, and 3% to knowledge. Testing this idea could provide the subject of further research for scholars of the King's philosophy.

Question 5: *Which of the King's six SEP concepts are so strongly correlated with the others that they may be considered preconditions to their realization?*

Table 6 presents the significant internal correlations among the six individual elements of the sufficiency economy philosophy. Correlations at the 0.25 level or higher are shown in bold, and there are no negative correlations. The content of all the other boxes has been erased for clarity.



Table 6. Internal correlations among the SEP component concepts

	Ethics	Knowledge	Immunization	Reasonableness	Moderation	Balance
Ethics			0.180 (0.070)		0.330 (0.000)	
Knowledge				0.330 (0.000)		
Immunization	0.180 (0.070)	0.330 (0.000)				
Moderation		0.330 (0.000)			0.170 (0.090)	
Balance						0.170 (0.090)

Only eight (8) of the 30 potential intersections of concepts have significant signs when the SEP system is used to study happiness. In other words, in 22 cases out of 30, a given pair of SEP concepts is not significantly related to each other, showing a strong independence of each concept and few possibilities for pyramids or feedbacks.

Puntasen (2011) posits a left-to-right flow beginning with knowledge and ethics. Our results from the *World Book of Happiness* show that while knowledge leads directly only to self-immunization, ethics leads self-immunization and moderation. Self-immunization goes nowhere further, but moderation goes on to balance. Reasonableness, in contrast, is not significantly related to any other of the SEP concepts from the viewpoint of the content of the *World Book of Happiness*. We may visualize these results as an empirically validated flow diagram (Figure 2).

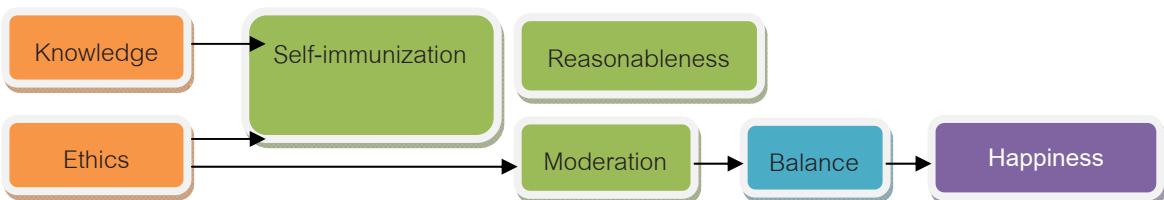


Figure 2. Statistically significant linkages between SEP concepts and happiness building.

Question 6: *Can the Maslow needs hierarchy help us to better understand the meaning and application of the King's philosophy?*

We believe the answer to this question is "yes." Table 7 shows the significant correlations between the Maslovian and SEP systems. Correlations of 0.50 or higher are shown in bold and negative



correlations are underlined. Although Maslow's knowledge (level 7) and the SEP philosophy's knowledge are the same by definition, the table holds other interesting associations that would not have been immediately apparent with the statistical analysis of a textual database. In fact, we may read this important table in two different directions.

Table 7. Correlations between the SEP principles and the Maslovian stages

	Ethics	Knowledge	Immunization	Reasonableness	Moderation	Balance
10 Maslow	0.748		0.235	0.169	0.259	
transcendence		(0.000)		(0.018)	(0.089)	(0.009)
9 Maslow: self-actualization			0.187		0.749	
					(0.000)	
8Maslow: esthetics						0.167
						(0.094) (0.000)
7Maslow: knowledge		1.000		0.327		
		(0.000)		(0.001)		
6Maslow: contribution	0.575		0.206		0.335	
	(0.000)		(0.038)		(0.001)	
5Maslow: esteem	0.304		0.296			0.177
	(0.002)		(0.002)			(0.074)
4Maslow_belonging	0.245		0.585	-0.214	0.273	
	(0.013)		(0.000)	(0.031)		(0.005)
3Maslow_safety		0.278	0.639			
		(0.005)	(0.000)			
2Maslow_physiological	0.236				0.582	0.178
	(0.017)				(0.000)	(0.073)
1Maslow_instinct	0.197				0.393	
	(0.047)				(0.000)	

