DOES HAPPINESS FOSTER SOCIAL BONDS? A research synthesis using an on-line findings-archive

Nidhi Sharma¹, Shruti Agrawal¹ & Ruut Veenhoven² Accepted for publication in the Journal of Happiness Studies

The issue: It is widely agreed that social bonds should be strengthened, but it is not clear how this can be achieved. One way could be to foster happiness because happiness seems to foster social bonds. If this is the case, two desirable aims can be achieved: happier people and stronger social bonds.

Research questions: Does happiness really foster social bonds? If so, is the effect universal culturally? How strong is the effect?

Method: We took stock of the available research findings, restricting the analysed research to longitudinal studies. We used the World Database of Happiness (WDH), which findings-archive is about happiness in the sense of the subjective enjoyment of one's life-as-a-whole. To date, this database contains the results of 15 follow-up studies on the relationship between earlier happiness and later social bonds, which together yielded 65 empirical findings.

Results: We found evidence of a causal effect of happiness on the formation and stability of primary social ties, on marriage, love and friendship in particular.

Conclusion:

Happiness fosters social bonds. Consequently, fostering happiness can be used as a means to strengthen social bonds. This is another reason for opting for policies that aim at greater happiness for a greater number of people.

Keywords: happiness, social capital, intimate ties, follow-up, research synthesis

¹ Malaviya National Institute of Technology, Jaipur, India

² Erasmus University Rotterdam, Netherlands, Erasmus Happiness Economics Research Organization EHERO and North-West University South Africa, Optentia Research Program. Corresponding author. E-mail: veenhoven@ese.eur.nl

'The good life, as I conceive it, is a happy life. I do not mean that if you are good, you will be happy; I mean, if you are happy, you will be good'.

—Bertrand Russell

1 INTRODUCTION

Humans are social animals and have an innate need for social contact, specifically intimate contact. In Maslow's (1954) theory of human motivation, this is the need for 'belongingness', which he sorts among the 'deficiency needs' together with the needs for food and safety. This need is typically met in durable intimate relations, such as with a spouse, children, relatives and friends. The lack of such bonds gives rise to feelings of loneliness, which inhibits mental development. Poor social bonds have also been shown to undermine happiness (Lucas & Dyrenforth 2007) and to result in a shorter lifetime (Rico-Uribe et al., 2018). Rooting in primary relations is seen to foster functioning in secondary relations and of responsible citizenship (Mondal, 2022).

In this context, there has been a call for the strengthening of social bonds, especially in contemporary Western societies, where culture critics warn that individualism and market rationality weaken primary social bonds. A spokesman of this view is political scientist Robbert Lane (2000), who sees the decay of social bonds as the cause of a 'Loss of happiness in market democracies'. Likewise, economist Leonardo Becchetti (2008) emphasises the importance of 'relational goods' for human well-being and warns against the market forces that lead many people into a 'social poverty trap'. In a similar vein, sociologist Robert Putnam (2001) describes intimate social bonds as a breeding ground for societal democracy and has seen this ground erode.

Given the importance of intimate social bonds, the question arises regarding how to strengthen these ties. Several recommendations have been advanced. One line of advice is to change value priorities; focus more on intimate relations and less on material wealth and social prestige, which moral admonition is actually of all ages. Education is recommended as a channel for such a value shift, and schools are also recommended as a context in which the required 'social intelligence' can be cultivated (Institute for the future of education 2023). Another class of recommendations is to support social bonds both legally and financially, typically in family support policies. Several of these issues figure in the current 'culture war' in modernising societies between progressives and conservatives, such as the legalisation of gay marriage.

A less controversial option that is not as prominent in this discussion is that we can strengthen social bonds indirectly by fostering happiness. There are claims that happiness facilitates human functioning, such as in the above quote by Bernard Russell claiming that one does good when they feel well. This view was elaborated on by Barbara Fredrickson (2004) in her 'broaden-and-build theory', which holds that positive affect tends to extend our action repertoire, making us more active and creative, hence resulting in the assembling of more resources, both economical and relational. This theory was supported in a review of research by Sonja Lyubomirski et al. (2005) that provided strong evidence of a causal effect of positive affect on success in several domains of life, including social ties. This stream of the literature is about positive affect, which is close to happiness but not quite the same.

If happiness fosters social bonds, we can strengthen social bonds by fostering happiness. In this approach, we can link up with what most people desire, that is, to lead a satisfying life, and we can also benefit from the growing knowledge about happiness.

In this view, there is synergy between the goals of greater happiness and stronger social bonds. Yet there are also claims that these goals conflict, for instance, that the pursuit of happiness actually undermines the social fabric on which it draws, such as leading into selfishness and short-sighted consumerism (e.g., Etzioni, 2018; Ford & Mauss, 2014). In the present paper, we analyse the available evidence for these conflicting views, addressing the following questions.

1.1 Research questions

- 1. Is there a correlation between earlier happiness and later social bonds?
- **2.** If so, is that correlation universal or limited to particular cultures?
- **3.** How strong is this correlation?
- **4.** Is the correlation similar across components of happiness, that is, stronger with the affective component than with the cognitive component?
- **5.** Do these correlations denote a causal effect over time?

1.2 Approach

We analysed the findings obtained in existing longitudinal studies on the effect of happiness on social bonds. We used the World Database of Happiness (WDH), which is an electronic archive of research findings on happiness sorted by subject. One of these subjects is 'Effects of happiness on social bonds'. We sorted the results

according to research methods used and populations investigated. Based on this, we provided answers to the above questions.

1.3 Structure of the paper

The remainder of the present paper is organised as follows: In section 2, we define the concepts of happiness and typify the research literature on this topic. In section 3, we do the same for social bonds. In section 4, we summarise the rich research on the effects of social bonds on happiness and note the relative under-research on the effects of happiness on social bonds. In section 5, we describe how we gathered the available research findings on the effects of happiness on social bonds and how we present these in an easy-to-view way. In section 6, we assess what answers the available findings involve for our research questions. In section 7, we discuss these findings, and in section 8, we conclude the paper.

2 CONCEPTS AND MEASUREMENT

The terms 'happiness' and 'social bonds' denote broad meanings in daily language. Hence, meaningful answers to our research questions require a conceptual delineation and selection of indicators that fit the concepts.

2.1 Happiness

2.1.1 Concept

Philosophers typically use the word 'happiness' for *living a good life* and often emphasise the moral quality of life, the best life being that of a saint. The word happiness has also been used to denote *good living conditions*, the best possible conditions imagined to exist in heavenly paradise or in worldly utopia. In this latter meaning of the word, happiness is also seen as being embedded in strong social bonds. This would lead into circular reasoning in our case, if happiness is conceived as a living condition involving strong social bonds a correlation with having social bonds is implied.

Today, social scientists use the word mostly for subjective *satisfaction with life*. This use of the word fits the common meaning in daily language. In this paper we use

the word 'happiness' in that meaning.

Definition

Following Veenhoven (1984, p. 22) we define happiness as "the degree to which an individual judges the overall quality of his life-as-a-whole favourably", in other words, how much one likes the life one lives. For an elaboration on this concept, click here. This matter is also referred to as 'life satisfaction' and 'subjective well-being' (SWB). In this paper we inspect the effect of this kind of happiness on social bonds.

