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From Materialist to Postmaterialist Happiness? National Affluence and Determinants of Life Satisfaction in Cross-national Perspective

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ABSTRACT

This paper takes the theory of value change as developed by Inglehart as a point of departure and tests its implications for the determinants of human happiness. It investigates whether the importance of post-material concerns for happiness, relative to that of materialist concerns, is indeed higher in rich post-industrial societies. Personal autonomy and job creativity serve as indicators for post-materialist concerns, the income domain as an indicator for materialist concerns. The main assumption is put against data for 48 countries from wave 5 of the World Values Survey which covers the full range from poor agrarian to rich post-industrial societies. Employing a multi-level design, the paper indeed reveals a quite consistent pattern towards post-materialist happiness as we move from poor to rich societies. This pattern seems to be driven by both a devalorization of material concerns and a valorization of post-materialist concerns, although the evidence suggests that the former trend is stronger and more linear than the latter.

Key words: Happiness; subjective well-being; post-materialism; income; modernization

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From Materialist to Post-Materialist Happiness?

National Affluence and Determinants of Life Satisfaction in Cross-National Perspective

INTRODUCTION¹

Happiness research has chiefly been concerned with *levels* of subjective well-being (SWB). Scholars gain public attention easiest when they produce league tables of nations and ranking places from "good" to "bad". Using the power of large comparative surveys, considerable efforts have been made to find out what distinguishes the happiest from the unhappiest places (Veenhoven 1999; Diener et al. 1995; Bjornskov 2003; Vemuri and Constanza 2006). Although these macro-level comparisons give us a rough picture about societal conditions that are conducive to happiness, they can not dig very deep into the question of what actually makes people happy. So far, scholars have spent less effort on uncovering what can be labeled the happiness recipe – the contribution of specific life domains and concerns to overall appreciation of life. Are the concerns that determine people's happiness basically the same everywhere due to human universals? Or do they vary systematically across space and over time? Currently, we know surprisingly little about these fundamental questions.

The claim of broad similarity is made most prominently by Easterlin: "[I]n most people's lives everywhere the dominant concerns are making a living, family life, and health, and it is these concerns that ordinarily determine how happy people feel" (Easterlin 2001). In contrast, Inglehart has claimed the existence of an evolutionary pattern in that unprecedented levels of affluence in today's post-industrial societies have fundamentally re-organized the way citizens achieve happiness. This expectation is derived from theories of value change as developed by Ronald Inglehart and collaborators (Inglehart 1997; Inglehart and Welzel 2005). Largely driven by rising standards of living and the widespread sense that existential security can be taken for granted, a sea change in value priorities has been taking place, away from materialist scarcity values towards post-materialist self-expression values. It is perfectly possible then that existential security has changed individuals' recipes for happiness accordingly, from materialist to post-materialist happiness. The well-known cross-national income happiness curve (Inglehart and Klingemann 2000) may lend some support: Richer societies tend to have happier populations than poorer countries, but at higher levels of affluence the curve flattens out. This can be read as a sign that materialist concerns become less salient under the condition of affluence – yet it is not an airtight proof.

¹ I am grateful to Ulrich Kohler (WZB) for his excellent advice in statistical matters, and to Dimitar Draganov for his assistance in collecting the country indicators. I would also like to thank the participants of the "Dynamics of happiness" workshop held July 2008 at the Hanse Wissenschaftskolleg Delmenhorst, where I presented an earlier version of this paper, and Ruut Veenhoven for very helpful comments.

The idea of an evolutionary pattern towards post-materialist happiness, however, is not only at odds with Easterlin. Other scholars have described modern-capitalist societies in starkly different colors – as bluntly materialist. Consumer society is said to have increased, rather than decreased, the relevance of material goods and services (Haller 2002). A hallmark of this development is seen in consumption on credit (Ritzer 1995) which further undermines the vestiges of thriftiness associated with the Protestant ethic. As Bourdieu states:

“The new logic of the economy rejects the ascetic ethic of production and accumulation, based on abstinence, sobriety, saving and calculation, in favour of a hedonistic morality of consumption, based on credit, spending, and enjoyment. This economy demands a social world which judges people by their capacity for consumption, their 'standard of living', their life-style, as much as by their capacity for production.” (1984: 310).

These critical perspectives imply that material concerns have *not* diminished in their power to create happiness – they may even be of growing salience.

This paper seeks to add to this debate by analyzing what I call the *recipe for happiness* – the determination structure of overall life satisfaction by satisfaction ratings of life domains. It takes the theory of value change as a point of departure and tests its implications for human happiness. My key question is whether the so defined happiness recipe is indeed more post-materialist in rich, post-industrial societies. Personal autonomy and job creativity serve as indicators for post-materialist concerns, the income domain as an indicator for materialist concerns. Values can be seen as an important filter through which living conditions translate into subjective well-being (Campbell et al. 1976; Diener 1995). If existential security indeed leads people to shift their value priorities away from materialist concerns, then their recipes for personal happiness should change accordingly. What should be observable, then, is a shift from *materialist* to *post-materialist* happiness. This paper investigates this issue from a cross-national perspective. The next sections briefly describe the theory of value change, its implications for SWB, and previous research. Then the data and empirical strategy are introduced. The subsequent section demonstrates how well the theory of post-materialist happiness fares against empirical data. The concluding section discusses the main findings and identifies needs for further research. The key result is that there is indeed convincing evidence for more post-materialist (and less materialist) happiness in rich, post-industrial societies, as compared to poorer societies. There are also some generational differences, with the youngest cohorts being the most post-materialist, suggesting an evolutionary pattern in happiness determinants.

THE THEORY OF POST-MATERIALIST VALUE CHANGE

The "Silent Revolution" and Its Implications for SWB

The theory of post-materialist value change was initially developed by Inglehart in the 1970s. The key idea was that among the Western populations a slow but powerful

change of priorities was taking place through generational replacement, away from materialist towards post-materialist values (Inglehart 1971). The reason why the cohorts differ in priorities is the level of economic well-being and existential security they enjoyed in their formative years (Inglehart 1997: 31). The older cohorts grew up under conditions of economic scarcity and the suffering and uncertainties of two world wars, which is in stark contrast with the affluence and more peaceful environment of those born in the post-war period. Not only has the economic well-being of the average citizen increased *objectively*, but also their *sense* of existential security. As a consequence, citizens develop new value priorities. They no longer stress issues such as economic growth, the fight against rising prices, or crime rates, but prioritize issues such as political participation, freedom of speech, environmental protection and beautiful cities. Note that value orientations are measured, primarily, as public policy preferences.

In subsequent publications, Inglehart advanced his theory without changing the core argument. In "Modernization and Postmodernization" (1997) he describes a broader stream of cultural change towards postmodern values. These new mindsets give way "... to an increasingly broad latitude for individual choice of lifestyles and individual self-expression" (28). Quality of life instead of mere economic growth is the rallying cry. Change is now considered along two axes: traditional authority values vs. secular rational values, and survival values vs. well-being values, respectively. The latter axis encompasses the shift from materialism to post materialism (Inglehart 1997: 35). Economic prosperity still serves as the key driver: "Precisely because they attained high levels of economic security the populations of the first nations to industrialize have gradually come to emphasize Postmaterialist values, giving higher priority to the quality of life than to economic growth" (Inglehart 1997: 31). In the second major revision, well-being values have been relabeled into self-expression values (Inglehart and Welzel 2005), and post-industrialization is additionally used as an explanatory concept. Yet again the core of the argument remained untouched: societal progress leads to predictable changes in values.

