

Marriage Matters: Spousal Similarity in Life Satisfaction

By Ulrich Schimmack and Richard Lucas*

Abstract

Spousal similarity in life satisfaction is important for causal theories of life satisfaction. This study examined the concurrent and cross-lagged spousal similarity in life satisfaction over a 21-year period based on 847 married couples in the German Socio-Economic Panel. Concurrent spousal similarity (e.g., husband 1990 & wife 1990) was considerably higher than one-year lagged similarity (e.g., husband 1990 & wife 1991). This finding reveals spousal similarity in the variable component of life satisfaction that fluctuates from year to year. In addition, cross-lagged spousal similarity systematically decreased with length of the time lag. This finding reveals spousal similarity in the changing component of life satisfaction. Finally, there was considerable cross-lagged spousal similarity over the longest time lag (e.g., husband 1984 & wife 2004). This finding reveals spousal similarity in the stable component of life satisfaction. The evidence for a changing component in spousal similarity in life satisfaction provides conclusive evidence that changes in one spouse's life satisfaction are systematically related to changes in the other spouse's life satisfaction.

JEL Classification: Z23

1. Introduction

Traditionally, societies' and individuals' well-being has been assessed with objective indicators (GDP, income). In the 1960s, social scientists noted the limitations of this approach and developed subjective indicators of well-being (Cantril, 1965). One of the most prominent social indicators of well-being is life satisfaction (Diener, 1984). Over the past decades, research on life satisfaction has increased exponentially (Diener / Suh / Lucas / Smith, 1999; Kahneman / Diener / Schwarz, 1999).

The main goal of life satisfaction research is to uncover the determinants of life satisfaction. Determinants of life satisfaction can be broadly classified into

* The data used in this publication were made available to us by the German Socio-Economic Panel Study (SOEP) at the German Institute for Economic Research (DIW Berlin).

internal determinants, (e.g., genes, biological dispositions) and external determinants (e.g., income, employment, social relationships). Internal and external determinants of life satisfaction have different implications for public policy and for the use of life satisfaction as a subjective indicator of well-being. Internal determinants of life satisfaction raise normative concerns about the value of life satisfaction as a measure of well-being (Sumner, 1996). For example, if an individual's high life satisfaction were based on a distorted, irrational, or delusional assessment of his life, it would provide misleading information about the individual's well-being. Internal determinants of life satisfaction also pose a problem for public policy makers because the main objective of public policy is to create sustainable environments and social structures that maximize well-being. If life satisfaction were largely internally determined, public policies would have no effect on them.

A comprehensive review of the literature suggests that internal determinants of life satisfaction are stronger than external determinants of life satisfaction (Diener et al., 1999). Evidence for internal determinants of life satisfaction stems from three lines of research. First, life satisfaction is highly correlated with personality traits (Heller / Watson / Hies, 2004; Schimmack / Oishi / Furr / Funder, 2004), which are known to be very stable (Conley, 1984, 1985; Terracciano / Costa / McCrae, 2006), and to a large extent genetically determined (Riemann / Angleitner / Strelau, 1997). Second, many positive or negative life events have relatively short-lived effects on life satisfaction (Headey / Wearing, 1989; Suh / Diener / Fujita, 1996). These events produce temporal variability, but not real changes in life satisfaction. Third, behavioural genetics studies reveal that life satisfaction itself is partially genetically determined (Lykken / Tellegen, 1996; Nes / Roysamb / Tambs / Harris / Reichborn-Kjennerud, 2006; Stubbe / Posthuma / Boomsma / De Geus, 2005). This evidence has led some researchers to propose that individual differences in life satisfaction are largely determined by an internal set point to which people return after they adapt to environmental changes (Headey / Wearing, 1992; Lykken / Tellegen, 1996).

However, several recent studies suggest that external determinants of life satisfaction are more powerful than previously thought. First, the unique data of the German Socio-Economic Panel (SOEP) have provided new information on the stability of life satisfaction (Ehrhardt / Saris / Veenhoven, 2000; Fujita / Diener, 2005). These studies show significant changes in life satisfaction. We used a simple formula to determine the amount of change after controlling for occasion-specific measurement error and the short-lived influence of life events (Heise, 1969). The formula is $S = Rs^n$ with n = number of years, s = annual stability, R = reliability, and S = stability over n years. Applying this formula to Fujita and Diener's (2005) findings, we obtained a one-year stability of $s = .94$, whereas the stability over 16 years was only $S = .42$.

