Age and Happiness

Piper, Alan

University of Leeds

March 2023

Age and Happiness

Alan Piper*

Economics Department, Leeds University Business School

March 2023

"The midlife low is one of the most common findings in the wellbeing literature and also one of the least understood."

Andrew Clark, STATEC Wellbeing conference 2022

Abstract: This entry summarises quantitative research endeavours regarding the relationship between age and happiness. Firstly, the dominant finding in the literature is discussed: that, on average, happiness starts off high in early adulthood and declines to a midlife low and then, following the midlife low, average happiness increases again until retirement. As the discussion highlights, this midlife low finding has been found around the world, and at different time periods, with different datasets and methods. This entry also shows how some individuals suffer more at midlife than others, and discusses why this might be the case. While the dominant finding is largely (though not wholly) accepted, reasons for its existence and how it might be mitigated are less clear and remain to some extent a puzzle. The recommendations aim for more understanding here and regarding other trends at different parts of the lifecycle.

Past

As the epigraph, from a prominent wellbeing researcher, intimates there are, despite much work and a substantial majority finding, still fascinating puzzles regarding the relationship between age and happiness in economic research. This majority finding from recent economic (and other) research regarding age and happiness is the existence of a midlife low. In general, modern empirical research supports a happiness low in midlife, though whether it is universal or not has received much discussion in the psychological literature. In the economic literature especially, this midlife low has been often discussed as being part of a U-shape relationship between age and happiness. This entry briefly discusses the evidence regarding this finding of a midlife low, or U-shape, some of its critiques, as well as its potential causes and how future research might proceed to attempt to understand, or at least uncover more evidence about, the fascinating puzzle of the midlife low, and age and happiness in general.

This research finding, from many quantitative studies, offers support to the notions of a midlife crisis put forward in the late 1950s and 1960s by psychologists and psychotherapists including Elliot Jaques and Barbara Fried. Jaques coined the phrase when presenting what would become the seminal paper for the concept at the 1957 British Psychological Society conference; work that was eventually published in 1965. Fried followed up and argued that such midlife lows are universal, something that "each of us goes through it in his [or her] own way, experiences it with greater or lesser intensity, and emerges from it more or less reconciled to the years ahead. It is a "natural" developmental crisis, and it is unavoidable" (Fried, 1967). Subsequent empirical research in economics has not addressed this universality or inevitability in detail, but is largely supportive of midlife being an (on average) relatively unhappy phase of life, found in the majority of countries on the planet.

Current research mostly traces, over working life, an approximate U-shape in wellbeing, which falls from a peak in early adulthood to midlife and then rises again as one approaches approximate retirement age. The fall has been found to be equivalent to a substantial percentage of the effect on well-being of major events such as divorce or unemployment (e.g. Cheng et al. 2017); the rise back is of the same magnitude in some countries and datasets, though less in others (e.g. the German Socioeconomic Panel). This U-shape finding is clearly demonstrated by Blanchflower and Oswald (2008) and Blanchflower and Graham (2022) among many other studies. Investigations which extend the upper age limit to the end of life sometimes find a further turning point where wellbeing ticks down again in the last years of life, sometimes called a wave pattern (e.g. Wunder et al. 2013).[1] Overall, a midlife low been found in many countries, in different time periods, with different datasets, and different estimation techniques. Results perhaps supportive of Fried's notion of universality. The midlife low has shown up in raw data (for example: Grözinger and Piper 2019; Blanchflower and Graham 2022; and see chart 2 of Blanchflower et al. 2023); studies that use cross-section (for example: Blanchflower and Oswald 2008; Helliwell et al. 2018; Blanchflower and Graham 2022); and longitudinal data (for example: Cheng et al. 2017; Clark 2019; Piper 2022). In addition, Blanchflower et al. (2023) collects in an appendix over 600 studies from the last ten years supportive of a U-shape or midlife low finding.

