END EFFECTS OF RATED LIFE QUALITY:
The James Dean Effect

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Abstract—In three studies, we explored how the ending of a life influences the perceived desirability of that life. We consistently observed that participants neglected duration in judging the global quality of life. Across all the studies, the end of life was weighted heavily, producing ratings that contradict a simple hedonic calculus in which years of pleasure and pain are summed. Respondents rated a wonderful life that ended abruptly as more desirable than one with additional mildly pleasant years (the “James Dean Effect”). Similarly, a terrible life with additional moderately bad years was rated as more desirable than one ending abruptly without those unpleasant years (the “Alexander Solzhenitsyn Effect”). Finally, embedding moderately intense years in the middle of life did not produce effects as strong as adding those years to the end of life, suggesting that a life’s ending is weighted especially heavily in judging quality of life.

What is a good life? Although philosophers have debated this question for millennia (Coan, 1977), researchers have recently focused on what laypeople perceive as high quality of life. King and Napa (1998) found that a life is seen as more desirable if it is a meaningful and happy life. The qualities of life that are perceived to be desirable are, not surprisingly, highly influenced by cultural values (e.g., Coan, 1977; Markus & Kitayama, 1991). No research has been conducted, however, on the way in which temporal patterning influences the rated desirability of life. For instance, how do longevity and the ending of life influence overall evaluations of a life? In the studies we report here, we used happiness as the characteristic that varied across life, although other characteristics such as health or meaning could be varied in future research.

There is a widespread assumption that a long life is perceived to be more desirable than a shorter one of equal quality. Indeed, the index of quality of life the United Nations uses includes longevity as one of its three major elements (United Nations Development Program, 1990), and ignores other values such as equality, happiness, or security. Logically, however, a bad life might be preferable if it were shorter. As longevity increases throughout the world, questions about the perceived quality of a long good life or a long bad life become increasingly important. For example, one issue is whether additional years of lower quality among elderly people enhance or detract from their perceived overall quality of life. Issues of longevity and quality of life not only have applied significance, but are of theoretical importance as well.

The peak-end theory of Kahneman and his colleagues (Fredrickson & Kahneman, 1993; Redelmeier & Kahneman, 1996) provides a set of testable hypotheses about how temporal patterning will affect perceptions of the quality of life. Although the theory has been tested with episodes of short duration, such as a painful medical procedure, it has not been applied to perceptions involving periods of many years. Nevertheless, the peak-end theory makes specific predictions about the manner in which temporal factors will influence global perceptions of the quality of lives.

Fredrickson and Kahneman (1993) predicted that when evaluating an episode, people rely heavily on how the event ends, as well as on the peak moment (either good or bad) during the event, but tend to give little weight to the duration of the episode. In evaluating a film clip, participants used the peak and ending of the clip to evaluate its overall impact, ignoring the duration of the clip. Similar findings emerged in real life for a colonoscopy procedure (Redelmeier & Kahneman, 1996). Retrospective evaluations were best predicted by online reports from the peak and ending moments, so a shorter procedure could be remembered as more painful than a longer procedure that ended better. Fredrickson and Kahneman described this phenomenon as “duration neglect.” People favor a longer duration of unpleasantness, and a shorter duration of pleasantness, if the episode ends on a milder note. These findings were replicated in a study using the cold pressor to induce pain (Kahneman, Fredrickson, Schreiber, & Redelmeier, 1993). The distinctive aspect of this study was that it involved actual choices of future options, not just recalled utility of experienced episodes.

In the present set of studies, we examined the manner in which endings influence perceptions of the quality of life. Does the process influencing the perception of short episodes also apply to very long episodes—entire lives? In short episodes, recency effects may dictate a strong impact of the end of the episode. When someone is asked to refer to a short summary of a life, however, memory for the entire life should be strong, making end effects due to recency unlikely. Furthermore, additional years of pleasant life might seem desirable enough, and additional unpleasant years undesirable enough, to override the influence of the ending.