The SOEP data have also provided the first information on the nature of external determinants of life satisfaction that produce lasting changes in life

satisfaction, namely divorce, unemployment, and disability (Lucas, 2005; Lucas/Clark/Georgellis/Diener, 2004). Marriage is not associated with an average increase or decrease in life satisfaction, but it seems to produce lasting changes in individuals' life satisfaction (Lucas/Clark/Georgellis/Diener, 2003). In other words, life satisfaction before marriage increases for some individuals and decreases for other individuals in the years after marriage.

The present article extends research on internal and external determinants of life satisfaction by examining spousal similarity in life satisfaction. Spousal similarity in life satisfaction is theoretically important because spouses share many environmental factors, but are not genetically related (i.e., they are not blood relatives). Thus, spousal similarity in life satisfaction may reveal environmental influences on life satisfaction in the same way as similarity between monozygotic twins can reveal genetic influences.

Numerous cross-sectional studies have reported spousal similarity in life satisfaction (Bookwala/Schulz, 1996; Tambs/Moum, 1992). One problem of cross-sectional studies is that they fail to provide conclusive evidence for environmental influences because spousal similarity may be due to positive assortative mating. That is, men and women with similar levels of life satisfaction may be more likely to marry each other. If their pre-marriage life satisfaction were genetically determined, spousal similarity in life satisfaction would still reflect genetic influences even though spouses are not genetically related. One solution to this problem is to examine spousal similarity over time. A longitudinal study with a minimum of three waves can distinguish three components of spousal similarity in life satisfaction. First, the variable component of spousal similarity in life satisfaction is revealed by spousal similarity that is unique to a single assessment (wave). This component can be due to shared method variance or environmental influences due to shared life events that have a temporary influence on both spouses' life satisfaction. Second, the changing component of spousal similarity in life satisfaction is revealed by decreasing cross-lagged spousal similarity with increasing time lags. For example, the correlation between husbands' life satisfaction and wives' life satisfaction one year later ($\text{lag} = 1$) is higher than the correlation between husbands' life satisfaction and wives' life satisfaction 20 years later ($\text{lag} = 20$). This pattern of results provides strong evidence for environmental influences on spousal similarity in life satisfaction, just like decreasing retest correlations with increasing lags reveal actual changes in individuals' life satisfaction (Conley, 1984). Finally, the stable component of spousal similarity in life satisfaction reflects spousal similarity that is constant from the first to the last assessment. The stable component is revealed by the ability to predict one spouse's life satisfaction at the end of the study from the other spouse's life satisfaction at the beginning of the study. The stable component of spousal similarity can be due to assortative mating or stable environmental influences.

The SOEP data provide a unique opportunity to separate these three components of spousal similarity.

2. Spousal Similarity in the SOEP

Our data analyses are based on all waves of the SOEP from 1984 to 2004 (Wagner/Frick/Schupp, 2006). Life satisfaction was assessed with an 11-point scale (Fujita/Diener, 2005; Kroh, 2006). We first examined cross-sectional spousal similarity for each of the 21 waves for all couples in each wave ($N_s > 1000$). The average spousal similarity was $r = .54$. Variability across waves was small (range $r = .52$ to $.59$). It is noteworthy that spousal similarity in the SOEP data is higher than the typical spousal similarity in previous studies ($\sim .3$ to $.4$). To separate the variable, changing, and stable components of spousal similarity in life satisfaction, we computed time-lagged cross-spouse correlations. These analyses are limited to 847 couples that participated in all 21 waves. The cross-sectional spousal similarity for this subsample of couples was virtually identical to the cross-sectional spousal similarity of the full sample ($r = .52$).

The first notable finding is that cross-lagged spousal similarity over one year ($\sim .4$) is lower than concurrent spousal similarity ($\sim .5$). This finding reveals that some of the concurrent spousal similarity is due to variable factors shared by the two spouses. The second notable finding is that cross-lagged spousal similarity systematically decreased with increasing time lag (Figure 1). Over the 21 year period, it decreased from $r \sim .4$ to $\sim .2$. This finding provides strong evidence for a changing component in spousal similarity. Finally, Figure 2 reveals stability in spousal similarity over the longest time lag ($r \sim .2$). These findings suggest that approximately 20% of spousal similarity at one occasion is due to the variable component, whereas the changing and stable component both contribute about 40 %.

