DOES HAPPINESS INDUCE A ROSY OUTLOOK?

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Summary

The appreciation of a life-as-a-whole affects evaluative perceptions of various aspects of life. When people get happier, they become more satisfied with their jobs and attainments, they see more nice events happen to them and they rise in their own estimation. This appears in an analysis of the Australian QOL-panel study, involving 4 interviews over a 7 year period. There is no ground to dismiss these effects as rosily unrealistic, but there are good reasons to consider them beneficial for the individual and the society.

The problem

Correlational research has shown strong links between the appreciation of life-as-a-whole and evaluative appraisals of various aspects of life. The happy are typically more satisfied with their work, their house and the weather. They report better health, think themselves more clever and feel themselves more able to handle whatever tasks (see Veenhoven, 1984: ch. 7 for a review). In fact, these correlations are among the strongest found in empirical happiness research.

Opinions differ on the reasons for these correlations. The dominant view is that aspect appreciations determine the overall evaluation of life. This is the so-called `bottom-up' theory that presumes people to assess their happiness by counting their sorrows and blessing. The other view is that the overall appreciation of life affects the appraisal of its details. This is called `top-down' theory. For more detail about the bottom-up vs top-down controversy, see Diener (1984).

The possibility of top-down effects, while recognized, has scarcely been investigated in social scientific research. Yet the theory figured already in earlier philosophical writings on happiness. In that literature, different ideas were brought forward as to the benefits of these effects. One idea was that these effects are at best a mixed blessing, because they involve reality distortion. The happy would fall victim to a rosy view, which blinds them to personal problems and social injustice. The other view is that happiness boosts morale and thereby really helps to cope with such problems.

The purpose of this chapter is first of all to establish whether any top-down effects are involved in the relationship between happiness and life-aspect appraisal. A second goal is to explore the benefits of these effects.

The causal model

Our usual concept of causation requires that in order to say that A causes B we have to show:
1. that A and B are correlated;
2. that the correlation is not spurious;
3. that A precedes B in time (changes in A precede changes in B).

The biggest difficulty we face in happiness research relates to the third condition. How can we possibly know, for example, whether changes in marriage satisfaction or job satisfaction precede or follow changes in happiness? The usual answer has been that we can never tell - that these are hopelessly confounded chicken-and-egg issues that we will never be able to resolve. There is no point in asking which came first, the chicken or the egg.

Contrary to this viewpoint we propose a statistical model which, we believe, does give some answers. The model works best if four waves of panel data are available. It works satisfactorily with three waves ... and, in some circumstances, it can be made to work with two waves. Our analysis draws heavily on the statistical work of Kessler and Greenberg (1981) who proposed the following model for three waves of data (**Scheme 1**, page 108). The example we use relates to linkages between marriage satisfaction and life satisfaction.

Notice that the model includes both cross-lagged and contemporaneous causation between MS and LS. The cross-lagged causal links are in accordance with our usual understanding of causation in which causes must precede effects. If, for example, marriage satisfaction has greater effects on life satisfaction than vice-versa, we would expect that $MS_1 \ LS_2 > LS_1 \ MS_2$. The notion of contemporaneous or simultaneous causation is more problematic, because it defies the time sequence requirement. However, statisticians, especially econometricians, often include simultaneous causation in their models in situations where time sequence cannot, in practice, be determined, but where causal lags can be assumed to be shorter than the interval between observations (e.g. between surveys).

Now some mathematical and statistical difficulties. The usual problem with models which include two-way causation is that some equations are not identified (i.e. there are too many unknowns and too few bits of information). However, as Kessler and Greenberg (1981) demonstrate, their 3-wave model is identified if one includes the two equality constraints shown in **Scheme 1**.[i]

Unfortunately there is another difficulty. Although the model is in principle identified, one is likely to find that, in actually estimating equations, one runs into problems of multicollinearity. In particular, estimates of a and a1 and of b and b1 are likely to be too highly correlated to be reliable.[ii] So in practice one is forced to drop from the model either the cross-lagged links between marriage satisfaction and life satisfaction or the contemporaneous, reciprocal links. In practice the contemporaneous correlations in the data are a fair bit higher than the lagged correlations, so it makes more sense to drop the lagged links and to assume that the actual time lags are zero (i.e. simultaneous/instantaneous causation).[iii]

The general model used to obtain most results in this paper is shown in **Scheme 2**.

Several theoretical and technical points need to be made about this model. Five separate sets of equalities have been imposed. They reflect a theory that the `true' relationships in the structural (causal) model should be the same in all four waves of data. Technically the effect of the equalities is to assist with identification problems and to provide extra degrees of freedom in arriving at maximum likelihood estimates (see below). The inclusion of five exogenous variables (sex, age, socioeconomic status, extraversion and neuroticism) also helps with identification. These variables are assumed to be causes not consequences of happiness and, being measured at the first wave, they are assumed to relate directly to marriage and life satisfaction only at time 1. Their relationship to later measures of marriage and life satisfaction is only indirect and they therefore serve as instrumental variables helping to identify equations (Kessler & Greenberg, 1981; Kohn & Schooler, 1983). A third feature of the model is the correlated error terms (labelled = 5). Estimates for these error terms reflect the impact of omitted variables which

jointly affect both marriage and life satisfaction. In other words these terms enable us to reduce the danger of describing as causal, influences which are merely spurious.