Components

Above we defined happiness as the *overall* evaluation of life. According to Veenhoven (1984), this valuation of life draws on two sources of information: 1) how well one feels most of the time and 2) to what extent one perceives to get from life what one wants. Veenhoven refers to these sub-assessments as the 'components' of happiness, called the *hedonic level of affect* and *contentment*, respectively. The affective component is also known as 'affect balance', which is the degree to which positive affective (PA) experiences outweigh negative affective (NA) experiences (Bradburn, 1969). Positive experiences typically signal that individuals are doing well and encourage functioning in several ways (Fredrickson, 2004). The affective component tends to dominate in the overall evaluation of life (Kainulainen et al., 2018).

There are good reasons to assume that the hedonic level of affect reflects the degree to which universal human *needs* are gratified, while cognitive contentment instead mirrors living up to culturally specific *wants* (Veenhoven, 2009). In the current paper, we will inspect whether the effect of happiness on social bonds differs across these two components of happiness. If the effect is stronger for the affective component, that would indicate a universal consequence.

2.1.2 Measurement

Because happiness is defined as something that is on our minds, it can be measured using questioning. Various ways of questioning have been used, including direct and indirect questions, open and closed questions, one-time retrospective questions and repeated questions on happiness in the moment.

Commonly used questions are the following:

Questions on overall happiness

- Altogether, how happy would you say you are these days?
- On the whole, how satisfied are you with the life you lead?
- Questions on the hedonic level of affect
 - Would you say that you are usually cheerful or dejected?
 - During the past few weeks, did you ever feel? (yes/no)³
 - + Particularly excited or interested in something?
 - So restless that you could not sit long in a chair?
 - + Proud because someone complimented you on something you had done?
 - Very lonely or remote from other people?
 - + Pleased about having accomplished something?
 - Bored?
 - + On top of the world?
 - Depressed or very unhappy?
 - + That things were going your way?
 - Upset because someone criticised you?

(Affect balance is computed by subtracting the negative from positive 'yes' responses)

- How is your mood today? (repeated several days)
- Questions on contentment
 - How important were each of the goals in life in the plans you made for yourself in early adulthood?
 - o How successful have you been in pursuing these goals?

Validity check

Not all questions used fit the above definition of happiness adequately, for example, the question of whether one thinks they are happier than most people of one's age does not fit because an individual can be happier than their peers of the same age but still be unhappy. All the measures of happiness used in empirical studies have been checked for face validity, the details of which can be found here. The ones that have passed this test are listed in the collection Measures of Happiness of the WDH.

2.2 Social bonds

³ (+) signifies the positive emotions, and (-) signifies negative emotions.

2.2.1 Concept

There are different kinds of human relations; affective and instrumental relations, close and distant relations and passing and enduring relations. In the context of our research questions, we have focused on affective, close and enduring relations, such as with kin and good friends. This is referred to as *intimate ties*. Another name for these relations is 'primary relations', which contrasts the more distant 'secondary relations', such as with colleagues at work or with comembers of a sports club. In this context, the essence of intimate ties is the exchange of affection and support.

Although 'happiness' is a subjective phenomenon (one cannot be happy without being aware of being happy), 'social bonds' have objective and subjective aspects that do not necessarily go together. One can receive care and affection but still feel lonely, as often happens in rebellious adolescents, or feel connected without receiving affection, as happens in the case of unanswered love. In the present paper, we consider the effect of happiness on both aspects of social bonds.

2.2.2 Measurement

Like in the case of happiness, the subjective aspect of social bonds can be measured using self-reports. A question often used for this purpose reads, 'Do you have someone with whom you can confidentially share your concerns?' Unlike happiness, the existence of social bonds can also be measured using reports from other people, such as partners in the relationship or informed bystanders. Sociographic techniques can also be used to map social bonds. Another method is to look at behavioural indicators, such as time spent together and support provided and received. Likewise, indicators can be found in co-residence and legal bonds. Each of these indicators has its strengths and weaknesses.

3 RELATED RESEARCH ON HAPPINESS AND SOCIAL BONDS

The present study on the effects of happiness on social bonds is part of the wider literature on the relationship between social bonds and happiness. There is a large amount of evidence that the presence and quality of social bonds tend to go together with happiness; findings on this matter have been gathered in the WDH, for example, for love, marriage and friendship and for bonds between parents and children and

between siblings. Most of the research is cross-sectional and has does not allow us to distinguish between cause and effect but is nevertheless commonly interpreted as indicating the influence of social bonds on happiness. It is beyond a doubt that such causal effects exist, as appears from studies on the effect of changes in social bonds on happiness, such as the rise of happiness following the beginning of a love relationship and the decline of happiness after widowhood or the death of a child.

The question addressed in the present paper is whether the observed sametime correlations also reflect reverse causality; that is, an effect of happiness on social bonds. For this reason, we focus on the correlation between earlier happiness and later social bonds, hence limiting this research synthesis to longitudinal studies.

There is also experimental research on the effect of mood elevation on social behaviour, on helping behaviour in particular. People help more when they are in a good mood (Carlson et al., 1988), and part of this effect is because of a reduction of self-focussed attention (Green et al., 2003). Though related to happiness, transient mood cannot be equated with this overall evaluation of one's life.

4 METHOD OF THIS RESEARCH SYNTHESIS

We have applied a new technique for research synthesis using an on-line findingsarchive: the WDH. Below, we first described this technique. Next, we explained how we selected longitudinal research findings on the relationship between earlier happiness and later social bonds from that source and how we have presented these findings in the present paper.

4.1 Use of an online findings archive: The WDH

A 'findings archive' is a collection of empirical research findings on a particular phenomenon, in this case 'happiness'. These findings are described in a standard format and terminology on an electronic *finding-pages*, which can be sorted in various ways, such as on subject (e.g., effects on social bonds), population (e.g., poor countries) and method (e.g., experimental). These finding pages are made available on a website to which hyperlinks can be made in review papers.

The main function of a findings-archive is to allow for the *continuous accumulation* of knowledge on a particular subject by providing a structure to which new research results can be added and on which periodical synthetic studies can be done, as we do in the present

paper. A findings-archive facilitates the *preparation* for research synthesis and the *presentation* of the results of such studies in review papers. The technique is described in more detail in Veenhoven et al. (2022).

The WDH is an archive of research findings on the subjective enjoyment of one's life-as-a-whole. It does not cover everything ever called 'happiness', but only quantitative research findings obtained with indicators that have passed a test for fit with the concept of happiness, as defined in section 2.1, for which the validity check is described here. The structure of this electronic archive is presented on Appendix A.. Details about the gathering and selection of the research findings are found here. To date (May 2023), the archive holds some 47,000 online finding-pages. An example of such a page is presented in Appendix B of the present paper.

4.2 Picking research findings on the effects of happiness on social bonds from that source

Findings on the effects of happiness on social bonds can be identified in two ways: by using the Bibliography (Collection of Publications) and/or the Collection of Correlational Findings. Both collections have a detailed subject classification but are not the same; the classification of the Bibliography is systematic while the main subjects of Correlational Findings are ordered alphabetically.