Some of the critiques of this work include the possibility that the U-shape is a statistical artefact, created by treating age as a quadratic; a claim recently by Kratz and Brüderl (2021). However, there are by now many studies that show an approximate U-shape for the age happiness relationship with age non-parameterised, for example treating age as a collection of single year dummies or making use of age group dummies of various ranges (e.g. Clark et al. 2021; Piper 2022). Cheng et al. (2017) used the linear properties of a quadratic and showed, with four longitudinal datasets, that the annual change in average individual happiness is negative until midlife when it becomes positive: results supporting the U-shape without relying on the use of a quadratic in age.[2] Other critiques rest upon the control sets typically used in the majority of studies (e.g. Blanchflower and Oswald 2009, Glenn 2009 and Bartram 2023). The recent challenge from Bartram in particular, with its call for minimal controls.[3] One well-known issue with minimal controls is that it can be difficult to know if any found midlife low is, for example, just reflecting the prevalence of divorce in midlife, or the approach of retirement towards the end of working life (which has been found to cause an increase in happiness by Hetschko et al. 2014). Bartram's prescription for the control set, often in combination with relatively small sample sizes however, does return a majority finding of a midlife low. Furthermore, Blanchflower and Oswald (2019), among other studies, demonstrated a midlife low with estimates from four datasets regardless of whether the regression equation included controls or not. Other studies have similar results.

An early and prominent investigation critical of the U-shape finding, Kassenboehmer and Haisken-DeNew (2012), itself a much misrepresented study, presented evidence that the inclusion of variables for survey experience results in a flat relationship for age and wellbeing.[4] However, this result rests on their specific methodology which causes a massive loss of sample size. Their conception of survey experience is co-linear with age, and this flat relationship finding rests on those individuals who drop out of the German Socioeconomic Panel and return to it missing a year or more (which is about 7% of

[1] Importantly, and not always understood, this wave pattern is not in contradiction to, or in dispute with, the approximate U-shape finding.

[2] In other words, they find a linear slope with a positive gradient that crosses zero in midlife. The first part of adulthood has negative annual changes for well-being, and the second half positive changes in annual well-being.

[3] This difference regarding control variables from what is typical perhaps resides along disciplinary lines. As Blanchflower et al. (2023) note, in an article which critiques some of the arguments of Bartram (2023), many valuable advances in the economics discipline would not have occurred with such rules about control variables.

[4] One recent misrepresentation of this paper is by Galambos et al. (2020) who incorrectly state that the inclusion of control variables renders the happiness and age relationship flat. This study, Galambos et al. (2020), which is critical of the dominant finding, is, in turn, used by other studies in support of their critiques (e.g. Kratz and Brüderl 2021; Bartram 2023), though perhaps it should not be: a substantial and persuasive point by point rebuttal of the arguments of Galambos et al. (2020) exists (Blanchflower and Graham 2021).

the SOEP), which often results in statistically insignificant coefficients being obtained for age and age-squared. A reassessment using the same methodology but a longer sweep of data, and hence a larger sample size, returns the common U-shape finding (Blanchflower and Piper 2022). Some scholars claim that it is the introduction of controls, and/or especially the use of fixed effects, in the Kassenboehmer and Haisken-DeNew (2012) study which flattens the U-shape. These claims are inaccurate, but repeated in the academic literature and contribute to the notion that the U-shape is a cross-section only phenomenon, a false notion also countered by Cheng et al. (2017), and furthermore perhaps informs the thinking that there is much more dispute about the relationship than there actually is - an issue briefly returned to in the next subsection.

Present

There are three main strands of current scholarly activity regarding age and happiness within economics. One is the ongoing accumulation of evidence using more objective factors to highlighting distress and discomfort in midlife. A second is the continuation of the debate about whether the U-shape or midlife low exists in subjective survey data, which has recently centered upon the universality (or otherwise) of the finding. A further strand comprises the nascent attempts to understand the midlife low and U-shape. This section briefly discusses all three strands.

Happiness and wellbeing do not have to be measured just by survey responses. Objective factors can also inform about how people are experiencing their own lives, their wellbeing, and studies which investigate such factors find evidence of midlife distress. Recently, Giuntella et al. (2022) have documented midlife distress in many areas of our lives: suicide and suicidal feelings, sleeping problems, extreme depression, intense job strain, disabling headaches, concentration and memory problems, and alcohol dependence. These results come from a variety of data sources, and all reveal a 'hill-shape' of higher incidence in the midlife years, concomitant with midlife lows or - the title of their paper - a midlife crisis. This work builds upon other studies that have found midlife lows via an assessment of prescriptions of anti-depressants (Blanchflower and Oswald, 2016; Blanchflower and Bryson, 2021), hypertension (Blanchflower and Oswald, 2016), stress (Graham and Ruiz-Pozuelo 2017) suicide (Oswald and Tohamy) and more (e.g. Daly et al. 2011). While not confirming the survey data findings, the objective evidence is certainly supportive of the quantitative findings from subjective data sources.

