

Education, Happiness and Wellbeing*

(First draft for discussion.)

By

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Introduction

Judging from the title of the conference, it appears that we are gathered to examine the science and philosophy involved in happiness studies, and to assess its significance for making public policy. Some of the invited speakers have devoted much of their life's work to addressing precisely these two broad topics and their views, sympathies and/or biases are well-known to people working in the trade. Diener and Seligman (2004) have a fine paper devoted precisely on our topic. Some of my best friends are here. As one would expect from any group of scholars, there are plenty of areas of agreement and disagreement among us. Anyone interested in more detailed overviews of work in this field and the progress made since the 1960s should have a look at Michalos (2005).

Judging from the proposed titles of contributions, it appears that we are proceeding from relatively broad overviews of happiness studies to more detailed discussions. In my case, the focus is supposed to be on the particular role of education in influencing happiness and what significance, if any, that might have for public policy. I will give a brief summary of my understanding of the basic questions and my answers now, and a more detailed investigation afterward.

The basic scientific and philosophical questions for this session seem to be: Does education influence happiness and if so, how and how much?

My answer is: It depends on how one defines and operationalizes the ideas of 'education', 'influences' and 'happiness'. More precisely, if one defines and operationalizes (1) 'education' as highest level of formal education attained including primary, secondary and tertiary education leading to diplomas and degrees, (2) 'happiness' as whatever is measured by standardized single-item or multi-item indexes of happiness or life satisfaction, and (3) 'influences' as a direct and positive correlation between such measures of education and happiness, then the answers to the basic scientific and philosophic questions are well-known. Given these definitions, education has very little influence on happiness.

On the other hand, if one defines (1) 'education' more broadly to include formal education as specified above, non-formal education of the sort that might involve learning through course-work not connected to any diplomas or degrees, and informal education of the sort that might involve learning outside of any course-work, from news media, works of art and culture, work-related training and experiences, social interaction and routine as well as extra-ordinary life experiences, (2) 'happiness' as an Aristotelian *eudaimonia* or general wellbeing involving, in his phrase, "living well and doing well" by enjoying goods of the mind (e.g., wisdom, moral virtue and pleasure), goods of the body (e.g., physical beauty, health and pleasure again) and external goods (e.g., wealth and adequate material resources, good parents and families, good friends, peace and security within and between communities, and well-governed communities, and (3) 'influences' as indirect as well as direct associations among the diverse kinds of education and learning and the diverse features of a happy or good life, then the answers to the basic questions are more complicated and for that reason, less well-known. Given these more robust definitions of 'education', 'influences' and 'happiness', education has enormous influence on happiness.

Given the three essential variables related to our questions and the minimum number of alternative values of each variable, we could construct $2^N = 2^3 = 8$ research

scenarios using the ; (1) narrow view of education, happiness and influence, (2) robust view of education, narrow view of happiness and influence; (3) narrow view of education, robust view of happiness, narrow view of influence, etc. to (8) robust view of education, happiness and influence. Of course this would be the tip of the iceberg of possible research scenarios because there are many more than two alternative values for each of our three variables, many more views about the nature of education, happiness and influence. Below I am only going to talk a bit about the first and last of the minimum eight scenarios.

Given the great variety of research scenarios that may be constructed from our three essential variables, one should expect plenty of different answers to the basic political question of this session. What public policies one ought to adopt and implement regarding the influence of education on happiness depends minimally on which of the great variety of research scenarios one adopts and maximally on lots of other things as well, e.g., what is politically possible, financially possible, technically possible, morally possible, and so on. There are good reasons for people pursuing the first and last of the minimum eight scenarios. My personal preference is for the last, but I have done quite a bit of work with the first too. Compared to the last scenario, the first is far easier to manage. The last scenario costs a lot more in many ways than the first and, as usual, it costs more because it is worth more in the long run. It promises to deliver much more value in many more senses of this word (value) than the first, minimal research scenario. There is good evidence that most of the governments of most countries of the world perceive and have endorsed a political agenda that pretty clearly follows from those robust definitions.

Education as Learning

If the distinguishing feature of anything regarded as education is the fact that learning occurs, then it is a gross oversimplification to define ‘education’ as merely formal education leading to some kind of certification. Human beings must learn to eat and what to eat, to grasp and what to grasp, to stand, walk and talk, to talk this language and/or that, wisely or foolishly, rudely or politely, loudly or softly, a lot or a little, at the right time and in the right way to successfully communicate. Quite generally, individuals and communities must learn many different kinds of things in a wide variety of circumstances, and there are a wide variety of teachers (Michalos, 2003). If the difference between knowledge and mere opinion or belief is that knowledge requires that one’s opinions or beliefs must be true in the first place and well-warranted in the second place (Michalos, 2006), then probably much of what one learns formally, non-formally and informally as characterized earlier is not knowledge. For example, Hayward, Pannozzo and Colman (2005, p.118) reported that “A British study, cited in the *Journal of Internal Medicine*, found that ‘much of the information patients receive about health and health care is misleading, outdated or biased’”.

Every individual and community has a lifelong learning project involving perhaps at a minimum learning to know, to do, to live together and to be, as the Canadian Council on Learning says, following one of the social indicators research pioneers, Jacques Delors. Marc Lachance will probably tell you more about this. I say “at a minimum” because a four-fold classification of reasons, motives, purposes or general goals for learning is only one of many classificatory schemes one might construct. Maybe, for

example, the UN Millennium Development Goals and all the themes of the UN Decade of Education for Sustainable Development can be squeezed into one of the four pigeon holes, but I suspect it would be a tight squeeze

I suppose it is not necessary to labour this point. Using the narrow definition of 'education', one would have to say that education appeared very late in human history and that a great deal of important learning that goes on across the whole lifespan of individuals and communities is not, after all, education. I suppose very few, if anyone at all, would be prepared to accept these consequences. So, I will assume most people will find a research scenario involving a more robust rather than a more narrow definition of 'education' most interesting.

Happiness, Quality of Life and Wellbeing

As some of you may have heard me say too many times already, in very broad strokes one may think of the quality of life or wellbeing of an individual or community as a function of the actual conditions of that life and what an individual or community makes of those conditions. What a person or community makes of those conditions is in turn a function of how the conditions are perceived, what is thought and felt about those conditions, what is done and, finally, what consequences follow from all these inputs. People's perceptions, thoughts, feelings and actions, then, have an impact on their own and others' living conditions. This general model is illustrated in Exhibit 1.

Taking the two main variables together (conditions of life and what people make of them), one can construct four scenarios which, with some exaggeration, may be described as different kinds of Paradise and Hell.

1. If people's living conditions are good, and people accurately perceive and think about them, feel good, act appropriately with good results, we may describe that as Real Paradise.
2. If people's living conditions are bad, and people accurately perceive and think about them, feel bad, act appropriately but still with bad results, we may describe that as Real Hell.
3. If people's living conditions are bad, and people inaccurately perceive and think about them, feel good, but act inappropriately with bad results, we may describe that as the classical Fool's Paradise.
4. If people's living conditions are good, and people inaccurately perceive and think about them, feel bad, act inappropriately but still get good results, we may describe that as a Fool's Hell.

