DOES HAPPINESS FOSTER SOCIAL BONDS?

A research synthesis using an online finding archive

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The issue: It is widely agreed that social bonds should be strengthened but is not clear how that can be achieved. One way could be to foster happiness, since happiness seems to foster social bonds. If so, two desirables can be achieved together: happier people and stronger social bonds.

Research questions: Does happiness really foster social bonds? If so, is that effect universal? How strong is the effect? Does the strength vary across persons and situations? What are the causal mechanisms?

Method: We took stock of the available research findings, restricting to longitudinal studies examining the effect of earlier happiness on later social bonds. We used the World Database of Happiness (WDH), a findings-archive consisting of data about happiness in the sense of the subjective enjoyment of one's life-as-a-whole. To date, the WDH contains the results of 16 follow-up studies on the relation between earlier happiness and later social bonds, which together yield 33 findings.

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

Conclusion:

Happiness fosters social bonds and this effect seems to be universal. Consequently, fostering happiness can be used as a means to strengthen social bonds. This is another reason to opt for policies that aim to achieve greater happiness for a greater number.

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

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"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 that if you are happy, you will be good."

—Bertrand Russell

1 INTRODUCTION

We are social animals and have an innate need for social contacts, intimate contacts in particular. In Maslow's (1954) theory of human motivation, this is the need for 'belongingness'. This need is typically met in durable intimate relations, such as those with our spouses, children, relatives and friends. A large body of research literature shows that poor social bonds undermine individual wellbeing, people are less happy (Veenhoven, 2022) and have a shorter life-time (Rico-Uribe et al 2018). Being rooted in primary relations is seen to foster functioning in secondary relations and to promote responsible citizenship (Mondal 2022).

In this context, there is a widely heard call for the need to strengthen social bonds; especially in contemporary western societies where cultural critics warn that individualism and market rationality are weakening primary social bonds. A spokesman for this viewpoint is the political scientist Robbert Lane (2000), who sees the decay in social bonds as a driver of a: 'Loss of happiness in market democracies'. Likewise, the economist Leonardo Becchetti (2008) has emphasized the importance of 'relational goods' for human wellbeing warning against the marked forces that lead many people into a 'social poverty trap'. In a similar vein, at the sociologist Robert Puttman (2001) has described intimate social bonds as a breeding ground for societal democracy and believes this ground is eroding.

Given the importance of intimate social bonds, the question arises: How can we strengthen these ties? One line of advice is to change our value priorities and focus less on competing values, such as material wealth and social prestige. Education is recommended as a channel to promote for such value shift and our schools are also promoted as places where the required 'social intelligence' can be cultivated to bring about this change. (Reference) Another class of recommendations is to support social bonds legally and financially, those promoting family support policies. (Reference) Several of these issues are prominent in the current 'culture war' taking place in modernizing societies between progressives and conservatives; such as the legalization of gay marriage.

A less controversial option, that is less prominent in this discussion, is that we can strengthen social bonds by fostering happiness. There are claims that happiness facilitates the establishment and maintenance of intimate ties, e.g., those made by Barbara Fredricson (2004) and Sonja Lyubomirski (2005). If so, we can link up with what most people want anyway, that is to lead a more satisfying life. If advancement of happiness is used as a way to strengthen social bonds, we can profit from our growing knowledge of the importance of happiness, following the thinking of the newly established research stands of Positive Psychology and Happiness Economics.

In this view, there is a 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 can actually undermine the social fabric on which it draws, such as leading those pursuing into selfishness and short-sighted consumerism, see Etzioni 2018, Ford & Mauss

2014. In this paper we inspect the available evidence for these conflicting views, addressing the following questions.

1.1 Research questions:

- 1. Is there a correspondence between earlier happiness and later social bonds?
- 2. If so, is this a universal correlation, or limited to particular cultures and persons?
- 3. How strong is the correlation? Equally strong across time, culture and persons?
- 4. Is the correlation similar across components of happiness? Is it stronger with the affective component than with the cognitive component?
- 5. Do these overtime correlations denote a causal effect?
- 6. If so, what are the causal mechanisms?