The debate about whether an approximate U-shape, i.e. a midlife low, exists or not has recently asked questions about its universality.[5] Whether the midlife low finding is universal, as claimed by Fried and others, or not has long been debated within psychology, and has recently featured within economics. See, for example, the papers in the National Institute Economic Review January 2023 paper - Bartram 2013, and Blanchflower et al. 2013). Bartram criticises Blanchflower (2021) for a claim that the U-shape occurs everywhere, and finds - as mentioned above - a U-shape in numerous countries he assesses and a sizeable minority with no u-shape or midlife low.[6] Blanchflower et al. (2023), while critiquing this work including its partial literature review, present alternative evidence for the countries that comprise this sizeable minority showing midlife lows. For any (social science) phenomenon investigated with quantitative techniques it is probably unlikely to be found for every person, with every dataset over every period of time, and the U-shape is no exception, however the academic literature is generally supportive of an on average finding of a midlife low.

As well as claiming that midlife lows might be universal, Fried (1967) also mentions that they are experienced 'to a lesser or greater extent', and this a is key for some of the recent studies attempting to understand why people experience midlife lows. Helliwell et al. (2018) investigate the age and happiness relationship through what they call the social context of work. They find that the following groups of individuals have a lesser midlife low than those not in that group: those who have a

---

[5] Psychologists have long considered whether it is inevitable or not.
[6] The sample sizes are not clear in Bartram (2023). However, given that some countries investigated (e.g. Iceland and Italy) appear in the repeated cross-section European Social Survey five or less times, with an approximate sample of 1,000 for appearance, the sample sizes are considerably smaller than those often used in age and happiness work.

manager who is more like a partner than a boss; those married (compared with unmarried); those who have lived more than 15 years in their community (compared with less than 15). These group differences for the midlife low are non-negligible. Clark et al. (2021) find, with cross-section and panel analysis, that those with partners suffer less in midlife than those without partners, and Piper (2021) investigates employment contracts, finding, perhaps unsurprisingly, that those on temporary contracts suffer more in midlife than those on permanent contracts. Perhaps less surprisingly, is the finding that job security accounts for only about 1/6th of this difference. As well as the specific findings, of interest is what might connect these findings. A possibility is a feeling of belongingness. The groups with a deeper dip in terms of their midlife wellbeing could all be said to lack a sense of belonging compared to the other groups. This might be as simple as in the workplace or at home, or something more fundamental: a feeling of not belonging in general. Other possibilities exist too. Note that all of these studies find, for all groups, a U-shape with a midlife low. By learning more about these differences, and those groups that seemingly have no or a negligible fall in wellbeing in midlife (with the caveat that the sample size and methodology are both adequate) can help us to better understand the relationship between age and happiness.

Other work offers other clues to the puzzle of the midlife low. For example, Weiss et al. (2012) find a U-shape for great apes, which hints at least a partially biological explanation. A possibility supported by recent work from a neurobiologist (Esch 2023). Schwandt (2016), using German panel data, compares what people expect their life satisfaction to be like in five years time with what they actually rate it as when the time comes. This results in the finding that people are on average overly optimistic about their futures in the first half of life, and overly pessimistic in the second half.[7] In other words, the slide down the U-shape is potentially accompanied by disappointment and dashed hopes, whereas the uptick after midlife is surprisingly better than what people expect. This idea also ties in with some of the work regarding midlife of psychotherapists (e.g. Hollis 1993; Jamieson 2022). These ideas are discussed further in the next section, and Piper (2023).

Future

Discovering more about the relationship between age and happiness remains a fascinating challenge and this section promotes two strands of future work regarding this relationship. Firstly, an explicit focus on specific age ranges, or cohorts. Indeed, the much more common (at least in economics) focus on the whole of (working) life can miss potential insights that are available from an analysis of a particular part of the life cycle, and these insights can feed back into an analysis of the relationship over the whole of life. Secondly, an increased attention on explanations for the midlife low and how it might be mitigated, seems worthwhile particularly when we consider the distress experienced by many in midlife. The marginal benefit of future studies is arguably higher for those which address why the patterns are found in age and happiness rather than those continuing to investigate the pattern itself. This section presents some ideas for beneficial future research about both of these strands.