The conceptual backbones are the principle of diminishing marginal utility and Maslow's need hierarchy (Maslow 1943). The latter is utilized by Inglehart to draw a basic distinction between "material" (physiological) and "post material" (non-physiological) needs, such as esteem, aesthetic satisfaction, and self-actualization. It is growing affluence that leads people to operate at higher levels of the need hierarchy (Inglehart 1997: 34). It is claimed that the silent revolution has important consequences not only for politics and the economy, but for individual life strategies as well. Thus it may affect SWB in a twofold way. First, people in affluent societies might be better at developing strategies for increasing their quality of life (since they care about more than mere economic well-being), and hence tend to be happier (Inglehart et al. 2008). The finding that within nations, materialists are less happy than post-materialists (Argyle 1999) lends additional support. Further, Headey (2008) found that attaching importance to success goals (e.g. material success) has a detrimental effect on life satisfaction. The second implication concerns the *determinants* of SWB. If value change is indeed fundamental, it should also effect what actually makes people happy: "Economic security is still something that eve-

ryone wants, but it is no longer a synonym for happiness", it is claimed (Inglehart 1997: 36). This implies that under the condition of affluence, happiness is increasingly derived from the fulfillment of post-materialist needs – what I call post-materialist happiness. At this point it is important to note that in the first place value change theory is about *relative* preferences: "Postmaterialists are not non-Materialists, still less are they anti-Materialists" (Inglehart 1997: 35). Yet materialist concerns should lose ground, relative to post-materialist concerns, in their capacity to make people happy – this is the prediction tested empirically in this paper.

It is only fair to mention that the general claim of spreading postmaterialism is not undisputed. One line of critique is on measurement issues, questioning the appropriateness of indicators (Davenport and Davis 1999; Clarke et al. 1999; Haller 2002). Another criticism questions whether a shift away from materialistic values has actually taken place. It has been argued that Inglehart's terms confuse two different aspects, economic and political (Flanagan 1987). While conceding that values have indeed changed along the political axis from authoritarian to libertarian, Flanagan disputes a change along the economic axis, from material to post-material values. According to his analysis, people in rich democracies are economically as materialistic as they were. If this is indeed true for public policy preferences, it could also be true for personal life strategies. Two recent papers back the criticism in demonstrating that Inglehart's dimension of materialism actually mixes two or even three *different* types of concerns (Moors 2007; Moors and Vermunt 2007). Moreover, there is no relationship between cohorts and economic materialism (Moors 2007). Finally, at a more theoretical level the concept of the post-materialist society is at loggerheads with the numerous diagnoses which describe modern-capitalist societies as outright consumeristic, as touched upon in the introduction.

Previous Research

Whereas the theory of value change as such has provoked a flood of papers, few have tested its implications for happiness. There are some empirical accounts of how SWB is influenced by life domains, but these are largely social reporting activities not designed for theory testing. Two strategies have been employed to investigate what it is that makes people happy. The first one is the so-called *testimony approach*, where respondents themselves choose those items that contribute most to their quality of life from a longer list. This method investigates the key drivers of SWB by self-report. According to a study based on 28 European countries (Delhey 2004), "being in good health" is chosen by a large majority almost everywhere, followed by "sufficient income to meet my needs" and "having family members who are there when I need them". This pattern was very stable throughout the different European countries, East and West. When asked in a further question which factor would improve their current quality of life, "having a higher income" was selected most often in all but four countries. Given that the Euro-

pean countries differ quite a lot in income levels, these self-reports rather support those who claim that human concerns are universal.

The use of multivariate statistics (*regression approach*) is an alternative. Here the most influential determinants are discovered indirectly, thus avoiding answers potentially biased by social desirability. Instead, the strength of multivariate association between *domain satisfactions* and overall appreciation of life is taken as evidence. It is inferred that domains which are highly correlated with life satisfaction matter a great deal to people, and domains which have a weak correlation do not matter much. This approach provides more supporting evidence for the idea of post-materialist happiness. Again comparing 28 European countries, a recent study found higher levels of economic affluence to be connected with a lower importance of the domains standard of living and education, and with a higher importance of the domains family and social life (Böhnke and Kohler 2008). Using other data, in another study financial satisfaction was found to have a stronger impact in the less wealthy Central-Eastern part of Europe, whereas in Western Europe, satisfaction with family life, social life and health was usually more salient (Delhey 2004). In both studies the results are interpreted with passing reference to postmaterialism. However, many less affluent European societies also happen to be former socialist countries, which makes it difficult to disentangle whether indeed the level of living or the experience of system transformation and large-scale institutional change causes the different patterns. Moreover, these studies focus on Europe and do not cover the full range of economic development on a global scale.

Building on this discussion of post-materialist theory and previous research, the remainder will deal with the following research question: Do recipes of happiness differ systematically between rich and poor countries?

DATA, METHODS AND HYPOTHESIS

Quite obviously, the kind of data one ideally needs is long time series on today's affluent countries. However desirable they may be, these long time series are not available. As a substitute I will examine the hypothesis of the post-materialization of happiness in the light of cross-national evidence. Rightfully, this approach has met criticism (Haller 2002). Yet since the driving forces behind the culture shift are assumed to be socio-economic modernization processes, and prosperity in particular (a potentially universal attribute), differences should show up in a cross-sectional comparison, provided the nations are sufficiently diverse in terms of welfare and modernization. Although not a perfect substitute, value researchers have used this strategy very often and successfully (Inglehart 1997).

The World Values Survey 2005

The analysis is based upon data collected in the most recent wave 5 of the World Values Survey (WVS). The WVS is the largest survey project to analyze values and cultural change worldwide. Wave 5 from 2005-7 covers 53 countries at very different levels of welfare. Many of them are rich countries, but some are middle-income countries, among them China and India, and others rank among low-income countries, like Rwanda, Zambia, Ethiopia, Mali and Burkina Faso. The Human Development Report (2007) lists Burkina Faso as the second lowest in human development (rank 176), underperformed only by Sierra Leone. Life expectancy is a meager 51 years of age, only a quarter of the adult population is literate, and the average income is barely more than 3 dollars a day (\$ 1,200 US per capita per year). Needless to say that this is worlds apart from living conditions in, say, Australia, with a life expectancy of almost 81, an almost perfect literary rate, and an income level of over \$ 30,000 per year. The countries also differ widely in economic structure and scores on Inglehart's MAT/PMAT index. *If* post-scarcity conditions are indeed causing a tectonic shift towards post-materialist SWB, then it has a better chance of showing itself in this study than almost any other. The survey consists of representative samples of the population aged 18 and older, with sample sizes between 954 in New Zealand and 4,030 in Indonesia.

The WVS survey contains a tried and tested question concerning *overall life satisfaction* (the dependent variable):

"All things considered, how satisfied are you with your life as a whole these days? Please use this card to help with your answer [1 dissatisfied (...) 10 satisfied]".