The measurement model

Whenever the same variables are repeatedly measured, there is a risk of misestimating (usually overestimating) relationships due to autocorrelation. Errors of measurement made on one occasion are repeated on later occasions. Provided there are at least two indicators for each concept (each factor), autocorrelated error can be estimated with three or more waves of panel data. **Scheme 3** shows the measurement model which accompanies the structural (causal) model of **Scheme 2**. Equalities have been imposed in all situations where the same factor is measured on the same survey scale.[iv]

It should be noted that autocorrelated error is significant in the models and has non-trivial effects on the causal results of chief interest. In such models it is essential to have multiple indicators, since otherwise no estimation of autocorrelation is possible.

LISREL

The ideal software for estimating models of this kind is LISREL (Joreskog & Sorbom, 1978).[v] LISREL first estimates a measurement model in order to calculate disattenuated (estimated `true') correlations among the factors in the structural or causal model. It then uses these correlations to calculate the coefficients in the causal model (maximum likelihood estimates).

LISREL has the flexibility to perform the complicated tasks needed to estimate our model. It can accept equality constraints, it can estimate correlations among error terms in the structural model and it can estimate autocorrelated error in the measurement model.

Data

The Australian quality of life panel study

Data to estimate the models come from four waves of the Australian Quality of Life Panel Study (1981, 1983, 1985, 1987). The panel study is conducted in Australia's most densely populated state, Victoria. A stratified probability sample of 942 persons was drawn in 1981. Panel members have been interviewed on three subsequent occasions. By 1987 649 respondents remained. House movers are usually traced (over 350 respondents moved between 1981 and 1987) but, inevitably, panel loss is fairly substantial. Checks have shown that the means and standard deviations of all variables (except age) have remained virtually unchanged over the four waves. It is hoped that the study will continue for a decade until 1991.

Measures

The main measures referred to in this chapter, collected at each interview are:

Life satisfaction
Life satisfaction was measured by Andrews and Withey's (1976) Life-as-a-whole index. This was obtained by twice asking respondents `How do you feel about your life-as-a-whole?' The

two items were approximately twenty minutes apart on the interview schedule. The response scale was a 9-point Delighted-Terrible scale, expanded from Andrews and Withey's 7-points to reduce bunching at the top end.

The Life-as-a-whole Index is considered one of the most reliable and solid measures of cognitive life satisfaction (Diener, 1984; Veenhoven, 1984). The two items were included as separate indicators in our measurement models (see above).

Domain satisfaction

Levels of satisfaction with the domains of marriage, work, standard of living, friendship and health were measured on a 9-point Delighted-Terrible scale. For all domains multiple items were used to enhance reliability. For inclusion in measurement models the items measuring each domain were combined into two equal sub-sets. This had the effect of producing two adequately reliable indicators, whereas inclusion of all items separately would have meant that some indicators had low reliability.

Personality

The Eysenck Personality Inventory, Form B (Eysenck & Eysenck 1964) measures `extraversion' and `neuroticism'. Also included the `lie-scale'.

Socioeconomic status

Index of 1) gross family income; 2) the occupational status of the main breadwinner, and 3) the formal educational level of the respondent.

Effects of happiness

We consider the effects of happiness on the following aspects of life: 1) domain satisfactions, 2) perceived gaps between goals and achievements, 3) perceived excellence in role performance and 4) perceived favorableness of major life events in the past two years. In each case we estimated both the top-down (TD) and bottom-up (BU) effects. The results are as follows:

The relationship between domain satisfactions and life satisfaction

Most previous researchers have proposed bottom-up models of the relationships between domain satisfactions and life satisfaction. That is, they have assumed (but not demonstrated) that marriage satisfaction, job satisfaction, etc. cause life satisfaction and not vice-versa (Andrew & Withey, 1976; Campbell et al., 1976; Headey, Holmstrom & Wearing, 1984a, 1985). However, Costa & McCrae (1980), noting that domain satisfactions tend to be quite highly intercorrelated, hypothesized that they may all be consequences of happiness. The issues are excellently reviewed in Diener (1984).

Does MS cause LS, or vice versa, or both? (N = 350) **Scheme 4**

Satisfaction with marriage

Let us first consider the links between marriage-satisfaction and life-satisfaction. The model indicates two-way causation. Being happily married increased one's life satisfaction (the bottom-up link, BU = +.18), but it is also true that happy people are more likely to form happy marriages ... while miserable people form miserable marriages (the top-down link, TD = +.12).

Since this is the first set of results presented, a number of technical points need to be made; points which also apply to subsequent models. An initial comment is that the model fits the observed data very satisfactorily. LISREL models can be evaluated by several measures of

fit. For this model Chi-square divided by degrees of freedom was 1.65 (Carmines & McIver, 1981). Hoelter's (1983) Critical Number (CN) was 229.36 and the mean absolute residual was .04. A number of sensitivity analyses indicate that reasonable variations in model specification do not affect the basic result that marriage satisfaction influences life satisfaction and vice versa. If the correlated error terms are dropped, the betas change to BU = +.25 and TD = +.20. Another variation involves replacing the contemporaneous links between MS and LS with cross-lagged links (see **Scheme 1**). Again, results indicate two-way causation, although the betas are smaller, reflecting lower observed correlations.[vi] Also the model fits less well. A final check, available with four waves of panel data (Kessler and Greenberg, 1981), is to remove one pair of equality constraints between MS and LS and to see if the estimates for the free parameters are approximately the same as for the constrained parameters. In fact they are.[vii]

Satisfaction with job and level of living

A puzzling finding in nearly all previous research is that most people, even those in low status and routine jobs, report fairly high levels of job satisfaction and satisfaction with their standard of living. The results given by our reciprocal causation model cast light on this puzzle. It appears that degrees of satisfaction with work and standard of living are just a spin-off (consequences) of life satisfaction and have no causal effect at all.