While much is uncovered about the pattern, and work is starting to explore systematic differences in the midlife experience of different groups of individuals, we do not know too much about other parts of the lifecycle. For example, what about the slide down the U? Do some people slide down faster: is the gradient of the established wellbeing decline different? Clark et al (2021) do find the slide much steeper for the unpartnered compared to the partnered. Is it also to do with social belonging? Perhaps there are class-based reasons for differences in a slide down? Differences in family background may have an impact (as asserted by psychotherapists), which may also influence feelings of belonging? These possibilities are similar to those suggested for midlife differences too. Furthermore, the start of the U might also be systematically different for different groups. Of course, similar questions can be asked about the uptick in wellbeing following the midlife low. This could include a test of the notion of relinquished expectations and aspirations as suggested by Schwandt (2016) and several psychotherapists.[8] Do some groups relinquish their aspirations more quickly or

---

[7] Chowdhury et al. (2013) find that an optimistic update bias exists for older people partially explaining their higher happiness.

[8] See Piper (2023) for more on what psychotherapists have said about the causes, reasons, and possibilities for mitigation for midlife lows.

readily, and is this shown in a swifter uptick? Thoughtful contemplation coupled with subsequent research might be able to address such issues and help us get closer to answering the puzzle of midlife lows too. Given the multiplicity of evidence briefly mentioned in the previous section, future work arguably needs to step beyond disciplinary boundaries and test ideas about the midlife low, and the key aspects of other parts of the age happiness relationship, from other disciplines.

There are other reasons for considering different age groups separately. Happiness, for example, the left-hand side or many regression equations, has been shown to have a substantially different meaning for different age groups, with Mogliner et al. (2011) finding that younger people associate happiness with excitement whereas older people associate it more with contentment and peace of mind.[9] Piper (2015) in a study of the wellbeing of the young in Britain also presented arguments for looking at age groups separately, as undertaken more commonly in other social sciences. made similar claims and speculated that the U-shape may in part reflect the possibility that excitement is increasingly harder to achieve, whereas a sense of peace may be more readily available to us. This finding of differences in what happiness means to us at different ages has not yet entered the debate about whether the over 70s should be considered or not in an investigation of age and wellbeing, but it does question the merits of including the very old and very young in the same regression equation.[10]

Differences regarding a sense of belonging were put forward in the previous section and by Lepinteur and Piper (2023). The possibility of differences in belonging being, in part, responsible for the differing midlife lows reached may also be tested through the lens of discrimination. Are their systematic differences by gender? Grözinger and Piper (2019) suggest not for Germany, but how about for other societies?[11] Similarly, perhaps there are systematic differences in the age and wellbeing relationship by race in societies with high racial discrimination.

Another open question relates to the influence of cohort. Some studies have explicitly controlled for cohort effects, and found a U-shape pattern, which indicates that the midlife low is at least in part a life-cycle effect. That the substantial majority of a large number of studies over different time periods find a U-shape is also indicative of a life-cycle effect, i.e. something we all go through (on average). However, these studies do not rule out the possibility of a cohort influence. For example, are the so-called Generation Z individuals less happy than previous cohorts? There may be reasons to expect differences by cohort. For example, the arguments of Twenge (2007), who argues that young people have more unrealistic expectations than in the past, and Lukianoff and Haidt (2019) who argue that young Americans have in recent years, been coddled. Other arguments point to objective factors of life being harder for younger people than in the past (e.g. Bosanquet and Gibbs 2005, Howker and Malik 2010). These arguments can be tested. Similarly, the COVID-19 pandemic has been argued to have had a larger negative effect on young people's happiness than those of other ages due to the nature of the restrictions put in place. Of course, similar arguments can be found and tested for other age ranges including midlife.

Midlife is perhaps the most striking example of where there is a need for more research and understanding given the elevated levels of distress experienced there, on average. Some findings and potential considerations were put forward in the previous section, which include differences regarding a sense of belonging, and the adjustment of expectations. For some psychotherapists, the cause and solution of the midlife low, is intimately connected with our personal history. General

---

[9] Of note here is that the main quantitative analysis comes from data scraped from blog posts with rather low sample sizes for those fifty plus. Support for this finding is offered by some experimental evidence (Mogliner et al. 2011).