This single-question scale has shown to be a reasonably valid instrument for measuring life satisfaction in large-sample surveys (Andrews and Withey 1976; Layard 2005). The ten-point scale allows the use of OLS regressions, although strictly speaking it is an ordinal scale. The caveat is that the WVS is not designed as a welfare survey in the first place. It covers assessments of only a few life domains which could be used to explain overall life satisfaction. Yet the few domains which *are* available are of great theoretical interest and allow us to test the idea of materialist and post-materialist recipes for happiness. The questions utilized in this paper refer to income, life autonomy and job creativity:

Financial satisfaction (materialist domain):

"How satisfied are you with the financial situation of your household? Please use this card again to help with your answer. [1 completely dissatisfied (...) 10 completely satisfied]."

Personal autonomy (post-materialist domain):

"Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "none at all" and 10 means "a great deal" to indicate how much freedom of choice you feel you have over the way your life turns out. [1 none at all (...) 10 a great deal of choice]."

Job creativity rating (post-materialist domain):

"Are the tasks you perform at work mostly routine or mostly creative tasks? If you do not work currently, characterize your major work in the past. [1 mostly routine tasks (...) 10 mostly creative tasks]."

Financial satisfaction serves as an indicator of material concerns, whereas the other two questions are interpreted as post-materialist concerns, tapping self-actualization needs. Personal autonomy is the key variable in Inglehart's and Welzel's human development sequence (Inglehart and Welzel 2005; Welzel and Inglehart 2010), whereas creativity plays a major role in Florida's recent account of post-industrial economies (Florida, 2002). It might be considered a disadvantage that these independent variables do not use the same format. The question concerning the financial situation is a true satisfaction question, whereas autonomy and job creativity are domain *ratings* rather than domain *satisfactions*. Yet this is less problematic as it seems at first, since I do not want to establish which of the two concerns, materialist or post-materialist, is of greater absolute importance, a question which would certainly have required a more balanced measurement. My concern is the comparison across nations.

Value orientations (materialism/post-materialism) are measured by the two standard four-item batteries, where respondents are asked to choose their most and second-most important societal goal. This procedure delivers, for each respondent, two separate classifications as either materialist (scored 0), mixed (scored .5), or post-materialist (scored 1). Finally, for each respondent the two scales were summed up and divided by two, delivering a final scale ranging from 0-1 (with 0 indicating purely materialist orientation, 1 indicating purely post-materialist orientation, and grey-shades in between).

Societal welfare is measured as GDP per capita in purchasing power parities. Following standard practice in the econometric literature log GDP is used in the computations. For robustness checks other modernization indicators are used: Human Development Index (HDI), workforce outside the agrarian sector, workforce in the service sector, and the Knowledge Economy Index. Whereas HDI is a welfare measure broader than GDP, the latter three indicators capture structural modernization from agrarian to industrial and, finally, post-industrial society (Bell 1973). The country indicators (with base year 2005) have been taken from Human Development Reports. Due to some missing values, 48 countries with more than 51,000 interviews were eventually entered into the analysis.² A list of countries with abbreviations used in the Figures is provided in the Appendix.

² When the working population is analyzed (all computations including job creativity), the number of countries is 46.

Hypotheses

Based on the theoretical discussion, the following hypotheses are tested against data:

- H1: The more widespread post-materialist values are in a society, the more happiness is derived from post-materialist domains, *relative* to materialist domains.
- H2: The more affluent a society is, the more happiness is derived from post-materialist domains, *relative* to materialist domains.
- H3: The more affluent a society is, the more happiness is derived from post-materialist domains, and the less from materialist domains.
- H4: The younger the cohorts, the more they derive happiness from post-materialist domains, *relative* to materialist domains.

H1 is concerned with the internal consistency of the post-materialist syndrome: Is there a strong association between general value orientation (as measured with the MAT/PMAT index) and the happiness recipes? In contrast, H2 and H3 relate the latter to objective societal progress. H4, finally, looks into cohort differences. Whereas H1, H2 and H4 deal with life priorities (relative importance of domains), H3 investigates the absolute salience of life domains for overall appreciation of life. In particular, to find out about the potentially diminishing marginal utility of income, we have to check whether the citizenries of richer countries indeed turn away from materialist happiness in an *absolute* sense.

Research Strategy

The main goal is to uncover cross-national differences in the happiness recipes, defined as the importance of post-materialist concerns for life happiness *relative* to materialist concerns. For this purpose I run two "horse races", comparing (1) the salience of personal autonomy for life satisfaction vs. that of financial satisfaction; and (2) the salience of job creativity vs. financial satisfaction. The *absolute* salience of these domains is derived from the strength of the relationship between domain satisfactions/domain ratings (hereafter: domain satisfactions) and life satisfaction, i.e. from the beta coefficients as computed in regressions at the individual level. The horse races are run by comparing the beta coefficients, i.e. by subtracting the respective beta coefficient of materialist concern from the one of post-materialist concern. This subtraction gives us an indication of *relative salience*: The higher (and more positive) the score, the more the recipe leans towards postmaterialism, the lower (and more negative) the score, the more it leans towards materialism.³

A two-step multi-level design is employed as what interests us is how a *societal* property (affluence) shapes what makes *individuals* happy. The first step consists of a

³ In doing so I am assuming that life satisfaction is shaped in a bottom-up process, with evaluations of domains being causally prior to the judgement of life-as-a-whole. (For a discussion of bottom-up v. top-down approach, see Headey et al. 1991).

set of individual-level OLS regressions, as explained above. Life satisfaction serves as the dependent variable. Independent variables entered are financial satisfaction, one of the post-materialist domain satisfactions (either personal autonomy or job creativity), and a standard set of socio-demographic control variables: gender, age, age squared, having a partner, education, income, working, and self-rated health. These regressions are done country by country. In Table 1, West Germany serves as an example for step 1 of the analysis. From this step we gain the regression coefficients of the respective life domains for each country separately, i.e. their salience for overall life satisfaction, and the relative salience of domains is computed. In the second step these scores are matched with country-level information (e.g. affluence level), and the correlations between them examined.

Table 1: Example of individual-level regression analysis of life satisfaction - Germany-West

	Model 1 b/t	Model 2 b/t
Men (1=men)	-0.028 (-0.27)	-0.099 (-0.69)
Age	-0.053** (-2.99)	-0.034 (-0.72)
Age squared	0.001** (3.20)	0.000 (0.68)
Partner (1=yes)	0.542*** (4.33)	0.537** (3.05)
Income	0.027 (0.82)	-0.008 (-0.15)
Health rating	0.196*** (7.89)	0.196*** (5.17)
Income satisfaction	0.296*** (9.92)	0.249*** (6.02)
Personal autonomy rating	0.103*** (3.67)	=
Job creativity rating	=	0.024 (0.77)
_cons	3.950*** (8.01)	4.580*** (4.62)
r2	0.323	0.210
N	842	394

Dependent variable: life satisfaction (1-10)