Although some complicated epistemological and evaluative material was smuggled into the four scenarios, it may be neglected for present purposes. The most important point to be made here is that the classical notion of a Fool's Paradise requires at least the sort of two-variable model mentioned in the first paragraph. This notion is based on the common sense (epistemological realist's) view that there is a real world, however roughly apprehended and partially constructed, and that there are good reasons for believing that some perceptions, etc. are more warranted, reliable, valid and reasonable than others. Unfortunately, the common sense, realist's view of the human condition is not universally appreciated and accepted. While anyone with any democratic sensitivity would grant that each person's assessment of his or her own life should be accorded some privileged status, it is far from obvious that such privilege should over-ride all other

considerations. Nevertheless, for some of the ancients and their modern followers, it is apparently supposed that people's personal assessments of the quality of their lives are not only privileged, but ultimately definitive. So, for example, it seems to be supposed that if some people are satisfied living in unsanitary environments, breathing polluted air and drinking polluted water, abusing and being abused by family members and strangers, suffering imposed restrictions on opportunities for personal achievement and development, and generally facing an array of life chances promising a life that is relatively nasty, brutish and short rather than pleasant, elegant and long, then that is acceptable. It seems to be supposed, wittingly or not, that however constrained the perceptions, beliefs and so on of the people living in such conditions and assessing them as satisfactory, their assessments are paramount. For people holding such populist and somewhat post modernist views, there can be no Fool's Paradise, because there can be no fools foolish enough to misjudge their own satisfaction. For people holding such views, the quality of life, the good life or wellbeing, is completely internalized or psychologized as elaborated more fully below, and determined by each person's own experiences. Then, since each person has privileged access to his or her own experiences, personal reports of those experiences must be equally privileged.

For the purposes of this essay, it does not matter if one accepts the one or two-variable view of the basic elements required for a proper assessment of the quality of life. In keeping with an old sociological tradition of revealing one's most important assumptions rather than trying to eliminate them, it is worthwhile to present the options and the author's biases up front. I believe it is important to remember that the world contains many people living in poverty, lacking adequate food, shelter and medical care, and facing life chances offering little hope of relief. The good life that we must want and achieve for all people is not, I think, just a life in which people feel good, no matter how terrible their real life conditions are, but one in which they feel good with the best of all reasons, because the objectively measurable conditions of their lives merit a positive assessment.

Well, you might ask, who are those researchers who might neglect the objectively measurable conditions of people's lives and focus all their attention on personal reports of how people feel about their lives? They are not just members of the *Economist's* (2005) Intelligence Unit, the folks who produced the Quality of Life Index with life satisfaction as the dependent variable. Many people working in the health-related quality of life research tradition seem to accept this entirely internalized/psychologized position, which I critiqued at length in Michalos (2004).

Michalos (1991, pp.20-28) summarized the Profile of a Happy Person drawn from several studies cited in that book. A happy person is likely to have low levels of fear, hostility, tension, anxiety, guilt and anger; high degrees of energy, vitality and activity; a high level of self-esteem and an emotionally stable personality; a strong social orientation; healthy, satisfying, warm love and social relationships; an active lifestyle with meaningful work; and to be relatively optimistic, worry-free, present-oriented and well-directed. Although one would be hard-pressed to condemn the life of someone with this sort of psychological profile, it is just that, a psychological profile. One might reasonably ask about someone with such a profile, 'Is it well-warranted or not?' Is the person living in a life-threatening and quite unsustainable situation, but unaware of it? Is the person a moral rogue, but quite free of guilt? Is his or her social orientation devoted to

preserving something imagined to be a genetically superior white race? Does the person optimistically discount warnings of global warming and practically any science that disturbs his or her tranquility? Is the tranquility the product of special drugs or, closer to our topic, of some wonderfully effective but essentially perverse education? Exactly what are the real living conditions of this happy person, and does it matter to his or her happiness?

To take a more recent example, Kahneman (1999) resurrected the hedonism from Plato's fourth century BCE *Protagoras* (1924) and Bentham's more familiar treatise of 1789 to construct a concept called "objective happiness", which is rooted in subjective experience and involves only a narrow sense of happiness. The following passages capture its essential nature.

"Being pleased or distressed is an attribute of experience at a particular moment. I will label this attribute *instant utility*, borrowing the term 'utility' from Bentham (1789/1948). . . Satisfaction questions refer to more inclusive domains of life, such as family life or work. . . At the highest level of integration we find dimensions such as happiness, or well-being, which encompass all domains of life. . . The perspective of the present chapter is bottom-up. It takes the instant utility of the moment as the basic unit of analysis and seeks an objective and normatively justified definition of 'true' well-being that is based mainly on information about instant utility. . . *Objective happiness* is derived from a record of instant utility over [a] relevant period. . . Objective happiness, of course, is ultimately based on subjective data: the Good/Bad experiences of moments of life. It is labeled objective because the aggregation of instant utility is governed by a logical rule and could in principle be done by an observer with access to the temporal profile of instant utility (Kahneman, Wakker, and Sarin 1997)" (Kahneman, 1999, pp4-5).

Kahneman's definition of 'happiness' thoroughly psychologizes the concept. What is even worse from the point of view of our investigation of the relations between learning and happiness, his aggregation method is biased against learning. If every moment of instant utility measured by randomly selected experience sampling is equally valid, then each of them must be regarded as essentially incorrigible. The logical possibilities of a Fool's Paradise and a Fool's Hell have been eliminated. Pleasures and pains just are what they are and it does not matter how they are produced. If the pleasures of the uneducated can be at least as intense and plentiful as those of the educated, then it would be irrational for anyone without an education to pay any price for education. So, Mill was wrong. It is not the case that "It is better to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied" (Mill, 1863).

In a fine critique of Kahneman's proposal, Alexandrova (2005, p.315) wrote that

"In more general terms, the averaging method imposes equal weights on all aspects of person's experiences, while still hoping to claim the benefits of the subjective approach – yet these two goals are in obvious tension just when the subject does not endorse such an equal weighting."

Of course, it is precisely and especially when one thinks one has "learned one's lesson", has "seen the light", "finally got it right" that one repudiates one's earlier experiences. On reflection, we can all recognize the difference between a good time and a good life. To suggest that the results of such reflection should be replaced by an unreflective averaging of pleasures and pains is tantamount to suggesting that one cease to be a rational agent.

To take an even more recent example from one of my best friends, Diener and Seligman (2004, p.2 and 21) wrote that,

“Our proposed system of well-being indicators would not supplant economic or other current social indicators, but would supplement and enhance their value by placing them within an overarching framework of well-being, underscoring the shortcomings of economic indicators. . . A national indicator [system] should include several global indicators, such as life satisfaction, but it should also target positive and negative emotions in specific areas, such as work life, health, social relationships, and mental health, and it should be fine-grained, breaking life satisfaction down into its constituent parts. . . The most important contribution of a national system of well-being indicators would be that they could focus the attention of policymakers and the public specifically on well-being, and not simply on the production of goods and services; one of the main benefits of well-being measures is that they add a valuable perspective beyond a cost-benefit market analysis in evaluating society structures and interventions.”

In these passages and in that article “well-being” means something like ‘wellbeing as experienced and/or reported’, ‘psychological wellbeing’ or ‘subjective wellbeing’. I was an active member of and completely agree with the unanimous view of the committee of the International Society for Quality of Life Studies (Hagerty, et al., 2001) that a robust set of wellbeing indicators should include a vast array of important measures of subjective wellbeing, including happiness, life satisfaction, job satisfaction and so on. Nobody was more disappointed than I was to see the OECD (1982) list of social indicators with only one subjective indicator or the more recent Federation of Canadian Municipalities Quality of Life Reporting System (Flett, 2002) without any subjective indicators. In my view, it makes no sense to measure people’s wellbeing without asking the people themselves what they think or how they feel.