[10] Other reasons for not including the over 70s in analysis include mortality bias and the substantial importance of physical health, often taken for granted by the young. However, this is not to say that the wellbeing of this age group should not be investigated. Their wellbeing should be investigated more frequently than it is at present, though perhaps better understood in specific studies.

[11] Ahmed-Lahsen et al. (2023) found that in Korea, a very gender unequal society, overeducated Korean females actually had higher life satisfaction than overeducated males despite a larger educational mismatch and substantial labour market (and other) discrimination. The offered explanation included lower aspirations due to social norms. Could discrimination induced lower expectations be 'helpful' at midlife?

biological explanations have also been advanced for the midlife low finding. Despite these biological explanations there is evidence that groups of people systematically experience midlife in different ways. More investigation of heterogeneous groups will uncover more clues and further work is necessary to uncover more about this relatively unhappy time of life. The relationship between age and happiness, with its midlife lows of various depths, seems to be intimately bound up with being human, a part of the million-petalled flower of being here.

References

Ahmed-Lahsen, A., Piper, A., & Thiele, I.-A. (2023). The role of gender inequality in the overeducation and life satisfaction relationship: An empirical analysis using panel data from Korea. *Education Economics*.

Blanchflower, D.G. (2021). Is happiness U-shaped everywhere? Age and subjective well-being in 145 countries. *Journal of Population Economics, 34*: 575–624.

Blanchflower, D.G. & Graham, C. (2021). The U-shape of happiness: A response. *Perspectives on Psychological Science, 16* (2): 1435-1446.

Blanchflower, D.G. & Graham, C. (2022). The mid-life dip in well-being: a critique. *Social Indicators Research*, *161*: 287-344.

Blanchflower, D.G. & Oswald, A.J. (2008). Is well-being U-shaped over the life cycle? *Social Science and Medicine*, *66* (8): 1733-1749.

Blanchflower, D.G. & Oswald, A.J. (2009). The U-shape without controls: a response to Glenn. *Social Science and Medicine*, *69*: 486–488.

Blanchflower, D.G. & Oswald, A.J. (2016). Antidepressants and age: a new form of evidence for U-shaped well-being through life. *Journal of Economic Behavior and Organization*, *127*: 46–58.

Blanchflower, D.G. & Oswald, A.J. (2019). Do humans suffer a psychological low in midlife? Two approaches (with and without controls) in seven data sets. In: Rojas, M. (ed.). *The Economics of Happiness* (pp. 439-453). Cham: Springer International Publishing.

Blanchflower, D.G. & Piper, A. (2022). There is a mid-life low in well-being in Germany. *Economics Letters*.

Blanchflower, D.G., Graham, C.L., & Piper, A. (2023). Happiness and Age – Resolving the Debate. *National Institute of Economic Research.*

Bosanquet, N. & Gibbs, B. (2005). The Class of 2005 – the IPOD Generation Reform report (http://www.reform.co.uk/filestore/pdf/The%20Class%20of%202005.pdf).

Cheng, T.C., Powdthavee, N., & Oswald, A.J. (2015). Longitudinal evidence for a midlife nadir in human wellbeing: results from four data sets. *The Economic Journal*, *127*: 126–142.

Chowdhury, R., Sharot, T., Wolfe, T., Düzel, E., & Dolan, R. J. (2014). Optimistic update bias increases in older age. *Psychological medicine, 44* (9): 2003–2012.

Clark, A.E. (2019). Born to be mild? Cohort effects don't (fully), explain why well-being is U-shaped in Age. In: Rojas, M. (ed.). *The Economics of Happiness. How the Easterlin Paradox Transformed Our Understanding of Well-Being and Progress* (pp. 387-408). New York: Springer.

Clark, A.E, d'Albis, H., & Greulich, A. (2021). The age U-shape in Europe: the protective role of partnership. *Vienna Yearbook of Population Research*, *19*: 1-26.

Daly, M.C., Oswald, A.J., Wilson, D., & Wu, S. (2011). Dark contrasts: The paradox of high rates of suicide in happy places. *Journal of Economic Behavior & Organization, 80* (3): 435-442.

