



# Vanishing time in the pursuit of happiness

Aekyoung Kim<sup>1</sup> · Sam J. Maglio<sup>2</sup>

Published online: 9 March 2018  
© Psychonomic Society, Inc. 2018

## Abstract

Happiness can be conceptualized as a positive affective state or as a goal whose pursuit ironically pulls the pursuer away from achieving it (Mauss, Tamir, Anderson, & Savino in *Emotion*, 11(4), 807–815, 2011). But how do people think about time during this latter, never-ending pursuit of happiness? The present investigation asks how seeking happiness influences perceptions of time availability. Four studies demonstrated that trait-level happiness seeking (Study 1) as well as direct manipulation of happiness seeking (Studies 2, 3, and 4) consistently reveal the same pattern: reduced feelings of time availability while pursuing happiness. This negative effect on time availability is mitigated when happiness seems like it has been achieved (Study 2) or seems quick to achieve (Study 3). In addition, pursuing happiness can ultimately decrease happiness, in part, by reducing perceptions of time availability (Study 4), extending theories on happiness, goal pursuit, and perceptions of time.

**Keywords** Happiness · Time · Goal pursuit · Well-being

Unlike other goals, pursuing happiness rarely leads to attaining happiness (Schooler, Ariely, & Loewenstein, 2003). Instead, seeking happiness more often, ironically, *decreases* happiness, in turn causing a previous act of seeking happiness to prompt continued behavior devoted toward the same objective (i.e., acts of seeking happiness). How might this happiness-seeking spiral shape one's experience? We propose that the unique process of pursuing happiness as a goal keeps people engaged in a resource-limited state while seeking happiness. Specifically, because pursuing goals (i.e., happiness) requires an investment of time, and because happiness is a goal that is often never fully realized, the pursuit of happiness should cause people to anticipate needing to dedicate more and more time toward the continued pursuit of happiness and, as a result, to feel as though they have less and less time available to them in the present.

## The pursuit of happiness and its consequences

People generally like to feel happy, try to feel happy, and want to be happier even if they are already fairly happy. A large set of international data showed that about 70% of people rated happiness as important, and only 1% reported that they had never thought about happiness (Diener, 2000), and many people report that they want to be happier than they already are (Myers, 2000; Tsai, Knutson, & Fung, 2006). Happiness is positive and, as a result, can be seen as a goal insofar as people actively work toward the continued experience of such positivity (Tsai et al., 2006). However, pursuing happiness comes with significant costs (Gruber, Mauss, & Tamir, 2011), including loneliness (Mauss et al., 2012) and the aforementioned paradoxical reduction in happiness itself (Mauss, Tamir, Anderson, & Savino, 2011). This is because trying to be happier often leads people to monitor not only happy thoughts but also unhappy thoughts at the same time, and the ironic salience of this negativity makes them feel unhappier (Schooler & Mauss, 2010; Wegner, 1994). The present investigation proposes to add yet another item to this list of the downsides of happiness: feelings of time scarcity.

According to models of goal pursuit, people set and pursue a desired outcome, and making progress toward this goal state requires effortful action in order to ultimately achieve the goal (Carver & Scheier, 1999). In general, people make advances

---

✉ Aekyoung Kim  
aekyoung.kim@rutgers.edu

<sup>1</sup> Department of Marketing at Rutgers Business School, Rutgers University, Newark and New Brunswick, NJ 07102, USA

<sup>2</sup> Department of Management and Department of Psychology, University of Toronto Scarborough, 1265 Military Trail, Toronto, Ontario M1C 1A4, Canada

toward achieving a goal to some extent during their pursuit of it. Although people may fail to achieve it to the extent that they want, or might make advances toward it more slowly than intended, this does not necessarily compromise the original state. The author who initially sought to write five pages in a day, finding at midnight that only two pages have been written, has still made progress toward a set writing goal, and no movement has occurred in a counterproductive direction (i.e., no pages usually have been deleted). However, the unique pursuit of happiness may well *impair* the original state: Setting out to achieve happiness that exceeds one's original level might instead decrease happiness relative to the happiness characterizing the original state (i.e., before initiating the pursuit of happiness). This means that an effort to achieve greater happiness not only might fail to increase happiness but it also may well decrease it. We posit that this may call to mind the requirement of consistent future effort needing to be deployed in order to reduce the gap between the desired state and the actual state. As such, with the anticipated need for future effort comes an anticipated increase in demands on one's time.