First, to gain deeper insights into the King's philosophy, we may analyze which human needs most effectively fulfill each of the King's six concepts. Scanning down the first column, we discover that *ethics*, the first of the two bases of the SEP, is most closely related (correlation = .748) to the "being" need for transcendence (as expected), but it is also connected with people's needs for social contribution (0.575), esteem (0.304), physiological needs (0.236), and pain avoidance (0.197). This implies that what others may think of us (contribution to society, esteem) and our bodily needs (physiological, instincts) may all be used by social programs and teaching about the SEP to adopt ethical behavior. Similarly, *knowledge*



acquisition is most closely related to the need for safety (.278) followed by self-actualization (.187). *Self-immunization* may be both understand and reinforced by people's needs for safety (0.639), as expected; but also by their needs for belonging, knowledge, esteem and contribution, in that order. *Reasonableness* is related most strongly to self-actualization (0.749), followed by the needs for contribution and transcendence (0.17). But our need for belonging appears to be unreasonable (-0.214) when it comes to happiness. This negative result merits further research by scholars of the King's philosophy.

Continuing across the table, *moderation* is correlated with six of the 10 Maslow levels, most strongly with physiological needs (0.582) and instinct (0.393), but also with belonging (0.273), transcendence (0.259), esthetics (0.167), and esteem (0.177). This suggests that the most effective ways to promote and cultivate moderation are to focus on physical abstinence and pain avoidance, and only then by appeal to social needs. Clearly, over-indulgence in one or more physical satisfaction does not bring happiness. Finally, *balance* is a question of Maslovian esthetics (1.00). Balance appeals quite simply to our artistic nature. But once again, it is also most critical when it comes to how we meet our physiological (0.178) needs.

Question 7: *Can the SEP principles help us to better understand the meaning and application of the extended Maslow needs hierarchy?*

Again, the answer is "yes." Reading this time across each row of Table 7 yields unprecedented insights from the King's philosophy for understanding the Maslow's needs hierarchy. The instinct to avoid pain (level 1) and physical needs (level 2) can best be achieved through *moderation* (0.393 and 0.582, respectively). Moving up the extended Maslow pyramid, safety and belonging are questions of *self-immunization* (.064 and 0.47, respectively). The needs for esteem and social contribution are mostly related to *ethics*, knowledge to *self-immunization*, esthetics to *moderation*, self-actualization to *reasonableness*, and transcendence to *ethics*. The King's philosophy may therefore be of great use to researchers and social institutions working to most effectively apply the extended Maslovian paradigm.

Question 8: *Do 102 happiness researchers agree on the essential keys to happiness, regardless of their gender, academic discipline, broad geo-cultural group, or the income level of their country? In other words, is the recipe for happiness universal?*

Gender

The recipes for happiness are reassuringly the same for men and women (Table 8). For any of the six cardinal concepts of the King's sufficiency economy, there were no significant differences in the frequency of responses. Similarly, of the ten levels of the extended Maslow pyramid, only *self-actualization* was given more weight as a key to happiness by female respondents. Even in terms of the 39 specific responses cited across all 102 contributors as essential keys to happiness (Table 3), only five differed significantly from men to women. These were *physical homeostasis/comfort*, *bodily security*, *contribution*



to society, self-actualization through the shedding of prejudice, and trust. Contrary to many prevailing stereotypes, women gave less important to these elements than men. This result could constitute an interesting area of further research in happiness studies.