What I find dangerous and unacceptable is, first, the idea that ‘wellbeing’ might be interpreted merely as ‘subjective wellbeing’. Second, I worry about the idea that measures of subjective wellbeing might be exhausted by measures of how people *feel* and neglect measures of people’s *perceptions* about the world and its inhabitants (e.g., do they see people with different skin pigments as alien and/or threatening, and why), measures of what people *think* about what they perceive (e.g., do they think that skin pigments cause good or bad social and economic conditions), measures of what people actually *do* about what they perceive, think and feel (e.g., do they engage in political action and if so, of what sort) and, finally, measures of what real-world *consequences* follow from different combinations of perceptions, beliefs, feelings and actions.

With special reference to issues of health and health care, Vingilis and Sarkella (1997, pp.163-164) illustrated the general sorts of concerns I have.

“A challenge for researchers and practitioners alike is the education of society on the determinants of health and well-being and the linkages among them. Without the knowledge and understanding of these broad determinants and their interrelatedness: without the appreciation that factors such as housing, unemployment, poverty and lone-parent family status predict rates of smoking, teen pregnancy, crime, disease, hospitalization and premature mortality communities will be limited in the programs and policies they have in their arsenal to sustain or improve on current levels of health and well-being. . .Indeed, knowledge is the crucial first step in planned approaches to enhancing community health. . .As long as there are major discrepancies between a community’s perceived health issues and the actual health issues, the sustainability and enhancement of well-being can be jeopardized” (emphasis added).

To these observations one might add,

“It is crucial for health and sustainability that the population knows where its food comes from, the implications of long-distant transportation of food products, the additives, toxins, and *actual* nutrition values of the food, implications for local farmers and local economies, and the environmental impacts created by the production system (Hayward, Pannozzo and Colman, 2005, p.123).”

Such information, information about exactly what a particular population *knows* requires survey research with a rich array of questions probing much deeper than happiness and satisfaction. At a recent meeting of the Community Indicators Consortium in Jacksonville, Florida one speaker boldly proclaimed that “We need factual indicators, not indicators of people’s perceptions and feelings”. This is a big mistake for two reasons. First, what people perceive, think, feel and know are themselves important facts, and second, people’s intentional or deliberate behaviour is largely a function of such facts. If we want to change people’s behaviour, we must know what the world is like from their perspective. Otherwise, our interventions may be entirely counter-productive.

In the early days of the social indicators movement, most researchers were determined to resist economists’ determination to economize the idea of human wellbeing, i.e., to imagine at least, what they could not actually demonstrate, that there is some kind of monetary or financial root for happiness. We were quite happy to share our research beds with psychologists, sociologists, health practitioners and an occasional geneticist even though we believed that human wellbeing is too multifaceted to be captured by a single discipline. I guess the presence of economizers, psychologizers, medicalizers, biologizers and so on in the research beds of our field proves again that politics produces strange bed-fellows. From the beginning of the movement, we all knew that the field was essentially politicized in at least two ways. First, there was a discipline-based desire by non-economists to increase their influence in public policy making, which probably pleased everyone but the economists. More profoundly, the determination of the idea of human wellbeing, who is well off, better or worse off, who gets to make these determinations, according to what principles and rules, and who gets to decide what is to be done by, to and for whom, have always been particularly political as well as generally philosophical issues. In this section, the psychologizers have been criticized, but it is vitally important for the scientific integrity and the democratic usefulness of our research field that we try to balance all the legitimate interests of researchers, policy makers and everyone else affected by our decisions.

Happiness as Eudaimonia

There is an old view of the nature of happiness that is decidedly not merely psychological and quite consistent with the broad, two-variable account sketched above. It is based on the Greek word EUDAIMONIA, which literally means something like ‘favoured by the DAIMONES (near-gods or gods)’. It is usually translated as ‘happiness’ but it connotes something closer to what people nowadays would call wellbeing rather than happiness. Today, in common parlance ‘happiness’ is frequently and perhaps more often than not psychologized. It is often taken to mean something very close to an extended feeling of pleasure or an extended good mood or pleasant affect. Because the English ‘happiness’ is linguistically more versatile than ‘wellbeing’,

translators of ancient Greek texts typically prefer the former, e.g., we can talk about happy people, happy lives and happy gardening, but not wellbeing people, lives and gardening. Nevertheless, readers should remember that our modern notion of ‘wellbeing’ is closer to the ancient Greeks’ notion of ‘happiness’ than to our modern notion of ‘pleasure’, and our modern notion of ‘happiness’ is closer to our modern notion of ‘pleasure’ than to the ancient Greeks’ notion of ‘happiness’. Moral philosophers working in the *eudaimonist* tradition (e.g., Socrates, Plato and Aristotle) agreed that people should reflect on their lives as a whole, discover what is most important or valuable (i.e., life’s final end or TELOS), and plan and live their lives to achieve that end.

Some of the most frequently quoted passages in the history of philosophy come from a fourth century BCE treatise, namely, Aristotle’s *Nicomachean Ethics* (1999) and concern our topic directly. For example,

“Every craft and every line of inquiry, and likewise every action and decision, seems to seek some good; that is why some people were right to describe the good as what everything seeks. . . Suppose, then, that the things achievable by action have some end that we wish for because of itself, and because of which we wish for the other things, and that we do not choose everything because of something else – for if we do, it will go on without limit, so that desire will prove to be empty and futile. Clearly, this end will be the good, that is to say, the best good. . . What is the highest of all the goods achievable in action? As far as the name goes, most people virtually agree; for both the many and the cultivated call it happiness [EUDAIMONIA], and they suppose that living well and doing well are the same as being happy. But they disagree about what happiness is, and the many do not give the same answer as the wise” (Aristotle, 1999, p.3).

The situation was even more complicated than Aristotle’s remarks suggest, for “the wise” had (and probably still have) significantly different views among themselves. However, it is clear from Aristotle’s phrase “that living well and doing well are the same as being happy” that he is not talking about a mere extended feeling of pleasure. In fact, shortly after the passages quoted above, he wrote,

“The many, the most vulgar, would seem to conceive the good and happiness as pleasure, and hence they also like the life of gratification. In this they appear completely slavish, since the life they decide on is a life for grazing animals” (Aristotle, 1999, p.4).

A couple thousand years later, Einstein picked up the same theme when he wrote that “I have never looked upon ease and happiness as ends in themselves – such an ethical basis I call more proper for a herd of swine” (quoted from Michalos, 2004a, pp. 344-345).

Regarding views of “the many”, Aristotle’s best account is given in the *Rhetoric* (1926) and runs as follows.

“. . . for the sake of illustration, let us ascertain what happiness, generally speaking, is, and what *its parts consist in*; . . . Let us then define happiness [EUDAIMONIA] as well-being combined with virtue, or independence of life, or the life that is most agreeable combined with security, or abundance of possessions and slaves, combined with power to protect and make use of them; for nearly all men admit that one or more of these things *constitutes* happiness. If, then, such is the nature of happiness, *its component parts* must necessarily be: noble birth, numerous friends, good friends, wealth, good children, numerous children, a good old age; further bodily excellences, such as health, beauty, strength, stature, fitness for athletic contests, a good reputation, honour, good luck, virtue. For a man would be entirely independent, provided he possessed all internal and external goods; for there are no others. Internal goods are those of

mind and body; external goods are noble birth, friends, wealth, honour. To these we think should be added certain capacities and good luck; for *on these conditions* life will be perfectly secure. Let us now in the same way define each of these in detail. Noble birth. . ." (Aristotle, 1926, pp.47-49, emphasis added).