Job Satisfaction	BU	= -.07[ns]
	TD	= +.19
Standard of living satisfaction	BU	= -.06[ns]
	TD	= +.17

It is well known from much previous research that low status people in Western countries are not much less happy than high status people (Veenhoven, 1984). It follows from our model that this is the main reason for their not being much less satisfied than other with their work and living standards.

Satisfaction with friends and support

In the case of relationships between life satisfaction and measures of friendship satisfaction and social support, results are a little ambiguous. Our usual model indicates that the relationship is not statistically significant in either direction. However, if we drop the correlated error terms, the indication is that two-way causation operates.[viii] However, there is no real reason to drop the correlated error terms; they are statistically significant. So the tentative conclusion is that apparent relationships between life satisfaction and social support are spurious.

Satisfaction with health

Unfortunately the Australian panel survey included no medical checks on people's health. We only have measures of self-reported health and health satisfaction. Application of the usual model indicates no significant relationship from self-reported health to life satisfaction or vice versa. However, if we remove the correlated error terms (probably incorrectly), then it would appear that health affects life satisfaction and vice versa (BU = +.11, TD, TD = +.13).

Multiple discrepancies and adaptation theory: the relationship between life satisfaction and expectation and aspiration gaps

Psychologists have long believed that life satisfaction is greatly influenced by levels of expectation and aspiration. Indeed it is often asserted that life satisfaction-scores reflect the gap or discrepancy between assessments of one's current life and one's expectations and aspirations for the future. If the gap is large, a person is dissatisfied. If the gap is small, the result is satisfaction (Campbell et al., 1976; Diener, 1984). Michalos (1980, 1985) has labelled this

`multiple discrepancies theory'. An important extension of this theory, referred to by psychologists as `adaptation level theory' (Brickman and Campbell, 1971; Brickman, Coates and Janoff-Bulman, 1978), is that levels of happiness tend to be fairly stable over time because, if favourable events happen (e.g. getting married, winning a state lottery), people adjust their expectations upwards, whereas if adverse events happen (e.g. divorce, unemployment), expectations are lowered. Either way, life events are believed to have only a very brief effect on happiness because adaptation occurs and the gaps between expectations and aspirations on the one hand, and assessments of one's current life on the other, remain about the same.

Results from the two-way causation model run completely counter to multiple discrepancies theory and adaptation hypotheses. We asked Australian respondents to rate their present life, their expectations, aspirations and the life they felt they deserved on a ladder with twenty rungs (0 = `the worst possible life you could imagine', 20 = `the best possible life you could imagine'). We then calculated gap scores (discrepancies) between the three standards of judgment and ratings of one's present life. In the two-way causation model these gap scores were related to Andrews and Withey's (1976) life satisfaction index. The results indicate that life satisfaction causes the gaps and not vice-versa ($TD = +.17$, $BU = -.06^{ns}$).[ix] In other words happy people perceive small gaps. It does not appear to be the case that perceiving small gaps causes happiness. Equally to the point, our models of the impact of life events on expectations, aspirations and happiness show that life events affect happiness but have no effect in the short term (up to two years) on expectations and aspirations (Headey & Wearing, 1989). If these results replicate and prove correct they have major adverse implications for multiple discrepancies theory and adaptation theory.

`Illusions' of superior performance and happiness

There is a growing literature which suggests that far form being accurate `reality testers' happy people have illusions about the quality of their own performance and attributes in many areas of life (Headey & Wearing, 1988a; Myers, 1980; Ross & Sicoly, 1979; Taylor & Brown, 1988). Happy people tend to think that they are very good at things - good marriage partners and parents, good friends, good at their work and hobbies and so on. In fact the only people who, it seems, accurately perceive their own levels of performance are the depressed (Alloy & Abramson, 1979). The result is that the human race conspires to produce the statistical impossibility that 90% of us are above average! We have labelled this `the sense of relative superiority' (Headey & Wearing, 1988a).

Usually, in the research literature, the causal direction is described such that feeling superior, or feeling that one's own performance is above average makes one feel happier. Illusions have benefits!

In the Australian survey we asked panel members to rate their own performance as partners, parents, friends and workers on a 7-point scale, where point 1 meant `way below average' and point 7 meant `way above average'. Answers were highly correlated so, for inclusion in models, we calculated SRS (sense of relative superiority) indices.

Results indicate strong two-way causation between SRS and life satisfaction ($BU = +.23$, $TD = +.41$). In view of previous theory it is interesting that the top-down relationship appears stronger than the bottom-up. However, both effects are clearly significant.

Life events and happiness

Virtually all researchers have treated life events as causes not consequences of happiness, health and psychological distress. However Schroeder and Costa (1984) suggested that life events inventories - the instruments we actually use to record events - are such poor measures that all

we may be collecting are data which reflect people's personalities, and perhaps their levels of happiness, and not accurate records of actual events. Maddi, Bartone and Puccetti (1987) attempted to refute this suggestion by showing that, even if analysis is confined only to those events which are so salient and so objective that it is hard to believe they could be misreported, then one still finds statistically significant links running from life events to happiness.

Our model confirms that life events have significant effects on happiness, although we agree with Schroeder and Costa that both personality and happiness also affect reports of events. In this case the model is rather different from previous models. No contemporaneous effects need be estimated because we know the time sequence in which all variables exert their influence.

Life events were measured on a standard life events inventory (Henderson et al., 1981). Events which had actually happened to panel members were dated, so that time sequences were unambiguous. Events were scored by two methods in order to provide dual indicators for inclusion in models. First, we scored all favorable-seeming events +1 and all adverse-seeming events -1 in order to arrive at aggregate favourable events and adverse events scores. We also constructed a net score (favourable events minus adverse events). The second method was based on respondents' own ratings of events which had happened to them on a 0-10 scale running from `extremely distressing' to `extremely satisfying'. Correlations between scores constructed by the unit weighing method and the subjective satisfactiondistress scores were high (in the range 0.70 - 0.85).