1.2 Approach

We analyse the findings obtained in existing longitudinal studies on the effect of happiness on social bonds, for this purpose, we used the World Database of Happiness (WDH), which is an electronic archive of research findings on happiness, sorted by subject. One of the subjects in that collection is 'Effects of happiness on social bonds'. We sorted the results, according to methods used and populations investigated. On this basis we took stock of the current answers to the above questions.

1.3 Structure of the paper

The remainder of this paper is organized as follows. In section 2, we define the concepts of happiness and typify the research literature on that topic. In section 3, we do the same for social bonds. In section 4, we summarize the rich research on effects of social bonds on happiness and note the relative under-research on effects of happiness on social bonds. In section 5, we describe how we gathered the available research findings on effects of happiness on social bonds and how we present these in an easily overviewed way. In section 6, we assess the available findings contributing to answering our research questions. In section 7, we discuss these findings, and in the section 8 we give our concludes.

2 CONCEPTS and MEASUREMENT

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

2.1 Happiness

Concept

Philosophers typically used the word 'happiness' to denote *living a good life* and often emphasize the moral quality of life. The word has also been used to denote *good living conditions* and associated with material affluence and physical safety. Today, social scientists use of the word is mostly to denote subjective *satisfaction with life*, and this use of the word fits the common meaning in daily language.

Definition: In that latter line, Veenhoven (1984, p. 22) defines happiness as the degree to

which an individual judges the overall quality of his [or her] life-as-a-whole favourably. This matter is also referred to as 'life-satisfaction' and 'subjective wellbeing' (SWB). In this paper, we follow the conceptualization of the World Database of Happiness. We will inspect the effect of this kind of happiness on social bonds.

Components: According to Veenhoven (1984), this overall evaluation of life draws on two sources of information: (1) how well one feels most of the time and (2) to what extent one perceives one gets from life what one wants from it. Veenhoven refers to these sub-assessments as 'components' of happiness, called respectively 'hedonic level of affect' and 'contentment'. 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 we 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). In this paper we will inspect whether the effects of happiness on social bonds differ across these two components of happiness and overall happiness.

Measurement

Since happiness is defined as something that is on our mind, it can be measured using questioning. Various ways of questioning have been used, direct questions and indirect questions, open questions and closed questions, and one-time retrospective questions and repeated questions on happiness in the moment. Not all the questions used fit the above definition of happiness adequately, e.g., a question as to whether one thinks one is happier than most people of your age does not, since you can be happier than your age-mates but still be unhappy. All measures of happiness ever proposed have been checked for face validity and the those that passed the test are listed in the collection 'Measures of Happiness' of the World Database of Happiness (Veenhoven, 2021c). Some commonly used questions are given below.

Questions on overall happiness

- Taking all together, how happy would you say you are these days?
- On the whole, how satisfied are you with the life you lead?

Questions on 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 couldn't 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?

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

- + On top of the world?
- Depressed or very unhappy?
- + That things were going your way?
- Upset because someone criticized you?
 (Affect balance computed subtracting negative from positive 'yes' responses)
- How is your mood today? (repeated several days)

Questions on contentment

- How important was each of the following goals in life in the plans you made for yourself in early adulthood?
- How successful have you been in the pursuit of these goals?

2.2 Social bonds

Concept

There are different kinds of human relationships; affective and instrumental relations, close and distant relationships and passing and enduring relationships. In the context of our research questions, we focus on affective, close and enduring relationships, such as with kin and good friends. These are referred to as 'intimate ties', another name is 'primary relationships', which contrasts with more distant 'secondary relationships' such as with colleagues at work or with co-members of a sport club. The essence of intimate ties is exchanges of affection and support.

