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Dafna Eylon
Scott T. Allison



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The “Frozen in Time” Effect in Evaluations of the Dead

Dafna Eylon

Robins School of Business

University of Richmond

Scott T. Allison

University of Richmond

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Abstract

Two experiments tested the hypothesis that evaluations of the dead are more resistant to change than evaluations of the living. In Experiment 1, perceivers formed an impression of a target person who performed either a moral or an immoral action and then either died or remained alive. Perceivers were later given new inconsistent information about the target's morality. The results revealed that perceivers' original impressions of the target were significantly less likely to change in response to the inconsistent information when the target was believed to be dead than when she was believed to be alive. Experiment 2 replicated the effect in impressions of real world targets. The implications of these findings for research on posthumous impression processes are discussed.

Key words: terror management, social inference, death positivity bias, death extremization bias, impression formation, evaluation bias

The “Frozen in Time” Effect in Evaluations of the Dead

*One does not know more facts about a man because he is dead,
but what one already knows hardens and becomes more definite.*

-- John Berger (1967)

A common observation about celebrities and public figures who die at a young age is that they remain forever young in our memories of them. In a review of a biography of John F. Kennedy, Widmer (2003) noted that “despite the incomprehensible fact that he [JFK] would have turned 86 this May, he remains perpetually young, *frozen in time* like a flower pressed into the pages of an old book of poetry” (p. 1, italics added). In a tribute to Princess Diana, Oglesby (2003) observed that “like so many public figures whose lives ended prematurely, the princess' image will remain *frozen in time*. We will always recall her as the beautiful, vibrant and wise woman who never aged” (p. 4, italics added). Civil rights scholar Julian Bond, reflecting on the legacy of Martin Luther King, Jr., noted that when people die young “they instantly become martyrs and people quickly rush to *freeze* their image in one way or another” (Lewis, 2003, p. 1, italics added).

In this article, we explore whether people’s impressions of the dead show a frozen-in-time effect. Specifically, we tested whether a target’s death tends to seal our impressions of him or her, causing those impressions to become locked in place and thus more resistant to change than impressions of an equivalent living target. When we perceive the living, research has shown that we are quick to form stable social judgments

that show some resistance to change (Asch, 1946; Hamilton & Sherman, 1996; Hampson, 1991; Ybarra, 2001). Yet research also indicates that we may keep the door open to changes in those judgments should new information arise that is inconsistent with the judgments (Mackie & Allison, 1987; Plaks, Stroessner, Dweck, & Sherman, 2001; Silka, 1984). When we perceive the dead, however, the finality of their existence and the impossibility of encountering new behavioral information suggest that we may “close” the door on our impressions of them. Relative to impressions of the living, impressions of the dead may be especially durable. As a result, new information that we encounter about target individuals may be more likely to lead to a change in our impressions of living targets than of dead targets.

Past Research on Posthumous Impressions

To the best of our knowledge, there is surprisingly little research addressing the manner in which people form judgments about the dead, nor is there much work that has focused on how judgments of the dead differ from those of the living. Recently, we have reported the results of several studies showing that evaluations of the dead tend to be more favorable than those of the living (Allison & Eylon, 2005; Allison, Eylon, Beggan, & Bachelder, 2005). In these studies, participants judged dead targets as significantly more likeable, competent, and inspiring than equivalent living targets, a phenomenon we call the *death positivity bias*. The bias appears to be quite robust, emerging in people’s dispositional inferences of hypothetical laboratory targets, in both between-subject and within-subject designs, and in judgments of a wide range of real-world targets such as Frank Sinatra, John F. Kennedy, Jr., and Sonny Bono (Allison et al., 2005).

To explain the positivity bias in dispositional inferences about the dead, we have invoked terror management theory (Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002; Greenberg, Solomon, & Pyszczynski, 1997; Mikulincer & Florian, 2002; Pyszczynski, Greenberg, & Solomon, 1997; Solomon, Greenberg, & Pyszczynski, 1991). Terror management theory (TMT) is the most prominent theoretical perspective in psychology that addresses the role of death or mortality salience in shaping human judgments. The theory proposes that human beings are unique among animals in their awareness of the inevitability of their own deaths. To assuage the anxiety that results from this awareness, people are motivated to develop cultural worldviews and become meaningful participants in those worldviews. TMT argues that the cultural worldviews provide meaningful interpretation to experiences, most noticeably when mortality is made salient. Mortality salience effects are mediated by a heightened potential to experience anxiety triggered by increased accessibility of death-related thought.

According to TMT, a central strategy to assuage the terror of death is to engage in thoughts and behaviors that validate one's cultural worldview. Validating one's worldview mitigates the terror because the experience is viewed within the context of a framework that provides enduring structure and meaning. As Greenberg et al. (1997) note, "Cultural worldviews ameliorate anxiety by imbuing the universe with order and meaning, by providing standards of value that are derived from that meaningful conception of reality, *and by promising protection and death transcendence* to those who meet those standards of value" (italics added, p. 65). In short, a person's cultural worldview allows behaviors deemed valuable to take on higher order meaning, providing

the person with a means for achieving symbolic immortality (Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002).