In the model (**scheme 5)**, showing the effect of `net' life events on life satisfaction, the bottom-up effect (+.22) appeared a little stronger than the top-down effect (+.18). We also ran models of relationships between favourable events and positive affect, and between adverse events and negative affect. (Previous research has indicated that favourable events are unrelated to negative affect and adverse events are unrelated to positive affect: Block & Zautra, 1981; Headey, Holmstrom & Wearing, 1984b). For the relationships between favourable events and negative affect $BU = +.27$ and $TD = +.05^{ns}$. These results confirm that events significantly affect happiness and suggest that the effects of happiness on perceptions of events are considerably weaker.

Life events and life satisfaction[a]

Summary of the causes and consequences of happiness

We now summarize results relating to the causes and consequences of happiness in preparation for a discussion of whether happiness is beneficial or harmful.

Desirability of the effects of happiness

Having established that happiness does indeed give rise to a more optimistic view of various aspects of life, we now come to our second question: the question of whether these effects are to be welcomed or to be deplored. As noted in the introductory paragraph, there are two opposing views on these effects: one dismisses them as dangerous illusions, whereas the other sees them as a boost to morale.

The critical view presumes that the effects are perceptual. The positive view of one's life-as-a-whole is seen to induce an unrealistically optimistic outlook which blinds the individual to personal problems and social injustice. This is expected to lead to shortsighted and irresponsible living and thereby to harm for the individual and society. Proponents of this gloomy view tend to draw on the theory of ego-defense. A current formulation of this view is the idea of `depressive realism', which draws on indications that depressives have a more accurate perception of their own abilities than non-depressives (see Alloy & Abramson, 1979).

The more optimistic view also tends to a perceptual explanation of the effects, but stresses the benefits. A positive outlook on life is seen to save the individual from preoccupations and anxieties, thus freeing the way for an open appraisal of reality problems and more effective coping. This view draws on notions of `self-fulfilling prophesy' and `positive mental health'. It figures in research themes such as `perceived control', `self-esteem' and `dispositional optimism'. (See respectively Rotter, 1975; Gergen, 1971 and Schreier & Corver, 1987).

In order to assess whether happiness is harmful or not, we must establish the degree of truth in these conflicting speculations. The data at hand do not allow definite statements about these secondary effects of happiness. Yet there is ground for some tentative comments.

Not merely a matter of illusion

The effects of happiness on aspect-appraisals of life are likely to be perceptual to some extent. Various perceptual mechanisms can be involved: `selective focusing' and `reminiscence' at the beginning of the perceptual process as well as `dissonance reduction' and `attribution' in later phases. Still, more palpable effects of happiness can be involved as well. Happiness may really improve things, with the result that otherwise similar perceptions pan out more positively. Chapter 1 has enumerated several such possible reality consequences of happiness: `enhanced activity', `more open perception', `greater resistance to stress', `better ability to love', etc. In this line one could think of the following explanations for the effects observed here.

More effective behavior?
If happiness really enhances `active involvement' and an `open perception', we can expect increases in happiness to be followed by an improved performance in various fields. Seen in this light we can interpret the effect of happiness on marital satisfaction as indicating that happiness facilitates smoother conjugal contacts: e.g. more genuine interest and better problem solving. (These possible effects were discussed in more detail in chapter 6.) In the same vein we can imagine that happiness makes one's job more attractive. Though it probably does not add much to productivity (see chapter 9), happiness is likely to facilitate contacts with colleagues. Likewise, we can interpret smaller goal-achievement-gaps as an indication that happy individuals have really achieved more: their self-perception of superiority could be partly the result of real excellence and their reports of more favorable and fewer adverse life events the fruit of better coping.

More realistic goals?
It is not implausible that a positive appreciation of life favors realistic goal-setting. Perceptions of life-chances are less likely to be twisted by anxieties and there is less reason to resort to distant projections of the good life. If so, this would explain the smaller goal-achievement gaps following increases in happiness, as well as the greater satisfaction with marriage, job, and the standard of living.

Less stress?
As we have seen in the chapters 1 and 8 there are reasons to believe that there is evidence that happiness buffers stress. If so (which is not at all sure), this can also explain the observed effects of happiness on domain satisfactions as a reality outcome. If happiness decreases our vulnerability to stress, we are less afflicted by a marital row or a conflict on the job. Hence increases in happiness tend to decrease the dissatisfaction with an otherwise equal marriage and job.

Both perceptual effects and reality effects can be involved. We have no independent proof for

either of them. Yet the data convey the suggestion that the perceptual effects are strongest. The findings most likely to be due to reality effects might appear to be reports of `life events' following changes in happiness. Many of the events involved were matters of fact (got married, lost job, etc.). The greater report of these events is therefore not very likely to be a matter of a rosy look only.

More positive outlook not necessarily less realistic

Even if we accept the explanation that the effects of happiness are largely perceptual, it does not follow that the effects are harmful. On a closer look there is, in fact, little support for the underlying assumption of happiness strengthening ego-defensive tendencies.

Report of adverse events not more sensitive than report of beneficial events
The theory of ego-defense would predict that happiness affects the perception of negative life events more than of positive events. Only negative events call for defensive denial. Underestimation of negative events is more likely to bring harm in the long run than overestimation of positive events.

Therefore we ran an analysis for favorable and adverse events separately. It appeared that the effects of happiness on reports of negative events were no stronger than on reports of adverse events.

