Successfully Striving for Happiness: Socially Engaged Pursuits Predict Increases in Life Satisfaction

Julia M. Rohrer¹.².³, David Richter², Martin Brümmer⁴, Gert G. Wagner².⁵.⁶, Stefan C. Schmukle³

¹International Max Planck Research School on the Life Course (LIFE) and FU Berlin

²German Institute for Economic Research (DIW Berlin)

³University of Leipzig

⁴Independent researcher, Leipzig

⁵Max Planck Institute for Human Development, Berlin

⁶Berlin University of Technology, Berlin

_Psychological Science, in press_

This is an unedited manuscript accepted for publication. The manuscript will undergo copyediting, typesetting, and review of resulting proof before it is published in its final form.

Additional online material, the preregistration plan, analysis scripts, and the data sets necessary to reproduce our analyses can be retrieved from https://osf.io/cemyh/

Correspondence concerning this article should be addressed to Julia M. Rohrer, Department of Psychology, University of Leipzig, Neumarkt 9-19, 04109 Leipzig, Germany. E-mail: julia.rohrer@uni-leipzig.de
Abstract

Happiness is considered a highly desirable attribute, but whether or not individuals can actively steer their lives toward greater well-being is an open empirical question. In this study, respondents from a representative German sample reported ideas for how they could improve their life satisfaction in text format. We investigated which of these ideas predicted changes in life satisfaction 1 year later. Active pursuits *per se*—as opposed to statements about external circumstances or fortune—were not associated with changes in life satisfaction (*N* = 1,178). However, in line with our preregistered hypothesis, among individuals who described active pursuits (*N* = 582), those who described social ideas (e.g., spending more time with friends and family) ended up being more satisfied, and this effect was partly mediated by increased socializing. Our results demonstrate that not all pursuits of happiness are equally successful and corroborate the great importance of social relationships for human well-being.
Successfully Striving for Happiness: Only Socially Engaged Pursuits Predict Increases in Life Satisfaction

Success, material wealth, intelligence—people value a range of desirable attributes, but across a wide range of nations, nothing ranks quite as high in importance as happiness (Diener, 2000; Diener & Oishi, 2006, as cited in Oishi, Diener, & Lucas, 2007), which is considered an ultimate goal by both philosophers and lay people (Kesebir & Diener, 2008). Can we as individuals attain happiness by actively steering our lives toward greater well-being? The very idea of the pursuit of happiness suggests so. However, whether this intuition holds true is an empirical question, and studies have suggested that the opposite may be the case: Actively pursuing happiness might actually decrease it (Ford & Mauss, 2014; Mauss et al., 2012; Mauss, Tamir, Anderson, & Savino, 2011; Schooler, Ariely, & Loewenstein, 2003).

One possible explanation for these paradoxical findings is that people pursue happiness in the wrong ways. For example, Schooler et al. (2003) suggested that individuals overselect material goals that are unlikely to lead to long-lasting well-being. In a similar vein, Mauss et al. (2012) argued that individuals in Western countries define happiness in terms of personal gains. Accordingly, people’s endeavors consist of self-centered activities and lead to the neglect of social relationships. But social relationships are centrally important for well-being (Diener & Oishi, 2005; Helliwell & Putnam, 2004), and thus, the pursuit of happiness backfires because people end up lonelier.

By contrast, pursuing happiness in socially engaged ways might foster well-being. This notion was corroborated by a cross-cultural study by Ford et al. (2015) who found that culture shapes definitions of happiness, and these definitions can in turn explain whether striving for happiness is associated with higher or lower well-being. In East Asia and Russia, where people
were found to define happiness socially, the motivation to pursue happiness was positively associated with well-being. However, in the US, where people were less likely to define happiness socially, a higher motivation to pursue happiness was associated with lower well-being. Finally, Germany as an “intermediate” case showed no association between the pursuit of happiness and well-being.

Evidence for the benefits of social as compared with nonsocial pursuits in the study by Ford et al. (2015), however, is rather indirect. The study assessed only definitions of happiness and not the ways in which people actually pursue it. Furthermore, data were cross-sectional, and thus, the authors were not able to rule out alternative explanations. A more direct test is needed to establish the positive effects of socially engaged pursuits of happiness in contrast to nonsocial pursuits.