These passages are merely the beginning of several pages of more detailed definitions of *components and/or conditions* of a happy life or of a life of someone "living well and doing well". Logically speaking, Aristotle was not as tidy as one would have preferred in constructing his definitions, and he was no more adept than we are at sorting out *components or constituents* from *conditions or determinants* of happiness. The trouble is that he knew as well as we do that some things, like health, are good in themselves (intrinsically good) as constituents of individual wellbeing and also instrumentally good in producing other good things. Nevertheless, he certainly provided an excellent list of candidates for components and conditions of happiness. What's more, as a report of the common views of his contemporaries' (i.e., "the many"), he gave us a gem of sociological and psychological observation. For present purposes, one should notice especially that there are relatively few items in his list that most people today would exclude from our list, e.g., slaves certainly, and possibly noble birth, numerous children and "fitness for athletic contests".

Aristotle was by all accounts one of the most conventional of all ancient philosophers, always respectful of previous and current thinkers and mindful of the need to appropriately contextualize his own contributions. For example, in Book 1 of the *Nicomachean Ethics* he tells his readers that "the facts harmonize with a true account" of any particular subject and that "all the features that people look for in happiness appear to be true of the end described in our account" (Aristotle, 1999, p.10). Nevertheless, his own views were not entirely consistent with conventional wisdom. Following conventional wisdom, he seems to have accepted the notion that some sort of independence is necessary for a good life. He apparently believed that, in the first place, one chooses to live a particular way of life because one regards that way as not requiring anything beyond itself. Today we might say that it is both sustainable and worthy of being sustained, e.g., we choose understanding because it is good in itself but also because it contributes to our general wellbeing, to "living well and doing well". If someone asked, "But why do you choose to live well and do well?" we might wonder if the questioner understood English, because the question seems to presuppose that the alternative of preferring to live poorly and do poorly is reasonable. It is, after all, a logical truism that living well and doing well is better than living poorly and doing poorly, just as breathing well is better than breathing poorly.

Unfortunately, Aristotle's two major treatises on ethics, the *Nicomachean Ethics* and the *Eudemian Ethics*, do not provide unambiguous guides to filling in his "sketch" of a good life. Contrary to the somewhat academic, contemplative good lives sketched in the final chapters of the *Nicomachean Ethics* and *Eudemian Ethics*, the preceding chapters of both treatises sketch good lives requiring considerably more variety. In Book 1 of the former, readers are told that "a human being is a naturally political animal" (Aristotle, 1999, p.8). In Book 6, one finds that "Political science and prudence are the same state, but their being is not the same" (p.92). A few pages earlier, "It seems proper to a prudent person to be able to deliberate finely about things that are good and beneficial for

himself, not about some restricted area. . .but about what sorts of things promote living well in general” (p.89).

In Book 1 of the *Politics*, Aristotle provided a naturalistic account of the origin of city-states that runs from the natural unions of men and women “for the sake of procreation” and natural rulers and natural slaves “for the sake of survival”, to households “to satisfy everyday needs”, and to villages promising still greater security and finally, to city-states “for the sake of living well”. City-states are characterized as “complete communities” displaying “total self-sufficiency” (Aristotle, 1998, pp.2-3). An ordinary human being cannot flourish outside of a city-state. “Anyone who cannot form a community with others,” he says, “or who does not need to because he is self-sufficient, is no part of a city-state – he is either a beast or a god” (p.5). Clearly, then, Aristotle’s requirement for self-sufficiency in a good or happy life is not absolute, but relative to a community which would be absolutely self-sufficient. Being able to live in such a community constitutes an important external good. The similarities between his and Plato’s views on community and individual interdependence are striking (Michalos, 2008).

Several times in the *Nicomachean Ethics* Aristotle insisted on the necessity of external goods for a completely happy life. For example, after noting that “happiness is. . . activity in accord with virtue”, he wrote,

“Nonetheless, happiness evidently also needs external goods to be added, as we said, since we cannot, or cannot easily, do fine actions if we lack the resources. For, first of all, in many actions we use friends, wealth, and political power just as we use instruments. Further, deprivation of certain [externals] – for instance, good birth, good children, beauty – mars our blessedness. . .And so, as we have said, happiness would seem to need this sort of prosperity added also” (Aristotle, 1999, p.11).

A few pages later, he asked “Why not say that the happy person is one whose activities accord with complete virtue, with an adequate supply of external goods, not for just any time but for a complete life?” (Aristotle, 1999, p.14).

All things considered, Aristotle’s characterization of a good or happy life is the clearest example we have from the ancients of the view that the quality of a person’s or of a community’s life is a function of the actual conditions of that life and what a person or community makes of those conditions. Conceptually, he could clearly distinguish Real Paradise and Hell from a Fool’s Paradise and Hell. Most importantly, he regarded all four cases as essentially and objectively involving human action that would be praiseworthy or blameworthy. A good or happy life is not simply given by nature, God or gods. It requires internal and external gifts and good luck beyond our control, but it also requires individual and communal initiative. For example, individuals naturally have the capacity to reason and to act bravely and justly more or less. With the right education, training and hard work, one may come to exercise these capacities excellently. A good or happy life, according to Aristotle, is achieved exactly insofar as one deliberately engages in the unimpeded excellent exercise of one’s capacities for the sake of doing what is fine, excellent or noble (KALON), provided that the deliberation and activities are undertaken from a developed disposition (i.e., a virtuous character) and accompanied by an appropriate amount of external goods and pleasure. In short, a good or happy life consists of a harmonious mixture of internal and external goods in the first place, and regarding the former, an equally harmonious mixture of reason, appetite and emotion. From his

perspective, a discordant or inactive life would not be worth living and the idea of a happy scoundrel would be an oxymoron.

The Influence of Education on Happiness

One does not have to look far to find plenty of evidence of the influence of education on many important aspects of people's lives. So, if 'happiness' is understood in the robust *eudaimonist* sense of overall human wellbeing, then education evidently has an enormous impact. Without providing any particular order or categorization, here is a brief sample of impact statements drawn from Hayward, Pannozzo and Colman (2005) and others as indicated.

- “the well-being of modern society is dependent not only on traditional capital and labour but also on the knowledge and ideas possessed and generated by individual workers. Education is the primary source of this human capital” (p.1, from Crocker, 2002).
- “Educational attainment is positively associated both with health status and with healthy lifestyles. For example, in the 1996-97 [Canadian] National Population Health Survey, only 19% of respondents with less than high school education rated their health as ‘excellent’, compared with almost 30% of university graduates. Self-rated health, in turn, has been shown to be a reliable predictor of health problems, health-care utilization, and longevity. From a health determinant perspective, education is clearly a good investment that can reduce long-term health care costs” (pp.37-38).
- “According to Statistics Canada, workers with higher education were more likely to have secure, high-wage, high-benefit jobs. Employees with less than high school education were more likely to have insecure work, low wages and no benefits. . .poverty and inequality are acknowledged to be the most reliable predictors of poor health outcomes, and they are also closely linked to low educational attainment and unhealthy lifestyles” (p.39).
- “GPI *Atlantic's* Cost of Obesity report found that Canadians with less education are much more likely to be overweight than those with higher education. . .36% of Canadians with less than a high school education are overweight compared to 22% of those with a university education” (p.40).
- “In 2001, 75.4% of female university graduates had a job, compared with 79.3% of male graduates. By contrast, women with less than a Grade 9 education are less than half as likely to be employed as their male counterparts – 13.6% of women compared to 29.4% of men” (p.41).
- “According to the GPI *Atlantic* Cost of Crime report, only 19% of the Canadian population as a whole have less than a grade 10 education. However, 36% of all inmates, 34% of provincial inmates, and 46% of federal prisoners, who are the most serious offenders, have less than a grade 10 education” (p.42).
- “After controlling for variables such as cognitive abilities and personality-scale measures, the tacit knowledge measures are the best predictors of actual performance in jobs and at school” (p.61, from Sternberg, 2001).
- “One study [Coulombe, Tremblay and Marchand, 2004] looking at economic growth (based on the GDP) found that the *average* literacy score in a population is a better indicator of economic growth than a score based only on high-level skills” (p.64).
- According to the OECD (2006, p.27), “The estimated long-term effect on economic output of one additional year of education in the OECD area is generally between 3 and 6%.”
- “. . .[Bauer, Petkova and Boyadjieva, 2000] have shown that the level of political knowledge one has has a major impact on ‘political preferences, likelihood of voting and a whole host of other important behaviours, attitudes and beliefs” (p.106).
- “Using panel data analysis for 35 developing countries for the years 1990, 1995 and 2000. . .[it was shown] that the set of functionings enabled by educational attainment –