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

Measurement

As in the case of happiness, the subjective aspect of social bonds can be measured using self-reports. A common question 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 by other-reports, partners in a relationship and informed bystanders. Sociographic techniques can be used to map social bonds. Another way is to look at behavioural indicators, such as time spend with others and support provided and received. Likewise, indicators can be found in co-residence and legal bonds. Each of these indicators have their strengths and weaknesses.

3 RELATED RESEARCH ON HAPPINESS AND SOCIAL BONDS

This study on the effects of happiness on social bonds is part of a wider literature on the relation between social bonds and happiness. There is a lot of evidence that the presence and quality of social bonds tends to go together with happiness; findings on this matter are gathered in the World Database of Happiness, e.g. for love, marriage, friendship, and for

bonds between parents and children and between siblings. Most of this research is cross-sectional and one cannot distinguish between cause and effect, but is nevertheless commonly interpreted as indicating an influence of social bonds on happiness. It is beyond doubt that such causal effect exist as appears from studies on the effect of changes in social bonds on happiness, such as the rise in happiness following the begin of a love-relationship and a decline in happiness after widowhood or the death of a child.

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

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

4 METHOD OF THIS RESEARCH SYNTHESIS

The first step in this review was to gather the available longitudinal research findings on the relationship between earlier happiness and later social bonds. The second step was to present these findings in an uncomplicated form.

4.1 Selection of research findings

We could draw on an existing collection of reports of research on this topic, available in the World Database of Happiness. This is a findings-archive in which results of all available studies on happiness, as defined above, are gathered. The structure of this electronic archive is presented in Appendix A

The archive restricts to happiness in the sense of life-satisfaction, as defined in section 2.1 of this paper and includes only findings obtained with measures that fit this concept. Detailed information about gathering and the selection of these research findings can be found here.

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

In the *Bibliography*, a main subject is 'Consequence of Happiness' and a sub-subject in that category is 'Effect of happiness on social bonds', which is the very subject of this paper. To date (2022), this category contains 38 publications, as you can see here. Not all these publications report a study in which an accepted measure of happiness was used. Selecting the ones that did leave us with 16 publications.

In the collection of Correlational Findings, all subject classifications make a distinction between links of happiness with 'development' of the topic and its 'current' state; e.g. development of income and current income. A sub-category of development is 'later',

e.g. the effect of earlier happiness on later income. This allowed us to select findings on the relationship between earlier happiness and later social bonds. The subject classification in the WDH consist of the following topics on social bonds: wanting children, having children, relatives, friendships, love life, marriage and social participation. All these topics have a subsection 'later', e.g. 'got children later'. The findings in these categories can be selected together. In this assortment we further selected on findings obtained in a longitudinal study as can be seen here. This yielded 40 'finding pages' which together report 66 separate 'findings', such as a difference in means of a correlation coefficient. Several finding pages report more than one such finding, e.g. when correlations are presented separately for males and females. The studies in which these findings were obtained are listed in Table 1.

To date (1-9-2022), the relation between happiness and later social bonds has been assessed in 15 studies. A description of the people investigated is given in column 1 of Table 1. Next to general population samples there are also studies in special publics, such as couples and working people. In column 2 of Table 1 contains a shorthand description of the aspects of later social bonds considered in the study. While the measures of happiness used are given in column 3 of Table 1. Links to the publication in which the study was reported are given in column 4 of Table 1.

4.2 Format of this review

In this review, we summarize the research findings in tables in which the observed statistical relationships are presented as +, – or 0 signs. These signs link to pages in the World Database of Happiness. If you click on a sign one such page will open. An example of such an electronic findings page is presented in <u>Appendix B</u> of this paper.

Organization of the findings

We present these signs in an overview of results as given in <u>Table 2</u>. We first sorted the longitudinal findings horizontally by kind of statistical analysis, distinguishing between bivariate analysis (column 2) and multi-variate analysis in which intervening variables are removed (column 3) The aspects of later social bonds are listed vertically.