Table 8. Significant differences among happiness factors by author gender

Significant variables	Group Statistics		Levene's Test for Equality of Variances		t-test for Equality of Means		
	Female (N=29)	Male (N=73)	Mean Difference	F	Sig.	t	Sig. (2-tailed)
Significant Maslow level							
9Maslow: Self-actualization	1.207	0.788	0.419	0.112	0.739	2.011	0.047
Significant individual factors							
Unprejudiced	0.000	0.040	-0.041	5.300	0.023	-1.760	0.083
Trust	0.034	0.123	-0.089	8.700	0.004	-1.710	0.090
Social contribution	0.000	0.164	-0.164	34.700	0.000	-3.760	0.000
Bodily safety	0.000	0.041	-0.041	5.300	0.023	-1.760	0.083
Homeostasis	0.000	0.096	-0.096	15.100	0.000	-2.460	0.007

However, Tables 9, 10, 11, and 12 will suggest that views on the keys to happiness are not universal when it comes to academic discipline, reference culture, or development quintile:

Academic discipline

For example, happiness researchers in sociology accord the highest importance to SEP reasonableness and Maslovian transcendence, significantly more to knowledge than psychologists, but significantly less to SEP moderation than psychologists (Table 9). Scientists of the mind (psychologists) somewhat surprisingly give the highest weight to Maslow's physiological level; indeed, even more so than experts in medicine and psychiatry.



Table 9. Significant differences among happiness components by first-author academic discipline

Dependent Variable	(I) Most distinct Faculty	(J) Other Faculties	Mean Difference (I-J)	Std. Error	Sig. (LSD)
Significant SEP concepts					
Ethics	Economics	Psychology	<u>-0.409</u>	<u>0.231</u>	<u>0.080</u>
		Sociology	<u>-0.619</u>	<u>0.277</u>	<u>0.028</u>
	Medicine and Psychiatry	Sociology	<u>-0.667</u>	<u>0.350</u>	<u>0.060</u>
Knowledge	Psychology	Sociology	<u>-0.183</u>	<u>0.101</u>	<u>0.073</u>
Reasonableness	Sociology	Med and Psychi	0.565	0.338	0.098
Moderation	Economics	Psychology	<u>-0.709</u>	<u>0.205</u>	<u>0.001</u>
		Med and Psychi	<u>-0.540</u>	<u>0.300</u>	<u>0.075</u>
	Economics	Psychology	<u>-0.409</u>	<u>0.231</u>	<u>0.080</u>
Ethics	Sociology	Sociology	<u>-0.619</u>	<u>0.277</u>	<u>0.028</u>
		Medicine and Psychiatry	<u>-0.667</u>	<u>0.350</u>	<u>0.060</u>
Knowledge	Psychology	Sociology	<u>-0.183</u>	<u>0.101</u>	<u>0.073</u>
Reasonableness	Sociology	Med and Psychi	0.565	0.338	0.098
Moderation	Economics	Psychology	<u>-0.709</u>	<u>0.205</u>	<u>0.001</u>
		Med and Psychi	<u>-0.540</u>	<u>0.300</u>	<u>0.075</u>
	Psychology	Economics	0.709	0.205	0.001
Moderation	Sociology	Sociology	0.712	0.220	0.002
		Mgt and Pol Sci	0.584	0.258	0.026
	Sociology	Psychology	<u>-0.712</u>	<u>0.220</u>	<u>0.002</u>
Significant Maslow levels					
10 Maslow: transcendence	Sociology	Economics	0.434	0.143	0.003
		Psychology	0.266	0.128	0.040
		Med and Psychi.	0.418	0.181	0.023
		Other	0.529	0.208	0.013
9 Maslow: actualization	Psychology	Economics	0.513	0.261	0.053
		Sociology	0.485	0.280	0.087
7 Maslow: knowledge	Sociology	Psychology	0.183	0.101	0.073
		Economics	0.748	0.211	0.001
		Psychology	0.571	0.189	0.003
6 Maslow: contribution	Sociology	Mgt and Pol Sci.	0.631	0.251	0.014
		Med and Psychi.	0.788	0.267	0.004
		Other	0.676	0.308	0.030
4 Maslow: belonging	Sociology	Other	0.716	0.428	0.098
		Economics	0.221	0.122	0.074
2 Maslow: physiological	Psychology	Sociology	0.316	0.131	0.018
		Mgt and Pol Sci.	0.316	0.154	0.043
		Med and Psychi.	0.316	0.166	0.061

* All mean differences are significant at the 0.10 level.