In addition to examining whether peak-end effects extend to perceptions of whole lives, we sought to determine how end effects might vary according to the characteristics of the respondents. If people of varying ages were presented scenarios portraying lives of different lengths, might some individuals be less susceptible to the end effects than others because of their proximity to the age of death of the target figures? That is, could end effects be more common in cases of remote and abstract scenarios, compared with cases in which death is more imminent and the importance of a long life more salient?

The present studies also were an attempt to replicate previous findings with positive stimuli. The majority of earlier studies focused on unpleasant episodes (e.g., Schreiber & Kahneman, 2000). Additionally, we hoped to determine whether end effects might be due to averaging information, rather than specifically to weighting endings heavily. Fredrickson and Kahneman (1993) pointed out that weighted averaging of moments, rather than temporal integration (summation) of all pleasure and pain, is a model that people may use to calculate hedonic value. A milder ending to an episode, even when of the same valence as the episode in earlier periods, might make the episode less...
In three studies, we examined end effects and duration neglect. Respondents rated the quality of individual lives presented in vignette form. In Study 1, vignettes portrayed either very positive or very negative lives that either ended abruptly or were extended with a 5-year period of milder intensity but the same hedonic valence. Study 2 provided a replication with older respondents, close to the vignette character’s age at death in scenarios without extra years. In Study 3, we analyzed whether mild extra years produce the same effect on perceptions when they occur in the middle of life rather than at the end of life.

**OVERVIEW**

In three studies, we examined end effects and duration neglect. Respondents rated the quality of individual lives presented in vignette form. In Study 1, vignettes portrayed either very positive or very negative lives that either ended abruptly or were extended with a 5-year period of milder intensity but the same hedonic valence. Study 2 provided a replication with older respondents, close to the vignette character’s age at death in scenarios without extra years. In Study 3, we analyzed whether mild extra years produce the same effect on perceptions when they occur in the middle of life rather than at the end of life.

**STUDY 1**

Study 1 tested the hypothesis that an end effect would moderate the quality-of-life evaluations for both good and bad life conditions. Vignettes described briefly a fictional character’s whole life. All participants read one vignette in which the character died after a consistently very happy or very depressed life and a second vignette in which the character lived 5 additional years that were of the same valence but emotionally less intense (i.e., slightly happy or slightly depressed). We hypothesized that adding a less intense ending would lower evaluations of a very happy life, but elevate evaluations of a very depressed life.

**Method**

**Participants**

The participants were 115 undergraduate students enrolled in an introductory psychology course at the University of Illinois. They received credit toward a course requirement for participation in this experiment. Data on sex and age were not gathered.

**Procedure and materials**

Participants were told that the study was concerned with what makes a life desirable. They were given vignettes describing the life of a fictitious character, “Jen,” who was a never-married woman without children. The character’s sudden and painless death in an automobile accident concluded all vignettes. After reading the vignettes, participants were asked questions about their perception of qualities of the character’s life. The positive condition described Jen’s first period of life as extremely happy, with enjoyable work, vacations, friends, and pleasant leisure. In the extended positive condition, the 5 extra years were described as pleasant, but not as good as before. The negative condition described Jen’s initial period of life as very depressed and angry, with a monotonous job, no close friends, and leisure filled with the solitary viewing of television. In the extended negative condition, her earlier miserable life was transformed into one that was mildly unpleasant for the extra 5 years.

Study 1 used a 2 (age: death at age 30 or age 60) × 2 (valence: very happy or very depressed) × 2 (ending: with or without additional years) design. Age and valence were between-subjects factors, whereas ending was a within-subjects factor. Each participant thus received a questionnaire containing two vignettes: one nonextended vignette without additional years and one extended vignette with 5 additional years; the order of presentation was counterbalanced. Counterbalancing was used in all studies, but never produced any significant effects, and therefore is not discussed further.

The dependent variables were the answers to two questions: “Taking her life as a whole, how desirable do you think Jen’s life was?” and “How much total happiness or unhappiness would you say that Jen experienced in her life?” Responses were made on a 9-point scale, with 1 representing the most undesirable or unhappy life one can imagine, 5 a neutral point, and 9 representing the most desirable or happy life one can imagine. Answers to both questions were collected following each vignette, and the ratings were later averaged to create a single measure in each condition. The internal consistency (Cronbach’s alpha) of this measure was .92 for the short vignettes and .90 for the extended vignettes.

