

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



Julia M. Rohrer^{1,2,3,4}, David Richter³, Martin Brümmer⁵,
Gert G. Wagner^{3,6,7}, and Stefan C. Schmukle⁴

¹International Max Planck Research School on the Life Course (LIFE), Max Planck Institute for Human Development, Berlin, Germany; ²Institute of Sociology, Freie Universität Berlin; ³German Institute for Economic Research (DIW Berlin), Berlin, Germany; ⁴Department of Psychology, University of Leipzig; ⁵Department of Applied Computer Science, University of Leipzig; ⁶Max Planck Institute for Human Development, Berlin, Germany; and ⁷Institute of Economics and Law, Berlin University of Technology

Psychological Science
1–8

© The Author(s) 2018

Reprints and permissions:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/0956797618761660

www.psychologicalscience.org/PS



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, in text format, ideas for how they could improve their life satisfaction. 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.

Keywords

happiness, life satisfaction, interpersonal relationships, well-being, pursuit of happiness, open data, open materials, preregistered

Received 4/10/17; Revision accepted 12/12/17

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; for additional discussion, see 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, their 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

Corresponding Author:

Julia M. Rohrer, Department of Psychology, University of Leipzig,

Neumarkt 9-19, 04109 Leipzig, Germany

E-mail: julia.rohrer@uni-leipzig.de

corroborated in 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. In the United States, however, 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.

In the study by Ford et al. (2015), evidence for the benefits of social as compared with nonsocial pursuits was 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 described socially engaged strategies for improving their life satisfaction experienced more positive changes than individuals who described 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 German Socio-Economic Panel Study (SOEP; Wagner, Frick, & Schupp, 2007) Innovation Sample (SOEP IS; Richter & Schupp, 2015). 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 SOEP IS was started in 2011 and has since 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. By design, not all SOEP IS respondents were asked all questions, and not all respondents who were asked the questions relevant to this study provided an answer; see details below and additional material on the Open Science Framework (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, 4 did not answer the life-satisfaction item in at least 1 of the 2 years and were thus excluded from further analysis, leaving 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 the 5,514 left in the analysis, only 1,547 were assigned to the more detailed well-being module. Following the assessment of life satisfaction in 2014, respondents were 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 1,547 respondents predicted that they would be as satisfied (46.28%) or even more satisfied (42.86%) than they were at the time of the survey, as opposed to less satisfied (10.86%). 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 monitor 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? 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, or 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 themselves 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 how many ideas for the improvement (or maintenance) of life satisfaction a particular answer included (Step 1). 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). Each 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 consisted solely 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,” “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? (interrater agreement: Fleiss's $\kappa = .94$; true for 808 texts); Does the text contain any strategies, that is, any active ideas? (Fleiss's $\kappa = .79$; true for 582 texts); Does the text contain any socially engaged strategies? (Fleiss's $\kappa = .91$; true for 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 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 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