Figure 1 also shows individuals' (averaged across husbands and wives) retest correlations of life satisfaction. The results replicate previous findings of true change in life satisfaction (Ehrhardt et al., 2000; Fujita/Diener, 2005). We used Heise's (1969) formula to estimate the stability corrected for measurement error (S) as well as the reliability (R) of life satisfaction ratings. We then used the reliability estimates to correct observed spousal similarity for measurement error. The trendlines in Figure 1 show the measurement corrected lagged correlations in individuals' life satisfaction (S) and cross-lagged spousal similarity. The high spousal similarity over short time lags of one or two years ($\sim .6$) is consistent with another longitudinal study of spousal similarity in life satisfaction (Schimmack/Pinkus/Lockwood, 2006).

Another noteworthy finding is that a considerable portion of spousal similarity in life satisfaction is stable even over 20 years. Furthermore, a comparison

of the trendlines for individuals' life satisfaction and spousal similarity reveals a shallower trendline for spousal similarity than for individuals' life satisfaction. To illustrate, individuals' life satisfaction is a much better predictor of their own life satisfaction than partners' life satisfaction one year later ($r = .96$ vs. $r = .64$; effect size $q = 2.67$; Cohen, 1988). However, over an interval of 20 years, this difference decreases ($r = .53$ vs. $r = .35$; $q = 0.45$). The small gap between the two lines with a lag of 20 years suggests that most of the stable variance in life satisfaction of married individuals is shared with a spouse.

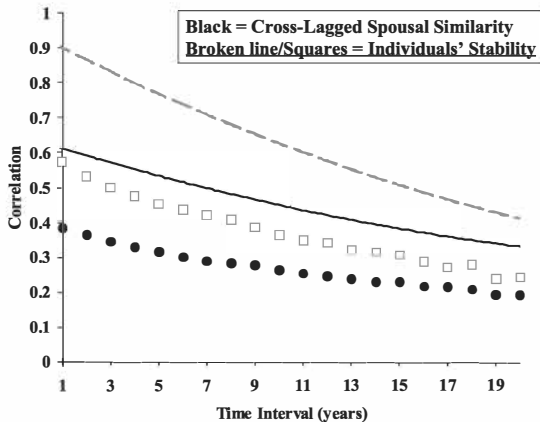


Figure 1: Cross-lagged Spousal Similarity and Retest Stability of Life Satisfaction over Retest Intervals of 1 to 20 years ($N = 847$ couples).

3. Conclusion

Our results show that spouses are similar in all three components of life satisfaction, namely the variable component that produces temporary variability in life satisfaction from year to year, the changing component of life satisfaction that produces gradual changes over time, and the stable component of life satisfaction that does not change over long time intervals. Whereas spousal similarity in the changing component of life satisfaction provides strong support for environmental influences on life satisfaction, the nature of spousal similarity in the other two components is more ambiguous.

Our findings of spousal similarity in the stable component of life satisfaction over a 20-year period have important implications for the interpretation of behavioural genetics studies of life satisfaction (Nes/Roysamb/Tambs/Harris/Reichborn-Kjennerud, 2006). These studies imply that genetic factors account for most of the stable variance in life satisfaction. If this interpretation of the data were correct, our finding of high spousal similarity would imply strong assortative mating for life satisfaction, and high genetic similarity be-

tween spouses. As a result, common behavioural genetics models that assume random mating make incorrect assumptions about the genetic similarity of dizygotic twins and first-degree relatives. Thus, the published estimates of heritability, especially estimates of additive genetic effects, should be interpreted with caution.

It is also possible that spousal similarity in the stable component of life satisfaction is influenced by stable environmental factors. One possible stable environmental factor is the partner's personality. Schimmack, Pinkus, and Lockwood (2006) found that one spouse's disposition to experience depressed mood more often had a moderate negative correlation with partners' life satisfaction. Although this finding does not prove causality, it suggests partners' depression as a potential environmental cause of stable spousal similarity in life satisfaction. To conclude, spousal similarity in life satisfaction is an important phenomenon that deserves more attention.