In this study, we investigated whether individuals who describe socially engaged strategies for improving their life satisfaction experience more positive changes than individuals who describe nonsocial strategies. Data came from a representative German multicohort study. In 2014, respondents reported their current level of life satisfaction and reported in text format what they could do to improve it. One year later, life satisfaction was assessed again, allowing us to test whether mentions of active pursuits of happiness per se were associated with life satisfaction, and whether strategies involving social engagement—but not nonsocial strategies—increased well-being. In addition, we assessed the extent to which our results were robust to the potential threat of unobserved confounding, and tested whether the effects of social strategies were mediated by the frequency with which respondents actually socialized. Furthermore, we ran additional exploratory analyses investigating different types of pursuits, as well as alternative measures of well-being.
Method

Sample

Data came from the Innovation Sample (SOEP IS; Richter & Schupp, 2015) of the German Socio-Economic Panel Study (SOEP; Wagner et al., 2007). The SOEP is a research infrastructure situated at the German Institute for Economic Research (DIW Berlin) under the umbrella of the Leibniz Association. The SOEP’s core study has been following German households and their members since 1984. The innovation sample (SOEP IS) was started in 2011 and has since then offered researchers worldwide the opportunity to include questions and even experimental manipulations in the annual collecting of data.

In 2014, a total of 6,638 respondents took part in the SOEP IS; in 2015, 5,897 respondents took part in the survey; 1,120 of the respondents in 2014 were not surveyed in 2015, leaving a total of 5,518 respondents who participated in both years. All respondents were surveyed in computer-assisted personal interviews (CAPIs). Not all SOEP IS respondents were asked all questions by design, and not all respondents who were asked the questions relevant to this study provided an answer; see details below and additional material on the OSF (https://osf.io/cemyh/).

Assessment of Life Satisfaction

In 2014 and 2015, respondents answered the question “All things considered, how satisfied are you with your life?” on an 11-point Likert scale ranging from 0 (completely dissatisfied) to 10 (completely satisfied). Previous studies have reported satisfactory reliabilities for such single-item assessments of life satisfaction (e.g., Lucas & Donnellan, 2012). Of the 5,518 respondents who participated in both 2014 and 2015, four did not answer the life
satisfaction item in at least 1 of the 2 years and were thus excluded from further analysis, leaving $N = 5,514$.

**Assessment of Strategies to Maintain or Improve Life Satisfaction**

Whether or not respondents were asked for their strategies regarding life satisfaction depended on (a) whether their household was randomly assigned to the more detailed well-being module and (b) their answer to a specific filter question. Of $N = 5,514$, only 1,547 were assigned to the more detailed well-being module. Following the assessment of life satisfaction in 2014, respondents were furthermore asked to report how satisfied they would be in the future: “All things considered, how satisfied will you be in the future, let’s say in 5 years?” Respondents could again reply on an 11-point Likert scale, this time ranging from -5 (far less satisfied than now) to 0 (approximately as satisfied as now) to +5 (far more satisfied than now). Most of the $N = 1,547$ respondents predicted that they would be as satisfied as they were at the time of the survey (46.28%) or even more satisfied (42.86%) as opposed to less satisfied (10.86%). Notice that this item was not included in any of our analyses; however, only the respondents who estimated they would be at least as satisfied in the future as they are now ($N = 1,379$, 89.14%) were asked the question regarding their strategies for how they would improve life satisfaction.¹

At the very end of the interview session, these respondents were asked to input their strategies for life satisfaction into the computer. The interviewer turned the computer toward the respondent; on the screen, the following words were displayed: “What could you do to ensure that you will be more satisfied in the future or continue to be as satisfied as you already are?

¹ The open-ended question was added to the SOEP-IS in collaboration with Albrecht Plewnia and Astrid Rothe from the Institute of German Language who intended to use the data for a linguistic research question unrelated to the present study.
What are your ideas?” with the additional instructions “Please take some time to reply and express your ideas in a few words.” A total of 1,178 respondents answered this open-ended question.

This final sample of 1,178 respondents did not differ from the original sample of 5,518 SOEP-IS respondents with respect to gender, age, years of education, employment status, and marital status (all ps > .133).