In the <u>Bibliography of Happiness</u>, a main subject is the 'Consequence of Happiness', and a sub-subject in that category is the 'Effect of happiness on social bonds', which is the subject of the present paper. To date (May 2023), this category contains 39 publications (see here). Not all of these publications report a study in which a measure of happiness was used that had passed a check that would fit with our concept of happiness (cf. section 2.1.2). Selecting the ones that passed the check left 15 publications.

The findings obtained using an accepted measure of happiness are entered in the <u>Collection of Correlational Findings</u>. Along with the findings reported in the above-mentioned 15 publications, this collection includes findings reported in publications in which the effect on social bonds was not the main subject but that still included research findings on this topic.

In the Collection of Correlational Findings, all subject classifications make a difference between links of happiness with *development* of the topic and its *current* state. A subcategory of 'development' is *later* and contains findings on the sequalae of happiness. In the case of later social bonds, that category presents findings on the relation between earlier happiness and subsequent social bonds.

The subject classification involves the following topics on social bonds: wanting children, having children, relatives, friendships, love life, marriage and social participation. All these topics have a sub-section of 'later' social bonds, for example, got children later. Findings of that kind denote the relationship between antecedent happiness and posterior social ties.

In this assortment, we further selected the findings obtained in a longitudinal study (see here). This yielded 40 'finding pages', which together report 65 separate 'findings', such as a difference in means or a correlation coefficient. Several finding pages report more than one such finding, for example, when correlations are presented separately for males and females. The studies from which these findings were obtained are listed in Table 1.

To date (May 2023), the relation between happiness and later social bonds has been assessed in 15 studies. In column 1 of Table 1, we presented a description of the populations investigated. Next to general population samples, there are more specific focuses, such as on couples and working people. In column 2 is a shorthand description of the aspects of later social bonds considered in the study. In column 3 we report the measure(s) of happiness used in the study, where links lead to the text of questions on happiness. In column 4, we mentioned the study and links lead to a description in the WDH, which includes a link to the publication in which the study was reported.

4.3 Presentation of the findings

In this review, we summarised the research findings in tables, in which the observed statistical relationships are presented in +, – or 0. Statistical significance is indicated by **bold**. Each sign contains a link to a particular finding page in the WDH on which the reader can find more details. An example of such an online findings-page is presented in Appendix B.

Some of these finding-pages appear in more than one cell of the tables. This is the case for pages on which both a 'bi-variate' (zero-order) correlation is reported next to a multi-variate 'partial' correlation from which the control effect of the variables was removed.

We have presented these signs in an overview of the results, as given in <u>Table</u>

2. We first sorted the longitudinal findings horizontally using statistical analysis,
distinguishing between bi-variate analysis (column 2) and multi-variate analysis in

which the intervening variables are removed (column 3). Vertically, we listed the aspects of later social bonds.

4.4 Advantages and disadvantages of this technique

There are pros and cons to using a findings-archive for gathering research findings and positives and negatives to the use of links to on-line finding-pages.

4.4.1 Use of a findings archive for gathering research

- The advantages include the following: a) efficient continuous gathering of research on a particular topic, b) sharp conceptual focus and subsequent selection of studies, c) uniform description of research findings on electronic finding-pages, using a standard format and a technical terminology, d) storage of these finding pages in a well-searchable database, e) that is available on-line and f) to which links can be made from texts. The technique is particularly useful for the ongoing harvesting of research findings on a particular subject.
- The disadvantages are the following: a) considerable investment is required to develop a findings-archive, such as in explicit criteria for inclusion, the definition of technical terms and the programming of software; b) the description of research findings on standardised finding pages is labour intensive; c) the method is only beneficial when a lot of research is processed on a continuous basis; and d) the standardised description of research findings is not free from error.

4.4.2 Use of links to an online finding archive in review papers

- The advantages of such representation are the following: a) an easy overview of the main trend in the findings, b) access to the full details behind the links, c) an easy overview of the white spots in the empty cells in the tables, and d) easy updates by entering new signs in the tables, which may be marked with a colour.
- The *disadvantages* are the following: a) much of the detailed information is not directly visible in the + and signs, and b) the links work only for electronic texts.

4.5 Differences compared with other methods of research synthesis

4.5.1 Abstract systems

Research findings are commonly gathered using abstract systems, such as the

psychological abstracts. Abstracts differ from the 'finding-pages' of a findings-archive; abstracts report studies instead of findings, and abstract systems do not use a standard terminology. Hence, linking to abstracts is uncommon in review papers. Still, abstract systems were used for gathering the research findings presented in the present paper.

4.5.2 Narrative reviewing

Research findings are mostly summarised in literature reviews that describe the main questions and answers in a field. These reviews cannot report much detail about the studies considered and heavily rely on references to the research reports read by the reviewer, which typically figure on a long list at the end of the paper. Readers have no direct access to such publications and will not easily see on which page the cited finding is reported and often get lost in terminological differences. An on-line findings-archive provides the reader with direct access to the descriptions of the research findings in standard terminology. Because review articles are typically subject to a page limitation, narrative reviewers tend to restrict salient findings, which involves risk of cherry picking. Using a findings-archive, *all* the available research findings can be included.

A difference specific to literature reviews on well-being is that the conceptual focus of many narrative reviews in this field is often loose and cover different notions of what is considered living well. A difference specific to review of research on happiness is that reviewers often assume that the name of a questionnaire corresponds to its conceptual contents. Yet several 'happiness scales' measure different things than happiness as defined in section 2.1 as noted here.

4.5.3 Quantitative meta-analysis

Research findings are increasingly summarised using statistical techniques for quantifying trends and differences. A findings-archive can support such analyses by providing a set of comparable findings. Yet a findings-archive can support more ways of summarising research findings, such as the visual overview of + and – signs used in the present paper.

The use of on-line finding-pages provides the reader with more detail than what is commonly available in reports of meta-analytic studies. Another difference is that meta-analytic studies aim to summarise the research findings in numbers, such as an average effect size. This is only possible for highly homogenous data expressed in

comparable statistics and obliges therefore to the disregarding of much information. A findings-archive will provide access to more findings, at least when these fit the concept.

5 RESULTS

Having set the scene, we can now answer the research questions mentioned in section 1.1. Doing so, we will draw on the Tables 2 to 5. Sign and numbers in these tables link to on-line finding-pages on which the reader finds technical detail about the finding. The reader will therefore miss the usual references to publications in which findings are reported, such as 'Fictional et al 2010'. Though not mentioned in this text, such bibliographic information is available on the findings page.

5.1 Does happiness really predict stronger social bonds?

In Table 2, we see mostly + signs, typically in bold, denoting significant positive overtime correlations. However, there are also a few non-significant correlations and even some negative ones. Let's take a closer look at the kinds of social bonds presented in the left row of Table 2.

Marriage

An effect of happiness on social bonds is definitive for marriage. Among the 65 longitudinal research findings considered for this review, 38 pertain to marriage, of which 32 show a positive and significant relationship. The results distinctly indicate that a happy person has a better chance of getting married later and will be more satisfied with marriage and is more likely to maintain a marital relationship.

The positive effect of earlier happiness on later marital satisfaction was found to be maintained after controlling for gender relations (husband's share of household work, shared decision making) and values (religiousness, traditional gender attitude). The correlation with later marital satisfaction also remained positive and significant after control for satisfaction with other domains of life (satisfaction with the job, the standard of living, leisure, friendship and health).