Interestingly, TMT asserts that it is not enough to simply hold and maintain a cultural worldview. Rather, to reap the benefits of assuaging fears of mortality, one must also act in accordance with that worldview and strongly support individuals who do so as well. The theory therefore suggests that perceivers should form more favorable evaluations of those who uphold the values of the worldview when mortality is salient than when it is not salient. Moreover, mortality salience should also induce perceivers to form *less* favorable evaluations of those who violate the values of the worldview.

Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon (1989) found exactly this pattern. When participants' mortality was made salient, judges (as well as non-experts) recommended harsher punishment for a prostitute and larger reward recommendations for those who performed pro-social actions.

Mortality salience thus appears to engender an extremization of evaluations about people who perform moral or immoral behavior. In our studies of posthumous impressions, we found a similar extremization pattern. Our participants showed a death positivity bias in their judgments of targets who performed moral actions but a death *negativity* bias in their judgments of targets who performed immoral actions (Allison & Eylon, 2005). This finding is consistent with Rosenblatt et al.'s (1989) results and suggests that thoughts of death induce people to form judgments and engage in behaviors that (a) support those who uphold the values of the perceiver's cultural worldview, and (b) punish those who undermine the values of the worldview.

In addition to extremizing evaluative judgments about a target, morality salience may also make those judgments more enduring and resilient. The principles of TMT suggest that people are motivated to uphold and preserve cultural worldviews and may accomplish this task by symbolically immortalizing those individuals who are shining paragons of those worldviews. People may therefore engage in strategies designed to protect the image of the dead from any revision or defacement. If the dead upheld our cultural worldview, then it may be in our best interests to freeze our impression of them to reinforce the desired worldview or to set an example for others. Similarly, if the dead violated our worldview, we may also freeze the impression as an admonition or warning to others. In short, the dead may provide a legacy from which to learn which behaviors are most valued and worldview-affirming as well as to learn which are most undesirable and threatening to the worldview.

In summary, our impressions of the dead may have two defining features. First, our evaluative judgments of the dead may be extremized in their valence, showing especially high positivity or negativity, depending on the valence of target's behaviors. The data from Allison et al. (2005) provide evidence for this extremization bias in posthumous judgments. Second, our judgments of the dead may be durable and resistant to change in the face of evidence that may contradict the impression, independent of the valence of the target's behaviors. The goal of the present research was to show evidence of this durability of posthumous judgments, a tendency that we call the frozen in time effect.

Present Research

In the two experiments that we report here, participants formed inferences about a target person and then were informed (or reminded) that the target was now either living or dead. Participants were then given additional information about the target that contradicted their earlier impression. We then measured inferences about the target again, and these inferences were compared to those made earlier to determine whether the inferences changed in response to the new information. In Experiment 1, we tested the frozen in time hypothesis in participants' judgments of a fictitious laboratory target, and in Experiment 2 we tested the hypothesis in judgments of a real world target.

Experiment 1

Method

Participants and Design. The participants were 87 students from the University of Richmond who participated in partial fulfillment of a course requirement. The participants were randomly assigned to one of four conditions in a 2 (status: alive or dead) x (change in morality: good to bad or bad to good) between-subjects factorial design.

Procedure. Participants arrived at an experiment entitled "social perception." They were informed that the purpose of the experiment was to explore our understanding of people. Participants were asked to read a short vignette describing a target person's behavior. After reading the vignette, participants were then given a questionnaire that measured their evaluations and impressions of the target person. After completing the questionnaire, participants were informed that the target had recently died or was still alive. The participants then read a second vignette, describing a second target behavior, after which they completed a second questionnaire identical to the first.

Prior to leaving the laboratory, participants were briefly interviewed to determine whether they were able to anticipate the experiment's hypotheses. None of the participants, including those in the dead target condition, suspected that the goal of the study was to show whether opinions of the dead target were higher than those of a living target. Five participants did indicate that it was a bit unusual to make judgments of a dead person, but these participants were not overly alarmed or suspicious about having to do so. After this brief interview, participants were thanked and debriefed about the true nature of our hypotheses.

Overview of vignettes. Participants first read a one-page vignette describing a woman named Eleanor Dripp. Participants read that Dripp was a salesperson at a local company and had a short car commute to work every day. Half the participants read that Dripp performed a moral behavior; she happened upon a minor car accident on her way to work and took a complete stranger, a pregnant woman who was involved in the accident, to the hospital for observation. The other half the participants read that Dripp performed an immoral behavior; she began to cheat on her husband by sleeping with his best friend and felt no guilt about it.