**Results and Discussion**

To test the hypothesis that adding a less intense ending would lower evaluations of a very happy life, but elevate evaluations of a very depressed life, we performed a repeated measures analysis of variance (ANOVA) with age and valence as between-subjects factors and ending as a within-subjects factor. A significant main effect emerged for valence, $F(1, 111) = 394.68, p < .01$, with participants rating the positive life higher than the negative life (see Table 1). The main effect of ending was also significant, $F(1, 111) = 4.47, p < .05$. The age variable failed to have a significant effect, $F(1, 111) = .128$. Whether the target character lived to age 30 or 60 had only a small influence on the quality-of-life ratings, although 60 years contains twice the summed positive or negative experience as 30 years. This finding confirms the phenomenon of duration neglect found in earlier studies of short episodes.

The two-way interaction between ending and valence was significant, $F(1, 111) = 100.94, p < .01$. A positive life was perceived as more desirable when it ended abruptly on a high note than when it extended beyond the wonderful period to include a slightly positive period of additional years. In contrast, a terrible life was viewed as less bad when mildly negative years were added. Both findings run counter

**Table 1. Mean quality-of-life evaluations in Study 1**

<table>
<thead>
<tr>
<th>Ending</th>
<th>Positive life</th>
<th></th>
<th>Negative life</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 years</td>
<td>60 years</td>
<td>30 years</td>
<td>60 years</td>
</tr>
<tr>
<td>Nonextended</td>
<td>6.13</td>
<td>6.48</td>
<td>2.40</td>
<td>2.21</td>
</tr>
<tr>
<td>Extended</td>
<td>5.43</td>
<td>5.70</td>
<td>2.98</td>
<td>2.70</td>
</tr>
</tbody>
</table>

*Note. Ratings were on a scale from 1 (most undesirable life) to 9 (most desirable life).*
to a straightforward, logical hedonic calculus. More cumulative pleasantness was perceived as less desirable in the positive condition, and more total unpleasantness was viewed as better in the negative condition. The participants did not sum all the hedonic moments of life to judge the overall quality of life, but instead made a global judgment that appeared to heavily weight the ending of life and neglect longevity.

**STUDY 2**

It seemed possible that middle-aged adults and undergraduates might have different perspectives. Specifically, a middle-aged sample might have more regard for the added years presented in the vignettes, and being closer in age to the time of death in some of the vignettes, older adults might tend to value additional years of life more than the undergraduate sample of Study 1. We conducted Study 2 to test these ideas.

**Method**

The participants in Study 2 were 55 parents and older friends (20 males, 35 females) of students taking a course in personality psychology. The age range for respondents was 34 to 63 years, with a mean of 46 years. The procedure and materials replicated Study 1. In the 2 (age: death at age 25 or age 50) × 2 (valence: very happy or very depressed) × 2 (ending: with or without additional years) design, age and valence were between-subjects variables and ending was a within-subjects variable. The age of the character was lowered to make the age of death in the nonextended condition close to the current age of our intended sample.

**Results and Discussion**

ANOVA indicated a main effect for valence, $F(1, 51) = 160.78$, $p < .01$, with the happy life receiving higher evaluations than the depressed life (see Table 2). There was also a main effect for the target character’s age, $F(1, 51) = 5.12$, $p < .05$; the participants rated the 25-year life higher than the 50-year life. Despite the participants’ mean age of 46 years, 21 years past the point at which the character died in half the vignettes, mean responses in Study 2 indicated that a foreshortened life, whether positive or negative, with or without additional less intense years, was better than a longer life. This finding again indicated a neglect of duration in judging overall quality of life. No significant main effect was observed for ending, $F(1, 51) = 0.895$. The interaction between valence and ending was significant, $F(1, 51) = 48.36$, $p < .01$; in the positive conditions adding 5 less intense years diminished ratings, whereas in the negative conditions ratings were higher with the extra years.