Parenthood

For parenthood, the results are mixed. Out of the six bi-variate findings, four are

negative and two are positive but insignificant. The partial correlation is also negative and not significant. The results were also mixed for having stepchildren later, with a significant negative bi-variate correlation between having a stepchild in the household and happiness 12 years before, which turned into a nonsignificant positive correlation in a multi-variate analysis in which marital history was controlled.

How well happy persons bond with their children would have been more insightful. However, this aspect of parenthood has not yet been investigated.

Kin

The available longitudinal findings do not show conclusive evidence for an effect of earlier happiness on later sustained bonding with siblings and adult children, at least not as measured by the frequency of contacts. Because the findings concern elderly people, it is possible that contact is more frequent when these people become more dependent on care by kin and were less happy for health reasons. This can veil an otherwise positive effect of their happiness on the tendency to maintain contact. Health was not controlled in the available studies.

Love life

The findings suggest that happy people are more likely to establish stable and satisfying love relationships. This appears in a positive and significant relationship between earlier happiness and later romantic competence and the continuation of the love relationship. There was also a strong positive and significant relationship between satisfaction with love and the retrospective level of happiness; the results were similar among male and female respondents. Controlling for satisfaction with one's own and partner's behaviour had no moderating effect on the direction of the relationship.

In the reverse, attachment problems and conflicts associated with love life appeared to relate negatively to earlier happiness, both in self-reports and romantic partner's reports.

Friendship

Happy people were found to become more satisfied with their friends. The partial correlation between earlier happiness and later satisfaction with friends was positive but insignificant when satisfaction with marriage, job, standard of living, leisure and health were controlled for.

Social participation

Happy people tend to become more involved in social activities like attending social

gatherings, meetings, concerts, sports events, parties and so forth. However, when social participation was assessed by the frequency of social media use, the relationship turned out negative, and this was even more the case among females. Simply put, a happy person will later spend more time with face-to-face contacts but less time on social media.

5.2 If so, is that pattern universal or limited to particular cultures?

The tables 2a, 2b and 2c are variants of Table 2, on which specifications by cultural differences are marked using colours. Cultural differences that influence the effect of earlier happiness on later social bonds can exist across nation and times and within nations across generations.

Nation

In Table 2a, we present a specification based on the nation where the study was conducted. A look at the table reveals that all findings pertain to advanced nations. They broadly arrive at the same conclusion that happiness fosters social bonds. Obviously, these results cannot be generalised across all cultures because we lack data from non-Western nations.

Era

Table 2b is a specification by the period in which the investigation took place. The era could make a difference because of the shift to post-material values that occurred in the Western world in the second half of the twentieth century (Inglehart, 1990). No difference appears between the results of studies conducted before and after 2000. Note that all studies are fairly recent, with the oldest dating from the 1950s., hence the above-mentioned value shift may not adequately reflect in these data.

Age groups

On Table 2c we see no generational difference in the observed correlations between earlier happiness and later social bonds. Happiness predicts stronger bonds among young and old.

5.3 How strong is the effect?

In Table 2 and its variants, we examined the *direction* of the observed correlations between earlier happiness and later social bonds. In <u>Table 3</u>, we considered the

strength of these correlations. For this purpose, we limited to studies reporting a comparable effect size, that is, a correlation coefficient. We also limited this to zero-order correlations, since the partial correlations presented in column 3 of Table 2 cannot be compared for strength because they control different variables. This leaves us with 21 correlation coefficients in Table 3. Note that the differences in the scaling of variables limit the comparability of the coefficients.

Marriage

For marriage, the correlation coefficients for *getting married* are small, ranging from +.04 to +.12 and -.04 for remarriage. Correlations between earlier happiness and later *stability of marriage* are much stronger and range from +0.19 to +0.29. Earlier happiness also predicts later *quality of marriage*, with coefficients ranging from +.27 to +.37, and later *satisfaction with marriage* with coefficients ranging from +.24 to +.39.

Parenthood

The above observed negative correlations between earlier happiness and having children later are small and nonsignificant and negative, ranging from -0.02 to -0.08.

Social participation

The correlation between earlier happiness and later social participation was +.16, which is lower than the average correlation with later marriage, as observed above. The negative correlation with the later use of social media was -.13, which is also relatively low. In both cases, there was only one study.

The available data do not inform us about effect sizes for later love life and later friendships.

5.4 Does the strength vary across measures of happiness used?

In <u>Table 3a</u>, we have specified the observed effect sizes across measures of happiness used, following the conceptual distinction given in section 2.1. We looked for a possible difference in the effect on social bonds between the affective component of happiness and cognitive component because the former fits Fredrickson's theory better than the latter. Another reason was that a difference might provide a clue to the above question of how universal the effect is, hedonic level of affect reflecting the gratification of universal human needs, while the cognitive contentment rather mirrors the fit with culture specific wants (Kainulainen et al. 2018).

This comparison was not possible because of a lack of data on the hedonic of affect. A comparison between the effect of the more affectively toned measures of overall happiness and cognitive contentment was not possible either by a lack of findings on the same aspect of social bonds. For now, we can only conclude that the effect exists for *overall* happiness (marked in **red** colour), *contentment* (marked in **green** colour) and the measure that combines one or more of the happiness variants, that is, the *mixed method* (marked in **blue** colour).

5.5 Do these overtime correlations denote a causal effect?

The observed correlations between earlier happiness and later social bonds suggest a causal effect of the former on the latter but cannot prove that because overtime correlations can result from other effects. Causal effects are best identified using experimental studies, but that kind of research is hardly possible on this subject and is not available anyway. Therefore, we must do with more indirect evidence.

Not spurious?

It is possible that the correlation between earlier happiness and later social bonds is driven by a third factor, such as when improvement in health fosters both happiness and social bonding. In Table 4, we present an overview of the observed partial correlations together with the control variables used. Sizeable correlations remained after controlling for many variables, including personality. Still, not all possible sources of spuriousness have been controlled for in the available studies. Note that none of the controls involved changes in intervening variables.

For marriage, the observed effect size remained positive and statistically significant, even when controlling for marital history, religiosity, socio-demographics, having children/stepchildren and satisfaction with other domains of life. With the same control variables for parenthood and friendship, the beta values remained positive but were quite small and not significant. This reduction in correlation was largely due to the control of satisfaction with domains of life, which wiped away much of the variance in satisfaction with life-as-a-whole.

The effect of earlier happiness on later use of social media remained negative when controlling for satisfaction with friends, family and appearance. This can be seen to mean that its harm is not only a matter of reduced contact in real life.

Happiness fosters the stability of love relationship as appeared in a strong

positive and statistically significant effect size of +0.79. However, when controlled for satisfaction with the relationship, the partial effect size almost reversed to –0.66, which may mean that happy people are more likely to end a dissatisfying relationship.

Not a lagged effect of happiness?

High temporal stability of happiness may obscure the difference between the overtime effect of earlier happiness on later social bonds from the same-time effect. In that context, it is worth noting that the correlation of happiness in one year to the next was observed to vary around +.50 and 11 years later dropped to about +.30, indicating a stable component in happiness of about 30% (Ehrhardt et al., 2000).