Esch, T. (2022). The ABC Model of Happiness—Neurobiological Aspects of Motivation and Positive Mood, and Their Dynamic Changes through Practice, the Course of Life. *Biology, 11*: 843.

Fried, B. (1967). *The Middle-Age Crisis*. New York: Harper - Row.

Galambos, N.L., Krahn, H.J., Johnson, M.D., & Lachman, M.E. (2020). The U shape of happiness across the life course: Expanding the discussion. *Perspectives on Psychological Science*, *15*: 898–912.

Glenn, N. (2009). Is the apparent U-shape of well-being over the life course a result of inappropriate use of control variables? A commentary on Blanchflower and Oswald. *Social Science and Medicine, 69* (4): 481–485.

Graham, C. & Ruiz Pozuelo, J. (2017). Happiness, stress, and age: How the U curve varies across people and places. *Journal of Population Economics, 30* (1): 225-264.

Grözinger, G. & Piper, A. (2019). Gender(un)gleichheit im Lebensverlauf. *Wirtschaftsdienst, 99*: 272–277.

Helliwell, J.F., Norton, M.B., Huang, H., & Wang, S. (2018). Happiness at Different Ages: The Social Context Matters, NBER Working Paper No. 2512.

Hetschko, C., Knabe, A., & Schöb, R. (2014). Changing Identity: Retiring from Unemployment, *The Economic Journal*, *124*, (575): 149–166.

Hollis, J. (1993). *Studies in Jungian psychology by Jungian analysts, No. 59. The Middle Passage: From misery to meaning in midlife.* Inner City Books.

Howker, E. & Malik, S. (2010). *Jilted Generation: How Britain has Bankrupted its Youth*. London: Icon Books.

Jamieson, A. (2022). *Midlife: Humanity's Secret Weapon.* London: Notting Hill Editions.

Jaques, E. (1965). Death and the midlife crisis. *Int. J. Psychoanal. 46* (4): 502-514.

Kassenboehmer, S.C. & Haisken-DeNew, J. (2012). Heresy or enlightenment? The well-being age U-shape effect is flat. *Econ. Lett. 117*, 235–238.

Kratz, F. & Brüderl, J. (2021). The Age Trajectory of Happiness, working paper.

Lepinteur, A., Piper, A. (2023). Well-Being Over the Work Life. In: Zimmermann, K.F. (eds) Handbook of Labor, Human Resources and Population Economics. Springer, Cham. https://doi.org/10.1007/978-3-319-57365-6_410-1

Lukianoff, G. & Haidt, J. (2019). *The coddling of the American mind: How good intentions and bad ideas are setting up a generation for failure*. Penguin Press.

Mogilner, C., Kamvar, S., & Aaker, J. (2011). The shifting meaning of happiness. *Soc. Psychol. Personality Sci., 2* (4): 395-402.

Oswald, A.J. & Tohamy, A. (2017). Female suicide and the concept of the midlife crisis. *SSRN Electronic Journal*.

Piper, A. (2015). Sliding down the U-shape? A dynamic panel investigation of the age-well-being relationship, focusing on young adults. *Social Science and Medicine*, *143*: 54-61.

Piper, A. (2021). Temps dip deeper: temporary employment and the midlife nadir in human well-being. *The Journal of the Economics of Aging*, *19*: 100323.

Piper, A. (2022). What does dynamic panel analysis tell us about life satisfaction? *Review of Income and Wealth*.

Piper, A. (2023). In a dark wood: explorations of the midlife low in wellbeing. *Mimeo.*

Polden, J. (2002). *Regeneration – Journey through the Mid-life Crisis*. London: Continuum.

Schwandt, H. (2016). Unmet aspirations as an explanation for the age U-shape in wellbeing. *Journal of Economic Behavior and Organization*, *122*: 75–87.

Twenge, J.M. (2007). *Generation Me: Why today's young Americans are more confident, assertive, entitled--and more miserable than ever before*. New York: Free Press.

Wunder, C., Wiencierz, A., Schwarze, J., & Küchenhoff, H. (2013). Well-being over the life span: Semiparametric evidence from British and German longitudinal data. *The Review of Economics and Statistics*, *95*: 154–167.