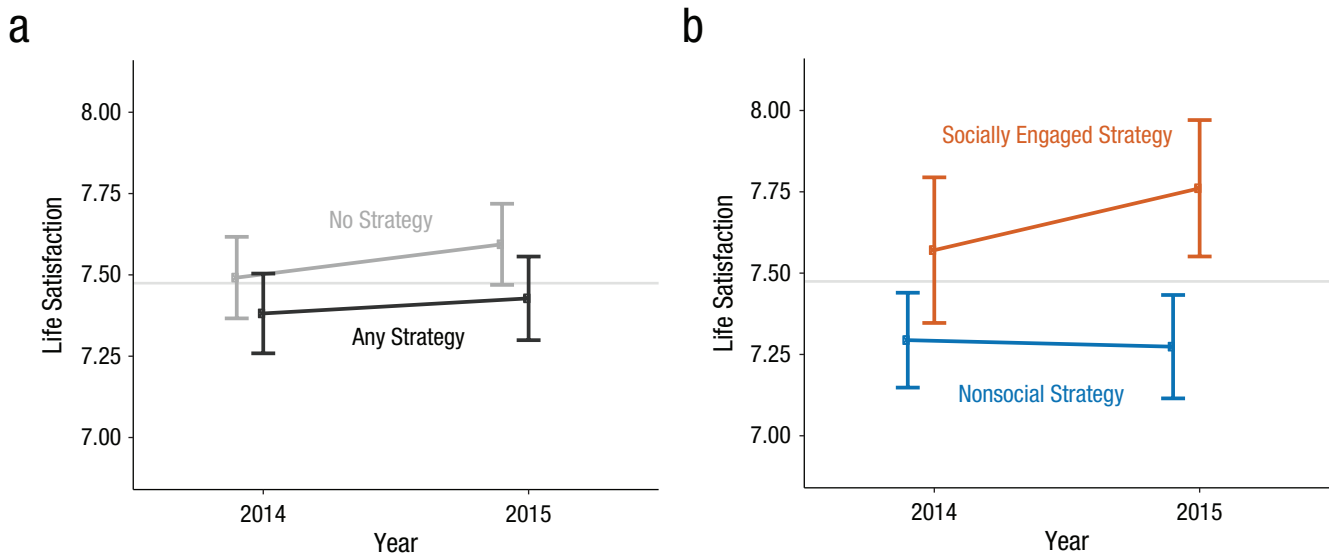


Fig. 1. Mean life-satisfaction score in 2014 and 2015. The graph in (a) shows individuals with at least one strategy for how to improve their life satisfaction ($n = 582$) and individuals without a strategy ($n = 596$). The graph in (b) shows individuals with at least one socially engaged strategy ($n = 184$) and individuals with only nonsocial strategies ($n = 398$). The horizontal gray lines mark the grand mean of life satisfaction in 2014 and 2015 for all respondents who answered the open-ended question. Error bars show 95% confidence intervals.

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 ($M = 7.49$) than individuals who reported a strategy ($M = 7.38$), but this difference was negligible, $d = 0.07$, 95% confidence interval (CI) = $[-0.04, 0.19]$, $t(1175.9) = 1.23$, $p = .212$ (see Fig. 1a; all d s are 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 two predictors: 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 Table S1 in the Supplemental Material 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 respect 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 ($M = 7.57$) than individuals who described only nonsocial strategies ($M = 7.29$), $d = 0.18$, 95% CI = $[0.01, 0.36]$, $t(342.86) = -2.03$, $p = .043$ (see Fig. 1b). 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 decrease 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 created a binary indicator reflecting social strategies (0 = only nonsocial strategies, 1 = at 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 Table S2 in the Supplemental Material for the complete regression output).

This effect equals 0.21 *SD* units of the life-satisfaction scale, 95% CI = [0.06, 0.36].²

Additional analyses

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, and (c) do so without the latter effect being fully mediated by life satisfaction in 2014, 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 their plausibility 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 or 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.³ 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 an unpreregistered 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 engaging in 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, those who reported a socially engaged strategy in 2014 reported more frequent socializing (social: *Mdn* = 4; nonsocial: *Mdn* = 3, $z = -3.46$, $p < .001$, or when we treated socializing as a continuous variable, social: $M = 3.42$; nonsocial: $M = 3.19$; $d = 0.32$, 95% 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 (Version 7.4; Muthén & Muthén, 2012). 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 CIs indicated a statistically significant indirect effect from socially engaged strategies to life satisfaction in 2015 mediated via socializing, indirect effect: $b = 0.049$, bias-corrected 95% CI = [0.005, 0.117], $\beta = 0.015$, 95% CI = [0.001, 0.033]; see Figure 2. The direct effect retained its statistical significance, $b = 0.279$, bias-corrected 95% CI = [0.058, 0.512], $\beta = 0.082$, 95% 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.

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 Material.