Psychology also gives more weight to Maslow's ninth level (actualization) than either economics or sociology.

Meanwhile, economics focuses on extended-Maslow levels 1 (instinct), 3 (safety), 5 (esteem), and 6 (contribution). It therefore gives less weight to the King's ethics than psychology and sociology, less to moderation than psychology and psychiatry, less to Maslow's actualization than psychologists, less to esthetics than "other" disciplines, and less to transcendence than psychology. Despite the upsurge in studies of the economics of happiness, economists clearly continue to worry about income, job security, access to resources, conspicuous consumption, and visible beneficence as pre-requisites to happiness.

Culture

There is also strong social profiling of the results by geography and culture (table 10). Western European and Scandinavian happiness researchers strongly emphasize Maslovian belonging as opposed to transcendence or the King's knowledge. Eastern Europeans give the highest weight to SEP knowledge and Maslovian esthetics, probably a reaction to the long period in which their cultures had been bathed in socialist education and art norms, and cut off from real news from the outside world. Meanwhile, Latin Americans – probably because of the bimodal income distribution, high Gini coefficients, and galloping inflation that characterize that continent – accord the highest weight of any geo-cultural group to the King's self-immunization and Maslovian safety as determinants of happiness. Eastern Europeans and Slavic authors value Maslovian esthetics, perhaps because their artistic sensibilities had so long been depressed by governmentally-imposed socialist art forms. Finally, Asian contributors give the highest weight to transcendence and the lowest to self-esteem.



Table 10. Significant differences among happiness components by author reference culture

Dependent Variable	(I) Most distinct culture	(J) Other cultures	Mean Difference (I-J)	Std. Error	Sig. (LSD)
Significant SEP concepts					
<i>Ethics</i>	Other	<i>English-lang</i>	.671*	0.355	0.062
		Latin Americans	.768*	0.445	0.087
<i>Knowledge</i>	Eastern Europeans and Slavic	<i>English-lang</i>	.25000	0.129	0.055
		European and Scandinavian	.230*	0.132	0.085
<i>Self-immunization</i>	Latin Americans	<i>Asian</i>	1.149*	0.614	0.064
		<i>Eastern Europeans and Slavic</i>	1.132*	0.664	0.091
Significant Maslow levels					
10Maslow: transcendence	Asian	<i>English-lang</i>	.267*	0.147	0.072
		European and Scandinavian	.289*	0.152	0.059
8Maslow: esthetics	Eastern Europeans and Slavic	<i>English</i>	.250*	0.129	0.055
		<i>European and Scandinavian</i>	.230*	0.132	0.085
5Maslow: esteem	Other	<i>English-lang</i>	.675*	0.330	0.044
		Latin Americans	.786*	0.460	0.091
4Maslow: belonging	European and Scandinavian	<i>Asian</i>	.824*	0.375	0.030
		<i>European and Scandinavian</i>	.596*	0.337	0.080
3Maslow: safety	Latin Americans	<i>Asian</i>	.623*	0.296	0.038
		<i>Other</i>	.645*	0.374	0.088
		<i>English-lang</i>	.569*	0.303	0.064
		<i>Eastern Europeans and Slavic</i>	.833*	0.377	0.030

*. The mean difference is significant at the 0.10 level.