Model 1 is run for total population, Model 2 for workforce population only

Significance levels: * $p < .05$; ** $p < .005$; *** $p < .001$

Data: WVS 5

RESULTS

Post-Materialist Values and Post-Materialist Happiness

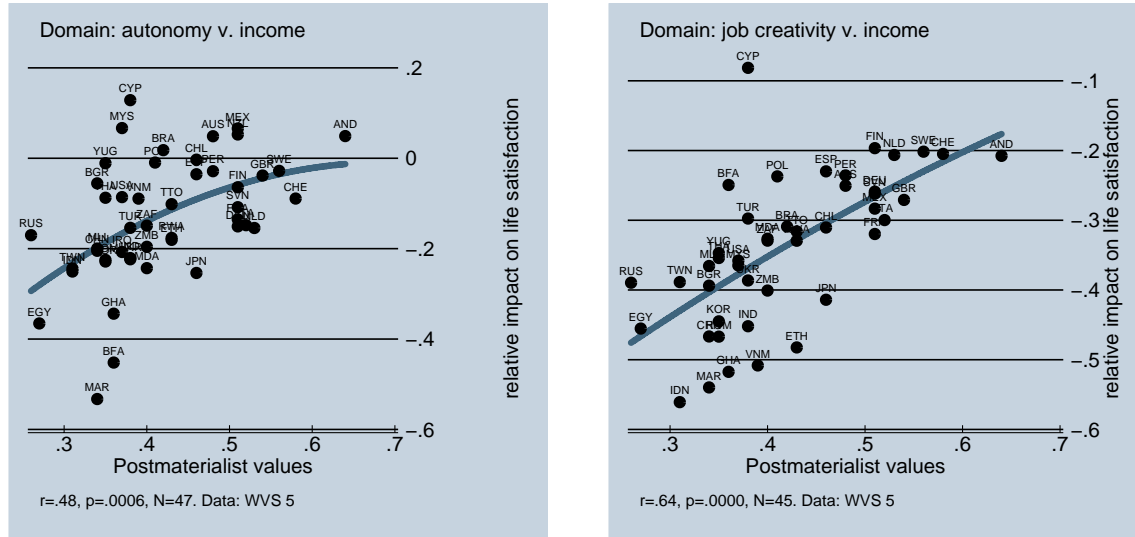
Do general values priorities and happiness recipes mirror each other? First we considered the relative salience of personal autonomy (relative to financial satisfaction). Figure 1 (left-hand side plot) is the respective scatter plot, with the countries organized on the x-axes ranging from more materialist values (left, Russia) to more post-materialist values (right, Andorra). The happiness recipe can be read from the y-axis. The higher the score, the higher the relative importance of the post-materialist domain. It is quite obvious that in the plurality of countries, income satisfaction influences overall contentment with life more strongly than perceived personal autonomy: Most countries are located below the zero line. Yet this is not our major concern here, also given the unbalanced measurement of the two domains. More importantly, it is obvious that populations differ quite considerably in what makes them happy. Examples of a very materialistic happiness recipe are Morocco and Burkina Faso, whereas Cyprus and Malaysia have the most post-materialist recipe. Most importantly, there is a systematic pattern: The more widespread post-materialist values are in a society, the more the citizenry values personal autonomy, relative to income, as a source of SWB, as suggested by the theory. The country-level association is strong ($r = .48$) and highly significant.⁴ However the association is far from perfect and among countries with middle-low postmaterialism scores in particular there are huge differences in happiness recipes. Moreover, the regression line is not linear, but seems to flatten out at higher levels of postmaterialism.

A similar and even more supportive picture resulted from the second "horse race", job creativity vs. financial satisfaction (Figure 1, right-hand side plot). Relatively seen, job creativity is a stronger driver of happiness in post-materialist societies, such as Finland, the Netherlands, Sweden, Switzerland, and Andorra (yet the highest relative salience is attached by the Cypriots, who score below average on post-materialist values – this is, however, almost entirely due to an extremely low salience the Cypriots assign to the income domain, way lower than in any other country). Moving to materialist societies, in a number of African and Asian countries people derive less satisfaction from job creativity, as compared to income. Over all countries, the regression line is even steeper than in the previous "horse race", the association is stronger ($r = .64$) and almost perfectly linear. Taken together, the evidence strongly confirms the theory – across more than 40 countries, general value orientations in terms of public policy pref-

⁴ Although this practice is sometimes criticized, I nevertheless see a need for testing for statistical significance. The aim is certainly not to test whether a significant difference may be expected in the universe of countries (since, of course, the countries assembled together in the WVS are not a random sample); rather, the idea is to test a causal hypothesis. With the same logic it is tested for group differences in psychological experiments – despite the fact that the groups are not "samples" from larger universes. What is tested for is rather whether the treatment makes a real difference, or whether measurable group differences can be attributed to pure chance. The same logic applies to the sort of country comparison I am dealing with.

erences (MAT/PMAT) tend to go together with respective personal life strategies as expressed in happiness recipes.

Figure 1: Dominant values and relative impact of domains on happiness



Note: Full country names provided in the Appendix.

Affluence and Post-Materialist Happiness – Relative Impact

So far we have been concerned with examining the *internal consistency* of the post-materialist syndrome. Yet to *explain* cross-national variations in happiness recipes, values are certainly not the most interesting explanation, given the close conceptual affinity between the two. The 64-million dollar question is whether different life circumstances go hand in hand with predictable differences in what makes people happy. Is there a systematic link to affluence?

As can be seen in Figures 2 and 3, this link exists. For both life autonomy and job creativity, if we move from poor to rich societies, individual happiness tends to become more post-materialist. Let us look first at personal autonomy (Figure 2). The relative impact of this domain is moderately ($r = .37$) but significantly linked to affluence. In richer countries, personal autonomy drives life satisfaction - relative to income - more strongly. Yet the relationship is not linear, it flattens out at higher levels of welfare. This becomes very obvious in the bar chart (Figure 2, right-hand side chart), in which the countries are grouped in three "classes" of equal size, from poor to rich. The main difference in the happiness recipe is between low- and middle-income countries, not between middle- and high-income countries (as Inglehart predicted). A closer inspection of the scatter plot (left-hand side chart) shows one clearly deviant case: Hong Kong. Despite their wealth, Hong Kong's citizens derive much more SWB from the income domain than from leading an autonomous life. No other country's position is so distant from the regression

line (Hong Kong is the dot in the lower-right quadrant). Of course there is no *theoretical* reason for excluding this country from the analysis – yet by doing so, the association between affluence and relative salience of personal autonomy skyrockets to a highly significant .49. The deviant case of Hong Kong hides an otherwise strong link between economic development and life priorities.