### Can seeking happiness alter time scarcity?

With the looming of happiness as a goal, the discrepancy between one's current and ideal happiness drives people to work toward reducing the gap between the two states (Tsai et al., 2006). We propose that because happiness generates a unique consequence while seeking it—an upward spiral of continuously pursuing happiness, driven in part by ironic reductions in happiness along the way—seeking happiness will create unique consequences for judgments regarding the key resource necessary for such continued pursuit: time.

Because a previous act of seeking happiness tends to reduce happiness, people must try to fill the enlarging gap again and again, which may constantly require devoting their time toward activities pursued in the hope of reducing the gap between sought-for future happiness and current happiness. Because time is often a necessary cost in the undertaking of happiness-seeking activities (a dinner with friends might bring happiness, but it will also take an hour or more), and because such undertakings are made at the expense of pursuing other goals (attending the dinner rather than spending that time exercising; Riediger & Freund, 2004), the continuous pursuit of happiness will keep people in a resource-limited state (a never-ending series of happiness-seeking demands on their time), which may well lead to a sense of not having enough of that very resource (i.e., time). Therefore, we suggest that seeking happiness engenders an anticipation of an endless, time-demanding pursuit of happiness that compromises felt time availability.

## The present investigation

Four studies examine whether seeking happiness shifts felt time scarcity. Study 1 establishes a positive link between trait-level happiness seeking and perceptions of time scarcity. Study 2 uses an experimental paradigm to conceptually replicate the basic effect while also identifying a theoretically derived boundary condition: By making people feel that the goal to be happy has been achieved, it should be deactivated (e.g., Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001) and, in turn, should no longer impact felt time scarcity. Study 3 presents further evidence for perceptions of happiness seeking as particularly time intensive, underlying its role in time scarcity by directly manipulating the ostensible time required to pursue happiness. Concluding with implications for well-being, Study 4 again demonstrates that pursuing unattained (vs. having attained) happiness leads people to feel that time is scarcer, which in turn leads to decreased happiness.

### Study 1: Traits of seeking happiness and time scarcity

As an initial investigation, Study 1 tests whether trait-level happiness seeking is positively linked to perceptions of time scarcity.

#### Method

One hundred and thirteen participants were recruited from Amazon's online panel site Mechanical Turk and were asked to complete a personality study. Trait-level happiness seeking was measured using an established, 7-item scale that assesses valuing happiness to a potentially extreme degree (Mauss et al., 2011). Participants responded on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*);  $\alpha = .88$ ; an example item is, "To have a meaningful life, I need to feel happy most of the time." Participants also indicated their perceptions of time scarcity on a one-item measure asking them to assess their agreement with the notion that "Time is slipping away" on a scale ranging from 1 (*not at all*) to 9 (*very much*).

#### Results and discussion

As expected, personal traits characteristic of greater happiness seeking were positively linked to perceptions of time scarcity,  $r = .24, p < .01$ . This provides initial support for the notion that seeking happiness can make time feel scarcer.

## Study 2: Achieved versus unachieved happiness and time scarcity

To test whether seeking happiness causally changes time scarcity, Study 2 manipulates happiness seeking. Furthermore, Study 2 tests the moderating role of goal achievement. Because time-demanding goal pursuit ceases to be a necessity when the goal is achieved, the effect of happiness seeking on perceived time scarcity should be weakened when the goal seems to be achieved.