Presentation of the findings

The observed quantitative relationships between earlier happiness and later social bonds are summarized in 3 possible signs: + for a positive relationship, - for a negative relationship and 0 for a non-relationship. Statistical significance is indicated by printing the sign in **bold**. Each sign contains a link to a particular finding page in the World Database of Happiness on which the reader can find more detail about a particular study.

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 and a multi-variate 'partial' correlation from which the effect of control variables is removed.

Advantages and disadvantages

Advantages of such representation are: 1) an easy overview of the main trend in the findings, in this case many + sign for later marriage, 2) access to full detail behind the links, 3) an easy overview of the blank spots in the empty cells in the tables, and 4) easy updates, just by entering new sign in the tables, possibly marked with a colour.

Disadvantages are that: 1) much detail is not directly visible in the + and - signs, 2) in particular not the effect size and control variables used, and 3) that the links work only in electronic texts.

5 RESULTS

Let us now revert to the research questions mentioned in section 1.3 and answer these one by one.

5.1 Does happiness really predict stronger social bonds?

In <u>Table 2</u> we see mostly + signs, typically printed bold, denoting significant positive overtime correlations, however, there are also a few non-significant correlations and even some negative ones. Let us take a closer look at the kinds of social bonds presented in the left row of table 2.

Marriage

The relationship between happiness and social bonds is most definitive for marriage. Among 66 longitudinal research findings considered for this review, 35 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 more likely to maintain their marital relationship.

The positive effect of earlier happiness on later marital satisfaction was found to be maintained after control 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

The results are not very conclusive for parenthood. We do not see a clear, unidirectional relationship between earlier happiness and having children later. The results were mixed for having stepchildren later (Hawkins & Booth, 2005). How well happy people bond with their children would have been more insightful for this review, however, this aspect of parenthood has not been investigated as yet.

Relatives and Siblings

The available longitudinal findings do not provide conclusive evidence to suggest a positive or negative relationship between earlier happiness and later sustained bonding with siblings and other relatives. Stull (1988) examined this relationship in terms of the number of contacts per day/week/month and found mixed results. Thus, happiness could not be established as a factor for the quantity and quality of this kind of social bonds, at least not from the available findings.

Love life

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

Reversely, attachment problems and conflicts associated with a person's love life show a negative and significant relationship with earlier happiness, both in self-report and romantic partner's report.

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 controlled for satisfaction with marriage, job, standard of living, leisure and health.

Social participation

Happy people tend to become more involved in social activities like attending social gatherings, meetings, concerts, sports events, parties etc, however, when social participation is assessed using frequency of using social media, the relationship is negative, more so among females. Simply put, a happy person now will later spend more time in face-to-face contacts but less time on social media.

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

Tables 2a to 2d are variants of table 2 on which specifications made by the people studied are marked using colours.

Age groups

Inspection of <u>Table 2a</u> shows no difference across age groups in observed correlations between earlier happiness and later social bonds. Happiness predicts stronger bonds among young and old.

Relationship status

<u>Table 2b</u> also shows no difference across marital status categories

Era

<u>Table 2c</u> is a specification by the period in which the investigation took place. We see no difference between the results of studies conducted before and after the year 2000. Note that the studies are fairly recent, the oldest dating 1978, cf. <u>Table 1</u>.

Nation

In <u>Table 2d</u> we present a specification by nations where the different studies were conducted. A look at the table reveals that all the available findings relevant for this review pertained to advanced nations, mostly from the USA. These studies broadly arrive at the same conclusion

that happiness fosters strong social bonds, however, the results cannot be generalized across nations as the available literature lacks representative data from countries with different levels of economic development, different geographies and different cultures.