being able to read, count, communicate, make informed choices, have a sense of self-worth, have greater degree of control over one's life and so on – have a substantial impact on life expectancy. Significantly, the direct effect of those educational functionings on longevity is almost equivalent to their effect by way of resource accumulation” (Wigley and Akkoyunlu-Wigley, 2006, pp.287-301).

On top of all the studies and data, one should also recognize the continuing commitment of the international community of nations represented in the United Nations Educational, Scientific and Cultural Organization (UNESCO). The Preamble of the Constitution of UNESCO, ratified in 1946, says that “since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed”. Since its inception, UNESCO has been faithful to its mandate and produced a huge stockpile of “weapons of mass instruction”. Among its programs relevant to this conference, one should mention UNESCO’s programs of Education For All and the most recent work implementing the UN Decade of Education for Sustainable Development, 2005-2014 (UNESCO, 2005). I have the privilege of serving on the Monitoring and Evaluation Expert Group which is responsible for creating some of the overall assessment procedures and survey instruments. Although our work is only in its initial stages and considerable work has been done by the UN Economic and Social Council (2006), the Asia-Pacific Region (2006) and the Sub-Saharan Africa Region (2006), it is fair to say that the initiatives undertaken in the interest of achieving real changes in all forms of education across the decade are unprecedented.

“The overall goal of the DESD is to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. This educational effort will encourage changes in behaviour that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations” (UNESCO, 2005, p.6).

While the nearly universal commitment of governments to the achievement of the DESD overall goal is not evidence of the influence of education on wellbeing, it is evidence of nearly universal belief in such influence. If this belief is misguided, it is difficult to imagine a more colossal human error. One can only hope that it is not misguided.

Notwithstanding all the well-supported and publicized information just reviewed, the most frequently told story about the influence of education on happiness is that there is little, if any, influence. “On the basis of a review of 90 American studies,” I wrote in Michalos (1991, p.61), “ Witter, Okun, Stock and Haring (1984) concluded that educational attainment accounts for between 1% and 3% of the variance in adult subjective well-being.” In their broad overviews of things that contribute to happiness or wellbeing, Myers and Diener (1995) and Diener and Seligman (2004) did not even mention education. Layard (2005, p.62) wrote that “education has only a small direct effect on happiness, though of course it raises happiness by raising a person’s income.” His cited source was Helliwell (2003). In the final section of the 2002 version of Helliwell’s paper, he claimed that

“This paper has attempted to illustrate rather than exhaust the possibilities for using international well-being data to measure and explain differences in well-being within and among nations. . .The well-being data themselves have fairly good claims as measures of individual welfare. Insofar as these claims are justified, the coefficients can be used to combine what might

otherwise be incommensurable results into an overall welfare assessment of changes in policies and institutions. . .Analysis of well-being data provides means for combining income, employment, governmental effectiveness, family structure and social relations together in ways that permit the external effects of institutions and public policies to be assessed. . .The well-being data show that the effects flowing directly from the quality of the institutions may dwarf those that flow through productivity and economic growth” (Helliwell, 2002, pp.29-31).

Although Helliwell is generally cautious and modest in his claims for subjective wellbeing research, he clearly believes that subjective wellbeing measures might not only do the work of what I call overall wellbeing or quality of life measures, but particularly do the very hard work of providing an alternative to troublesome composite indexes of wellbeing. I have argued against the first assumption in this paper and in favour of composite indexes in Michalos, Sharpe and Muharjarine (2006). Without entering into the debate about composite indicators, I would like to say that moving Pandora’s Box of aggregation problems from the visible world to the invisible Black Box inside people’s heads does not strike me as a progressive research program.

It is important to notice that most of the studies of the influence of education on happiness or some form of subjective wellbeing only measure direct effects, although the possibility of indirect effects is often mentioned. It seems to me that to construct an allegedly causal model that posits some measure of happiness or subjective wellbeing as simply the direct effect of highest level of formal education attained is to create a seriously misspecified model. At a minimum, one ought to consider and search for indirect and total effects. As a matter of fact, Michalos (1985) did propose a general theory of satisfaction involving direct and indirect effects of education as predictors, and tested this theory on over 18,000 undergraduates, with results reported in Michalos (1991, 1991a, 1993, 1993a). A brief summary of some of those results will illustrate what the most frequently told story about the influence of education on happiness typically fails to notice.

A few months ago, while Diener and I were exchanging email messages on something else, I confessed that so much good information was being accumulated about subjective wellbeing by him and others that I pretty well despaired of being able to produce a single theory capable of doing justice to everything known about subjective wellbeing today. He was, as one would expect, sympathetic. Setting my despair aside, here are the postulates of Multiple Discrepancies Theory (MDT) as stated in Michalos (1985, pp.347-413) with a minimal number of additions in italics that subsequent research has shown ought to be included. I do not know if the suggested ways of including the new variables are the best ways and I do not know the best ways to accommodate longitudinal data. Currently I have three waves of data for three independent panels, but the analyses are incomplete.

“H1: Reported net satisfaction is a function of perceived discrepancies between what one has and wants, relevant others have, the best one has had in the past, expected to have 3 years ago, expects to have after 5 years, deserves and needs.

H2: All perceived discrepancies, except that between what one has and wants, are functions of objectively measurable discrepancies, which also have direct effects on satisfaction and actions.

H3: The perceived discrepancy between what one has and wants is a mediating variable between all other perceived discrepancies and reported net satisfaction.

H4: The pursuit and maintenance of net satisfaction motivates human action in direct proportion to the perceived expected levels of net satisfaction.

H5: All discrepancies, satisfaction and actions are directly and indirectly affected by age, sex, education, ethnicity, income, self-esteem, social support, *temperament, current mood, community, natural environment, life events/issues*.

H6: Objectively measurable discrepancies are functions of human action and conditioners.”

The relationships postulated in MDT are illustrated in Exhibits 2 and 3. In Michalos (1991, pp.47-48) I inserted ‘positive linear’ or ‘linear’ in front of ‘function’, in response to Frank Andrews’s suggestion that I set the bar too low if I did not specify some kind of function. Since some of the functions are not linear, as I reported in Michalos (1985, pp.352-353), I should have resisted Frank’s suggestion. Also in the 1991 version, I inserted ‘(happiness or subjective well-being)’ after ‘satisfaction’ in H1 to emphasize the point that MDT was intended to be a theory sufficient to explain all three notions. Based on the different relationships among these three concepts and a diverse array of other variables that have been revealed in many empirical studies, I have always thought these three concepts have somewhat distinct cores with overlapping connotations. Also, as indicated in Michalos (1991, pp.3-4), I believe that

“... a fully developed scientific theory of subjective well-being would ... be applicable to satisfaction or happiness with life as a whole (i.e., global satisfaction or happiness) as well as to satisfaction or happiness with specific domains of life (i.e., domain satisfaction) such as marital satisfaction and job satisfaction”.