GDP/capita development quintile

Nor are the perceptions of happiness similar across economic development quintiles, define in terms of World Bank estimates of GDP per capita of the author's country (table 11). In terms of the King's philosophy, *knowledge* is most prized by authors from the lowest-income countries as a pre-condition for happiness, while *self-immunization* is stressed most by authors from low-income countries. Among Maslow concepts as well, *transcendence* is most important for the lowest- and low-income economies; and is considered even more important than *safety* and *belonging* as sources of happiness in the low-income countries. At the other end, the highest income countries (topmost quintile) are most concerned with *self-actualization*; and the high-income countries (second-to-top quintile) with *esteem*; in other words the process and direct results, respectively, of personal growth. Middle income countries also give a strong weight to self-actualization, possibly reflecting the upwardly mobile social dynamism of a society in transition. In other words, in such countries it may be everyone for oneself.



Table 11. Significant differences among happiness components by author reference country development quintile

Dependent Variable	(I) Most distinct quintile	(J) Other quintiles	Mean Difference (I-J)	Std. Error	Sig. (LSD)
Significant differences by SEP concept					
<i>Self-immunization</i>	<i>Low</i>	<i>High</i>	1.01*	0.490	0.042
		<i>Middle</i>	.950*	0.550	0.087
		<i>Lowest</i>	1.250*	0.589	0.036
<i>Knowledge</i>	<i>High</i>	<i>Middle</i>	-.234*	0.107	0.031
		<i>Lowest</i>	-.240*	0.120	0.047
Significant differences by Maslow level					
10 Maslow: transcendence	<i>Lowest</i>	<i>Highest</i>	.283*	0.157	0.075
8Maslow: self-actualization	<i>Highest</i>	<i>High</i>	.442*	0.229	0.056
		<i>High</i>	.871*	0.292	0.004
	<i>Middle</i>	<i>Low</i>	.850*	0.379	0.027
		<i>Lowest</i>	.909*	0.368	0.015
7Maslow_knowledge	<i>Middle</i>	<i>High</i>	.234*	0.107	0.031
		<i>High</i>	.240*	0.120	0.047
5Maslow: esteem	<i>High</i>	<i>Highest</i>	.371*	0.218	0.092
4Maslow: belonging	<i>Low</i>	<i>Middle</i>	.633*	0.364	0.085
3Maslow: safety		<i>Highest</i>	.514*	0.272	0.062
	<i>Low</i>	<i>High</i>	.794*	0.276	0.005
		<i>Middle</i>	.733*	0.310	0.020
2Maslow: physiological	<i>Highest</i>	<i>Lowest</i>	.736*	0.331	0.029
		<i>Middle</i>	.257*	0.142	0.072



To further explore these significant differences in means for the Maslovian and SEP aggregates by income quintile of the home country, we generated a correlation matrix to determine which, if any, of the 39 individual happiness determinants increase significantly with monetary GDP per capita (Table 12). There were only three: creativity, artistic order, and physical exercise. Meanwhile, confidence is negatively correlated with monetary GDP per capita of the home country. Explaining these significant results lies in the realm of guesswork at this stage and could become the object of future research.

Table 12. Significant correlations between GDP/capita and happiness factors

Happiness factor	Correlation with	GDP/capita
Significant individual factors		
Creativity	Pearson <i>Sig. (2-tailed)</i>	0.234 (0.018)
Artistic order	Pearson <i>Sig. (2-tailed)</i>	0.171 (0.086)
Exercise	Pearson <i>Sig. (2-tailed)</i>	0.173 (0.082)
Confidence	Pearson <i>Sig. (2-tailed)</i>	-0.166 (-0.095)

Conclusions

Content analysis of the *World Book of Happiness* has shown that the essential keys to happiness are substantially agreed upon by male and female happiness researchers; but differ substantially by academic discipline, geo-cultural grouping, and level of GDP/capita of the first author's reference country. *The World Book of Happiness* must be read with this in mind to avoid simple unweighted aggregation of the recipes for happiness it contains.