After reading this first vignette, participants were given a questionnaire measuring their impressions of Dripp. Participants then performed a filler task, listing the names of U.S. states west of the Mississippi River and U.S. presidents since World War I. Then participants were given a sheet of paper which told half the participants (the alive condition) that Eleanor Dripp was still living in the same town one year later. The other half (the dead condition) was told that she had died in the year that had passed. The cause of death was not specified.

Participants were then given a second vignette containing a second piece of behavioral information about Eleanor Dripp. If the participants had earlier read that Dripp had performed a moral behavior in the first scenario (i.e., driving the pregnant woman to the hospital), they were this time told that she performed an immoral behavior (i.e., cheating on her husband). If participants had read that she had earlier performed an immoral behavior, then this time they were told she had performed a moral behavior.

All participants were told that this second behavior occurred one year after the first. Participants in the alive condition were told that Dripp wrote that she performed this second behavior in her personal diary. Participants in the dead condition were told that this second piece of information came to light when the family read Dripp's personal diary after her death.

Dependent measures. After reading each vignette, participants answered a number of questions intended to assess their evaluative impressions of Dripp. One set of questions measured participants' judgments of how moral a person they believed Dripp to be. These items included questions asking participants how much they judged her to be moral, a good person, and ethical. Another set of questions measured participants' overall liking of Dripp. These items included questions asking how favorably they viewed her, how much they liked her, and how much they would want her to be their friend. Participants responded to each of these questions by placing a slash mark (/) on a horizontal line anchored by the labels "not at all" and "extremely." These marks were later converted to numbers from 1 to 10, with higher numbers indicating greater inferred morality or greater liking. In the second questionnaire, participants were asked how much they believed Dripp had changed as a person in the year that had elapsed between

the first behavior and the second. Change judgments were made on a 1 (not at all) to 10 (extremely) scale.

Results and Discussion

Manipulation checks. Of the 87 participants, 81 correctly recalled Dripp's two behaviors and whether she was now living or dead. The data from the 6 participants who failed these checks were discarded.

Impressions of the target's morality. Participants' responses to the questions measuring perceptions of Dripp's morality were correlated (Cronbach's alpha = .80) and thus were averaged to produce a single measure of morality. Moreover, participants' responses to the questions measuring participants' liking for Dripp were also correlated (alpha = .83). Thus, overall average estimates were computed for these two measures.

Participants' moral judgments of Dripp were subjected to a 2 (status: dead or alive) x 2 (behavior order: good-bad or bad-good) x 2 (time 1, time 2) analysis of variance (ANOVA), with repeated measures on the last factor. The analysis revealed a order x time interaction, $F(1, 77) = 20.54, p < .001, r = .45$, which shows that in the good-bad order condition Dripp was judged to be more moral at time 1 ($M = 6.89$) than at time 2 ($M = 3.87$) whereas in the bad-good order condition she was judged to be more moral at time 2 ($M = 4.87$) than at time 1 ($M = 2.93$)¹. The ANOVA also yielded a three-way (status x order x time) interaction, $F(1, 77) = 3.72, p < .05, r = .21$. The means associated with this effect are displayed in Table 1.

We took two different approaches to statistically testing whether participants showed greater change in their moral inferences about Dripp when they believed her to be still alive than when they believed her to be dead. First, we analyzed the absolute

value of the differences in participants' judgments at time 1 and time 2. A status by order ANOVA of these differences showed a main effect of status, $F(1, 77) = 4.31, p < .05, r = .23$. Consistent with the frozen in time effect, the mean difference in participants' moral judgments over time was significantly lower when they believed Dripp was dead ($M = 1.99$) than when they believed she was alive ($M = 2.93$).

One weakness of analyzing the absolute value of participants' difference scores is that this approach may mask the direction of change in participants' judgments over time. To better capture the direction of change in judgments, we next explored whether participants showed less negative change in the good-bad condition when judging dead targets than when judging living targets. A status by time ANOVA of judgments in the good-bad condition revealed a significant interaction, $F(1, 36) = 4.15, p < .05, r = .32$. When negative information surfaced about the dead target, participants showed less of a decline in their judgments ($M_s = 7.08$ vs. 4.45 , difference = 2.63) than when that same information surfaced about the living target ($M_s = 6.70$ vs. 3.30 , difference = 3.40). These two mean differences (2.63 vs. 3.40) were significantly different from each other, $t(36) = 2.27, p < .05, r = .35$.

A status by time ANOVA conducted on judgments in the bad-good condition also revealed an interaction, $F(1, 41) = 4.26, p < .05, r = .30$. When positive information surfaced about the dead target, participants showed less of a rise in their judgments over time ($M_s = 2.68$ vs. 4.04 , difference = 1.36) than when that same information surfaced about the living target ($M_s = 3.22$ vs. 5.69 , difference = 2.47). These two mean differences (1.36 vs. 2.47) were significantly different from each other, $t(41) = 2.48, p < .05, r = .36$.