Thus, a general theory like MDT could be used on its own to explain global and domain satisfaction (happiness or subjective wellbeing) or it could be used in combination with the familiar simple linear, bottom-up model in which, say, life satisfaction is explained by aggregated domain satisfaction, and satisfaction in each of the domains is explained by MDT.

When MDT was used to explain happiness, life satisfaction and satisfaction with family, friends, living partner, self-esteem, employment, finances, housing, transportation, religion, education, recreation and health for the 18,000 undergraduates enrolled in 75 universities in 39 countries, the results concerning the direct versus total effects of education on levels of happiness or satisfaction were under-whelming. The educational attainment variable was not the usual one but one with predictably less variation. It was years-of-university-education and had seven response categories; one year of university, two, three, four, five, degree obtained and other. The results of applying MDT to measure happiness and life satisfaction, and satisfaction in 12 domains of life for the group as a whole are given in Exhibit 4. MDT performed well, explaining an average of 54% of the variance in each dependent variable, with a high of 67% for satisfaction with one’s living partner and a low of 42% for happiness. However, the average direct effect of years-of-university-education for the 14 variables was -.006 and the average total effect was -.0007. Even if we neglect considerations of the reliabilities of our measures, such values are hardly worth mentioning though they are curiously negative.

Out of a total of 2162 applications of the theory, covering all the universities and countries, with separate applications for whole groups, males and females, there were some striking differences between direct and total effects. Since the general results were

so unremarkable, I would not make much of the few remarkable results. Still, it should be noted that I sometimes got direct effects of zero and total effects as large as .20 or -.29, and sometimes equal direct and total effects as large as .20 and -.19. The main point of this story, then, is just that while the chances are very good that for any particular group of people and for any domain of life, educational attainment will not have a great impact on reported happiness or satisfaction, for some groups and some domains there may be relatively great effects and significantly different direct and total effects. Expecting small effect sizes, researchers should specify models and use sample sizes most likely to capture all relevant effects.

Regarding the negative signs on the effect measures, there is what I call a *connoisseur effect* which has been recognized by others and reported in Michalos (1993a) and Michalos and Orlando (2006, p.53). In the latter paper, we noted that for our sample of 3407 students at the University of Northern British Columbia, “the more credits students earned, the lower their levels of satisfaction became with each student service offered”. Applegate and Clark (1987, p.133) reported that a survey of 92 visitors to a National Wildlife Refuge near Atlantic City, New Jersey showed that birders who were more knowledgeable had lower levels of satisfaction from bird watching than less knowledgeable birders. These authors concluded their article by remarking that their

“... study raises some concern over the utility of satisfaction data in resource management planning. It would seem intuitive that social benefits are increased by programs that increase the cumulative satisfaction of a recreation clientele. Here, however, we have provided evidence that the most committed segment of a user group is less satisfied than their more casual counterparts with on-site experiences. It is unreasonable to conclude that individuals have spent many preparatory hours in achieving competence, and commit many more hours to on-site experiences, in order to receive fewer benefits. In another context, it would make no sense for a refuge manager, interested in maximizing social benefits from the use of a resource, to initiate programs that would decrease the average competence of visitors. The obvious conclusion is that measures of satisfaction may be poor indicators of social benefits.”

From the point of view of the general position defended here, especially the necessity of measures of the actual conditions that people live in as well as measures of what they make out of them, one need not be misled by the connoisseur effect. One just has to aim for a maximally inclusive, comprehensive and balanced account of wellbeing, and then hope for the best. There are no guarantees of hitting the target.

Exhibit 5 summarizes some results of using MDT to explain life satisfaction and happiness for the international undergraduate sample. In particular, the exhibit lists the variety of direct and total effects for the 12 key predictors of the theory. Five points are worth noting. First, the 12 predictors of MDT explained 45% of the variance in life satisfaction, while the 39 predictors in Helliwell’s (2002, p.41) most robust equation explained only 26%. Second, inspection of the figures in the exhibit reveals that there are often striking differences between direct and total effects, and third, that the rank order of predictors of life satisfaction and happiness are not the same. Considering only total effects, for life satisfaction, the most influential predictors are the gap between what respondents have now and want, then between what respondents have now and others of the same age and sex have, and then between what respondents have now and what, 3 years earlier, they hoped to have at this point in time. For happiness, the most influential predictors are the gap between what respondents have now and the best they ever had in

the past, then between what respondents have now and others of the same age and sex have, and then between what respondents have now and want. Fourth, predictors can't do any work or reveal any effects at all if they are not in our survey instruments and equations. Granting that the equations of MDT have several important missing explanatory variables and that, therefore, these equations are also misspecified, it seems to me that judging from their relative explanatory power, they are less defective than the usual run of predictors. Fifth, it is, therefore, demonstrably worthwhile to consider a wide range of subjective indicators in any assessment of human wellbeing or the quality of life, and to actually include the most likely heavy hitters (most likely most influential) in one's explanations and analyses.

Conclusion

In this paper I have argued that answers to the questions 'Does education influence happiness and if so, how and how much?' depend on how one defines and operationalizes the ideas of 'education', 'influences' and 'happiness'. A great variety of research scenarios may be constructed from our three essential variables, and one should expect plenty of different answers to the basic questions. What public policies one ought to adopt and implement regarding the influence of education on happiness depends minimally on which of the great variety of research scenarios one adopts and maximally on lots of other things as well. While my personal preference is for a robust definition of 'education', 'influences' and 'happiness', other approaches are also legitimate and easier to manage. My preferred approach costs more in many ways because it is worth more in the long run. Nevertheless, it seems to me that most of the governments of most countries of the world have endorsed a political agenda that pretty clearly follows from those robust definitions.

References

- Alexandrova, A.: 2005, "Subjective well-being and Kahneman's 'Objective Happiness'", *Journal of Happiness Studies*, 6(3), pp.301-324.
- Applegate, J.E. and K.E. Clark: 1987, "Satisfaction levels of bird-watchers: an observation on the consumptive-nonconsumptive continuum", *Leisure Sciences*, 9, pp.129-134.
- Aristotle: 1926, *The 'Art' of Rhetoric*, J. H. Freese, trans., Loeb Classical Library, Harvard University Press, Cambridge.
- Aristotle: 1998, *Politics*, C.D.C. Reeve, trans., Hackett Pub. Co., Indianapolis.
- Aristotle: 1999, *Nicomachean Ethics*, T. Irwin, second edition trans., Hackett Pub. Co., Indianapolis.
- Asia-Pacific Region: 2006, *Monitoring and Assessing Progress During the DESD in the Asia Pacific Region: A Quick Guide to Developing ESD Indicators*, The World Conservation Union, Commission for Education and Communication, and Macquarie University, Sydney, Australia.
- Bauer, M.W., K. Petkova and P. Boyadjieva: 2000, "Public knowledge of and attitudes to science: alternative measures that may end the 'science war'", *Science, Technology and Human Values*, 25(1), pp.30-51.
- Bentham, J.: 1789, *An Introduction to the Principles of Morals and Legislation*, Oxford University Press, Oxford.
- Coulombe, S., J.-F. Tremblay and S. Marchand: 2004, *Literacy Scores, Human Capital and Growth across Fourteen OECD Countries*, Statistics Canada, Ottawa, Catalogue number 89-552-MIE200411.
- Crocker, R.K.: 2002, *Learning Outcomes: A Critical Review of the State of the Field in Canada*, Canadian Education Statistics Council, Ottawa.
- Diener, E. and M.E.P. Seligman: 2004, "Beyond Money: Toward an Economy of Well-Being", *Psychological Science in the Public Interest*, 5(1), pp.1-31, American Psychological Society, Washington.
- Economist*: 2005, "The world in 2005", http://www.economist.com/media/pdf/QUALITY_OF_LIFE.pdf.
- Flett: 2002, *Quality of Life Reporting System Evaluation, Final Report*, Prepared by the Flett Consulting Group Inc. and Fotenn Consultants Inc., Toronto (fcginc@rogers.com).