Figure 2: Relative impact of autonomy on happiness

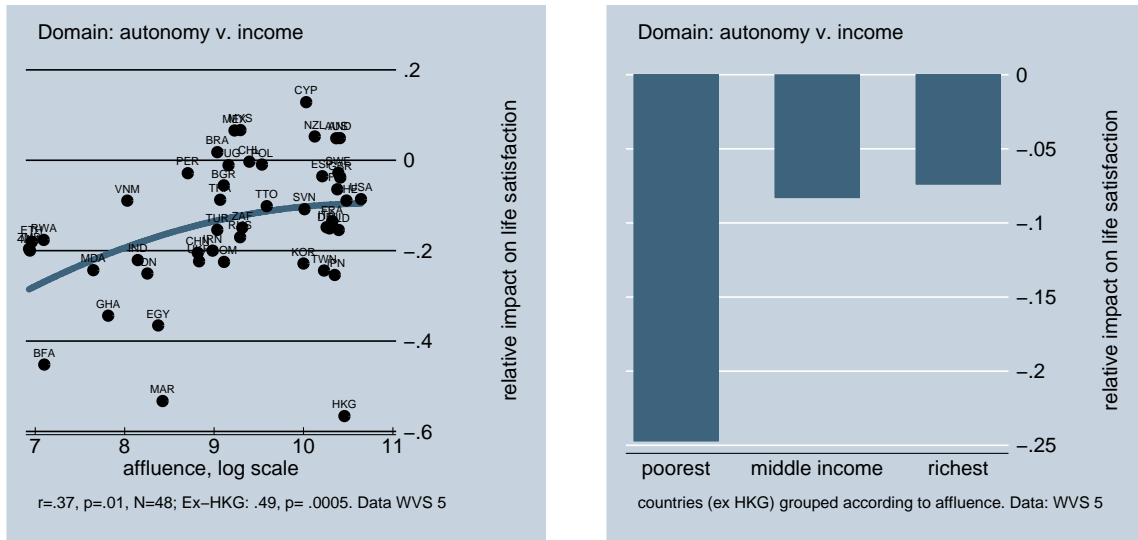
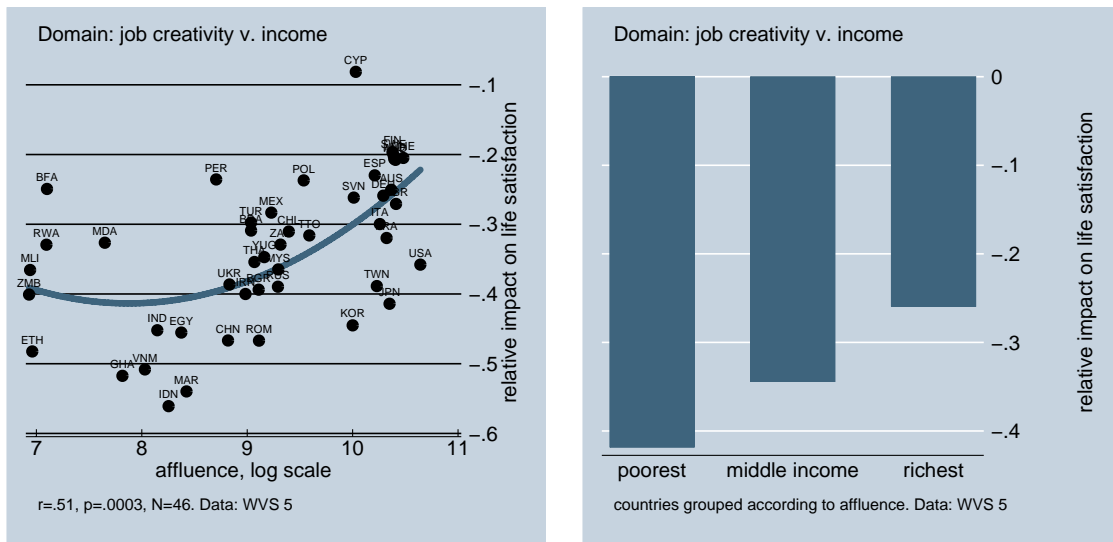


Figure 3: Relative impact of job creativity on happiness



Turning to the second domain, job creativity (relative to income) is likewise a stronger source of happiness in richer societies. (Please note that the job creativity rating was not asked in the Hong Kong survey, so this deviant case did not enter this

analysis). The association is very strong ($r = .51$) and highly significant (Figure 3). For this domain we find the theoretically expected staircase pattern: the relative impact of job creativity increases from low- to middle income, and further from middle- to high-income. However, a closer inspection of the scatter plot shows that within the poorest group, the happiness recipe in the African countries (bar Ethiopia) is less materialistic than expected. But among the remaining countries, the association is almost perfectly linear. The bottomline of both "horse races" is: affluence apparently goes together with a more post-materialist happiness recipe.

Table 2: Modernization levels and relative impact of domains on happiness

	Personal autonomy v income satisfaction	Personal autonomy v income satisfaction	Job creativity v income satisfaction
	All (N=48)	Ex HKG (N=47)	All (N=46)
Affluence	.37 *	.49 ***	.51***
Human development	.41 **	.51 ***	.44 **
Weight of non-agrarian economy	.39 *	.50 ***	.49 ***
Weight of service sector economy	.29, n.s.	.51 **	.52 ***
Knowledge economy	.40 **	.50 ***	.57 ***

Cell entries are Pearson's correlation coefficients

* $p < .05$; ** $p < .005$; *** $p < .001$

As a robustness check, the relative salience of autonomy and creativity was further investigated by replacing affluence with other socio-economic modernization indicators: human development, workforce outside the agrarian sector, post-industrialization, and knowledge economy (Table 2). The key message is that the results are essentially the same. No matter which indicator we take, if we move from less to more modern so-

cieties the happiness recipe changes towards postmaterialism.⁵ For personal autonomy all five measures yield the same association, whereas for job creativity one stands out: knowledge economy. The latter finding is in line with Florida's claim of creativity unfolding in particular in knowledge economies. The bottom line is: Modern conditions are associated with more post-materialist happiness recipes. Yet it is difficult to single out whether welfare or economic structure is more important, since the two form a tight-knit syndrome (Inglehart 2001). Probably it is safe to say that both are important, both what people have and how they work.

Affluence and Life Domains – Absolute Impact

The *relative* shift tells us little about how the shift in life strategies actually comes about. Recall that Inglehart assumes material concerns to be, in *absolute* terms, as salient as ever, and post-materialist domains to become more important, in particular as societies progress towards postmodernization. Therefore it is instructive to dig deeper into the underlying pattern of devalorization and valorization in an absolute sense.

Do people in richer countries value income less? The answer from the perspective of SWB appears to be: yes. The whole sample of 48 countries revealed only a mild tendency in this direction (slightly failing the usual standard of statistical significance, s. Figure 4, upper panel), but we already know that Hong Kong is a deviant case, which conceals an otherwise clear-cut pattern. Indeed, in no other place is the power of the income domain to make people happy as strong as in Hong Kong, and there is a huge gap to other rich countries in this respect. If we exclude Hong Kong, the association roughly doubles in strength (to .48) and becomes highly significant. Indeed money matters less in richer countries. The happiness dividend of income satisfaction is, for example, much bigger in Morocco, Egypt or Romania than in Cyprus, Spain, and Sweden. Affluence seems to induce a turn away from materialist happiness even in an *absolute* sense, which was not anticipated by Inglehart. Yet again the step from low-income to middle-income seems to be more important for re-direction of life priorities than the step from middle- to high-income (see Figure 4, upper panel, bar chart).

Is the renunciation of "having" mirrored in a corresponding valorization of personal autonomy? In part, yes. In the poorest countries, leading a self-directed life is least important for life satisfaction (Figure 4, middle panel). However, the association flattens out already at a medium level of economic development, and surprisingly in the richest countries autonomy matters somewhat less than in the middle-income countries. This unexpected finding is further discussed in the concluding section.

Finally, what about job creativity? Here the regression line is almost entirely flat (Figure 4, lower panel), suggesting that there is no strong systematic link with levels of affluence in this respect. Further, job creativity is valued most by the workforce in

⁵ For personal autonomy we focus on column 2 of Table 4, in which Hong Kong is excluded from the analysis.

Rwanda and Mali, hitherto unknown to be hot spots of the creative class. It is also instructive to see virtually no impact of creativity on happiness in the USA, which according to Florida is *the* hub of the global creative economy. Still, across all countries there is a mild albeit insignificant tendency that having a creative job is a more important pillar of SWB in richer countries. But note that even this mild tendency has nevertheless contributed its part to produce the proven *relative* shift in happiness recipes, for even small movements in opposite directions (clear devalorization of materialist concerns; mild valorization of post-materialist concerns) may add up to a significant relative shift.