Liking for the target. The analysis of participants' liking judgments of Dripp revealed a marginal three-way (status x order x time) interaction, $F(1, 77) = 3.39, p < .07, r = .20$. The means associated with this interaction are displayed in Table 2. We took two approaches to testing whether participants showed more change in their liking for Dripp when they believed her to be still alive than when they believed her to be dead. First, an ANOVA of the absolute value of the differences in participants' liking judgments at time 1 and time 2 showed a marginal main effect of status, $F(1, 77) = 3.15, p < .08, r = .19$. The mean difference in participants' liking judgments over time tended to be lower when they believed Dripp was dead ($M = 1.92$) than when they believed she was alive ($M = 2.77$).

A second approach to analyzing the data involved examining the direction of change in liking judgments. A status by time ANOVA of data from the good-bad condition revealed a significant interaction, $F(1, 41) = 5.20, p < .05, r = .34$. When negative information surfaced about the dead target, participants showed less of a decline in their judgments ($M_s = 7.01$ vs. 4.71 , difference = 2.30) than when that same information surfaced about the living target ($M_s = 7.28$ vs. 4.12 , difference = 3.16). These two mean differences (2.30 vs. 3.16) were statistically different from each other, $t(41) = 2.03, p < .05, r = .29$.

A status by time ANOVA conducted on data from the bad-good condition also revealed an interaction, $F(1, 41) = 4.96, p < .05, r = .33$. When positive information surfaced about the dead target, participants showed less of a rise in their judgments ($M_s = 3.36$ vs. 4.90 , difference = 1.54) than when that same information surfaced about the

living target ($M_s = 3.40$ vs. 5.77 , difference = 2.37). These two mean differences (1.54 vs. 2.37) were marginally different from each other, $t(41) = 1.97$, $p < .06$, $r = .29$.

Perceptions of change. The ANOVA of participants' judgments of change revealed a significant main effect of status, $F(1, 77) = 8.02$, $p < .01$, $r = .30$. Participants indicated that they believed Dripp had changed more when they believed she was alive ($M = 7.11$) than when they believed she was dead ($M = 5.89$). We then correlated these change judgments with the differences in inferences between time 1 and time 2. The correlations for both morality and liking judgments were positive and statistically significant ($r = .68$ and $.58$, respectively, both $ps < .05$). These correlations indicate that the more participants' judgments shifted over time, the more participants reported that they believed Dripp had changed as a person.

Overall, our results show promising empirical support for the idea that people are more hesitant to change their impressions in response to new information about a dead target than for a living target. We next sought to demonstrate that this effect holds true for people's perceptions of real-world target persons. We chose to study judgments about the famous movie reviewing team of Siskel and Ebert. Gene Siskel died in 1999 while Roger Ebert is alive and continues reviewing movies for the Chicago Sun-Times. We gave participants either positive or negative information about either Siskel or Ebert and then measured how much participants' impressions of the individual changed. Would participants show greater change in their impressions of Roger Ebert than of the late Gene Siskel?

Experiment 2

Method

Participants and Design. The participants were 70 students from the University of Richmond who participated in partial fulfillment of a course requirement. The participants were randomly assigned to one of four conditions in a 2 (target: Ebert, Siskel) x (new information: good, bad) between-subjects factorial design.

Procedure. Participants arrived at an experiment entitled “social perception.” They were told that their task was to read a fact sheet describing some real-world people and to complete a simple questionnaire about them. Participants were first given a fact sheet about film critics Siskel and Ebert. The fact sheet provided true details about the start of their careers, their newspaper columns, their nationally syndicated television show, and their Emmy Award nominations. The sheet concluded with the statement that Gene Siskel died in 1999 from a brain tumor. After reading the fact sheet, participants were then given a questionnaire that measured their impressions of either Siskel or Ebert. After completing the questionnaire, participants were then given a second “fact” sheet, this one containing fabricated information about either Siskel or Ebert. Participants then completed a second questionnaire identical to the first, after which they were thanked and debriefed about the nature of the fabricated “facts” in the second sheet.

Prior to leaving the laboratory, participants were briefly interviewed to determine whether they were able to anticipate the experiment’s hypotheses. None of the participants, including those in the dead target condition, suspected that the goal of the study was to show whether opinions of the dead target were higher than those of a living target. Several participants did indicate their sadness over the death of Siskel, but these participants were not overly alarmed or suspicious about having to make judgments about

him. After this brief interview, participants were thanked and debriefed about the fabricated fact sheet as well as the true nature of our hypotheses.

Overview of second “fact” sheet. Participants were told that a recent Chicago newspaper article reported insider accounts of the truth behind the film reviewing team of Siskel and Ebert. According to reliable sources, the team was far from an equal partnership. Half the participants read that Ebert was the key to the show’s success with Siskel essentially riding Ebert’s coattails, whereas the other half read that Siskel was the key to the show’s success with Ebert riding Siskel’s coattails.