**Rating the answers to the open-ended question: Focal hypothesis.** The answers that the respondents typed in were then rated by three independent coders. The participants’ answers were quite heterogeneous. For example, despite the phrasing of the question, many respondents instead described what they wished for (“the politicians would need to change”) without any reference to what they could actively do. Thus, a complex rating scheme was developed to capture the heterogeneity of the texts. A more extensive documentation of the coding procedures, including the coding manual (in both English and German) and a tool programmed for the purpose of this study, are available on the OSF.

Coding was split into two sessions. In the first session, the raters coded (Step 1) how many ideas for the improvement (or maintenance) of life satisfaction a particular answer included. If the text contained no ideas, a variety of “other statement” categories could be coded (e.g., “don’t know”; “I’m satisfied as I am”). If there were any ideas, coders subsequently rated each idea on whether it was a strategy, defined as an idea that required the respondent to take action (e.g., “Find a better job to make more money”; Step 2). Notice that each single idea within each answer was rated to preserve as much information as possible. Additional coding steps that are not relevant in the context of the present study but are described in the coding manual followed.
In the second session, all texts that contained at least one strategy according to at least two of the three raters were sent out again to the same raters. Raters now made only the binary decision of whether the texts solely consisted of nonsocial strategies (e.g., “stay healthy,” “find a better job”) or whether they contained at least one explicitly socially engaged strategy (e.g., “spend more time with friends and family” or “join a nonprofit”).

For the purpose of the study, we simplified all relevant ratings into binary indicators according to the raters’ majority vote: Does the text contain any ideas about how to improve life satisfaction (see Coding Step 1, first session; interrater agreement Fleiss’ χ = .94; true for \( N = 808 \) texts); does the text contain any strategies, that is, any active ideas (see Coding Step 2, first session; Fleiss’ χ = .79; true for \( N = 582 \) texts); and does the text contain any socially engaged strategies (see second session; Fleiss’ χ = .91; true for \( N = 184 \) texts).

**Analyses**

The initial analysis compared individuals who reported strategies for how they could actively maintain or improve their well-being (\( N = 582 \)) with individuals who answered the question differently—either by making a general statement such as “everything is fine” or “there is not much I could change” or describing a specific idea or wishes that did not necessarily imply an action taken by the respective individual such as “different politics would improve life” (\( N = 596 \), of which 370 made a general statement and 226 gave only nonactive ideas). Overall, the analysis included \( N = 1,178 \) respondents (54.16% female) who had an average age of 50.97 years in 2014 (\( SD = 17.85 \)).

The focal preregistered analysis stated that we would compare individuals with socially engaged strategies such as “helping others” (\( N = 184 \)) with individuals with other, nonsocial
strategies such as “stop smoking” ($N = 398$). Overall, this analysis included $N = 582$ respondents (53.78% female) who were slightly younger on average ($M = 46.87$ years, $SD = 14.53$) compared with the first analysis. This analysis was registered after the SOEP IS data (2014 and 2015) had been collected but before the texts had been rated and before we looked at the life satisfaction data. Thus, the variables necessary to run the focal analysis did not exist when the analyses and hypotheses were preregistered. Refer to the preregistration form and an additional timeline of the project on the OSF for details about the preregistration.