Again we did a robustness check with other modernization indicators. For all three domains (income, autonomy, job creativity), the results are by and large replicated (Table 3). When we move from less to more modern societies (however defined), income satisfaction becomes a less important driver of happiness, Hong Kong disregarded. Personal autonomy becomes a more important driver (except for service sector size, but at least we find the predicted tendency of a positive association here as well)⁶. Finally, all modernization indicators are positively related to the absolute impact of job creativity, but below the usual threshold of significance. Thus, what caused the relative shift of happiness recipes is mainly (but not exclusively) a devalorization of material having. Results are more mixed concerning the valorization of post-materialist concerns.

Cohort Differences

If intergenerational replacement is indeed the key mechanism leading to changing values in the aggregate, the phenomenon of post-materialist happiness should be most visible among the youngest cohorts – those who enjoyed a higher level of existential security during their formative years. Value research has demonstrated such differences time and again (Inglehart 1990, 1997). Although it is impossible to disentangle, with cross-sectional data, cohort and life-cycle effects, there is mounting evidence that value differences in MAT/PMAT are largely driven by the former. For my analysis, each country sample has been subdivided into five birth cohorts, those born prior to or in 1945, those born 1946-1955, 1956-1965, 1966-1975, and those born after 1975. For each cohort, the relative salience of post-materialist domains has been computed, following the standard procedure that has been used throughout the paper. Since with more than 40 countries multiplied by five cohorts one is at risk of not seeing the wood for the trees, results have been broken down by larger world regions instead of single nations.

⁶ This may demonstrate that service sector size is not a perfect indicator of post-industrialization, since pre-modern and modern forms of the service economy are lumped together.

Figure 4: Absolute impact of domains on happiness

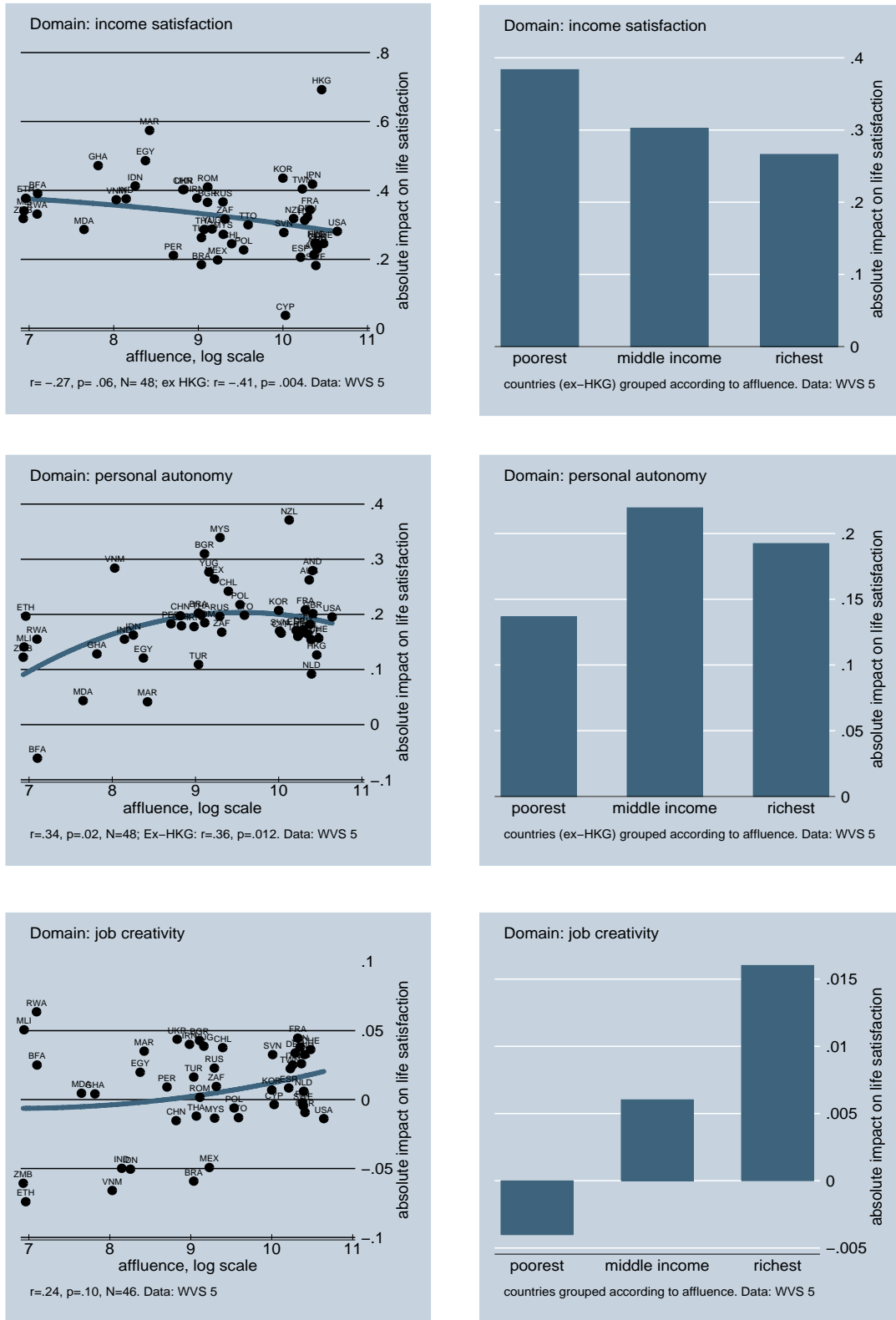


Table 3: Modernization levels and absolute impact of domains on happiness

	Impact of income sat- isfaction	Impact of income sat- isfaction	Impact of autonomy	Impact of autonomy	Impact of job crea- tivity
	All (N=48)	Ex HKG (N=47)	All (N=48)	Ex HKG (N=47)	All (N=46)
Affluence	-.27, n.s.	-.41 **	.34 *	.36 *	.24, n.s.
Human development	-.28, n.s.	-.40 *	.40 **	.42 **	.18, n.s.
Weight of non- agrarian economy	-.28, n.s.	-.41 **	.36 *	.38 *	.25, n.s.
Weight of service sector economy	-.22, n.s.	-.48 **	.24, n.s.	.29, n.s.	.19, n.s.
Knowledge economy	-.33 *	-.45 **	.32 *	.34 *	.27, n.s.