The responses of this sample, in which the mean age (46) was much closer to the age of the older target character (50), fit the same pattern as the responses of the college-age sample in Study 1. Indeed, the higher ratings given to the shorter, 25-year life compared with the 50-year life in all four cells reveals a more consistent preference for the short life than was evident in Study 1. Although this finding could mirror a well-documented tendency of adults to prefer things that occurred in young adulthood (Rubin, Rahhal, & Poon, 1998), it nonetheless helps alleviate the possible concern that the results of Study 1 were due to college students viewing middle age and death as so distant as to have no meaning.

**STUDY 3**

Our next question was whether respondents viewed an extended life as less intense hedonically because they used an averaging strategy, or whether the ending of life carried particular weight in their judgments. Would placing the additional, less intense years in the middle of the character’s life influence evaluations much as adding years to the end of the life did? To answer this question, we added another level to the ending factor used in the earlier studies. In addition to the vignettes without any additional years and with 5 additional years at the end, we included a third vignette that described a life with additional less intense years embedded in young middle age.

**Method**

The participants in Study 3 were 34 undergraduates (6 male, 28 female) enrolled in a course on personality psychology. These participants were a subsample of the students whose parents and friends participated in Study 2. The age of the participants ranged from 18 to 27 years, with a mean of 19.9 years.

Study 3 used a 2 (valence: very happy or very depressed) × 3 (ending: nonextended, extended, or embedded) design. We did not vary overall length of life (all characters died in middle age) because duration neglect was so evident in the earlier two studies. Participants received questionnaires similar to those used in Studies 1 and 2, except that the questionnaires included a third, embedded vignette that described a life with additional moderate years between the ages of 40 and 45. Valence remained a between-subjects factor, and ending remained a within-subjects factor.

**Results and Discussion**

We first addressed the hypothesis that the end effect is of unique importance by performing a repeated measures ANOVA, which uncovered a main effect for valence, $F(1, 32) = 168.71$, $p < .01$ (see Ta-
The happy life was again rated much better than the depressed life. The ANOVA revealed no main effect for ending, but a significant interaction between ending and valence, $F(2, 64) = 7.17, p < .01$. The interaction followed the pattern observed in the earlier studies, with the extended and nonextended conditions varying as before. Means in the embedded condition fell between the means for the nonextended and extended conditions. Preplanned orthogonal contrasts were used to compare the embedded condition with the other two conditions. For the positive life, the embedded condition was significantly more positive than the extended condition, $t(16) = 2.87, p < .01$, whereas the contrast between the embedded and nonextended conditions did not approach significance, $t(16) = 0.14$. For the negative life, the contrast between the embedded and extended conditions was in the correct direction but not significant, $t(16) = 1.51$, whereas the contrast between the embedded and nonextended conditions did not approach significance, $t(16) = 1.23$.

The results of Study 3 suggest that the end of life is of unique importance, that its effect is not simply due to averaging different periods of life. When the mild period came at the end of life, it tended to produce a stronger moderating effect than when the same type of period came in the middle of life. Nevertheless, replications of this study using larger samples should be conducted, owing to the lack of statistical significance of one of the findings.

**GENERAL DISCUSSION**

Life expectancy throughout the world has increased dramatically, raising the issue of how desirable a long life is. Questions of longevity become more complex when added years at the end of life may be experienced at a lower quality than earlier years because of illness, mental deterioration, or restricted physical activity. Although old age is not invariably accompanied by impairment, at some point in old age most individuals are likely to experience declines. The present results suggest that people perceive life as more positive if it ends on a high note rather than after a decline. Lawton et al. (1999) found that people desired fewer additional years if they expected severe pain ahead. Our findings suggest that, at least in the abstract, people would not desire to prolong a life regardless of cost or the quality of that life.