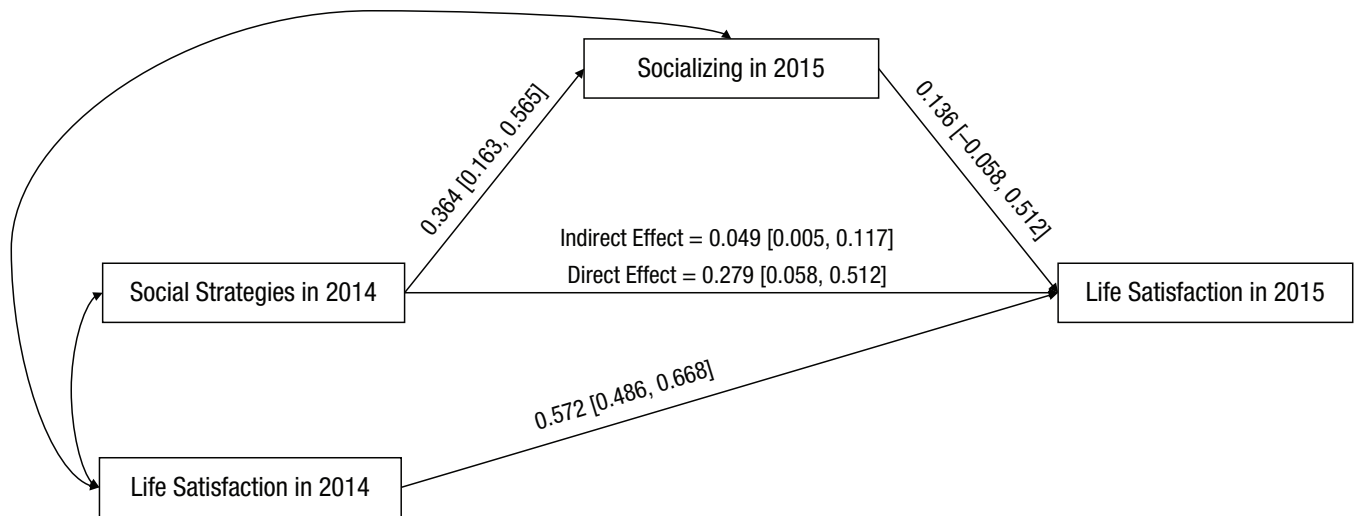


Fig. 2. Results from the mediation analysis testing the influence of social strategies and life satisfaction in 2014 on life satisfaction in 2015, as mediated by socializing with friends, relatives, or neighbors in 2015 ($n = 582$). Unstandardized coefficients are shown, with bias-corrected 95% confidence intervals in brackets. Socializing was entered as a categorical variable, but conclusions remained unaffected when it was entered as a continuous variable.

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, Graham, Kesebir, & Galinha, 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.

In contrast, 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 non-social 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 or 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 using 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.

Action Editor

Bill von Hippel served as action editor for this article.

Author Contributions

J. M. Rohrer, S. C. Schmukle, and G. G. Wagner developed the study concept. D. Richter supervised the data collection. M. Brümmer developed the rating tool. J. M. Rohrer analyzed the data 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.

ORCID iD

Julia M. Rohrer  <https://orcid.org/0000-0001-8564-4523>

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.

Declaration of Conflicting Interests

The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.

Supplemental Material

Additional supporting information can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797618761660>

Open Practices



All data and materials have been made publicly available via the Open Science Framework (OSF) and can be accessed at <https://osf.io/ajvgt/>. The design and analysis plans for this study were preregistered at the OSF (<https://osf.io/4nsjb/register/565fb3678c5e4a66b5582f67>). The complete Open Practices Disclosure for this article can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797618761660>. This article has received badges for Open Data, Open Materials, and Preregistration. More information about the Open Practices badges can be found at <http://www.psychologicalscience.org/publications/badges>.