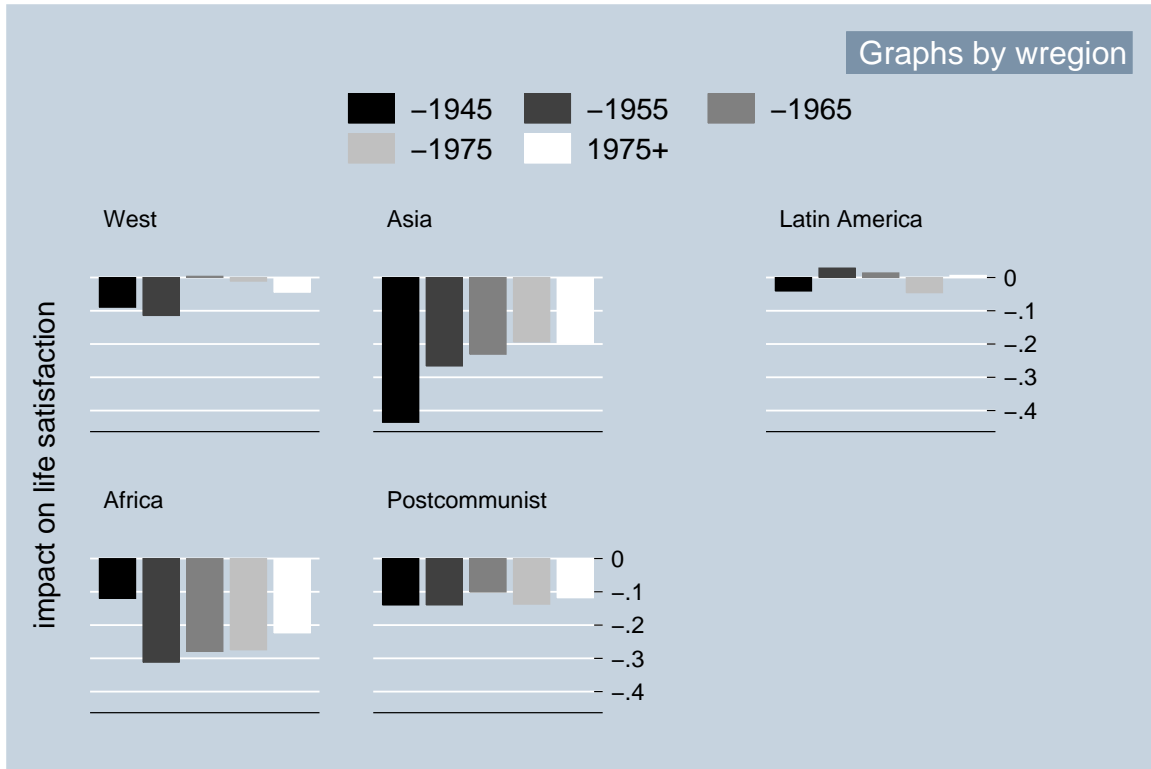
Cell entries are Pearson's correlation coefficients

$p < .05$; ** $p < .005$; *** $p < .001$

Let us begin with personal autonomy (again: relative to the income domain). What one would expect is a growing relative salience for life satisfaction among the younger cohorts, in particular in those world regions which have steadily become richer over the past 30 years or so – Asia and the Western countries. In Asia we do indeed find the predicted pattern – each successive generation derives relatively more life happiness from personal freedom and choice (Figure 5). Whereas income is much more important than autonomy among the oldest, the picture changes in favor of the post-materialist domain with each successive generation. A similar but less dramatic shift can be reported for the Western countries, although here the main difference lies between the two oldest and the three youngest generations. In both crisis-ridden Latin America and post-communist Europe, cohort differences are extremely small. In the post-communist region, the collapse of the old socialist systems might have worked against a generational difference. A considerable shift can only be expected for the coming generation (1986-), since this will be the first cohort raised in prospering post-communist societies. Surprisingly, Africa reveals the staircase-pattern as well, with only the oldest cohort not

fitting the pattern (here, the oldest are those with the most post-materialist happiness recipe).

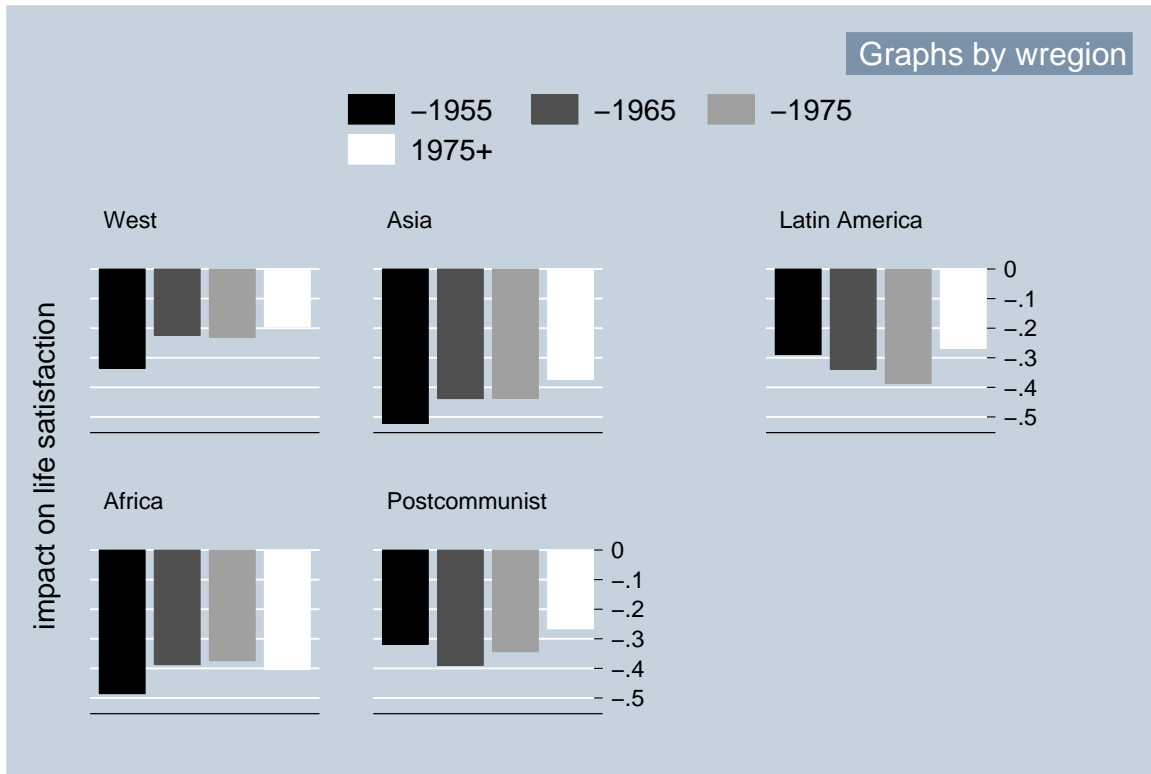
Figure 5: Cohort differences in determinants of happiness - personal autonomy (relative to income domain)



For job creativity, four cohorts have been taken into consideration (the oldest cohort was excluded since few of those born before 1945 are still in the workforce). The overall results are pretty much in line with the predicted trend towards post-materialist happiness (Figure 6). In Asia, the West and, again surprisingly, Africa, the salience of job creativity as a driver for happiness (relative to income) increases if we move from older to younger cohorts. This "pure" pattern holds for the post-communist region as well, bar the oldest cohort, which is less materialistic than its immediate successor generation. In Latin America there is a U-shaped pattern.

The overall evidence is pretty much supportive of the idea of an evolutionary pattern towards post-materialist happiness. Needless to say, however, that these results have to be supported by tracking birth cohorts over time to separate cohort effects from life-cycle effects. It is perfectly possible that personal life strategies are more closely knit to the life cycle than general value orientations. Needless to say as well that within world regions, not each and every country follows the general trend orderly. Among the Western countries the USA deviates strongly, with the youngest generation being by far the most materialist one.