The “fact” sheet outlined the various details of this imbalance in the relationship. First, participants read that either Siskel or Ebert was the one who recognized the chemistry in their relationship and the potential for television success and business profit. Second, either Siskel or Ebert was described as playing a major role in producing and directing the show while the other was of little help in these areas. Third, either Siskel or Ebert was credited with inventing the “thumbs up” and “thumbs down” procedure for approving or disapproving of movies.

Dependent measures. After reading each fact sheet, participants answered a number of questions intended to assess their evaluative impressions of either Siskel or Ebert. One set of three questions measured participants’ judgments of how competent they judged the movie critic to be, and these items included the questions, “How much do you believe Siskel/Ebert to be an effective movie reviewer?”, “How much do you believe Siskel/Ebert to be a competent movie reviewer?”, and “How savvy in business do you believe Siskel/Ebert to be?”. Another set of three questions measured participants’ overall liking of either Siskel or Ebert. These items included the questions, “How

favorably do you view Siskel/Ebert?”, “How much do you like Siskel/Ebert?”, and “How much would you enjoy watching Siskel/Ebert on television?”. Participants responded to each of these questions by placing a slash mark (/) on a horizontal line anchored by the labels "not at all" and "extremely." These marks were later converted to numbers from 1 to 10, with higher numbers indicating greater inferred morality or greater liking. In the second questionnaire, participants were asked how much their impression of Siskel or Ebert had changed in response to the facts that had recently surfaced about him. Change judgments were made on a 1 (not at all) to 10 (extremely) scale.

Results and Discussion

Manipulation checks. Of the 70 participants, 59 reported that they were familiar with Siskel and Ebert. Of these 59 participants, 57 correctly recalled the facts in the second “fact” sheet. The data from these 57 participants were retained for analyses².

Impressions of the target’s competence. Participants’ responses to the questions measuring perceptions of the target’s competence were correlated (Cronbach’s alpha = .79) and thus were averaged to produce a single measure of competence. Moreover, participants’ responses to the questions measuring participants’ liking for the target were also correlated (alpha = .82). Thus, overall average estimates were computed for these two measures.

To test for the death positivity bias, we conducted a one-way ANOVA of participants’ competence judgments prior to receiving the second “fact” sheet about either Siskel or Ebert. The results showed that participants judged the late Gene Siskel to be more competent ($M = 7.21$) than Roger Ebert ($M = 6.39$), $F(1, 55) = 7.21$, $p < .05$, $r = .34$. We had no measures of judged competence for these two individuals prior to

Siskel's death and so it is possible that Siskel was simply admired more for his competence independent of his death. We nevertheless report this effect because it is consistent with the death positivity bias reported in our prior work (Allison & Eylon, 2004).

To test for the frozen in time effect, participants' competence judgments of Siskel or Ebert were next subjected to a 2 (target: Siskel, Ebert) x 2 (behavior: good, bad) x 2 (time 1, time 2) repeated measures ANOVA. The analysis revealed a three-way interaction, $F(1, 53) = 4.41, p < .05, r = .28$. The means associated with this effect are displayed in Table 3. As this table shows, participants appeared to show greater change in their competence judgments of Roger Ebert than of the late Gene Siskel. One way to test this notion is to conduct a target by behavior valence ANOVA of the absolute value of the differences in participants' judgments at time 1 and time 2. This ANOVA showed a marginal effect of target, $F(1, 77) = 3.24, p < .07, r = .20$. The mean difference in participants' competence judgments over time tended to be lower for Siskel ($M = 0.53$) than for Ebert ($M = 1.27$).

To better capture the direction of change in judgments, we next explored whether participants in the Siskel condition showed less negative change in response to negative information than did participants in the Ebert condition. A target by time ANOVA of judgments in the negative information condition revealed a significant interaction, $F(1, 40) = 4.97, p < .05, r = .33$. When negative information was revealed about Siskel, participants showed less change in their competence judgments ($M_s = 7.20$ vs. 6.93 , difference = 0.27) than when the same negative information surfaced about Ebert ($M_s =$

6.33 vs. 5.33, difference = 1.00). These two mean differences (0.27 vs. 1.00) were statistically different from each other, $t(40) = 2.36, p < .05, r = .35$.

A target by time ANOVA conducted on data from the positive information condition also revealed an interaction, $F(1, 41) = 4.56, p < .05, r = .32$. When positive information surfaced about Siskel's competence, participants showed less change in their judgments ($M_s = 7.21$ vs. 8.00 , difference = 0.79) than when that same information surfaced about Ebert ($M_s = 6.45$ vs. 8.00 , difference = 1.55). These two mean differences (0.79 vs. 1.55) were marginally different from each other, $t(40) = 1.93, p < .07, r = .29$. Although the pattern here is in the predicted direction, we acknowledge that the smaller change in judgments about Siskel may have been due, in part, to the lower pre-manipulation rating (6.45) compared to Ebert's (7.21).