### Method

One hundred and seventeen undergraduates participated in this study in return for course credit and were asked to complete a study about TV programming. This study used a 2 (not seeking happiness or seeking happiness)  $\times$  2 (movie: neutral or happy) between-subjects design. Participants in the seeking happiness condition were instructed to try to feel happy while watching a movie. Participants in the not seeking happiness condition were told to let their emotions flow naturally while watching the movie. To manipulate goal achievement, participants were assigned to watch either a neutral (bridge construction; Olsen & Beck, 2012) or a happy movie (slapstick featuring the comedian Mr. Bean; Gruber, Oveis, Keltner, & Johnson, 2011) that were approximately identical in length. After the movie, time scarcity was measured with the same item used in Study 1.

### Results and discussion

An ANOVA revealed a significant interaction between the two experimental factors,  $F(1, 113) = 3.98, p < .05, \eta^2 = .034$ . Specifically, seeking happiness made time feel scarcer while watching the neutral movie ( $M_{\text{seeking happiness}} = 6.70, SD = 2.05; M_{\text{not seeking happiness}} = 5.53, SD = 2.51$ ),  $F(1, 113) = 4.07, p < .05, \eta_p^2 = .035$ , conceptually replicating the results of the previous study. However, there was no effect of seeking happiness on time scarcity while watching the happy movie ( $M_{\text{seeking happiness}} = 6.23, SD = 2.55; M_{\text{not seeking happiness}} = 6.78, SD = 2.08$ ),  $F(1, 113) = .74, p > .39$ . These findings support our propositions that seeking (unattainable) happiness influences perceptions of time scarcity, and that achieving this goal mitigates the effect. We also note the relatively high time scarcity among participants not seeking happiness while watching the happy movie and speculate that, rather than serving to fulfill a preexisting goal to be happy, the movie may have activated a goal to be happy and in turn made time seem scarcer. We more pointedly consider the mechanistic relationship between seeking happiness and time scarcity via expectation of future demands on one's time in the next study.

## Study 3: Demanding versus nondemanding happiness and time scarcity

We have theorized that seeking happiness changes how people think about time because the nature of pursuing happiness uniquely breeds an expectation of future demands on one's time. Therefore, variation in the lay belief that pursuing happiness requires a lot of time (vs. only a little time) should influence the effect of happiness seeking on time scarcity. By directly manipulating the ostensible time required to pursue happiness and the opportunity costs of engaging in these activities, Study 3 attempts to provide further evidence that happiness seeking increases time scarcity, but only when this high time inference holds true. It also includes a control condition that makes no mention of the time required for the pursuit of happiness, predicted to lead participants to feel low on time to a degree similar to participants in the high-time condition (consistent with the hypothesized lay theory), both rating time as equally high in scarcity relative to participants in the low-time condition. As a robustness check, Study 3 also includes a wider set of variables to assess time scarcity.

### Method

Three hundred participants were recruited from Mechanical Turk, and we received 319 responses. All participants were told that the study was investigating happiness, a goal that everyone has. Participants were then randomly assigned to one of three conditions manipulating the ostensible time demands of happiness: high-time, low-time, or control. Participants in the high-time condition read an article describing, per the headline, that “happiness takes quite a lot of time.” Participants in the low-time condition read an article of similar length, describing, per the headline, that “happiness takes very little time.” Participants in the control condition proceeded directly to the outcome measures. All participants reported how much available spare time they had on a scale ranging from  $-5$  (*very little available time*) to  $+5$  (*lots of available time*) and also indicated the extent to which they agreed with three statements—“I am pressed for time,” “Time is slipping away,” and “Time is boundless”—each on a scale ranging from 1 (*not at all*) to 7 (*very much*). We coded and collapsed the four items into a single index of time scarcity for analysis ( $\alpha = .77$ ). Here, higher scores represent greater time scarcity.