**Results**

**Preceding Analysis: Strategies versus Nonactive Ideas for the Improvement of Life Satisfaction**

First, we compared respondents who actually reported at least one active strategy with respondents who answered the open-ended question without describing an action they could take (i.e., only nonactive ideas). In 2014, these two groups barely differed in life satisfaction. Individuals who did not report a strategy had slightly higher levels of life satisfaction ($M_{no\ strategy,\ 2014} = 7.49$) than individuals who reported a strategy ($M_{strategy,\ 2014} = 7.38$), but this difference was negligible; $d = 0.07$, 95% confidence interval [-0.04, 0.19], $t(1175.9) = 1.23$, $p = .212$ (see Figure 1, Panel A; all $d$s reported as mean differences in pooled standard deviation units). From 2014 to 2015, the group reporting no strategy showed a slight increase in mean satisfaction of 0.10 scale points; $d = 0.07$, 95% CI [-0.05, 0.18], $t(595) = 1.86$, $p = .063$. The group reporting a strategy showed a negligible increase of 0.05 scale points; $d = 0.03$, 95% CI [-0.09, 0.15], $t(581) = 0.77$, $p = .441$. We ran a linear model in which we predicted life satisfaction in 2015 from life satisfaction in 2014 and a binary indicator reflecting whether the respondent reported a strategy or not ($0 = no\ strategy\ reported,\ 1 = at\ least\ one\ strategy\ reported$). This analysis indicated no
significant effect of whether or not the respondent reported a strategy: \( b = -0.10 \) (\(-0.06 \) SD units of life satisfaction, 95% CI \([-0.16, 0.03]\)), \( p = .177 \) (see Supplementary Table 1 for the complete regression output). Thus, respondents who answered the question without describing an active strategy for how they would improve their life satisfaction were virtually indistinguishable from respondents who described such a strategy with respects to their life satisfaction in both 2014 and 2015.

**Focal Preregistered Analysis: Socially Engaged Strategies versus Nonsocial Strategies**

In our central analysis, we compared two subgroups of the respondents who described an active strategy in their answer: Individuals who described at least one socially engaged strategy and individuals who reported only nonsocial strategies. In 2014, individuals who described a socially engaged strategy reported slightly higher levels of life satisfaction \( (M_{social, 2014} = 7.57) \) than individuals who described only nonsocial strategies \( (M_{nonsocial, 2014} = 7.29) \); \( d = 0.18, \) 95% CI \([0.01, 0.36]\), \( t(342.86) = -2.03, p = .043 \) (see Figure 1, Panel A). From 2014 to 2015, the group reporting a social strategy showed a slight increase in mean satisfaction of 0.19 scale points; \( d = 0.13, \) 95% CI \([0.08, 0.33]\), \( t(183) = 1.99, p = .047 \). By contrast, the mean life satisfaction in the group reporting nonsocial strategies remained virtually unchanged with a change of -0.02 scale points; \( d = -0.01, \) 95% CI \([-0.15, 0.13]\), \( t(397) = -0.26, p = .792 \). We ran a linear regression model predicting life satisfaction in 2015 from life satisfaction in 2014 and a binary indicator reflecting social strategies \( (0 = only \text{ nonsocial strategies}, 1 = at \text{ least one social strategy}) \). The results indicated that, controlling for baseline differences in life satisfaction, socially engaged strategies had a positive effect on life satisfaction in 2015: \( b = 0.33, SE = 0.12, p = .005 \) (see
Supplementary Table 2 for the complete regression output). This effect equals 0.21 SD units of the life satisfaction scale, 95% CI [0.06, 0.36].

Figure 1. Mean scores and 95% confidence intervals of life satisfaction in 2014 and 2015 for different groups. Panel A: Individuals with at least one strategy (N = 582) versus individuals without a strategy (N = 596) for how to improve their life satisfaction. Panel B: Individuals with at least one socially engaged strategy (N = 184) versus individuals with only nonsocial strategies (N = 398). The horizontal grey line marks the grand mean of life satisfaction in 2014 and 2015 for all respondents who answered the open-ended question.

Additional Analyses

The regression model tests whether, controlling for life satisfaction in 2014, respondents with socially engaged strategies were more or less satisfied in 2015: If there were no preexisting differences in life satisfaction in 2014, how would the two groups have compared in 2015? In addition to this model, which had been registered as the central test of our hypothesis, we also compared difference scores (life satisfaction 2015 – life satisfaction 2014) between the two groups (M\text{social} = 0.19 vs. M\text{nonsocial} = -0.02), which tests a slightly different hypothesis: Ignoring initial differences, which of the two groups “gains” more life satisfaction? The comparison missed the significance threshold of \( p < .05 \) (two-sided), \( d = 0.15, 95\% \text{ CI} [-0.03, 0.32], t(412.32) = 1.72, p = .085 \). See also Pearl (2016), for a comparison of the two different analytical approaches.
Robustness to unobserved confounding. Given that the reported relationship between socially engaged strategies and increased life satisfaction was based on observational data, it is important for a causal interpretation to consider the extent to which these findings could be attributed to unobserved confounding. Crucially, we controlled for life satisfaction in 2014 in our analyses, and this potentially rules out a large number of alternative explanations such as confounding by stable dispositions (e.g., extraversion). A potential confounder that could still explain the pattern of results would need to (a) causally affect strategies in 2014, (b) causally affect life satisfaction in 2015, but would also need to (c) not affect life satisfaction in 2014 to the same extent so that the confounder would still influence life satisfaction in 2015 when life satisfaction in 2014 was controlled for. It is possible to come up with such scenarios, although the plausibility of such scenarios might be debatable. For example, a respondent in 2014 might have anticipated a marriage proposal over the course of the next year and thus reported a socially engaged strategy such as “more time with partner.” One year later, he/she might have then reported elevated levels of life satisfaction because of the recent engagement.