Figure 6: Cohort differences in determinants of happiness – job creativity (relative to income domain)



DISCUSSION AND CONCLUSION

It is time now to summarize the main results in the light of value change theory. Three clear answers do emerge from the data. First (relating to H1): Are value orientations as measured with the classical MAT/PMAT index associated with respective happiness recipes? Yes they are. Public policy preferences and personal life priorities do form a syndrome.

Second (relating to H2 & H3): Is affluence and economic development associated with a more post-materialist recipe for happiness? Yes, it is, and not only in a relative perspective. In our cross-section of countries, affluence drives the salience of the income domain down and the salience of the post-materialist domains up (although the former effect appears to be stronger, more consistent and more linear).

Third (relating to H5): Are there generational differences? By and large there are. In Asia, the Western countries and Africa there is a tendency that younger cohorts swear on post-materialist happiness, compared to older ones. In Latin America and the former communist countries which experienced strong economic ups and downs over the past 20 years the pattern is less clear-cut. Please recall again that the extent to which any cohort differences are due to true cohort effects requires further investigation.

Taken together this is convincing evidence for a *systematic* difference in the determinants of happiness, linked to affluence and socio-economic modernization. Happiness tends to be pretty materialist in poorer places, and more post-materialist in richer ones. Please note that cross-sectional comparisons are usually confounded with other macro-factors which may shape citizen's personal life strategies as well, like deep-rooted cultural traditions or political and economic institutional settings. Nevertheless, a strong linkage between welfare levels and happiness recipes is detectable in our cross-section of countries, which suggests the existence of an evolutionary pattern – as societies progress, personal priorities in SWB change in a highly predictable way. Yet the results are inconclusive as to whether life strategies only change under the condition of mass affluence (as Inglehart assumes) or with modest wealth. Some evidence supports the latter interpretation. Even so human concerns might be similar everywhere, their relative power to drive happiness – and sometimes their absolute power, too – appears to vary systematically. That also means that many critical accounts of modern capitalist consumer societies as cited at the outset might be overdrawn. Yes, we have huge shopping malls and citizens play their role as consumers, but rich citizenries derive less happiness from material concerns. In this sense, rich post-industrial societies are *less* materialist, not more. It goes without saying that the existence of a general pattern does not preclude notable deviations. One such case is Hong Kong, which is characterized by an extreme variant of materialist happiness. We definitely need more in-depth studies of a qualitative nature to understand such deviant cases better.

One important finding is that the income domain is indeed, in absolute terms, a less important pillar for personal quality of life in rich post-industrial countries, whereas the value attached to post-materialist concerns differs either less strongly (job creativity) or in a non-linear fashion (personal autonomy). The latter finding is puzzling given the paramount importance personal freedom is assigned in both human development theory (Inglehart and Welzel 2005) and in general accounts of rising levels of SWB (Inglehart et al. 2008). On the one hand, appreciating freedom and autonomy could be a universal human trait rather than something learned specifically during postmodernization. On the other hand, it is perfectly possible that the autonomy question included in the WVS is not the most suitable for cross-cultural research, since it is complicated and may be understood differently across societies. To me it seems perfectly possible to have control over one's life *without* having much choice. As the question stands, having personal autonomy might be very salient for people living in existential security (here understood as choice and variety of options available) *and* for those living in unstable and unpredictable environments (here understood as control over life, i.e. not to simply fall victim of the whims of large-scale political and economic changes). The latter interpretation might apply, for example, in post-communist countries. Most of them are middle-income, and we found them to have the greatest happiness pay-off from personal autonomy. It is tempting to speculate that better question wording, unambiguously tapping choice and individual freedom, would indeed yield a stronger link with the postmodern condition.

It remains to be seen whether the main results of this study are replicated in other surveys. Future studies could also help overcome the limitations of the study at hand. One important issue for further research is to track countries and cohorts over time. Second, it would be highly desirable to study a greater number of life domains, and generally to have a more convincing operationalization of Maslow's need hierarchy. Ideally, the measurement would span the full range of needs, from physiological up to self-actualization (Maslow 1943). The post-materialist concerns studied in this paper come close to self-actualization (the highest level), and it is highly desirable to see how the theory works at other levels of the need hierarchy. Third, we need to investigate more closely which other country-level characteristics and processes – other than affluence and socio-economic modernization – shape what makes people happy. Prime candidates are deep-rooted cultural traditions and economic institutions, e.g. the degree of de-commodification from market forces.

My most general point is that happiness recipes deserve more interest in a field which is usually much more interested in, if not obsessed with, levels of happiness. Yet knowing more about priorities may contribute to our understanding of SWB levels as well. Headey (2008) made this point for individuals when exploring the impact of zero sum life-goals (such as income) and non-zero sum life goals (such as helping others), but it is tempting to extend this idea to whole countries. In this context it is highly instructive, for example, to see that the income domain is less important to Latin Americans than to Asians. Usually, the "over-achievement" of Latin American countries in terms of SWB has been explained by general positivism (Diener et al. 2000) or other cultural traits. Another piece of the puzzle could be the peculiar Latin American happiness recipe: By putting comparably little emphasis on the income domain which happens to be the one with the lowest satisfaction scores of all "private" domains (cf. the reviews by Diener et al. 1999; Veenhoven 1993), Latin Americans achieve high levels of overall life satisfaction. For Asians, known to be "underachievers" in SWB, it may work exactly the other way round: They put so much emphasis on income that their happiness is adversely affected.

A recent piece on China (Brockmann et al. 2009) demonstrates that dramatic shifts in happiness recipes can take place within just a few years time: What happened in China within one decade of economic liberalization and hefty growth rates was a "monetarization of happiness" – life satisfaction has become primarily dependent on financial satisfaction, a domain which was of little importance when China's boom began. In the same time period, the *level* of Chinese happiness barely changed (it decreased slightly). The authors speculate that the "monetarization of happiness" might be a peculiarity of countries undergoing rapid economic transition from plan to market, which again hints at the influence of marketization and related ideologies. The general lesson is that we may miss something important when gazing at SWB levels – what we might overlook are fundamental changes taking place in the deeper determination structure of happiness. Nine tenths of an iceberg is hidden under the water. It is high time to look not only at the tip of the iceberg.

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APPENDIX

Country abbreviations

Andorra	AND	Ghana	GHA	Poland	POL
Australia	AUS	Hong Kong	HKG	Romania	ROM
Burkina Faso	BFA	Indonesia	IDN	Russia	RUS
Bulgaria	BGR	India	IND	Rwanda	RWA
Brazil	BRA	Iran	IRN	Slovenia	SVN
Switzerland	CHE	Italy	IT	Sweden	SWE
Chile	CHL	Japan	JPN	Thailand	THA
China	CHN	Korea	KOR	Trinidad & Tobago	TTO
Cyprus	CYP	Morocco	MAR	Turkey	TUR
Germany	DE	Moldova	MDA	Taiwan	TWA
Egypt	EGY	Mexico	MEX	Ukraine	UKR
Spain	ESP	Mali	MLI	USA	USA
Ethiopia	ETH	Malaysia	MYS	Vietnam	VNM
Finland	FIN	Netherlands	NLD	Serbia	YUG
France	FRA	New Zealand	NZL	South Africa	ZAF
Great Britain	GBR	Peru	PER	Zambia	ZMB

Countries listed in order of country abbreviation.