We have also determined that the key ingredients of happiness do not lie at the top of Maslow's needs hierarchy (i.e. in the higher "being" rather than lower "basic" needs). Nor are the ten phases of the Maslow pyramid vertically correlated as required by a cumulative scale.

Instead, the King's sufficiency economy provides a closer "fit" to the secrets of happiness across cultures, genders, academic disciplines and geo-cultural and economic backgrounds than the renowned Maslow hierarchy. Indeed, there is a strong correlation between the secrets of happiness most frequently cited in the book and the six concepts of the King's sufficiency philosophy, such that the latter



may be used as both a working summary of the lessons from the *World Book of Happiness* and a more general framework for future happiness research.

Recommendations for the quest for happiness by individuals

Leo Bormans' *World Book of Happiness* is extremely important for anyone who seeks to become happier, which is virtually all of us. The book could be profitably read and meditated upon at the pace of one 1000-word essay per day. At this rate, the serious student of the book could pass through the entire set of chapters in 102 days, or 3.5 times per year, with increasing insight, comprehension and personal synthesis with each round. But the results have shown that a simple aggregation of the results may lead to biases, due to the predominance of certain disciplines, male gender, geographical areas or the world, and high economic status among the authors of the contributions.

Of course, the two contributions to the volume from Thai experts in happiness will be the most directly applicable to the lives of Thai readers, but for readers with less time or understanding of the remaining 100 English-language contributions to the volume, we may recommend five of the most representative essays (Table 13). These were selected because they cited with the highest frequency the most popular 3, 5 and 10 keys to happiness as agreed upon by all 102 contributors to the *World Book of Happiness*.



Table 13. Characteristics of the five chapters that best focus on the highest-ranked determinants of happiness across all contributors

Author descriptive	Representative article 1	Representative article 2	Representative article 3	Representative article 4	Representative article 5	Mode
Rank of percentage of factors in the top 10, 5, and 3	1	2	3	4	5	
Define happiness?	Yes	Yes	No	Yes	Yes	Define
Gender	M	F	M	M	M	Male
Discipline	Sociology	Psychology	Management	Medicine	Psychology	Psychology
Home/reference country	Netherlands	Croatia	Colombia	Canada	Czech Republic	Europe
GDP/capita of home country	\$40,973	\$17,819	\$9,593	\$39,171	\$24,950	\$26,501
GDP/cap quintile	1	3	5	1	2	1
Culture	West Europe	East Europe	Latin America	English	East Europe	East Europe



Recommendations for social policy

The other Thai clientele for this book is policy makers within both governmental and non-governmental organizations. Although happiness has been shown by psychologists to largely depend upon an individual's genetically determined "set point," many of the determinants of happiness go far beyond one's personal understanding or control. They require community-based or governmental policies at the community and national levels. It is therefore important that the goals of such policy reflect a lucid understanding of the importance of subjective well-being, and the exact factors that can be seen to increase it within a given society. This book should therefore be required reading for public and community administrators at all levels.

For Asia as a whole (table 10), such policy and programs must encourage and support community access to transcendence, i.e. spiritual institutions (e.g. temples) for the cultivation of ethics, rather than Maslow's "belonging" or "esteem," the King's "self-immunization" as such. This finding suggests that, compared to other parts of the world, the social safety net is already strong in Asia. Similarly, as a *middle-income* country (table 11), Thai policies and programs should focus on opportunities for self-actualization and knowledge, since both self-immunization and the attainment of safety, belonging, and physiological needs are already strong enough to be considered less important.

Finally, because of the diverse perceptions of the causes of happiness by *academic discipline*, development projects in Thailand should combine research teams composed of all the disciplines noted in this report. Since, for example, the results of table 9 suggest that sociologists believe most strongly in transcendence and belonging, they could be assigned leadership in developing projects, programs and policies in these areas. Similarly, psychologists could be asked to focus on their favorite subjects of self-actualization, physiological needs and mental well-being.

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