No higher score on the Lie scale
If the more positive view following increases in happiness is a matter of reality distortion in the first place, it should be revealed in higher scores on the Lie scale. This implies that 1. changes in happiness must predict changes in lies scores and 2. that the observed effects of happiness on outlook must largely disappear when lie scores are controlled. Both hypotheses were tested and found to be false.

Unlikely that happiness shies away from reality
The claim at stake here is that happiness causes rosy irrealism. This is to say that the more happy we become, the more we would be inclined to turn a blind eye to reality problems. Why would we? It seems more probable that decreases in happiness rather make us turn away from reality. Getting less happy is more threatening than getting more happy. Avoidance of threat is typically the reason for reality distortion. In this line Scheier et al. (1986) found optimists to be more realistic than pessimists.

Broad evidence for positive net effect of a positive outlook

There is extensive literature on the beneficial effects of `positive self-regard', `perceived efficacy' and `perceived internal control'. The leading idea is that people do better, the better they estimate their chances. If they think they can cope with a problem they tackle it more energetically and consistently and hence more successfully. This idea has been confirmed over and over again in various empirical studies. Correlational studies have shown optimists to be more successful in love and work, to be more resistant to stress, to be more healthy, etc. (i.a. Gergen 1971, Rogers 1968). Likewise, experimental studies have shown improvement of self-regard and sense of control to result in more effective behaviour and better health (i.a. Lietaer & Neirink 1984). This is not to say that an optimistic outlook never involves any drawbacks, but rather that its pros typically outweigh its cons.

With this in mind, let us now take a closer look at the possible harms and benefits of the particular effects of happiness at stake here.

Greater marriage satisfaction
If happiness induces a more positive view of one's spouse, this will mostly make the marriage more enjoyable for both partners. Thereby the effects of happiness surpass the perceptual level: they set in train a self-fulfilling prophesy. It is generally agreed that people flourish better in a happy marriage than in an unhappy one: both the spouses themselves as well as their children. There is broad empirical evidence for beneficial effects on i.a. performance in school and work, on social participation and on mental and physical health. A happy marriage is also beneficial for society at large: less alcoholism, less drop-outs and less family payments due to divorce.

Only those who are critical of the conservative consequences of the conventional marriage and family would deny that happiness is beneficial in this area.

Greater job satisfaction
There is nothing wrong either with happiness favoring a more positive view of one's job. Though job satisfaction does not seem to increase productivity (remember chapter 9), it does not harm productivity either. Irrespective of productivity, greater job satisfaction is likely to improve human relations at work and thereby lower dropping out due to stress and exhaustion. As such, greater satisfaction with work is likely to prevent a great deal of misery and to save society a lot of money.

Still, one could argue that greater job satisfaction makes workers less critical and hence social injustice more persistent. Yet, satisfaction with one's job does not imply that one is blind to any shortcomings, nor that one is not committed to improvement. As we have seen in chapter 7 dissatisfaction alone does not predict protest.

Greater satisfaction with standard of living
Satisfaction with material living standards may well have rather conservative consequences. It probably dampens distributional disputes somewhat and one could object that this ends the prospects of a fairer distribution of wealth in society. Yet it is also possible that general satisfaction with living standards makes it easier for governments to contemplate specific welfare policies which have to be paid for by the contented majority of tax payers.

Another claim to the detriment could be that greater satisfaction will slow down economic growth. In that context we must realize that the satisfied are not without aspirations and there is, in fact, no evidence for the theory that economic expansion draws on discontent with he level of consumption.

Smaller goal-achievement gaps
There is no harm either in somewhat more positive estimates of our achievements, even if this effect is essentially illusionary. Harm would be involved if happiness did away with all aspirations and led us into apathy. However, that is typically not the case. Even the happiest have dreams of better times, although the gaps they perceive between their goals and reality are smaller. There is no ground either to think that small gaps induce less effort than large gaps. The empirical evidence rather indicates that small gaps motivate more than large gaps, probably because there is a better chance of success. This fits with the earlier observation that happiness stimulates activity rather than dampens it. (See chapter 8).

Enhanced sense of superiority
Things are less clear in the case of the sense of relative superiority. If happiness strengthens the tendency to unrealistic comparison with the average citizen, one can expect harmful consequences. Myers (1980) indeed reports that inflated ideas about their own merits lead corporate executives and university presidents into overplaying their hands, with damaging consequences for their organization and their own careers. Yet the literature on self-respect and

locus of control leaves no doubt that there are various positive consequences as well. There is certainly no evidence that the harm outweighs the benefits.

Better awareness of positive life events
Finally consider the effects of happiness on the perception of life events. As we have seen, this a matter of both less perceptions of adverse events, and in more perception of positive events. There is no harm in that either, at least not as far as common humanistic values are concerned. One can only condemn these effects if one favors suffering and rejects happiness anyway.

Conclusion

The appreciation of life-as-a-whole does affect views on various aspects of life. When people get happier, they become more positive about themselves, their achievements, jobs, marriages and standard of living. They even see more nice events happening to them. It is as yet unclear to what extent those effects are just a matter of perception. Even if the effects are largely perceptual, they cannot be dismissed as damaging illusions. There seems to be little harm in a positive outlook on life and lots of benefits.

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Notes

[1]   If more equality constraints are imposed, then overidentified equations may result. This is highly desirable for estimation purposes.

[2]   This occurs whenever the model is nearly in equilibrium (i.e. when correlations among variables in successive waves of data are approximately the same). The effect is the same as under-identification; successive waves are not supplying much new information.