Liking for the target. The analysis of participants' liking judgments also revealed a three-way interaction, $F(1, 53) = 5.40, p < .05, r = .30$. Table 4 shows the means associated with this interaction. Consistent with the pattern of competence judgments, an ANOVA of the absolute value of the differences in participants' liking judgments at time 1 and time 2 showed a significant main effect of target, $F(1, 53) = 5.99, p < .05, r = .31$. The mean difference in participants' liking judgments over time were lower for Siskel ($M = 0.63$) than for Ebert ($M = 1.39$).

To test for the direction of change in liking judgments, a target by time ANOVA of liking judgments in the negative information condition revealed a marginally significant interaction, $F(1, 40) = 4.01, p < .05, r = .30$. When negative information was revealed about Siskel, participants showed less change in their liking of him ($M_s = 7.06$ vs. 6.50 , difference = 0.56) than when the same negative information surfaced about

Ebert ($M_s = 6.45$ vs. 5.46 , difference = 0.99). These two mean differences (0.56 vs. 0.99) were marginally different, $t(40) = 1.84$, $p < .10$, $r = .27$.

A target by time ANOVA conducted on data from the positive information condition revealed an interaction, $F(1, 40) = 4.96$, $p < .05$, $r = .33$. When positive information surfaced about Siskel's competence, participants showed less change in their liking judgments ($M_s = 7.43$ vs. 8.13 , difference = 0.70) than when that same information surfaced about Ebert ($M_s = 6.20$ vs. 7.99 , difference = 1.79). These two mean differences (0.70 vs. 1.79) were significantly different from each other, $t(40) = 2.83$, $p < .05$, $r = .40$.

Perceptions of change. The ANOVA of participants' judgments of change revealed a significant main effect of target, $F(1, 53) = 8.24$, $p < .01$, $r = .36$. Participants indicated that their impression of Ebert changed more ($M = 5.69$) than their impression of Siskel ($M = 4.29$). We then correlated these change judgments with the differences in inferences between time 1 and time 2. The correlations for both morality and liking judgments were positive and statistically significant, $r = .43$ and $.45$, respectively, both $p_s < .05$. These correlations indicate that the more participants' judgments shifted as a result of reading the second "fact" sheet, the more they reported that their judgments of Siskel or Ebert had changed.

General Discussion

A man's death makes everything certain about him.

-- John Berger (1967)

We began this article by proposing that the death of an individual seals the impressions that others form of him or her. As such, we hypothesized that being informed of a person's demise should render our impressions of him or her more

enduring and unchangeable, even in the face of evidence that is contrary to our impressions. The two experiments we reported here produced data that are consistent with this hypothesis. When our participants formed impressions of a hypothetical laboratory target in Experiment 1, these impressions were less likely to change in response to new information about the target when the target was believed to be dead than when the same target was believed to be still alive. This tendency held true regardless of the direction of the change from moral to immoral or from immoral to moral. Moreover, in Experiment 2, we replicated the frozen in time effect in judgments of competence about real-world movie critics Roger Ebert and the late Gene Siskel.

The examples with which we opened this article, involving John F. Kennedy, Princess Diana, and Martin Luther King, Jr., suggest that our impressions of a dead individual become frozen if the individual perished at a relatively young age. We speculate that although death at any age may trigger the frozen in time effect, it is likely that the mental representation that becomes frozen is a representation of the person in her prime or at her best (or worst, as the case may be). It is much easier for people to recognize the frozen in time effect for individuals like JFK, Diana, and King, who died poignantly in their prime with their images still freshly imprinted in the public's memory.

Overall, real world examples of both the death positivity bias and the frozen in time effect abound. On headstones one sees epitaphs that are both reverent and, literally, etched into stone for all time. Shrines to the dead are erected with the intent of bestowing them with eternal honor. The architectural designs of many prominent memorials, such as the Vietnam War memorial and the September 11th memorial, are centered on the theme of remembering the dead in both a highly favorable and permanent way. Many

websites devoted to coverage of these memorials are peppered with slogans and quotes from others that underscore the importance of showing respect for the dead and ensuring that these respectful feelings remain forever ingrained in our memories (e.g., Crookshanks, 2003; Link, 2000; Oliver, 2003; Ryan, 2003).

Our primary theoretical framework for understanding death positivity phenomena has been terror management and its emphasis on the impact of mortality salience in validating one's cultural worldview (Arndt et al., 2002; Greenberg, et al., 1997; Greenberg et al., 2003; Mikulincer & Florian, 2002; Pyszczynski, et al., 1997, 2003; Solomon, et al., 1991). From a TMT perspective, mortality salience leads to extremized evaluations of the dead, such that positive target actions should produce more favorable evaluations and negative target actions should produce more unfavorable evaluations (Allison et al., 2004). Moreover, TMT suggests that perceivers' judgments of the dead should be enduring and resistant to change. Our impressions of the dead, whether favorable or unfavorable, should be frozen in time.