- Hagerty, M.R., *et al.*:2001, "Quality of life indexes for national policy: review and agenda for research", *Social Indicators Research*, 55, pp.1-96.
- Hayward, K., L. Pannozzo and R. Colman: 2005, *Draft: Developing Indicators for the Educated Populace Domain of the Canadian Index of Wellbeing, Interim Report*, GPI Atlantic, Halifax.
- Helliwell, J.F.: 2002, "How's life? Combining individual and national variables to explain subjective well-being", *Working Paper 9065*, National Bureau of Economic Research, Cambridge.
- Helliwell, J.F.: 2003, "How's life? Combining individual and national variables to explain subjective well-being", *Economic Modeling*, 20, pp.331-360.
- Kahneman, D.: 1999, "Objective happiness", in D. Kahneman, E. Diener and N. Schwarz (eds.), *Well-Being: The Foundations of Hedonic Psychology*, Russell Sage Foundation, New York, pp.1-25.
- Kahneman, D., P.P. Wakker and R. Sarin: 1997, "Back to Bentham? Explorations of experienced utility", *Quarterly Journal of Economics*, 112, pp.375-405.
- Layard, R.: 2005, *Happiness: Lessons from a New Science*, Penguin Books, London.
- Michalos, A.C.: 1981, *North American Social Report, Vol. 3, Science, Education and Recreation*, D. Reidel, Dordrecht.
- Michalos, A.C.: 1985, "Multiple discrepancies theory (MDT)", *Social Indicators Research*, 16(4), pp.347-413.
- Michalos, A.C.: 1991, *Global Report on Student Well-Being: Volume 1, Life Satisfaction and Happiness*, Springer-Verlag, New York.
- Michalos, A.C.: 1991a, *Global Report on Student Well-Being: Volume 2, Family, Friends, Living Partner and Self-Esteem*, Springer-Verlag, New York.
- Michalos, A.C.: 1993, *Global Report on Student Well-Being: Volume 3, Employment, Finances, Housing and Transportation*, Springer-Verlag, New York.
- Michalos, A.C.: 1993a, *Global Report on Student Well-Being: Volume 4, Religion, Education, Recreation and Health*, Springer-Verlag, New York.
- Michalos, A.C. (ed.): 2003, *The Best Teacher I Ever Had: Personal Reports from Highly Productive Scholars*, The Althouse Press, London, Ontario.
- Michalos, A.C.: 2004, "Social indicators research and health-related quality of life research", *Social Indicators Research*, 65(1), pp.27-72.

- Michalos, A.C.: 2004a, "Einstein, ethics and science", *Journal of Academic Ethics*, 2, pp.339-354.
- Michalos, A.C.(ed.): 2005, *Citation Classics from Social Indicators Research: The Most Cited Articles, Edited and Introduced by Alex C. Michalos*, Springer, Dordrecht.
- Michalos, A.C.: 2006, "Logic, philosophy of science and the quality of life", *Encyclopedia of Life Support Systems*, UNESCO, online encyclopedia.
- Michalos, A.C.: 2008, "The good life: eighth century to fourth century BCE", in K.C. Land (ed.), *Handbook of Social Indicators and Quality-of-Life Studies*, Springer, New York.
- Michalos, A.C. and J.A. Orlando: 2006, "A note on student quality of life", *Social Indicators Research*, 79(1), pp.51-59.
- Michalos, A.C., A. Sharpe and N. Muhajarine: 2006, *An Approach to a Canadian Index of Wellbeing* (Draft paper for discussion, Atkinson Charitable Foundation, Toronto).
- Mill, J.S.: 1863, *Utilitarianism*, London.
- Myers, D.G. and E. Diener: 1995, "Who is happy?", *Psychological Science*, 6(1), pp.10-19.
- OECD: 1982, *The OECD List of Social Indicators*, The OECD Social Indicator Development Programme, Paris.
- OECD: 2006, *Education at a Glance 2006*, OECD, Paris.
- Plato: 1924, *Laches, Protagoras, Meno, Euthydemus*, W.R.M. Lamb, trans., Loeb Classical Library, Harvard University Press, Cambridge.
- Sternberg, R.J.: 2001, "Why schools should teach for wisdom: the balance theory of wisdom in educational settings", *Educational Psychologist*, 36(4), pp.227-245.
- Sub-Saharan Africa Region: 2006, *Towards the Implementation of the Decade of Education for Sustainable Development (DESD) in Sub-Saharan Africa (SSA)*, Workshop Report, 27-30 November, Windhoek, Namibia.
- UN Economic and Social Council: 2006, *Indicators for Education for Sustainable Development*, ECE/CEP/AC.13/2006/5/Add.1, 31 July.
- UNESCO: 2005, *International Implementation Scheme*, United Nations Decade of Education for Sustainable Development (2005-2014), UNESCO Education Sector, Paris.

- Vingilis, E. and J. Sarkella: 1997, "Determinants and indicators of health and well-being: tools for educating society", *Social Indicators Research*, 40(1-2), pp.159-178.
- Wigley, S. and A. Akkoyunlu-Wigley: 2006, "Human capabilities versus human capital: gauging the value of education in developing countries", *Social Indicators Research*, 78(2), pp.287-304.
- Witter, D., M.A. Okun, W.A. Stock and M.J. Haring: 1984, "Education and subjective well-being: a meta-analysis", *Educational Evaluation and Policy Analysis*, 6, pp.165-173.

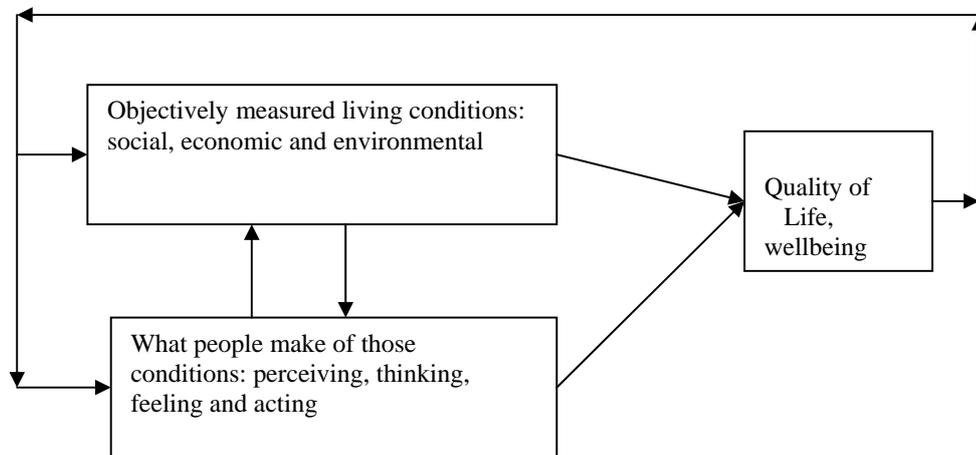
Exhibit 1. General Quality of Life Model

Exhibit 2. Multiple Discrepancies Theory (MDT)