[3]   An alternative and technically more correct procedure would be to say that there are single but unknown time lags for the effects of MS on LS and LS on MS. The `true' estimates of the strength of these effects must lie within the range given by the cross-lagged and the contemporaneous estimates. N.B.reduced   of the cross-lagged and contemporaneous equations yields unbiased estimates (Ronald C. Kessler, personal communication).

[4]   Life satisfaction and domain satisfactions were measured on a 9-point delighted-terrible scale (Andrews & Withey, 1976; Headey, Holmstrom & Wearing, 1984a).

[5]   LISREL IV (1978) was used.

[6]   For ease of interpretation standardized coefficients have been preferred. In principle this carries the danger that differences in the variances of variables could lead to misleading inferences. Comparison with the metric coefficients indicates that, in this particular model, and other given in the chapter, the standardized coefficients are not misleading.

[7]   The estimates are 0.14 and 0.15 respectively.

[8]   BU = .14, TD = .18.

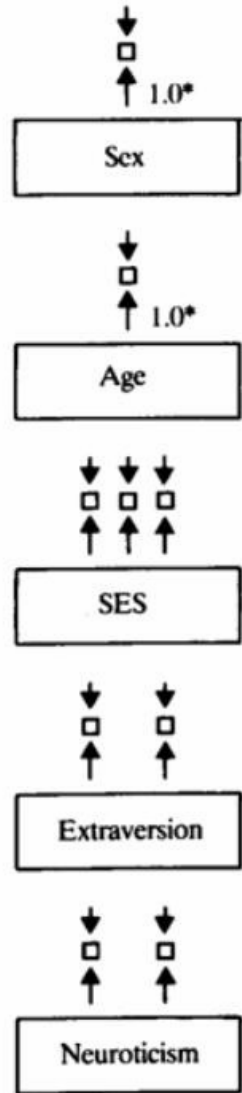[9]   ns = not significant at the 5% level.