Another possible reason why people may be motivated to preserve their impressions of the dead is that they want to ensure a similar preservation of their own image after their own demise. People may be sensitive to the legacy they leave behind (Allison, Eylon, & Markus, 2004) and thus they may harbor the desire to live on symbolically through positive memories and enduring memorials after their own deaths. Thus, honoring the dead through expressions of positivity and through protecting their images from change may reflect a desire for those same measures to be practiced on themselves later on. This explanation for the death positivity bias and for the frozen in time effect is of course consistent with the principles of TMT theory, particularly with the

idea that people are motivated to affirm the values of their cultural worldview as a means of achieving a form of symbolic immortality.

Although the results of our two studies are consistent with a TMT explanation, we acknowledge that we did not directly test terror management hypotheses using established TMT measures. However, we have found in our earlier work (Allison et al., 2005, Experiment 4) that the act of forming judgments of the dead produces many of the same psychological effects that have been produced in previous TMT research. Specifically, Allison et al. found that participants who judged dead targets were more likely than participants who judged living targets to place greater importance on procedural fairness (Van Den Bos & Miedema, 2000), to form more extreme gender-stereotypic judgments (Schimel, Simon, Greenberg, Pyszczynski, Solomon, Waxmonsky, & Arndt, 1999), to give larger rewards for pro-social behavior and stronger punishments for anti-social behavior (Rosenblatt et al., 1989), to demonstrate greater fan loyalty to in-group sports teams (Dechesne, Greenberg, Arndt, & Schimel, 2000), to show greater levels of patriotism (Greenberg, Arndt, Schimel, Pyszczynski, & Solomon, 2001), to give more generously to charitable organizations (Jones, Schimel, Greenberg, & Pyszczynski, 2002), and to show stronger affiliation tendencies (Wiseman & Koole, 2003). These findings suggest that TMT mechanisms were likely triggered within participants in our current study who made frozen in time judgments of the dead.

Not only does terror management help us understand the death positivity bias, it also helps us understand why we would resist changing our perceptions of the dead. The theory suggests that forming judgments about the dead makes perceivers' own mortality salient, prompting perceivers to employ cognitive strategies and processes that buffer the

anxiety associated with one's own demise. From this perspective, information processing about the dead may be qualitatively different than processing about the living. The results of a pilot study that we have conducted suggest that the death of a target individual may indeed trigger different impression formation processes. The study revealed that perceivers take more time to form judgments of the dead and they remember more behavioral information about the dead. It is possible that people seek meaning from the death of others (Becker, 1973) and that to achieve this meaning people may be more deliberate and thoughtful in their judgments of the dead. This hypothesis is consistent with our argument that people form impressions of the dead that are both worldview-reinforcing and are able to withstand the test of time.

A promising direction for future research may be to illuminate the information processing implications of forming judgments of dead targets. From the above considerations, one reasonable hypothesis is that although information processing about living targets usually occurs in an on-line fashion (McConnell, 2001; McConnell, Sherman, & Hamilton, 1997), information processing about dead targets may be more memory-based (Hertel & Bless, 2000). On-line processing has been shown to promote faster processing and engender the primacy effect in impression formation (McConnell et al., 1997), whereas memory-based processing tends to be slower and more likely to produce a recency effect in recall (McConnell, 2001). Thus future researchers may wish to investigate whether perceivers' impressions of the living occur more quickly than about the dead, and whether perceivers' judgments about the dead are more likely to show a recency effect in recall of behavioral information.

We acknowledge that the frozen in time effect may be explained by cognitive mechanisms not directly associated with terror management theory. For example, it may be the case that the frozen in time effect results from people's recognition that the dead are not in any position to corroborate the validity of new information that surfaces posthumously about them, particularly negative information. This type of protective or defensive tendency was very apparent in public outcries over Thomas Jefferson's image being possibly tarnished from reports of his alleged affair with his slave, Sally Hemming (Gordon-Reed, 1998). People are obviously aware that death ends life, but this belief in the finality of death may carry over to the inference that death should also end the impression-building process. Perceivers may conclude that the impression is finished and thus they may guard or preserve that finished impression, even in the face of evidence that contradicts the content of the impression.

Clearly these are issues that future research will allow us to better understand. Additional studies could also help us gain a better understanding of the conditions under which the frozen in time effect takes place. For example, we do not yet know how resistant our image of the dead will be to an overwhelming abundance of inconsistent information or to information that is both vivid and irrefutable. Moreover, there may be merit in investigating whether the frozen in time effect applies to groups or organizations who literally die (e.g., the Lynrd Skynrd band) or who die figuratively (e.g., TWA or Simon & Garfunkel). Future work may productively explore whether metaphorical deaths, in the form of retirements, religious bans, incarcerations, or dismissals from jobs, may also engender tendencies in perceivers to display a frozen in time effect in impressions and judgments.