Notes

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.
2. The regression model tested 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 in 2015 – life satisfaction in 2014) between the two groups (social: $M = 0.19$, non-social: $M = -0.02$), which tested a slightly different hypothesis: Ignoring initial differences, which of the two groups “gained” more life satisfaction? The comparison missed the significance threshold of $p < .05$ (two-sided), $d = 0.15$, 95% 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.

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. If we had assumed lower values, conclusions regarding robustness would have been more favorable.

References

- Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to health: Durkheim in the new millennium. *Social Science & Medicine*, *51*, 843–857. doi:10.1016/S0277-9536(00)00065-4
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, *55*, 34–43. doi:10.1037/0003-066X.55.1.34
- Diener, E., & Oishi, S. (2005). The nonobvious social psychology of happiness. *Psychological Inquiry*, *16*, 162–167.
- Ford, B. Q., Dmitrieva, J. O., Heller, D., Chentsova-Dutton, Y., Grossmann, I., Tamir, M., . . . Mauss, I. B. (2015). Culture shapes whether the pursuit of happiness predicts higher or lower well-being. *Journal of Experimental Psychology: General*, *144*, 1053–1062. doi:10.1037/xge0000108
- 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. T. Moskowitz (Eds.), *Positive emotion: Integrating the light sides and dark sides* (pp. 363–381). Oxford, England: Oxford University Press. doi:10.1093/acprof:oso/9780199926725.003.0020
- Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*, 1435–1446. doi:10.1098/rstb.2004.1522
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, *10*, 227–237. doi:10.1177/1745691614568352
- Kesebir, P., & Diener, E. (2008). In pursuit of happiness: Empirical answers to philosophical questions. *Perspectives on Psychological Science*, *3*, 117–125. doi:10.1111/j.1745-6916.2008.00069.x
- Lucas, R. E., & Donnellan, M. B. (2012). Estimating the reliability of single-item life satisfaction measures: Results from four national panel studies. *Social Indicators Research*, *105*, 323–331. doi:10.1007/s11205-011-9783-z
- Mauss, I. B., Savino, N. S., Anderson, C. L., Weisbuch, M., Tamir, M., & Ludenslager, M. L. (2012). The pursuit

- of happiness can be lonely. *Emotion*, *12*, 908–912. doi:10.1037/a0025299
- Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion*, *11*, 807–815. doi:10.1037/a0022010
- Muthén, L. K., & Muthén, B. O. (2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Author.
- Oishi, S., Diener, E., & Lucas, R. E. (2007). The optimum level of well-being: Can people be too happy? *Perspectives on Psychological Science*, *2*, 346–360.
- Oishi, S., Graham, J., Kesebir, S., & Galinha, I. C. (2013). Concepts of happiness across time and cultures. *Personality and Social Psychology Bulletin*, *39*, 559–577. doi:10.1177/0146167213480042
- Oster, E. (2016). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*. Advance online publication. doi:10.1080/07350015.2016.1227711
- Pearl, J. (2016). Lord's paradox revisited – (Oh Lord! Kumbaya!). *Journal of Causal Inference*, *4*(2). doi:10.1515/jci-2016-0021
- Richter, D., & Schupp, J. (2015). The SOEP innovation sample (SOEP IS). *Schmollers Jahrbuch*, *135*, 389–399. doi:10.3790/schm.135.3.389
- Rozin, P. (2001). Social psychology and science: Some lessons from Solomon Asch. *Personality and Social Psychology Review*, *5*, 2–14. doi:10.1207/S15327957PSPR0501_1
- Schooler, J. W., Ariely, D., & Loewenstein, G. (2003). The pursuit and assessment of happiness can be self-defeating. In I. Brocas & J. D. Carrillo (Eds.), *The psychology of economic decisions: Vol. 1. Rationality and well-being* (pp. 41–70). Oxford, England: Oxford University Press.
- Wagner, G. G., Frick, J. R., & Schupp, J. (2007). The German Socio-Economic Panel Study (SOEP)—Scope, evolution and enhancements. *Schmollers Jahrbuch: Journal of Applied Social Science Studies*, *127*, 139–169.