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 consider the *strength* of these correlations, for that purpose, we limited our data to studies that reported a comparable effect size, in this case a correlation coefficient. We also had to limit to zero-order correlations; the partial correlations presented in column 3 of Table 2 cannot be compared for strength since they control different variables. This leaves us with 21 correlation coefficients in table 3.

Marriage

The correlation coefficients, ranged from +0.16 to +0.46 for marriage. An average correlation coefficient of +0.30 and the corresponding coefficient of determination (R^2) of 0.088 suggests that the level of earlier happiness can explain about 9% of the variability in the later social bonds. As about 90% of the variability is yet unexplained, there must be other relevant factors that help foster marital relationships.

Parenthood

The non-significant negative correlations range from -0.02 to -0.08 for parenthood, an effect size is negligible.

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 later use of social media was -.13, which is also relatively low. In both cases, we have only one study.

The available data gave no information about effect sizes for getting married, becoming a parent, later love life and later friendships.

5.4 Does the strength vary across measures of happiness used?

In <u>table 3a</u>, we specify the observed effect sizes across measures of happiness used. Following the conceptual distinction given in section 2.1, we identified the effect sizes obtained by using measures of *overall* happiness, marked in red, and *contentment*, marked in green. The measure that combines one or more of the happiness variants, the *mixed method* which is marked in blue.

Almost all of the reported effect sizes use the *overall* measure of happiness. There is a single finding (Schaefer & Burnett, 1987) which compares the *contentment* and *mixed* methods of happiness measurement. The effect sizes are positive and significant for both the measures but vary in magnitude, though not substantially. This is an interesting case in point but there is not enough data to make a conclusive statement.

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 this is not a proof. Causal effects are best identified using

experimental studies, but this kind of research is very difficult for this subject and as yet there is no available data on the subject. So, we must make do with more indirect evidence.

Not spurious?

It is possible that the strengthening of social bonds is driven by changes in a third factor, such as better health or mental maturation. In <u>Table 4</u> we present an overview of observed partial correlations from the literature together with the control variables used. Sizable correlations remain after the control of many variables. At present, not all possible sources of spurious results have been controlled for in the available studies.

The observed effect size remains positive and statistically significant for marriage, despite controlling for marital history, religiosity, socio-demographics, having children/stepchildren and satisfaction with other domains of life. Using the same control variables, for parenthood and friendship, the beta values remain positive but quite small and not significant. Within-person effect of earlier happiness on later social media use remains negative when controlled for satisfaction with friends, family and appearance. This effect is slightly more negative for females, but the difference is so small that it calls for little consideration (Orben et al., 2019). Happiness fosters the stability of love relationship as can be seen from the strong, positive and statistically significant effect size of +0.79, however, when controlled for satisfaction with own and partner's behaviour, the partial effect size almost reverse to -0.66 showing possibility of spurious relationships (Oishi and Sullivan, 2006).

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, for instance if social bonds and happiness develop together interactively. In this context, the analysis by <u>Headey et al. (1991)</u> is revealing. Headey split the observed overtime change into an effect of social bonds on happiness, bottom-up, and an effect of happiness on social bonds, top-down, and found both effects to be significantly positive and about equal in strength.

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

6 DISCUSSION

The available research findings on correspondence between earlier happiness and later social bonds were put together to determine whether happiness leads to more stable and healthy social bonds. What did we learn and what remains to be explored?

6.1 What 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 due to 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 affect positively all the aspects of marriage, from getting married to the quality and stability of a marriage. Though less convincing as yet, happiness also seems to foster a good love life, friendships and social participation. The same cannot be said for parenthood and for more distant family relationships.

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 in the experience of frequent positive affect. We function better when feeling good (Lyubomirsky at al, 2005) and this is also the case for our social functioning. Happy people feel good more often, positive affect being 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.