If we assume the existence of such observed confounders, it would be interesting to assess how they would affect our results and how influential they would need to be to negate our findings. Oster (2016) developed a method that allows researchers to assess the extent to which an effect is robust to unobserved confounding on the basis of changes in coefficients and changes in explained variance when controlling for observed confounding. The procedure can be used to answer the question of the extent to which unobserved confounders would need to affect selection into the group of treated respondents (i.e., respondents reporting socially engaged
strategies) in order to negate the observed effect. This analysis indicated that the selection based on unobserved confounders would need to be 1.47 times as important as the selection based on the observed confounder (life satisfaction in 2014) to render the effect of socially engaged strategies on life satisfaction in 2015 zero, which can be considered a robust effect according to the standard suggested by Oster (2016). Thus, we conclude that unobserved confounders would need to be of extraordinary importance to negate our finding, and this conclusion further corroborates our confidence in a causal interpretation of our finding. The output of the analysis can be found on the OSF.

**A Potential Pathway from Socially Engaged Strategies to Life Satisfaction.** The central preregistered analysis demonstrated a link between respondents’ reports of what they could do and subsequent life satisfaction. However, this link does not necessarily imply that respondents who reported socially engaged strategies actually implemented these strategies and thus were more satisfied 1 year later. Therefore, we additionally ran a mediation analysis to test whether the relationship between strategies and life satisfaction could in part be explained by socializing with friends, relatives, or neighbors.

In 2015, respondents reported how frequently they participated in a range of activities in their free time, such as visiting cultural events or actively doing sports. Relevant to the purpose of the present study, they also reported how frequently they participated in “socializing with friends, relatives, or neighbors” on a 4-point scale (4 = every week, 3 = every month, 2 = more rarely, 1 = never). Among the respondents who had reported an active idea, respondents who

---

3 The method requires an assumption regarding how much of the variance in the outcome variable can potentially be explained. We assumed 74%, which equals the highest reliability estimate from Lucas and Donnellan (2012), and which gives an upper bound of the valid variance. Notice that if we had assumed lower values, conclusions regarding robustness would have been more favorable.
reported a socially engaged strategy in 2014 reported more frequent socializing; \(Mdn_{social} = 4,\)
\(Mdn_{nonsocial} = 3, z = -3.46, p < .001,\) or, when we treated socializing as a continuous variable,
\(M_{social} = 3.42, M_{nonsocial} = 3.19; d = 0.32, 95\% \text{ CI } [0.15, 0.50] t(410.98) = -3.81, p < .001.\)

To test whether more frequent socializing could (partly) explain the relationship between socially engaged strategies and life satisfaction, we ran a mediation analysis in \(MPlus 7.4\)
(Muthén & Muthén, 1998-2010). In our model, we predicted life satisfaction in 2015 from life satisfaction in 2014, whether or not respondents had reported a socially engaged strategy in 2014, and socializing in 2015 (treated as an ordinal variable). Furthermore, we predicted socializing in 2015 from the strategies reported in 2014; and we allowed life satisfaction in 2014 to correlate with socializing in 2015 and strategies reported in 2014. Bootstrapped confidence intervals indicated a statistically significant indirect effect from socially engaged strategies to life satisfaction in 2015 mediated via socializing, with an indirect effect of \(b = 0.049\) and a bias-corrected 95\% confidence interval of \([0.005, 0.117],\) standardized \(b = 0.015, 95\% \text{ CI } [0.001, 0.033],\) see Figure 2. The direct effect retained its statistical significance, \(b = 0.279,\) with a bias corrected 95\% confidence interval of \([0.058, 0.512],\) standardized \(b = 0.082, 95\% \text{ CI } [0.017, 0.149].\) Treating socializing as a continuous variable led to very similar results, the output of both analyses can be found on the OSF.
Figure 2. Coefficients and bias-corrected 95% confidence intervals from the mediation model, \( N = 582 \). Socializing was entered as a categorical variable, but conclusion remained unaffected when entering it as a continuous variable.