### Results and discussion

An initial treatment of the results revealed that there was no difference in time scarcity between participants in the high-time and control conditions ( $M_{\text{high}} = .10$  vs.  $M_{\text{control}} = .03$ ),  $t(316) = .65, p > .51$ , consistent with our assumption that laypeople (like those in the control condition) presume that happiness places high demands on their time. In light of this

similarity, anticipated in our preregistration of this study (<https://aspredicted.org/w8fb2.pdf>), we collapsed across the two conditions to compare them with participants in the low-time condition in a contrast analysis. As expected, participants in this former combined group felt that time was more scarce ( $M = .07$ ,  $SD = .79$ ) than did participants in the low-time condition ( $M = -.14$ ,  $SD = .69$ ),  $t(317) = -2.40$ ,  $p < .02$ ,  $d = 1.13$ . By directly manipulating the time required for happiness, this study provides further support for our proposed model in which happiness seeking increases time scarcity because of the presumed ballooning of time required to pursue happiness.

#### Study 4: The role of time scarcity in the pursuit of happiness

The primary goal of Study 4 is to integrate time scarcity as one possible mechanism explaining why the pursuit of happiness can undermine well-being (Mauss et al., 2011; Schooler et al., 2003). We predict that pursuing happiness will decrease feelings of happiness because of greater perceptions of time scarcity. Using a manipulation designed as a conceptual replication of Study 2 and building from methodology in the motivation and goal-pursuit literature (Heckhausen, 1977), Study 4 frames happiness either as a goal toward which participants must continue to work or as a goal that they have already largely accomplished. If happiness were to be felt not as a never-ending goal expected to make continued demands on one's time but, rather, as a goal that had been achieved, then it should no longer make time feel as scarce (as in Study 2) nor dampen well-being, hypothesized to derive therefrom.

#### Method

One hundred participants were recruited from Mechanical Turk, and we received 96 responses. Participants were randomly assigned to one of two conditions. Participants in the seeking happiness condition were asked to write 10 things that could make them become a happier person. Participants in the not seeking happiness condition were asked to write 10 things that showed that they were a happy person. Afterward, participants completed the same measures of time scarcity used in Study 3 ( $\alpha = .68$ ). Finally, participants completed two items to measure happiness: "How happy do you feel, right now?", on a scale ranging from 1 (*not at all happy*) to 7 (*extremely happy*), and "All things considered, how satisfied are you with your life as a whole, right now?", on a scale ranging from 1 (*not at all satisfied with life*) to 7 (*extremely satisfied with life*). We collapsed the two items into a single index of happiness for analyses ( $\alpha = .79$ ).

#### Results and discussion

Participants in the seeking happiness condition rated time as scarcer ( $M = .13$ ,  $SD = .75$ ) than did participants in the not seeking happiness condition ( $M = -.18$ ,  $SD = .62$ ),  $t(94) = -2.12$ ,  $p < .04$ ,  $d = .45$ . In addition, participants in the seeking happiness condition reported lower happiness ( $M = 4.38$ ,  $SD = 1.38$ ) than did participants in the not seeking happiness condition ( $M = 5.10$ ,  $SD = 1.20$ ),  $t(94) = 2.67$ ,  $p < .01$ ,  $d = .56$ . Taken together, condition predicted both time scarcity ( $a$  path:  $b = .15$ ,  $SE = .07$ ,  $p < .04$ ) and happiness ( $c$  path:  $b = -.36$ ,  $SE = .14$ ,  $p < .01$ ). Perceptions of greater time scarcity also predicted lower happiness ( $b$  path:  $b = -.76$ ,  $SE = .18$ ,  $p < .001$ ). To test our proposed mediation model, detailed in our preregistration of this study (<https://aspredicted.org/s7vq8.pdf>), we used the Hayes (2012, Model 4) PROCESS procedure and corresponding SPSS macro. A 1,000 bootstrap resample revealed a reliable indirect effect of condition on happiness through time scarcity ( $b = -.12$ ,  $SE = .07$ , 95% CI  $[-.27, -.01]$ ). The absence of zero in the confidence interval indicated that the effect of condition on happiness was statistically mediated by perceptions of time scarcity. Furthermore, the effect of condition on happiness became nonsignificant after perceptions of time scarcity were entered in the model ( $c'$  path:  $b = -.25$ ,  $SE = .13$ ,  $p > .05$ ). These findings identify one mechanism as to why the pursuit of happiness can ironically undermine well-being, showing that time scarcity plays a role in the relationship between seeking happiness and reduced happiness. By framing happiness as a goal that is or is not in need of further pursuit, Study 4 provides further support for our propositions that seeking happiness influences perceptions of time scarcity and that achieving this goal mitigates the effect.