According to Fredrickson, positive emotions *broaden* peoples' momentary thought–action repertoires. When in a good mood, they tend to be more open to their environment, they see more and do more. This will typically facilitate social contacts. *Joy*, for instance, creates an inclination to play, to push one's limits and be creative; which involves reaching out to other people. Likewise, *interest* presses us to explore, take in new information and experiences, which will also ease social contact.

Further, 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 of these, financial resources, such as wealth, psychological resources, such as resilience and social resources, such as prestige. This gives happy people an advantage in exchange relationships; they have more to offer. Exchange is not just involved in instrumental relations, it also improves intimate ties; happy people attract more friendliness.

There is evidence of virtuous cycle in play here; 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, Landis, & Umberson, 1988; Myers, 1992).

There is also the reverse effect of unhappiness on social bonds. As 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 relationships. Since people seek reasons for their unhappiness, they are prone to see these in their environment and attribute them to others, intimates in particular. Since unhappy people 'build' fewer resources, they also have less to offer to long term relationships, where interpersonal exchange is an important factor.

6.3 Implication for strengthening of social bonds

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

A recent Delphi study on 'Ways to greater happiness' suggest the following approaches (Veenhoven 2020). Individual strategies deemed to be most effective are, next to investing in social bonds, 1) doing meaningful things and 2) caring for one's health. At individual level, happiness can be fostered *directly* using 3) happiness training. A review of

effect studies showed that such interventions raised the happiness of the user by some 5% on average (Bakker et al., 2020). Policy strategies deemed the most effective and feasible for nations are: 1) investing in happiness research, 2) the support of vulnerable people and 3) improving the social climate, in particular by promoting voluntary work and supporting non-profit organizations.

6.4 What we do not know as yet?

The available findings were all from advanced nations, with high per capita incomes. The results from these findings cannot be generalized to low- and middle-income nations. This leaves us with the following questions on cultural differences.

What role does cultural conditioning play in the stability and quality of social bonds, especially marriage and parenthood? Is culture a very compelling factor when it comes to social bonds, irrespective of the level of earlier happiness? Is the association less strong in cultures with 'ascribed' bonds rather than self-chosen bonds? How would this relationship work out 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 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 relationships. (Reference?)

6.5 Topics for further research

To get a better view on causality in the relationship(s) between earlier happiness and later social bonds, we need experimental studies. This would require the manipulation of happiness. We have discussed in section 3 how manipulation of momentary mood does have an effect on 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, for example by following people who had been made more of less happy by a stroke of fate, such as winning a lottery or losing their job. How do the social bonds of these people develop? Likewise, we can follow participants of happiness trainings, which tend to raise the level of the participants' happiness a bit. Does this reflect in the later development of their social bonds?

7 CONCLUSIONS

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

Table 1: 15 studies which examine relation between earlier happiness and later social bonds

People Place, time, N	Aspect of social bond	Measure of happiness	Study
riace, time, N	Dona	nappmess	
Public Highschool	Marriage: Marital	Overall: Happy	Bachman et al.
	status	Person (O-HP)	<u>(1978)</u>
USA,	Parenthood: Having		
1966-74,	children		
N= 1,628			
46+ aged, whites,	Social Participation:	Contentment: Best-	Palmore (1981)
USA,	Involvement in	Worst possible	
1968 to 1976,	social activities	life (C-BW)	
N=375			
<u> </u>	Marriage: Getting	Contentment: Best-	Spanier &
, , , , , , , , , , , , , , , , , , ,	remarried	Worst possible	Furstenberg (1982)
1977-79,		<u>life (C-BW)</u>	
N=210		O	
		Overall: Satisfaction	
		with Life-	
		Situation (O-SLS)	
		Affect: Balance	
		(Bradburn's	
		index) (A-BB)	
Mothers of young	Marriage: Quality	Contentment: Best-	Schaefer & Burnett
children,	of marital	Worst possible	<u>(1987)</u>
USA,	relationship (Spouse	life (C-BW)	
1980-83,	behavior)		
N=51		<u>Mixed: Affect +</u>	
		Overall (M-AO)	
	Family Life: Contact	Overall: Happiness	<u>Stull (1988)</u>
	with siblings	in Life (O-HL)	
1975-1979,			
N=300	34 1 34 1 1	0 11 15 11 1 1	TT 0
Working adults,	Marriage: Marital	Overall: Delighted	Hoopes &
USA, 198?,	satisfaction	vs Terrible life (O-	Lounsbury (1989)
N=129		<u>DT)</u>	
	Marriage: Marital	Overall: Delighted	Headey et al. (1991)
	satisfaction	vs Terrible life (O-	110 day of dr. (1771)
1 '	Friendship:	DT)	
1981-1987,	Satisfaction with		
	friends		