**Alternative independent and dependent variables.** In addition to the central preregistered analysis, we ran exploratory analyses including additional independent variables (i.e., alternative categories of strategies) and additional dependent variables (i.e., alternative measures of well-being). Details and results can be found in the supplemental online material.

**Discussion**

Our analyses showed that active ideas for the pursuit of life satisfaction were not beneficial per se. Half of the respondents answered the question “What can you do so that you will be more satisfied in the future?” *without* describing an action they could perform themselves. Instead, they referred to external circumstances or fortune. A possible explanation for this high number of nonactive responses could be that the German concept of happiness (“Glück”) also encompasses opportunity and fortune (Oishi et al., 2013). Importantly, these respondents were on average not less satisfied than those with active strategies. This finding is
conceptually aligned with the results of Ford et al. (2015), who found no correlation between the motivation to pursue happiness and well-being in their German sample.

However, among respondents who did report an active idea, those who described socially engaged pursuits became more satisfied over the course of 1 year. There are multiple potential explanations for the positive effects of socially engaged strategies versus nonsocial strategies. For example, changes in the social domain might be more feasible. Respondents who reported aiming for a better job or taking greater care of their health might have failed to achieve these goals, thus experiencing setbacks that diminished their life satisfaction, whereas respondents who reported spending more time with friends/family might have successfully implemented these strategies. Indeed, our data indicated that respondents with social strategies spent more time socializing after 1 year, and this could in part explain the benefit of socially engaged strategies. In addition, it is possible that respondents with nonsocial pursuits successfully achieved their goals yet suffered from adverse side effects (e.g., less time with others, resulting in increased loneliness and thus decreased life satisfaction; cf. Mauss et al., 2012), or the results of individualistic strategies might have been less rewarding than anticipated (cf. Schooler et al., 2003).

Whereas the present longitudinal study constitutes a considerable expansion of previous cross-sectional findings, follow-up studies making use of experimental manipulations or a more sophisticated longitudinal design with multiple assessments of both life satisfaction and pursuits are needed to corroborate our findings. Simultaneously, the ecological validity of our approach was high: Respondents came from a nationally representative panel with heterogeneous demographics. They reported their own strategies in text format, which allowed us to capture the full range of approaches to well-being instead of superimposing preselected items. Rozin (2001)
suggested that research be broadened by using strong descriptions of real-life phenomena, and we believe our study contributes to this endeavor.

Beyond new insights into how people can potentially increase their happiness, our research underscores the crucial role that other people play in our lives. Social relationships and affiliations have powerful effects on health (e.g., Berkman, Glass, Brissette, & Seeman, 2000); loneliness and social isolation have even been associated with increased mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). Our analyses further strengthen the notion that investments in social relationships are an important leverage point for achieving a healthy, long, and happy life.

**Author Contributions**

J. M. Rohrer, Stefan C. Schmukle, and Gert G. Wagner developed the study concept. D. Richter supervised the data collection. M. Brümmer developed the rating tool. J. M. Rohrer performed the data analysis under the supervision of S. C. Schmukle. J. M. Rohrer drafted the manuscript, and all authors provided critical revisions. All authors approved the final version of the manuscript for submission.

**Acknowledgments**

We thank Sabine Krüger and Michael Krämer who coded the text replies (the third rater was the first author) and Wiebke Nestler who translated parts of the documentation. Furthermore, we thank an anonymous reviewer who suggested the additional categories of pursuits that we analyzed in our exploratory analysis reported online.

**References**


https://doi.org/10.1093/acprof:oso/9780199926725.003.0020


https://doi.org/10.1098/rstb.2004.1522