The suggestion that adding mildly pleasant years to a very positive life does not enhance, but decreases, perceptions of the quality of life is counterintuitive. We label this the James Dean Effect because a life that is short but intensely exciting, such as the storied life led by the actor James Dean, is seen as most positive. Dean died at the age of 24, after having two of his first movie roles achieve star recognition. In contrast, adding mildly negative years to the end of a very unpleasant life led respondents to view the life as better. We might label this the Alexander Solzhenitsyn Effect. The writer suffered 8 harsh years in Soviet prison camps after being falsely accused of political crimes, but appeared to be a melancholic man even after moving to the West (he ultimately returned to Russia). Yet few people, given the choice, would take the shorter life, truncated at the point of departure from the camps. This judgment, of course, is based partly on the fact that the author’s life was valuable after his release. On an entirely hedonic basis, without considering his contributions, it nonetheless remains possible that people would prefer his actual, longer, melancholic life to one in which he died immediately after his internment.

It might be that the effects found in our three studies are limited to the rating measures we employed. Would individuals faced with a direct choice prefer a longer happy life and a shorter depressed life? To probe this possibility, in additional studies we asked participants who did not complete ratings to read the vignettes and indicate which life—with or without extra years—they would prefer to live. The strength of the results was diminished, although the pattern was still in a direction that agreed with the studies reported here. Preferences for a longer negative life were clear, and preferences for a shorter positive life were slight. In other words, when individuals were asked to make a direct preference judgment, whether they preferred a shorter positive life was unclear, but they definitely preferred a longer negative life.

These findings suggest that in preference judgments people weight both the length and the ending of life.

The present findings highlight intriguing questions for future research on perceptions of the “good life.” For example, are the processes involved in making retrospective, global judgments of quality of life different from those used in making choices between options with the goal of attaining a good life in the future? In the case of global summaries, people might judge quality of life based on the overall narrative. Narratives presented through movies and books often conclude on a positive note to satisfy the audience. Analogously, when a person’s life is conceptualized as a narrative, it might be perceived better if it draws to a satisfying conclusion than if it does not. If a person’s sad life story ends with a desirable resolution (i.e., hedonically less sad), the overall narrative may be viewed more positively. The retrospective assessment of lives may focus respondents on a coherent narrative, thus heavily weighting how the “story” ends. Perhaps for this reason, Aristotle maintained that one cannot judge the quality of a life until it is finished.

In evaluating their own lives, however, people may use very different information, rather than employing a snapshot of their lives as a whole. This will remain an open question until individuals in different stages of the life cycle are asked to evaluate their entire lives and the various parts of their lives. It seems that people facing a choice between dying after wonderful years and living additional mildly pleasant years would probably choose the latter. It is unlikely that when making decisions in real time people would opt for immediate death, and thus it would be interesting to explore why the narrative approach we used produces results that possibly differ from on-line methods. It would be enlightening to analyze actual life decisions to determine when they are based on global narratives of situations (which may be incomplete) and when they are based on on-line momentary information. Finally, other aspects of life besides happiness, such as meaning, social relationships, or financial success, could be subjected to the same peak-end analysis. For example, a life ending on a redemptive note might be rated as very positive.

Schreiber and Kahneman (2000) distinguished between “instant utility,” on-line feelings about moments, and “remembered utility,” how good or bad an entire event is remembered to be after it has occurred. Similarly, they distinguished between preference judgments made at a point looking forward and judgments made after an event. Looking ahead, people would likely choose extra years on their life, even if these years were mildly unpleasant; they would probably not exhibit the strong duration neglect we found in Studies 1 and 2. Looking back, or evaluating life in the abstract, people may choose the life of James Dean or Alexander Solzhenitsyn, with less concern for the length of the life. Perhaps the difference between looking back and looking ahead explains why people intuitively feel they would almost always take a longer life—because indeed they would when faced with such a choice. Looking ahead, people may anticipate continued chances for more positive experiences. In contrast, looking back, they
might prefer a life that tells the best story. It is noteworthy, for example, that many of the great figures of history, such as Alexander the Great, Wolfgang Amadeus Mozart, Jesus of Nazareth, and Joan of Arc, all had short lives. Longevity is not necessary for people to judge others’ lives as valuable and even desirable, and yet most of us desire longevity for ourselves. Thus, researchers need to understand why people want a long life for themselves even though at a distance they often judge short lives as being of very high quality.

REFERENCES


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