Newlywed couples, USA,	Marriage: Marital stability, Marital	Overall: Happiness in Life (O-HL)	<u>Ruvolo (1998)</u>
1987-1988, N=634	satisfaction		
Couples,	Marriage: Marital	Overall: Happiness	Hawkins & Booth
USA,	stability, Getting	in Life (O-HL)	(2005)
1980-1992,	remarried		
N=1,150	Parenthood: Having		
	children, Having stepchildren		
15+ aged, general	Marriage: Marital	Overall: Satisfaction	Stutzer & Frey
public,	status, Marital	with Life as a	<u>(2006)</u>
West Germany,	stability	Whole (O-SLW)	
1984-2000,			
N= 15,268			
Teenagers,	Love Life:	Mixed: Affect +	Oishi & Sullivan
USA,	Continuation of love	Overall (M-AO)	(2006)
200?,	relation		
N=158			
Married People,	Marriage: Marital	Overall: Happiness	Kamp Dush et al.
USA,	satisfaction	in Life (O-HL)	(2008)
1980-2000,			
N=962			
15+ aged, general	Marriage: Marital	Overall: Satisfaction	Stillman & Liang
public,	stability	with Life as a	(2010)
Australia,		Whole (O-SLW)	
2001-2009,			
N= 7,78,666	16 1 26 1 1	4 CC 4 CC	T 1 (2010)
Teenagers,	Marriage: Marital	Affect: Affect	Kansky et al. (2019)
USA,	satisfaction	Balance	
200?-200?,	Love-Life:	(Various) (A-AB)	
N=166	Attachment		
	problems, Romantic		
	competence,		
	Satisfaction with		
	love-life, Conflict in		
10 15 1	love relation	Originally Cartis Cart	Out on st -1 (2010)
12-15 aged,	Social Participation:	Overall: Satisfaction	Orben et al. (2019)
UK,	Use of social media	with Life as a	
2009-2016, N-1-600		Whole (O-SLW)	
N=1,699			

Table 2: 66 research findings on correspondence between earlier happiness and later social bonds

Aspect of later social bonds	Observed correlation with earlier happiness	
	Bi-variate	Partial
Later marriage		
Got married	+ + + +	+
Got remarried	+\+\+ -	+
Stability of marriage	+/- + +/+ +/+	+
Quality of marriage	+ +/+ +/+	
Satisfaction with marriage	+ + +/+	+/+/- + +
Later parenthood		I
Got own children	- - + + -	_
Got stepchildren	_	+
Later family-life		
Contact with siblings		+/-
Contacts with relatives		+/- +/-
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	+/+	

Meaning of signs

+ = positive but not significant; + positive and significant

- = 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

+\+ = different results across happiness variants: non-significant with contentment but significant with hedonic level of affect

0|+|+= different results across time-spans: no relation on the longest span, non-significant positive at the intermediate time span and significantly positive on the shortest time-span

Table 2a:
66 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 earlier happiness		
	Bi-variate	Partial	
Later marriage	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 siblings		+/	
Contacts with relatives		+/- +/-	
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 age of people investigated- Teenagers, Adults, Elderly, and General