One way to deal with that problem is to restrict to time series of 10 years or more, in which the effect of trait happiness is likely to be reduced to this minimum of 30%. These findings are marked **green** in Table 5. There are 12 such cases that support the above interpretation that earlier happiness fosters continuity in marriage and love life but does not affect contact with kin in later life.

A better way to deal with this problem is to consider the correlation of *change* in happiness to later social bonds, where the initial level of happiness is controlled. These findings are marked in **red** in Table 5 and denote a causal effect of happiness on remarriage among divorcees.

Not a lagged effect of earlier social bonds?

It is also possible that the correlation between earlier happiness and later social bonds is still affected by earlier social bonds. This effect can also be identified using *changes* in social bonds. This was done in the study by Kamp-Dush et al. (2008) that assessed the correlation between *change* in happiness and *change* in marital satisfaction, which is marked **blue** in Table 5. These findings also imply a causal effect.

Effect of happiness on social bonds stronger than effect of social bonds on happiness?

In cases of bi-directional causality, one causal effect can be stronger than the other. Headey et al. (1991) proposed a technique to estimate the relative strengths of the effect of happiness (top-down) and the effect of a correlated factor on happiness (bottom-up). These findings are marked purple in Table 5. In the case of satisfaction with marriage, there are significant effects of equal strengths in both directions, and in the case of satisfaction with friendships, there is a slightly stronger insignificant top-down effect.

Together, these findings suggest that there is a causal effect of earlier happiness on later social bonds and that the strength of that effect tends to be considerable.

6 DISCUSSION

The research findings on the correspondence between earlier happiness and later social bonds were reviewed to check the claim that happiness tends to foster social bonds. What did we get to know, and what remains to be explored?

6.1 What do we know now?

The available findings show that happy people are typically better at social bonds than unhappy people and that at least part of this difference is because of a causal effect of happiness on social bonds. This direct relationship between earlier happiness and later social bonds was found to be the strongest for marriage. Happiness was found to positively affect all aspects of marriage, from getting married to the quality and stability of marriage. Though less convincing, happiness also seems to foster love life, friendships and social participation. The same cannot be said for parenthood and contact with kin in later life.

6.2 Explanations for this effect of happiness on social bonds

The primary mechanism underlying the effect of happiness on social bonds seems to be the experience of frequent positive affect. People function better when feeling good (Lyubomirsky et al., 2005), and this is also the case for social functioning. Happy people feel well more often, and positive affect is part of the affective component of happiness (cf. section 2.1).

Fredrickson's broaden-and-build theory (1998, 2011) further explains how positive affect gives rise to better functioning. As noted above in the introductory section, positive emotions *broaden* peoples' momentary thought—action repertoires. When in a good mood, they tend to be more open to their environment, see more and do more. This will typically facilitate social contact. *Joy*, for instance, creates an inclination to play, push the limits and be creative, which involves reaching out to other people. Likewise, *interest* aims to explore and take in new information and experiences, which will also ease social contact.

Furthermore, there is an indirect and long-term effect of this broadened thought—action tendency in the building of resources. Seeing and doing more, happy people develop more resources, financial resources such as wealth, psychological resources, such as resilience, and social resources, such as prestige. This gives happy people an advantage in exchanging relationships, that is, they have more to offer. Exchange is not only involved in instrumental relations, but also in intimate ties; hence happy people attract more friends.

There is evidence of a virtuous cycle; happiness involves positive emotions, which lead to strong social bonds, which, in turn, have been shown to further elevate positive emotions and enhance social acceptance and emotional adjustment (Argyle & Martin, 1991; Cohen, 1988; House et al., 1988; Myers, 1992).

Likewise, there is a reverse effect of *un*happiness on social bonds. Much like how happiness is associated with positive emotions, unhappiness is linked with negative emotions (e.g., anxiety, sadness and anger). Negative emotions instigate avoidant behaviour, which hinders social relations. Because people seek reasons for their unhappiness, they are also prone to see these in their environment and attribute them to others, intimates in particular. Because unhappy people 'build' fewer resources, they also have less to offer in long-term relationships, where interpersonal exchange is an important factor.

6.3 Implication for strengthening of social bonds.

The findings of the present review imply that social bonds can be strengthened by fostering happiness; by advancing the happiness of individuals as well as by promoting average happiness in collectivises, such as work organisations and nations. How can this be achieved?

A recent Delphi study on 'Ways to greater happiness' suggests the following approaches (Veenhoven 2020): Individual strategies deemed to be the most effective and feasible are, next to investing in social bonds, which was mentioned first, a) being active, both physically and mentally, b) doing meaningful things, c) caring for one's health and d) practicing ones' religion. At the individual level, happiness can be fostered *directly* using happiness training. A review of effect studies has shown that such interventions raise the happiness of users by some 5% on average (Bakker et al., 2020). Policy strategies deemed the most effective and feasible for nations are the following: a) investing in happiness research, b) foster freedom of choice, d) invest in good governance, e) supporting vulnerable people and f) improving the social climate,

in particular by promoting voluntary work and supporting non-profits.

Evidence based knowledge on ways to greater happiness is growing rapidly these days (Veenhoven 2014).. An illustrative new finding is that happiness can be fostered *directly* using happiness training. A review of effect studies has shown that such interventions raise the happiness of users by some 5% on average (Bakker et al., 2020). Much of these advances in understanding ways to greater happiness are communicated in this journal.

6.4 What we do not know yet.

The available findings were from advanced nations with high per capita income. The results of this review can therefore not be generalised to low- and middle-income nations. This leaves us with the following questions about cultural differences.

What role does cultural conditioning play in the stability and quality of social bonds, especially marriage? Is culture a very compelling factor when it comes to social bonds, irrespective of the level of earlier happiness? Is the association weaker in cultures with 'ascribed' bonds than with self-chosen bonds? How would this relationship work for collectivist societies? Is the effect of happiness equally strong in more traditional collectivist societies where behavioural rules are stricter? If happiness does not predict the establishment and continuation of social bonds in these cultural conditions, will it still affect satisfaction with social bonds?

In section 5.2, we saw that the effect of happiness on later social bonds did not differ across age groups. There are, of course, many more possible moderators involved, such as income, profession, personality type, religion and ethnicity. In the case of gender, the effect could be stronger for women than for men because women spend more of their time in intimate relations.

6.5 Topics for further research

To obtain a better view of causality in the relation between earlier happiness and later social bonds, we need experimental studies. This would require the manipulation of happiness. In section 3, we have seen that the manipulation of momentary mood affected helping behaviour. Yet momentary mood should not be equated with general life satisfaction, and life satisfaction cannot be manipulated so easily.

Still, we can learn from natural experiments by following people who had been made more or less happy by a stroke of fate, such as winning a lottery or losing one's job. How do the social bonds of these people develop? Likewise, we can follow

participants in happiness trainings, which tend to raise the level of happiness a bit. Does this reflect the later development of their social bonds?

7 CONCLUSIONS

Happiness fosters social bonds. This is the most evident for marriage but holds for friendship and social participation as well. Consequently, fostering happiness can be used as a means to strengthen social bonds. This is another reason for opting for policies that aim at greater happiness for a greater number.

Table 1: 15 studies that examine the relation between earlier happiness and later social bonds.