SCHEME 1

Kessler and Greenberg's 3-Wave Model

Key: MS = Marriage Satisfaction
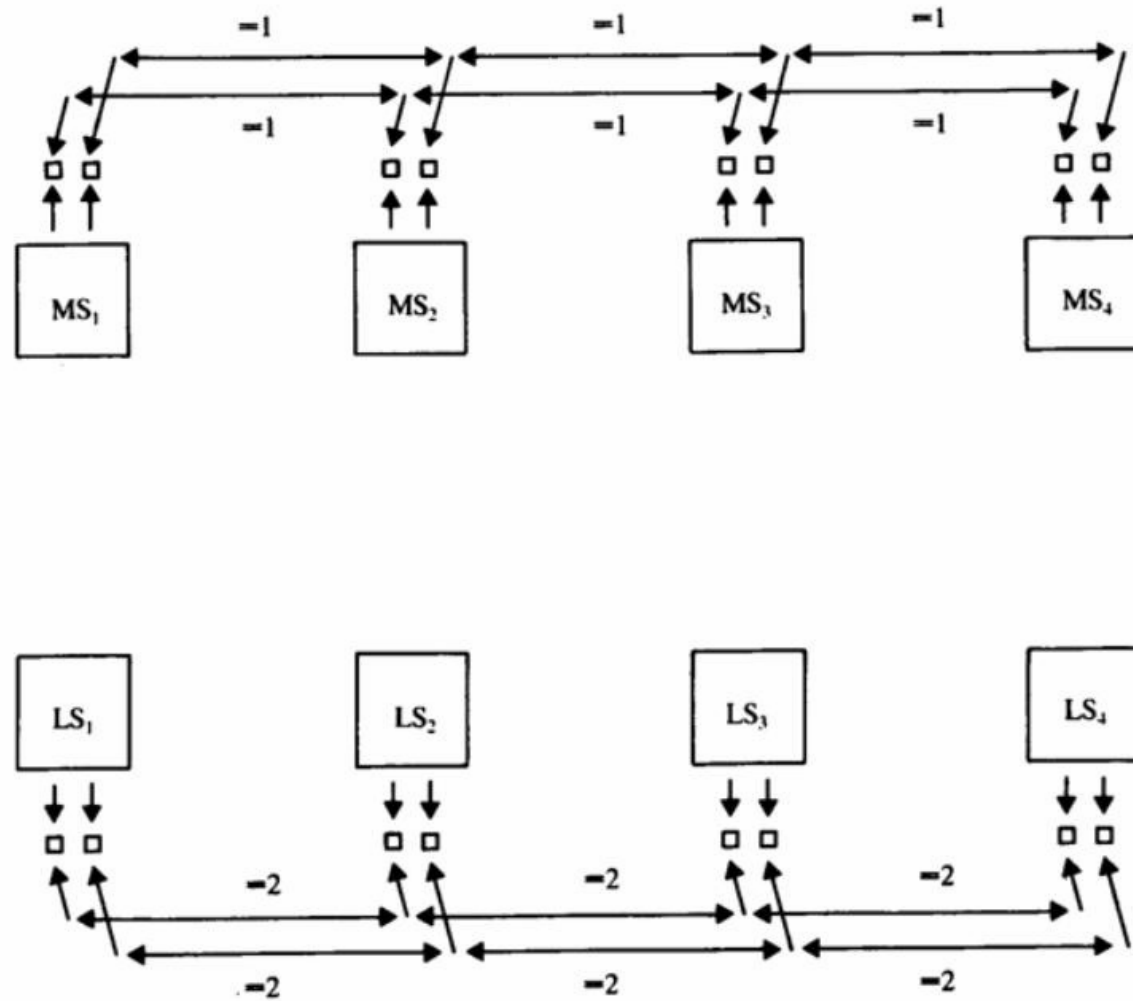LS = Life Satisfation
1,2,3 = time points
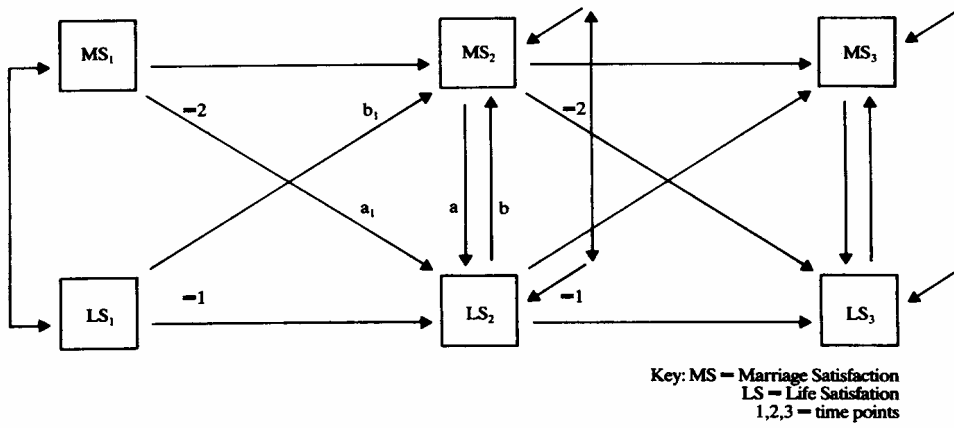
SCHEME 2   General model with 4 waves of data
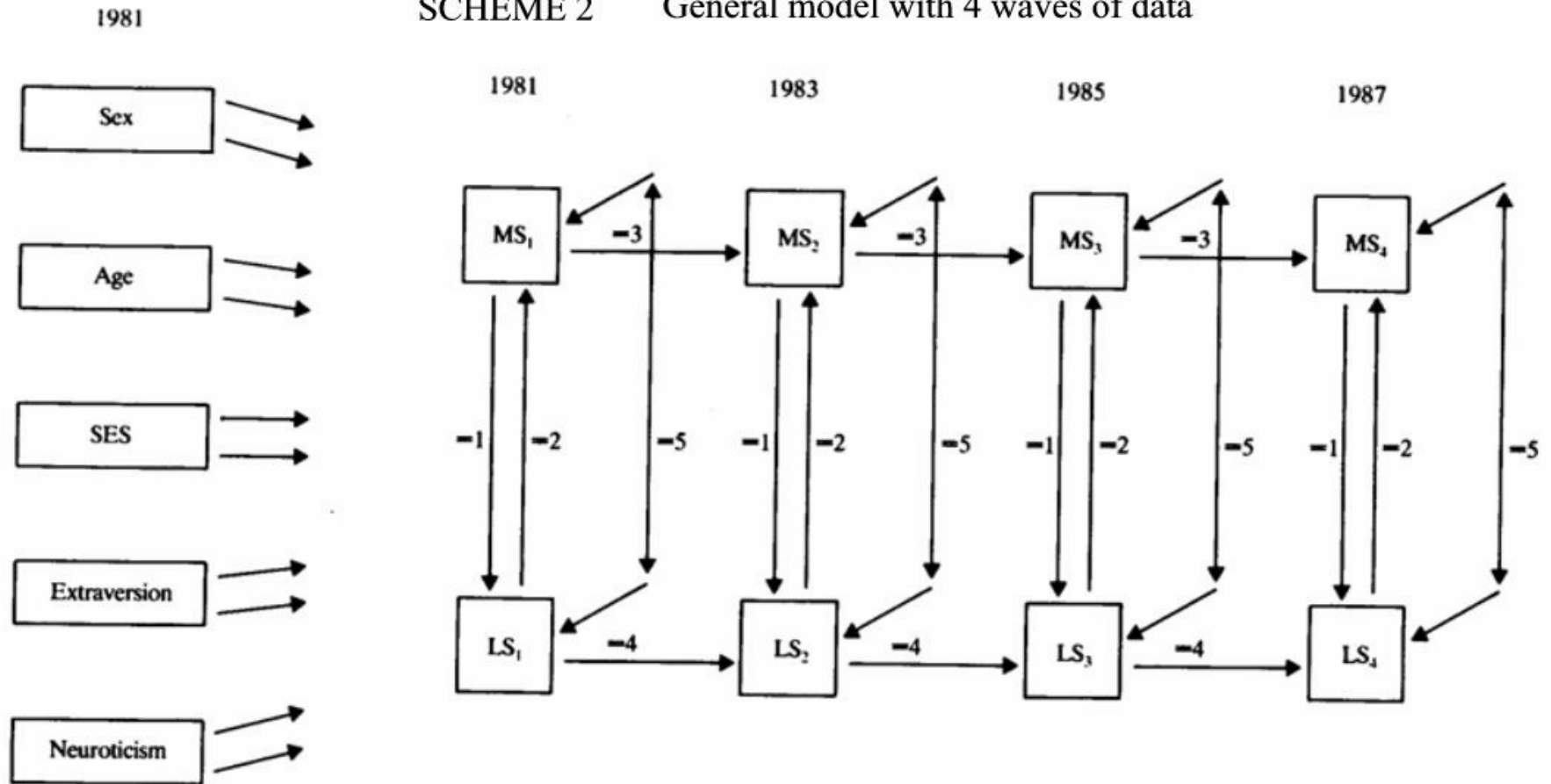
SCHEME 3   The measurement model for LISREL