Table 2b: 66 research findings on correspondence between earlier happiness and later social bonds Specification by relationship status

Aspect of later social bonds	Observed correlation with earlier happiness	
	Bi-variate	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 siblings		+/-
Contacts with relatives		+/- +/-
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 love relationship of people investigated- **Dating, Married, Separated**, and **General public**

Table 2c: 66 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		
	Bi-variate	Partial	
Later marriage	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 siblings		+/-	
Contacts with relatives		+/- +/-	
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 time-period of investigation- 1950-1975, 1975-2000, after 2000

Table 2d: 66 research findings on correspondence between earlier happiness and later social bonds Specification by places of investigation

Aspect of later social bonds	Observed correlation with earlier happiness	
	Bi-variate	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 siblings		+/-
Contacts with relatives		+/- +/-
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		1
Use of social media	_	_/_
Involvement in social activities	+/+	

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

Table 3: 29 research findings on correspondence between earlier happiness and later social bonds. Observed effect sizes

Aspect of social bonds	Observed correlation with earlier happiness	
	Bi-variate	Partial
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	
Got stepchildren	08	
Later family-life		
Contact with siblings		
Contacts with relatives		
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	
		1

Values in **bold** are statistically significant.

Table 3a:
29 research findings on correspondence between earlier happiness and later social bonds
Specification by kind of happiness measure used

Aspect of social bonds	Observed correlation with earlier happiness	
	Bi-variate	Partial
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	
	+.29 +.24/+.29	
Later parenthood	112 17 1120	
Got own children	03 01 +.02 +.02	
Got stepchildren	08	
Later family-life		
Contact with siblings		
Contacts with relatives		
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 method**

Table 4:
7 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 = + 0.20	Marital history Socio-demographics Religion Stepchildren
Satisfaction with marriage	Beta = + 0.07	Satisfaction with - job, standard of living - leisure, health - friendship
Later parenthood		
Got own children	Beta = - 0.03	Marital history Socio-demographics Religion Having stepchildren
Got stepchildren	Beta = + 0.07	Marital history Socio-demographics
Later love-life		Religion
Continuation of love relation	Beta = - 0.66	Satisfaction with - own behaviour - partner's behaviour Beta = + 0.79 without controls
I atom foi and abin		
Later friendship		
Satisfaction with friends	Beta = + 0.04	Satisfaction with - marriage - job, standard of living - leisure, health
Later social participation		
Use of social media	Beta = - 0.02 Males: Beta =07 Females: Beta =09	Satisfaction with - family - friends - appearance

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

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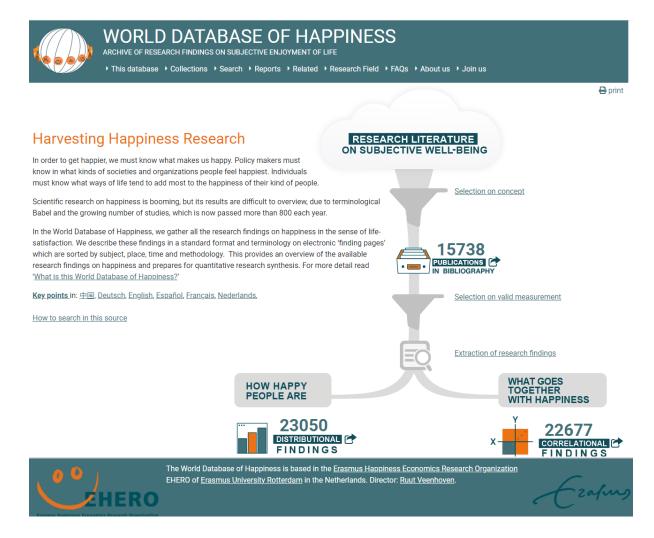
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Appendix A Structure of the World Database of Happiness



Appendix B Example of a finding 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>0-HP-g-mg-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>.