People Place, time, N	Aspect of social bond	Measure of happiness	Study
Public high school boys, USA, 1966–74, N= 1,628	Marriage: Marital status Parenthood: Having children	Overall: Happy Person	Bachman et al. (1978)
46+ aged, whites, USA, 1968 to 1976, N=375	Social Participation: Involvement in social activities	Contentment: Best-Worst possible life	Palmore (1981)
Separated, USA, 1977–79, N=210	Marriage: Getting remarried	Contentment: Best- Worst possible life Overall: Satisfaction with Life-Situation Affect: Balance	Spanier & Furstenberg (1982)
Mothers of young children, USA, 1980–83, N=51	Marriage: Quality of marital relationship (Spouse behaviour)	Contentment: Best- Worst possible life Mixed: Affect + Overall	Schaefer & Burnett (1987)
58–63 aged married, USA, 1975–1979, N=300	Family Life: Contact with siblings	Overall: Happiness in Life	Stull (1988)
Working adults, USA, 198? N=129	Marriage: Marital satisfaction	Overall: Delighted vs Terrible life	Hoopes & Lounsbury (1989)
18–65 aged, general public, Australia, 1981–1987, N=942	Marriage: Marital satisfaction Friendship: Satisfaction with friends	Overall: Delighted vs Terrible life	Headey et al. (1991)
Newlywed couples, USA, 1987–1988, N=634	Marriage: Marital stability, Marital satisfaction	Overall: Happiness in Life	Ruvolo (1998)

Couples,	Marriage: Marital	Overall: Happiness	Hawkins & Booth
USA,	stability, Getting	in Life	(2005)
1980–1992,	remarried		<u> </u>
N=1,150	Parenthood: Having		
,	children, having		
	stepchildren		
15+ aged, general	Marriage: Marital	Overall: Satisfaction	Stutzer & Frey
public,	status, Marital	with Life as a Whole	<u>(2006)</u>
West Germany,	stability		
1984–2000,			
N= 15,268			
Teenagers,	Love Life:	<u>Mixed: Affect +</u>	Oishi & Sullivan
USA,	Continuation of love	<u>Overall</u>	(2006)
200?	relation		
N=158			
Married People,	Marriage: Marital	Overall: Happiness	Kamp Dush et al.
USA,	satisfaction	<u>in Life</u>	(2008/1)
1980–2000,			
N=962			
15+ aged, general	Marriage: Marital	Overall: Satisfaction	Stillman & Liang
public,	stability	with Life as a Whole	(2010)
Australia,			
2001–2009,			
N= 7,78,666	36 1 36 1 1	A CC A CC	T 1 (2010)
Teenagers,	Marriage: Marital	Affect: Affect	Kansky et al. (2019)
USA,	satisfaction	Balance	
2003–2014,	Love Life:		
N=166	Attachment		
	problems, Romantic		
	competence,		
	Satisfaction with		
	love life, Conflict in love relation		
12–15 aged,	Social Participation:	Overall: Satisfaction	Orben et al. (2019)
UK,	Use of social media	with Life as a Whole	<u>Oroch et al. (2019)</u>
2009–2016,	Ose of social illegia	with Life as a whole	
N=1,699			
11-1,077			

Table 2: Sixty-five research findings on the correspondence between earlier happiness and later social bonds

Aspect of later social bonds	Observed correlation with earlier happiness		
	Bivariate	Partial	
Later marriage			
Got married	+ + +	+:+	
Got remarried	+/+/+ -	+:+	
Stability of marriage	+/- + +/+ +/+ +/+	+:+	
Quality of marriage	+\+ +/+ +/+		
Satisfaction with marriage	+ + +/+	+/+/+ +:+	
Later parenthood			
Got own children	- - + + -	_	
Got stepchildren	_	+	
Later family life			
Contact with adult siblings		-/-	
Contacts with adult children		_/_	
Later love life			
Attachment problems	-/-		
Romantic competence	+		
Satisfaction with love life	+		
Conflict in love relation	_/_		
Continuation of love relation		+:-	
Later friendship			
Satisfaction with friends		+:+	
Later social participation		•	
Use of social media	_	_/_	
Involvement in social activities	+/+		
Maaning of signs			

Meaning of signs

- + = positive but not significant; + positive and significant
- e negative but not significant; negative and significant

A string of signs is used to indicate different results reported for specifications

- +/- = different results in subgroups, e.g., positive among males and negative among females
- +\+ = different results across happiness variants: nonsignificant with contentment but significant with hedonic level of affect
- +:+ = different results across analyses: e.g., significant with one set of controls, insignificant with additional controls or significant for one indicator but not for another

0|+|+= different results across timespans: no relation on the longest span, nonsignificant positive at the intermediate time span and significantly positive on the shortest time span

Table 2a: Sixty-five research findings on correspondence between earlier happiness and later social bonds

Specification by nation in which the investigation tool place

Aspect of later social bonds	Observed correlation with earlier happiness	
	Bivariate	Partial
Later marriage		
Got married	+ + + +	+:+
Got remarried	+/+/+ -	+:+
Stability of marriage	+/- + +/+ +/+ +/+	+:+
Quality of marriage	+\+ +/+ +/+	
Satisfaction with marriage	+ + +/+	+/+/+ +:+
Later parenthood		1
Got own children	- - + + -	_
Got stepchildren	_	+
Later family life		
Contact with adult siblings		-/-
Contacts with adult children		-/-
Later love life		
Attachment problems	-/-	
Romantic competence	+	
Satisfaction with love life	+	
Conflict in love relation	-/-	
Continuation of love relation		- /+
Later friendship		1
Satisfaction with friends		+:+
Later social participation		
Use of social media	_	-/-
Involvement in social activities	+/+	
		1

Colours denote country where the study took place: USA, Australia, Germany and UK

Table 2b: Sixty-five research findings on correspondence between earlier happiness and later social bonds

Specification by period of investigation

Aspect of later social bonds	Observed correlation with earlier happiness	
	Bivariate	Partial
Later marriage		
Got married	+ + + +	+:+
Got remarried	+/+/+ -	+:+
Stability of marriage	+/- + +/+ +/+ +/+	+:+
Quality of marriage	+\+ +/+ +/+	
Satisfaction with marriage	+ + +/+	+/+/+ +:+
Later parenthood		
Got own children	- - + + -	_
Got stepchildren	_	+
Later family life		
Contact with adult siblings		_/_
Contacts with adult children		_/_
Later love life		
Attachment problems	-/-	
Romantic competence	+	
Satisfaction with love life	+	
Conflict in love relation	-/-	
Continuation of love relation		+:-
Later friendship		
Satisfaction with friends		+:+
Later social participation		
Use of social media	_	_/_
Involvement in social activities	+/+	
		1

Colours denote time period of investigation- 1950-1975, 1975-2000 and after 2000.

Table 2c: Sixty-five research findings on correspondence between earlier happiness and later social bonds

Specification by age of people investigated.