#### General discussion

Time seems to vanish amid the pursuit of happiness, but only when seen as goal requiring continued pursuit. This finding adds depth to the growing body of work suggesting that the pursuit of happiness can ironically undermine well-being. Additionally, we identify boundary conditions for the detrimental effects of seeking happiness on time scarcity: the sense that this goal has been achieved and that its future pursuit will take relatively little time.

This suggests two broad implications. First, while happiness *can* undermine well-being, it need not necessarily do so. Instead, when happiness seems to have been achieved, its detrimental effects are dampened, providing support for lay prescriptions to appreciate the positive (found in stopping to smell the roses or keeping a gratitude journal). Beyond facilitating a sense that happiness has been achieved, changing how people conceptualize happiness can also shift their sense of time scarcity. Different people conceptualize happiness in



different ways (e.g., Oishi, Graham, & Kesebir, 2013), and our research underscores the fact that how they think about happiness may well color how they think about time amid its pursuit. Second, though happiness provided a salient inroad to consideration of goals whose pursuit often backfires, our effect should extend to any worked-toward goal that pulls the pursuer away from a desired end state. Thus, the particularly unsuccessful would-be exerciser whose gym membership tends to pull him toward the couch should similarly feel pressed for time, at least insofar as he does not take the failure as cause to abandon the weight-loss goal altogether (Carver & Scheier, 1999) but instead anticipates the need for further, future pursuit. This alludes to the possibility that while happiness may be the most prominent goal associated with backward progress (and negative consequences thereof), other goals might operate similarly under the right circumstances and that interventions might successfully mitigate the sense that backward progress has been made.

Given that time availability can impact decision-making and well-being (Menzies, 2005; Mogilner, Chance, & Norton, 2012; Roxburgh, 2004), it remains essential to understanding when, why, and how people perceive and use their time differently. We suggest that the pursuit of happiness shifts time availability and subsequent behavior, connecting the literature on happiness, goal pursuit, time, and decision-making. While we focused on perceptions of time availability itself, we look forward to future research to further examine behavioral consequences of shifting time availability driven by seeking happiness. For example, felt time scarcity changes how people make intertemporal trade-offs (Zauberman & Lynch, 2005) and leads people away from time-consuming activities and toward time-saving activities, such as consuming fast food rather than eating meals with family at home (House, DeVoe, & Zhong, 2014; Neumark-Sztainer, Hannan, Story, Croll, & Perry, 2003). Because engaging in experiences and savoring the associated feelings requires more time compared with merely buying material goods (Quoidbach, Dunn, Petrides, & Mikolajczak, 2010), feeling a lack of time also leads people to prefer material possessions rather than enjoying leisure experiences (Mannell & Zuzanek, 1991; Van Boven & Gilovich, 2003). Separately, when people feel pressed for time, they are less willing to spend time helping others or volunteering (Darley & Batson, 1973). By encouraging people to worry less about pursuing happiness as a never-ending goal, successful interventions might just end up giving them more time and, in turn, more happiness.