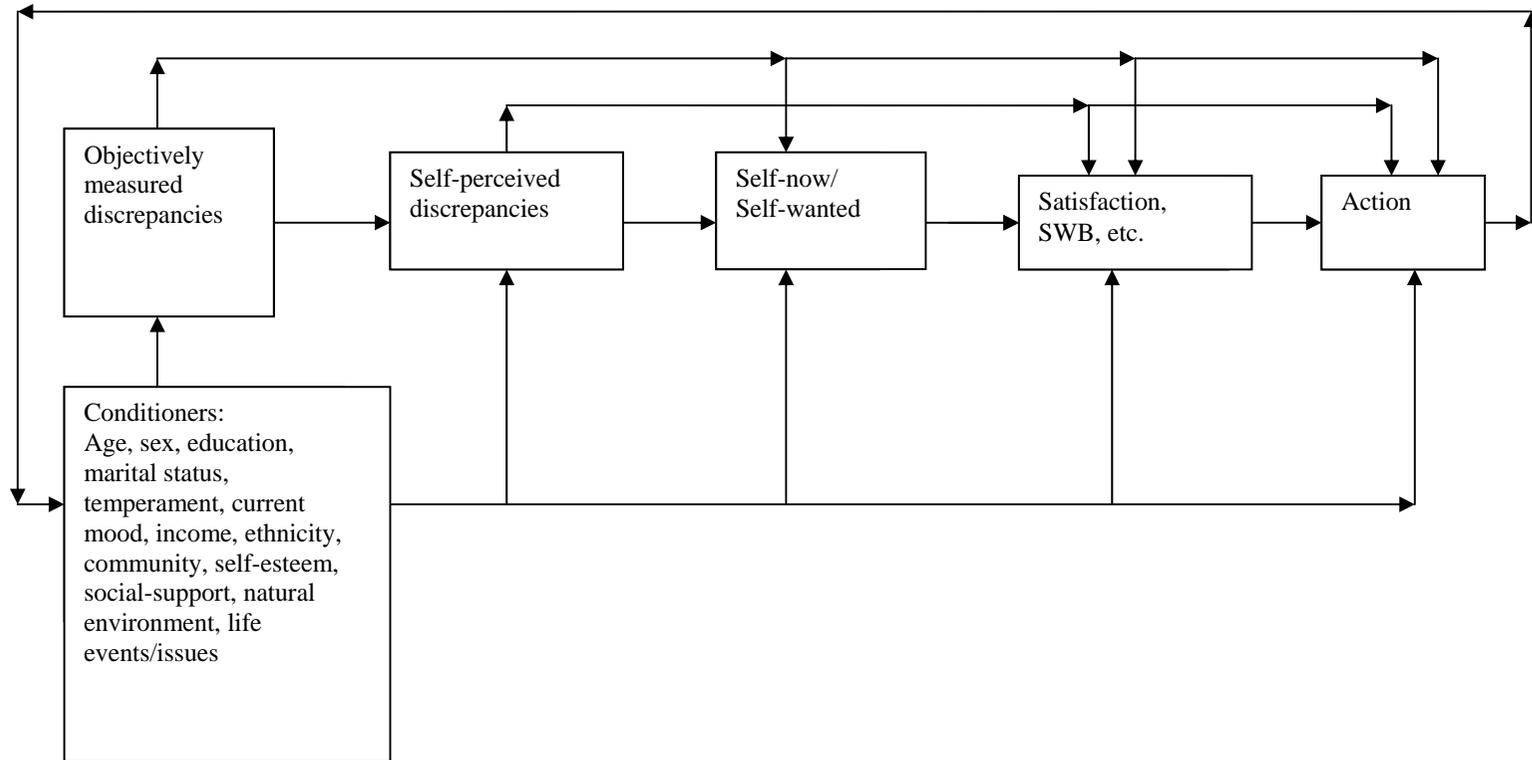


Exhibit 3. Perceptual Core of MDT

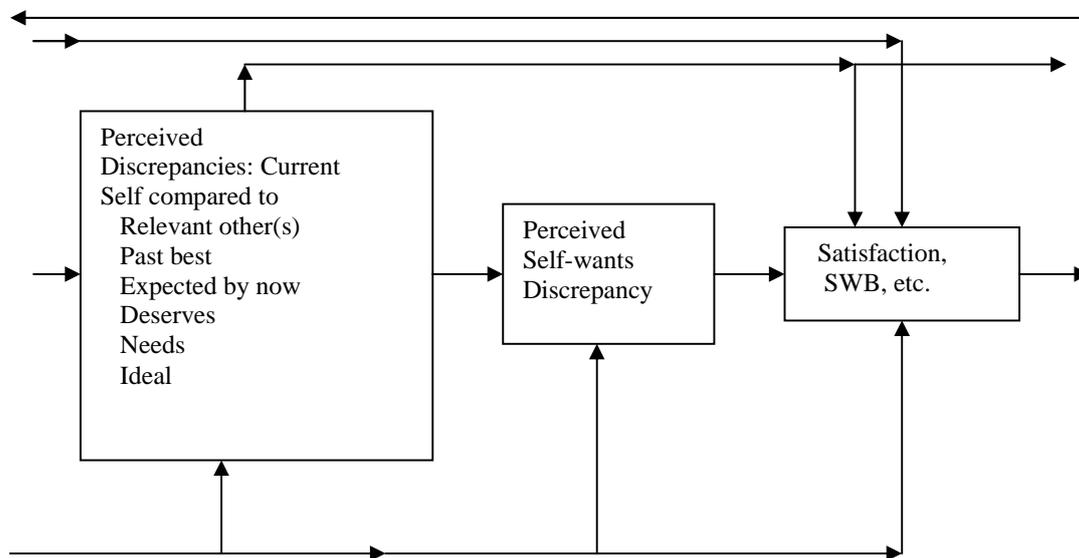


Exhibit 4. Summary of direct and total effects resulting from applying MDT to undergraduate sample for two global indicators and 12 domains of life

Variables	N	Direct effects	Total effects	% variance explained
Happiness	7502	-.06	-.06	42
Life satisfaction	7703	-.03	-.03	45
Family satisfaction	7934	0	.02	55
Friendship sat.	8091	0	.01	50
Living partner sat.	4728	0	.04	67
Self-esteem sat.	7813	0	.02	52
Paid job sat.	3710	0	-.05	65
Finances sat.	7912	0	.03	54
Housing sat.	7956	0	.05	55
Transportation sat.	7838	0	-.01	60
Religion sat.	5598	0	-.01	63
Univ. education sat	7950	-.02	-.04	50
Recreation sat.	7939	0	0	52
Health sat.	8076	.02	.02	51
Average	7196	-.006	-.0007	54

Sources: Michalos, 1991, 1991a, 1993, 1993a

Exhibit 5. Summary of direct and total effects resulting from applying MDT to undergraduate sample for life satisfaction and happiness.

Predictors	Life Satisfaction (N=7703)		Happiness (N=7502)	
	Direct effects	Total effects	Direct effects	Total effects
Sex	-.02	.03	0	.05
Age	-.02	-.04	0	-.02
Work status	.04	.04	.02	.02
Years of university	-.03	-.03	-.06	-.06
Country of birth	-.03	0	.02	.02
Self-other comparison	.19	.30	.20	.27
Self-deserved comp.	.06	.11	.07	.07
Self-needs comp.	.05	.11	.05	.09
Self-progress comp.	.09	.15	.09	.13
Self-future comp.	0	-.02	0	-.01
Self-best previous comp.	.10	.14	.27	.30
Self-wants comp.	.38	.38	.23	.23
% of variance explained	45		42	

Source: Michalos, 1991, p.116.