Aspect of later social bonds	Observed correlation with ear	
-	Bivariate	Partial
Later marriage		
Got married	+ + +	+:+
Got remarried	+/+/+ -	+:+
Stability of marriage	+/- + +/+ +/+	+:+
Quality of marriage	+\+ +/+ +/+	
Satisfaction with marriage	+ + +/+	+/+/+ +:+
Later parenthood	l	
Got own children	- - + + -	_
Got stepchildren	-	+
Later family life		
Contact with adult siblings		_/_
Contacts with adult children		_/_
Later love life		
Attachment problems	_/_	
Romantic competence	+	
Satisfaction with love life	+	
Conflict in love relation	-/-	
Continuation of love relation		+:-
Later friendship		1
Satisfaction with friends		+:+
Later social participation		
Use of social media	_	_/_
Involvement in social activities	+/+	

Colours denote age of people investigated- Teenagers, Adults, Elderly and General

 $\label{eq:table 3:} \textbf{Table 3:} \\ \textbf{Thirty research findings on correspondence between earlier happiness and later social bonds}$

Aspect of social bonds	Observed correlation with earlier happiness (bivariate)
Later marriage	
Got married	+.04 +.06 +.10 +.12
Got remarried	04
Stability of marriage	+.29 +.16/+.34 +.23/+.25 +.19/+.20
Quality of marriage	+.37/+.27 +.30/+.28 +.32/+.34
Satisfaction with marriage	+.39 +.29 +.24/+.29
Later parenthood	
Got own children	03 01 +.02 +.0202
Got stepchildren	08
Later family life	
Contact with adult siblings	
Contacts with adult children	
Later love life	
Attachment problems	
Romantic competence	
Satisfaction with love life	
Conflict in love relation	
Continuation of love relation	
Later friendship	
Satisfaction with friends	
Later social participation	
Use of social media	13
Involvement in social activities	+.16

Values in **bold** are statistically significant.

Table 3a:
Thirty research findings on correspondence between earlier happiness and later social bonds
Observed effect sizes specified by kind of happiness measure used.

Aspect of social bonds	Observed correlation with earlier happiness. (Bivariate)
Later marriage	
Got married	+.04 +.06 +.10 +.12
Got remarried	04
Stability of marriage	+.29 +.16/+.34 +.23/+.25 +.19/+.20
Quality of marriage	+.37/+.27 +.30/+.28 +.32/+.34
Satisfaction with marriage	+.39 +.29 +.24/+.29
Later parenthood	
Got own children	03 01 +.02 +.02 02
Got stepchildren	08
Later family life	
Contact with adult siblings	
Contacts with adult children	
Later love life	
Attachment problems	
Romantic competence	
Satisfaction with love life	
Conflict in love relation	
Continuation of love relation	
Later friendship	
Satisfaction with friends	
Later social participation	
Use of social media	13
Involvement in social activities	+.16

Colours denote the measure of happiness used – Overall happiness, Contentment and Mixed methods

Table 4: Ten findings on partial correlation between earlier happiness and later social bonds Overview of control variables used.

Aspect of social bonds	Observed correlation with earlier happiness	
	Size of partial correlations	Control variables used
Later marriage		
Got remarried	Beta = +.20	Marital history Socio-demographics Religion Stepchildren
	Beta = +.31	Age Education Household income Position in the household Employment Country of origin Time (wave of panel)
Satisfaction with marriage	Beta = +.07	Socio-demographics Personality
Later parenthood		
Got own children	Beta =03	Marital history Socio-demographics Religion Having stepchildren
Got stepchildren	Beta = +.07	Marital history Socio-demographics Religion Number of own children
Later love life		
Continuation of love relation	Beta =66	T1 Satisfaction with - own behaviour - partner's behaviour T2 Satisfaction with relationship
Later family life		
Contact with adult siblings	Beta =01:01	T1: - husband's occupation
Contact with adult children	Beta =01:01	- wives employment- household income- own health- spouse health

Later friendship		
Satisfaction with friends	Beta = +.04	Socio-demographics Personality
Later social participation		
Use of social media	Beta =02 (Males: Beta =07 Females: Beta =09)	Satisfaction with - family - friends - appearance

Beta values in **bold** are statistically significant.

Table 5: Thirty-one research findings on correspondence between earlier happiness and later social bonds

Indicating a causal effect.

Aspect of later social bonds	Observed correlation with earlier happiness	
	Bivariate	Partial
Later marriage		
Got married		+:+
Got remarried	_	+:+
Stability of marriage	+	+&+:+ +&+:+
Quality of marriage		
Satisfaction with marriage		+&+/+ +
Later parenthood		
Got own children	_	-&-
Got stepchildren	-	+&+
Later family life		
Contact with adult siblings		-/-
Contacts with adult children		_/_
Later love life		,
Attachment problems	_/_	
Romantic competence	+	
Satisfaction with love life	+	
Conflict in love relation	_/_	
Continuation of love relation		
Later friendship		
Satisfaction with friends		+
Later social participation		
Use of social media		
Involvement in social activities		

Colours denote methodologies indicative for a causal effect of happiness on social bonds:

CHANGE in happiness by later social bonds

CHANGE happiness by CHANGE in social bonds

Stronger top-down (earlier happiness -> later bond) than bottom-up (earlier bonds -> later happiness)

Earlier happiness by social bonds more than 10 years later (indicated with & for double notation)

REFERENCES

Bachman, J. G. (1978). <u>Youth in transition, volume vi. adolescence to adulthood—Change and stability in the lives of young men.</u> Institute of Social Research, Ann Arbor, USA

Bakker, A., Burger, M., van Haren, P., Oerlemans, W., & Veenhoven, R. (2020). <u>Raise of happiness following raised awareness of how happy one feels: A follow-up of repeated users of the happiness indicator website.</u> *International Journal of Applied Positive Psychology*, 5(3), 153–187.

Becchetti, L., Pelloni, A., & Rossetti, F. (2008). Relational goods, sociability, and happiness, *Kyklos* 61 343–364.

Bradburn, N. M. (1969). The structure of psychological well-being. Aldine.

Carlson, M., Charlin, V., & Miller, M. (1988). <u>Positive mood and helping behaviour: A test of six hypotheses</u>. *Journal of Personality and Social Psychology*, *55*(2), 211–29. 10.1037//0022-3514.55.2.211.

Ehrhardt, J., Saris, W. E., & Veenhoven, R. (2000). Stability of life-satisfaction over time. Analysis of change in ranks in national population. *Journal of Happiness Studies*, 1, 177–205.

Etzioni, A. (2018) *Happiness is the wrong metric. A liberal communitarian response to populism*. Springer International Publishing. Cham, Switzerland

Ford, B. Q., & Mauss, I. B. (2014). The paradoxical effects of pursuing positive emotion: When and why wanting to feel happy backfires. In J. Gruber & J. Moskowitz (Eds.), *Positive Emotion: Integrating the light sides and dark sides* (pp.361-383). Oxford University Press.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*(1449), 1367–1378.

Green, J. D., Sedikides, C., Saltzberg, J. A., Wood, J. V., & Forzano, L-A.B. (2003). <u>Happy</u> mood decreases self-focused attention. *British Journal of Social Psychology*, 42(Pt 1), 147–57.

Hawkins, D. N., & Booth, A. (2005). <u>Unhappily ever after: Effects of long-term, low-quality marriages on well-being</u>. *Social Forces*, 84(1), 451–471.

Headey, B., Veenhoven, R., & Weari, A. (2005). <u>Top-down versus bottom-up theories of subjective well-being</u>. In *Citation classics from social indicators research* (pp. 401–420). Springer.

