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The Impact of Perceived Temporal Scarcity of Life on Temporal Distance Judgments

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Demonstrating interdependence between perceived temporal scarcity of life and perceived future temporal distance, we show heightening participants' perceptions of the temporal scarcity of life influences their perception of future time duration. We further examine the implications of this effect on intertemporal decisions for monetary outcomes.

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expansive) x 2 (Presence: congruent with emotion- vs. achievement-related goals) full-factorial design. 75 students filled out either the same Limited or Expansive time survey as before. They then were asked to read the description of either the classmate who was consistent with a love/caring or an achievement goal (consistent with a limited time or an expansive time perspective) and to picture that person in their mind, and reported the extent they would prefer to engage in the same 23 activities as before, alone versus with the person they had in mind. A 2x2 ANOVA revealed a significant two-way interaction. Participants who had thought of a love/caring related classmate wanted to be alone significantly more when time was expansive rather than limited. In contrast, participants who had thought of an achievement-related classmate equally valued social presence regardless of whether time was expansive or limited. Again, the pattern of results was the same for each cluster in a cluster analysis.

A final study examined whether the impact of time perspective on valuation of being with others changes when the consumption activity itself varies in how it relates to love and caring rather than achievement. This study was a 2 (Time horizon: limited vs. expansive) x 2 (Movie: about-love vs. about-achievement) between-subjects design. We manipulated participants' time horizon as before, before participants read one of four synopses of a soon to be released movie. Based on a pretest, two of the movies were primarily about love, while the other two were primarily about achievement. After reading these synopses, 105 participants indicated the extent to which they would prefer seeing the movie alone versus with someone they like. Because our results were identical for the two pairs of movies, we report the combined results. A 2x2 ANOVA only revealed a significant two-way interaction. Participants who had read the description of the movies about-love/caring reported wanting to be alone significantly more when time was perceived as expansive versus limited. In contrast, participants who had read the description of the movies about-achievement equally valued social presence regardless of time horizon.

While social interaction is core to our survival, we find that when consumers sense that they have a large amount of time ahead of them, they become relative loners. Our findings also suggest that additional insights may be gained from manipulating the type of other consumer presence in mere presence research.

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EXTENDED ABSTRACT

Although theoretically future time might be infinite, the individual's own lifespan is often the most salient and natural context within which temporal duration is judged. We argue that the individual's perceived lifespan is in turn influenced by reminders of mortality (and hence scarcity of life). Thus, the extent of an individual's own perceived temporal space (i.e., the scarcity of that individual's perceived lifespan) provides the context that influences judgments of perceived temporal distance to specific future events.

When individuals are reminded of their death, it heightens their perceived temporal scarcity of life (e.g., how much time is perceived to be left in life). Their perceptions of remaining lifetime are a highly salient context for other temporal judgments for them. As a result, perceived distance to a future point in time will be inversely influenced by how much time is perceived to be left in life, just as magnitude judgment of a target stimulus is inversely related to the perceived magnitude of a context stimulus in human perception and judgment (Sherman, Ahlm, & Berman, 1978).

In study 1 we manipulated temporal scarcity of life by reminding participants of their death. To manipulate temporal scarcity of life, participants in the death condition were presented with a word-search puzzle on a computer screen, in which death-related words were embedded among other letters (King et al., 2009). For those in the control condition, a similar word-search puzzle but with neutral words was presented. Once participants found the target words, they were directed to the next screen, where their perceived temporal distance was measured. Specifically, participants were asked to think about a day in one month and then to indicate how long or short they considered the duration to be from today to a day in one month by moving a slide bar on a 150 mm continuous line scale with endpoints labeled as very short and very long. Confirming our prediction, participants who were reminded of their death perceived the same 1-month duration to be subjectively longer than those in the control condition. This effect was not driven by changes in construal level, anxiety, or emotional reactions.

In study 2 we manipulated temporal scarcity of life not by reminders of death but by simply manipulating how much time is perceived to be left in life. For this purpose, we utilized the findings of a recent neurobiological study reporting that basic human cognitive functions peak at age 39 and sharply decline thereafter (Bartzikos et al., 2009). This information should heighten the perceived temporal scarcity of life among young individuals ("There is only about 20 years before my brain breaks down!") compared to a condition providing information about one's total life expectancy, which is longer. One noteworthy feature of this manipulation is that mortality is more likely to be associated with the life expectancy condition, which is predicted to trigger less temporal scarcity in this case. Results indicated that participants in the high-scarcity condition perceived the same temporal distance on an objective scale (e.g., 3 months) to be subjectively longer than those in the low-scarcity condition.

In study 3 we manipulated temporal scarcity of life by manipulating how much time is perceived to be left in life but further tested the behavioral implications of this finding we examine the effects of perceived temporal scarcity of life for intertemporal decisions, namely the degree of impatience for delayed monetary rewards. While college students generally reveal a greater degree of impatience in intertemporal decisions than older adults (Green, Fry, & Myerson, 1994; Read & Read, 2004), we predict that impatience among college students may be further elevated by heightening their perceived temporal scarcity of life. Results in time perception replicated study 1 and 2—participants in the high-scarcity condition perceived the same temporal distance to be subjectively longer than those in the low-scarcity condition. Importantly, for impatience, as revealed in a delay-discounting task, we found that participants in the high-scarcity condition requested more money if they had to wait for three months to receive rewards than those who in the low-scarcity condition. Such changes in perceived temporal distance or impatience level were not driven by affective responses to our manipulations.

Taken together, the present research demonstrates a novel aspect of the relationship between perceived psychological space and perceived temporal distance: when psychological space associated with perceived lifespan is subjectively contracted, temporal distance judged within this space is perceived to be relatively expanded.