References

- Bookwala, J./Schulz, R.* (1996): Spousal similarity in subjective well-being: The cardiovascular health study, *Psychology and Aging* 11(4), 582–590.
- Cantril, H.* (1965): *The pattern of human concerns*, New Brunswick, NJ.
- Cohen, J.* (1988): *Statistical power analysis for the behavioral sciences* (2 ed.). Hillsdale, NJ.
- Conley, J. J.* (1984): The hierarchy of consistency: A review and model of longitudinal findings on adult individual differences in intelligence, personality and self-opinion, *Personality and Individual Differences* 5 (1), 11–25.
- Conley, J. J.* (1985): Longitudinal stability of personality traits: A multitrait-multimethod-multioccasion analysis, *Journal of Personality and Social Psychology* 49(5), 1266–1282.
- Diener, E.* (1984): Subjective well-being, *Psychological Bulletin* 95(3), 542–575.
- Diener, E./Suh, E. M./Lucas, R. E./Smith, H. L.* (1999): Subjective well-being: Three decades of progress, *Psychological Bulletin* 125(2), 276–302.
- Ehrhardt, J. J./Saris, W. E./Veenhoven, R.* (2000): Stability of life-satisfaction over time: Analysis of change in ranks in a national population, *Journal of Happiness Studies* 1(2), 177–205.
- Fujita, F./Diener, E.* (2005): Life satisfaction set point: Stability and change, *Journal of Personality and Social Psychology* 88(1), 158–164.
- Headey, B./Wearing, A.* (1989): Personality, life events, and subjective well-being: Toward a dynamic equilibrium model, *Journal of Personality and Social Psychology* 57(4), 731–739.
- Headey, B./Wearing, A.* (1992): *Understanding happiness: A theory of subjective well-being*, Melbourne.

- Heise, D. R. (1969): Separating reliability and stability in test-retest correlation, *American Sociological Review* 34(1), 93 – 101.
- Heller, D. / Watson, D. / Hies, R. (2004): The role of person versus situation in life satisfaction: A critical examination, *Psychological Bulletin* 130(4), 574 – 600.
- Kahneman, D. / Diener, E. / Schwarz, N. (1999): *Well-being: The foundations of hedonic psychology*. New York, NY.
- Kroh, M. (2006): An experimental evaluation of popular well-being measures. DIW Discussion Paper No. 546. Berlin.
- Lucas, R. E. (2005): Time does not heal all wounds: A longitudinal study of reaction and adaptation to divorce, *Psychological Science* 16(12), 945 – 950.
- Lucas, R. E. / Clark, A. E. / Georgellis, Y. / Diener, E. (2003): Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status, *Journal of Personality and Social Psychology* 84(3), 527 – 539.
- Lucas, R. E. / Clark, A. E. / Georgellis, Y. / Diener, E. (2004): Unemployment Alters the Set Point for Life Satisfaction. *Psychological Science* 15(1), 8 – 13.
- Lykken, D. / Tellegen, A. (1996): Happiness is a stochastic phenomenon, *Psychological Science* 7(3), 186 – 189.
- Nes, R. B. / Roysamb, E. / Tambs, K. / Harris, J. R. / Reichborn-Kjennerud, T. (2006): Subjective well-being: Genetic and environmental contributions to stability and change, *Psychological Medicine* 36(7), 1033 – 1042.
- Riemann, R. / Angleitner, A. / Strelau, J. (1997): Genetic and environmental influences on personality: A study of twins reared together using the self- and peer-report NEO-FFI scales, *Journal of Personality* 65 (3), 449 – 475.
- Schimmack, U. / Oishi, S. / Furr, R. M. / Funder, D. C. (2004): Personality and Life Satisfaction: A Facet-Level Analysis, *Personality and Social Psychology Bulletin* 30(8), 1062 – 1075.
- Schimmack, U. / Pinkus, R. T. / Lockwood, P. (2006): Personality and life satisfaction. A dyadic multi-method-occasion-construct study, Manuscript submitted for publication.
- Stubbe, J. H. / Posthuma, D. / Boomsma, D. I. / De Geus, E. J. C. (2005): Heritability of life satisfaction in adults: A twin-family study. *Psychological Medicine* 35(11), 1581 – 1588.
- Suh, E. / Diener, E. / Fujita, F. (1996): Events and subjective well-being: Only recent events matter, *Journal of Personality and Social Psychology* 70(5), 1091 – 1102.
- Sumner, W. (1996): *Welfare, happiness, and ethics*. Oxford.
- Tambs, K. / Moum, T. (1992): No large convergence during marriage for health, life-style, and personality in a large sample of Norwegian spouses, *Journal of Marriage & the Family* 54(4), 957 – 971.
- Terracciano, A. / Costa, J. P. T. / McCrae, R. R. (2006): Personality plasticity after age 30, *Personality and Social Psychology Bulletin* 32, 999 – 1009.
- Wagner, G. G. / Frick, J. R. / Schupp, J. (2006): Enhancing the power of household panel studies – The case of the German Socio-Economic Panel Study (SOEP), DIW Data Documentation No. 13.