Hoopes, L. L., & Lounsbury, J. W. (1989). <u>An investigation of life satisfaction following a vacation:</u> A domain-specific approach. *Journal of Community Psychology*, 17(2), 129–140.

Inglehart, R. (1990). Culture shift in advanced industrial society. Princeton University Press.

Institute for the future of education (2023) *What is social intelligence and why it should be taught at schools.* Assessed 25-3-2023 at https://observatory.tec.mx/edu-news/social-intelligence

Kainulainen, S., Saari, J., & Veenhoven, R (2018). <u>Life-satisfaction is more a matter of how well you feel, than of having what you want</u>. *International Journal of Happiness and Development*, 4(3), 209–235.

Kamp Dush, C. M., Taylor, M. G., & Kroeger, R. A. (2008). <u>Marital happiness and psychological well-being across the life course</u>. *Family Relations*, 57(2), 211–226.

Kansky, J., Allen, J. P., & Diener, E. (2019). <u>The young adult love lives of happy teenagers:</u> <u>The role of adolescent affect in adult romantic relationship functioning</u>. *Journal of Research in Personality*, 80, 1–9.

Lane, R. (2000). The Loss of happiness in market democracies. Yale University Press.

Lucas, R.E.; Dyrenforth, P.S. (2006) <u>Does the Existence of Social Relationships Matter for Subjective Well-Being?</u> In Vohs, K.; Finkel, E.J.; Ed.: "Self and Relationships. Connecting Intrapersonal and interpersonal processes," The Guilford Press, 2006, New York, USA, 254 – 273

Lyubomirsky, S. (2007). *The how of happiness: A scientific approach to getting the life you want.* Penguin Press.

Lyubomirsky, S., King, L., & Diener, E. (2005). <u>The benefits of frequent positive affect: Does happiness lead to success?</u> *Psychological Bulletin*, *131*(6), 803–855.

Mondal, P. (2022). *10 importance of primary groups in sociology*. https://www.yourarticlelibrary.com/sociology/10-importance-of-primary-groups-in-sociology-606-words/6264

Oishi, S., & Sullivan, H. W. (2006). <u>The predictive value of daily vs. retrospective well-being judgments in relationship stability.</u> *Journal of Experimental Social Psychology, 42*(4), 460–470.

Orben, A., Dienlin, T., & Przybylski, A. K. (2019). <u>Social media's enduring effect on adolescent life satisfaction</u>. *Proceedings of the National Academy of Sciences, 116* (21), 10226–10228.

Putnam, R. D. (2001). *Bowling alone, The collapse and revival of American community*. Simon & Shuster, New York, USA

Rico-Uribe, L. A., Caballero, F. F., Martín-María, N., Cabello, M., Ayuso-Mateos, J. L., & Miret, M. (2018). <u>Association of loneliness with all-cause mortality: A meta-analysis.</u> *PLoS One*, *4*;*13*(1), e0190033. 10.1371/journal.pone.0190033

Ruvolo, A. P. (1998). <u>Marital well-being and general happiness of newlywed couples:</u> <u>Relationships across time</u>. *Journal of Social and Personal Relationships*, *15*(4), 470–489.

Schaefer, E. S., & Burnett, C. K. (1987). <u>Stability and predictability of quality of women's marital relationships and demoralization</u>. *Journal of Personality and Social Psychology*, *53*(6), 1129.

Spanier, G. B., & Furstenberg Jr, F. F. (1982). <u>Remarriage after divorce: A longitudinal</u> analysis of well-being. *Journal of Marriage and the Family*, 709–720.

Stillman, S. E., & Liang, Y. (2010). <u>Does homeownership improve personal wellbeing</u>. Motu Economic and Public Policy Research, Wellington, New Zealand

Stull, D. E. (1988). A dyadic approach to predicting well-being in later life. *Research on Aging*, 10(1), 81–101.

Stutzer, A., & Frey, B. S. (2006). <u>Does marriage make people happy, or do happy people get married?</u> *The Journal of Socioeconomics*, *35*(2), 326–347.

Veenhoven, R. (1984). <u>The concept of happiness</u>. *In Conditions of happiness pp 12-38*, <u>Netherlands</u>. Reidel (now Springer) Dordrecht, Netherlands

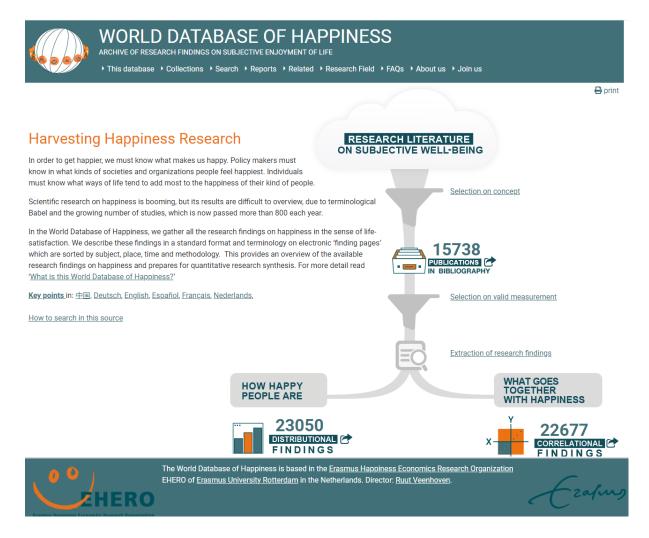
Veenhoven, R. (2014) <u>Informed pursuit of happiness: What we should know, do know and can get to know.</u> *Journal of Happiness Studies*, 16, 1035-1071

Veenhoven, R. (2018c). <u>World database of happiness</u>. Erasmus University Rotterdam, Netherlands.

Veenhoven, R. (2022). <u>World database of happiness. Archive of research findings on the subjective enjoyment of life.</u> Erasmus University Rotterdam.

Veenhoven, R., Buijt, I., & Burger, M. (2022). On-line 'findings archive': A new tool for research synthesis. *International Journal of Innovation Scientific Research and Review*, 4(5), 2774–278.

Appendix A Structure of the World Database of Happiness



Appendix B Example of a findings page



Study Bachman et al. (1978): study US 1966

Public highschool boys followed 8 years from grade 10, USA, 1966-74

Public: Sample:

Respondents: N = 1628

Non Response: 2.8% at T1, 17.2% at T2, 21.0% at T3, 28.9% at T4, 28.5% at T5

Assessment: Multiple assesment methods

Interviews, tests and questionnaires

Correlate

Authors's Label Later marital status

Our Classification MARRIAGE: MARITAL STATUS CAREER >> ••• >> Later entering of marriage

Operationalization T5 marital status

1; married (single, divorced, separated)

0: unmarried

Observed Relation with Happiness

Happiness Measure	Statistics	Elaboration / Remarks
<u>O-HP-g-mq-v-5-a</u>	<u>tau</u> = + s/ns	T5 Married T1 happiness: tau = +.04 (ns) T2 happiness: tau = +.06 (ns) T3 happiness: tau = +.10 (01) T4 happiness: tau = +.12 (01)
		T1:1966, T2:1968, T3:1969, T4:1970, T5:1974



The World Database of Happiness is based in the <u>Frasmus Happiness Economics Research Organization</u> EHERO of <u>Frasmus University Rotterdam</u> in the Netherlands. Director: <u>Ruut Veenhoven</u>.