Overall, our research here and elsewhere (Allison et al. 2005) suggests that people have a need to show reverence for the dead and to protect these reverent images from revision. Sociologists and psychologists have found that an important and natural part of the bereavement process includes a period of "idealization" of the dead, during which people form idealized images of the deceased person by focusing almost exclusively on the person's positive qualities (Attig, 1996; Benton, 1978). Idealization of the dead presumably enables survived loved ones to better cope with their loss by drawing upon the positive and inspiring qualities of the deceased (Benton, 1978). It seems reasonable that we retain or freeze these idealized images because coping with significant loss is a long-term process, taking months or even years to complete. A frozen, idealized image of a deceased loved one may also enable us to draw inspiration and guidance from that preserved memory for many years, perhaps even a lifetime.

Our work on the death positivity bias and the frozen in time effect is consistent with recent research demonstrating a human need to commemorate heroes (Becker & Eagly, 2004). Heroes have long been honored in folklore and myth, and modern day pop icons who have perished, such as Elvis Presley and James Dean, have become almost deified by the general public (Allison & Eylon, 2005). Information that surfaces which contradicts our deified images of these pop icons is usually met with outrage and strong resistance, and for this reason the icons exert a far greater cultural influence in their deceased state than they would had they remained alive (Marcus, 1999). The precise psychological functions of dead icons still elude us, but our research suggests that these icons fulfill a fundamental human need to preserve and remain inspired by the honored

reputations of those whose lives embodied the valued principles of our cultural worldviews.

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Author Notes

Scott T. Allison, Department of Psychology, University of Richmond; Dafna Eylon, Department of Management Systems, Robins School of Business, University of Richmond.

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Correspondence concerning this article should be addressed to Scott T. Allison, Department of Psychology, University of Richmond, Virginia 23173. E-mail: sallison@richmond.edu.

Footnote

¹ The design of this experiment precludes a clean test of the death positivity bias. In Allison et al. (2004), participants showed a death positivity bias when targets performed good (moral) actions but a death negativity bias when targets performed bad (immoral) actions. In the present study, participants who read that Eleanor Dripp had died also read that she had performed a mix of both good and bad behaviors, thus clouding any positive (or negative) biases participants may have shown. Our primary aim here was to show the frozen in time effect.

²We excluded participants who were unfamiliar with Siskel and Ebert because the goal of Experiment 2 was to test the presence of the frozen in time effect in judgments of real world targets about whom participants had some prior familiarity. Experiment 1 represented a test of the effect for unfamiliar targets.

Table 1

Experiment 1: Mean Moral Judgments as a Function of Target Status, Order, and Time

Status	Order	Time		
		Time 1	Time 2	Difference
Alive	Good-Bad	6.70 (1.78)	3.30 (1.60)	- 3.40
	Bad-Good	3.22 (1.24)	5.69 (1.81)	+ 2.47
Dead	Good-Bad	7.08 (1.90)	4.45 (1.45)	- 2.63
	Bad-Good	2.68 (1.03)	4.04 (2.40)	+ 1.36

Note. The higher the rating, the greater the inferred morality. Standard deviations appear in parentheses.

Table 2

Experiment 1: Mean Liking Judgments as a Function of Target Status, Order, and Time

Status	Order	Time		
		Time 1	Time 2	Difference
Alive	Good-Bad	7.28 (1.66)	4.12 (1.82)	- 3.16
	Bad-Good	3.40 (1.14)	5.77 (1.99)	+ 2.37
Dead	Good-Bad	7.01 (1.73)	4.71 (1.55)	- 2.30
	Bad-Good	3.36 (1.27)	4.90 (2.05)	+ 1.54

Note. The higher the rating, the greater the liking for the target. Standard deviations appear in parentheses.

Table 3

Experiment 2: Mean Competence Judgments as a Function of Target, Behavior Valence, and Time

Target	Valence	Time		
		Time 1	Time 2	Difference
Roger Ebert	Good	6.45 (1.65)	8.00 (1.66)	+ 1.55
	Bad	6.33 (1.13)	5.33 (1.46)	- 1.00
Gene Siskel	Good	7.21 (1.58)	8.00 (1.41)	+ 0.79
	Bad	7.20 (1.88)	6.93 (1.32)	- 0.27

Note. The higher the rating, the greater the perceived competence of the target. Standard deviations appear in parentheses.

Table 4

Experiment 2: Mean Liking Judgments as a Function of Target, Behavior Valence, and Time

Target	Valence	Time		
		Time 1	Time 2	Difference
Roger Ebert	Good	6.20 (1.88)	7.99 (1.65)	+ 1.79
	Bad	6.45 (1.46)	5.46 (1.48)	- 0.99
Gene Siskel	Good	7.43 (1.88)	8.13 (1.46)	+ 0.70
	Bad	7.06 (1.25)	6.50 (1.55)	- 0.56

Note. The higher the rating, the greater the liking for the target. Standard deviations appear in parentheses.