## References

- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, *81*(6), 1014–1027.
- Carver, C. S., & Scheier, M. F. (1999). Themes and issues in the self-regulation of behavior. In R. S. Wyer, Jr. (Ed.), *Advances in social cognition* (Vol. 12). Mahwah: Erlbaum.
- Darley, J. M., & Batson, C. D. (1973). “From Jerusalem to Jericho”: A study of situational and dispositional variables in helping behavior. *Journal of Personality and Social Psychology*, *27*(1), 100–108.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, *55*(1), 34–43.
- Gruber, J., Mauss, I. B., & Tamir, M. (2011). A dark side of happiness? How, when, and why happiness is not always good. *Perspectives on Psychological Science*, *6*(3), 222–233.
- Gruber, J., Oveis, C., Keltner, D., & Johnson, S. L. (2011). A discrete emotions approach to positive emotion disturbance in depression. *Cognition and Emotion*, *25*(1), 40–52.
- Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling* [White paper]. Retrieved from [www.afhayes.com/public/process2012.pdf](http://www.afhayes.com/public/process2012.pdf)
- Heckhausen, H. (1977). Achievement motivation and its constructs: A cognitive model. *Motivation and Emotion*, *1*(4), 283–329.
- House, J., DeVoe, S. E., & Zhong, C. B. (2014). Too impatient to smell the roses: Exposure to fast food impedes happiness. *Social Psychological and Personality Science*, *5*(5), 534–541.
- Mannell, R. C., & Zuzanek, J. (1991). The nature and variability of leisure constraints in daily life: The case of the physically active leisure of older adults. *Leisure Sciences*, *13*(4), 337–351.
- 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*(5), 908–912.
- 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*(4), 807–815.
- Menzies, H. (2005). *No time: Stress and the crisis of modern life*. Vancouver: Douglas & McIntyre.
- Mogilner, C., Chance, Z., & Norton, M. I. (2012). Giving time gives you time. *Psychological Science*, *23*(10), 1233–1238.
- Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist*, *55*(1), 56–67.
- Neumark-Sztainer, D., Hannan, P. J., Story, M., Croll, J., & Perry, C. (2003). Family meal patterns: Associations with sociodemographic characteristics and improved dietary intake among adolescents. *Journal of the American Dietetic Association*, *103*(3), 317–322.
- Oishi, S., Graham, J., Kesebir, S., & Galinha, I. C. (2013). Concepts of happiness across time and cultures. *Personality and Social Psychology Bulletin*, *39*(5), 559–577.
- Olsen, S. A., & Beck, J. G. (2012). The effects of dissociation on information processing for analogue trauma and neutral stimuli: A laboratory study. *Journal of Anxiety Disorders*, *26*(1), 225–232.
- Quoidbach, J., Dunn, E. W., Petrides, K. V., & Mikolajczak, M. (2010). Money giveth, money taketh away: The dual effect of wealth on happiness. *Psychological Science*, *21*(6), 759–763. doi:<https://doi.org/10.1177/0956797610371963>
- Riediger, M., & Freund, A. M. (2004). Interference and facilitation among personal goals: Differential associations with subjective well-being and persistent goal pursuit. *Personality and Social Psychology Bulletin*, *30*(12), 1511–1523.
- Roxburgh, S. (2004). “There just aren’t enough hours in the day”: The mental health consequences of time pressure. *Journal of Health and Social Behavior*, *45*(2), 115–131.
- Schooler, J. W., Ariely, D., & Loewenstein, G. (2003). The pursuit and assessment of happiness can be self-defeating. In J. Carrillo & I. Brocas (Eds.), *Psychology and economics* (pp. 41–70). Oxford: Oxford University Press.
- Schooler, J. W., & Mauss, I. B. (2010). To be happy and to know it: The experience and meta-awareness of pleasure. In M. L. Kringsbach &

- K. C. Berridge (Eds.), *Pleasures of the Brain* (pp. 244–254). Oxford: Oxford University Press.
- Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology*, *90*(2), 288–307.
- Van Boven, L., & Gilovich, T. (2003). To do or to have? That is the question. *Journal of Personality and Social Psychology*, *85*(6), 1193–1202.
- Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review*, *101*(1), 34–52.
- Zauberman, G., & Lynch, J. G., Jr. (2005). Resource slack and propensity to discount delayed investments of time versus money. *Journal of Experimental Psychology: General*, *134*(1), 23–37.