SCHEME 4

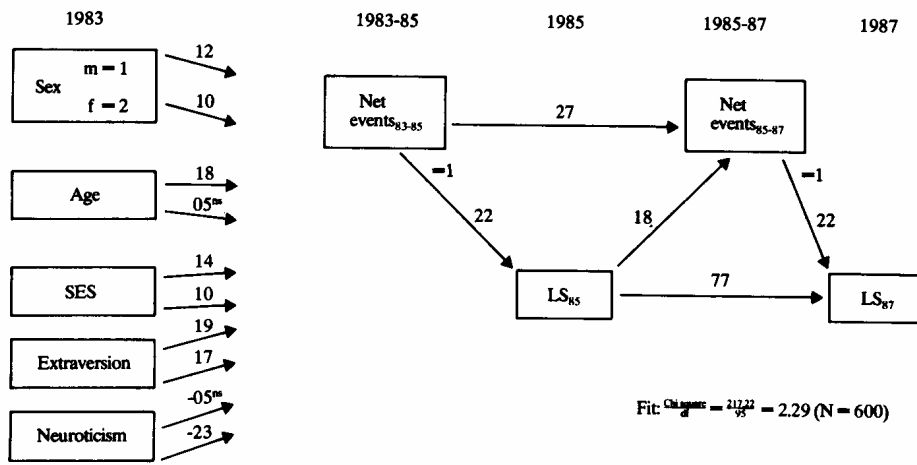### Does MS cause LS, or vice versa, or both? (N = 350)[a]

Measures of fit: $\chi^2 =$
$= 1.65 \ (N = 350)$
Hoelter's CN $= 229.36$
Mean absolute residual $= .04$
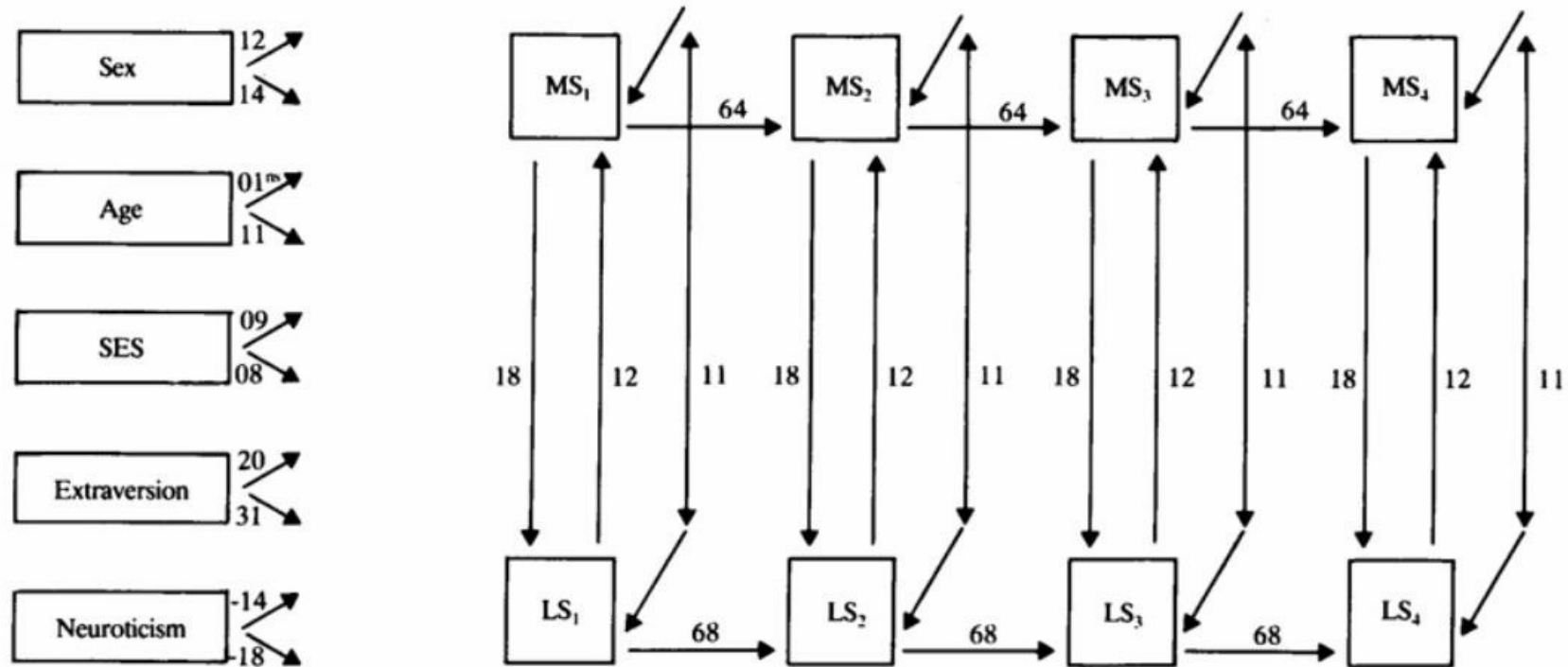
a Standardised maximum likelihood coefficients (decimal points omitted)
ns.: Not significant at the 5% level.

SCHEME 5

Life events and life satisfaction[a]

a Standard maximum likelihood estimates (decimal points omitted)

SCHEME 6

Causes and consequences of happiness: a summary

	Causes	Consequences
Domains		
Marriage	Yes	Yes
Job	No	Yes
Living standard	No	Yes
Friends and social support	No	No
Health	No	No
Expectations and `gaps'		
Expectations gap	No	Yes
Aspirations gap	No	Yes
Deserve gap	No	Yes
Perceptions, illusions		
Superior performance as partner, parent, worker, etc.	Yes	Yes
Life events		
Favourable events	Yes	Yes
Adverse events	Yes	(?)