

## Missed Opportunities: Psychological Ramifications of Counterfactual Thought in Midlife Women

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Counterfactual thinking entails the process of imagining alternatives to reality—what might have been. The present study examines the frequency, content, and emotional and cognitive concomitants of counterfactual thinking about past missed opportunities in midlife women. At age 43, nearly two-thirds of the sample of educated adult women reported having missed certain opportunities at some time in their lives. Most of the counterfactual thoughts concerned missed opportunities for greater challenge in work. Emotional distress at age 33 did not predict later counterfactual thought. Instead, counterfactual thinking at age 43 was associated with concurrent emotional distress. However, acknowledging counterfactual thinking about the past was also associated with envisioning ways to change things for the better in the future. This suggests the possibility that the negative appraisal often entailed in counterfactual thinking may be associated with emotional distress in the short run but with motivational benefits in the long run, at least for middle-aged women.

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**KEY WORDS:** Counterfactual thought; emotion; midlife women; motivation; work.

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I think I don't regret a single "excess" of my responsive youth—I only regret, in my chilled age, certain occasions and possibilities I didn't embrace.

Henry James

### INTRODUCTION

Possible but unactualized states, or alternatives to reality, are called counterfactuals; thinking about counterfactuals is called counterfactual thought (Goodman, 1973; Kahneman & Tversky, 1982a; Kripke, 1980; Lewis, 1973). In the passage quoted above, Henry James is engaging in counterfactual thought about chances of which he had not made the most. Whenever we wonder what we would do if we

won the lottery or what would have happened had we taken one job rather than another or lived somewhere else, we are engaging in counterfactual thought. Because choice is inescapable and insofar as conflict among choices, claims, or ways of life is inevitable, human beings will probably always wonder what might have been had we embraced those other occasions and possibilities (Hampshire, 1983). In the present study, we examined the frequency and content of counterfactual thoughts about missed opportunities in midlife women. We also examined the relationship between counterfactual thought and past and present emotional distress as well as the relationship between counterfactual thoughts about the past and the future.

Although a relatively new area for systematic empirical inquiry, counterfactual thought has already been implicated in a variety of psychological processes, including causal attribution (Gavanski & Wells, 1989; Wells & Gavanski, 1989), self-esteem (Roese & Olson, 1993), emotional reactions to life events (Davis, Lehman, Wortman, Silver, & Thompson, 1995; Gleicher et al., 1990; Kahneman & Tversky, 1982a; Landman, 1987; Landman, 1995; Lehman,

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Wortman, & Williams, 1987), social perception (Macrae, 1992; Miller, Turnbull, & McFarland, 1990; Roese & Olson, 1995), and motivation (Johnson & Sherman, 1990; Markman, Gavanski, Sherman, & McMullen, 1993; Ruvolo & Markus, 1992).

With the exception of the work on possible selves by Markus and Nurius (1986) as well as that on personally relevant counterfactual thought by Landman and Manis (1992) and very recently by Davis et al. (1995), virtually all the research targeting counterfactual thought to date has been carried out in the laboratory, typically employing written vignettes describing hypothetical decision makers, events, and outcomes. Therefore, many questions remain about the nature and implications of personal counterfactual thought.

Markus and Nurius' (1986) notion of "possible selves," or cognitive/affective representations of the self in some currently unactualized state, highlights the personal nature of some counterfactual thought. In the language of possible self theory, someone might imagine, for example, currently unactualized past and future possible selves of a shy teenager and MacArthur awardee, respectively. Such self-relevant counterfactual thinking has important emotional and behavioral implications. Counterfactual thought about oneself and one's life is likely to be especially significant in middle age when many life commitments have been made, but when there is still time to make major changes in them (see, e.g., Helson, Mitchell, & Hart, 1985; Levinson, 1978).

### Incidence of Counterfactual Thought

Although the question of the frequency of personal counterfactual thinking has received little or no attention, there have been previous attempts to measure people's regrets. Regret is surely a cousin of counterfactual thought, as implied by James in the passage quoted above. Indeed, regret has been referred to as a "counterfactual emotion," the affective counterpart of counterfactual thought (Kahneman & Tversky, 1982b).

A 1953 Gallup poll (Erskine, 1973) asked a national sample of men and women the following question: "Generally speaking, if you could live your life over again, would you live it in much the same way as you have, or would you live it differently? If differently: What would you do differently?" This question, which was intended to measure regret, actually

does not directly inquire about regret, defined as a rather painful cognitive/affective state of feeling sorry about, in this case, one's life choices (Landman, 1993). It is conceivable that people might wonder what would have happened had they done something else, while experiencing little or no regret.

This seems to be the case with a character in a recent short story by Barnett (cited by Wolitzer, 1990, p. 17): "I don't have any regrets, but sometimes I wonder if you had come to New York when I asked you to, if things would be different now." Conversely, regret need not entail the thought that one would do something differently, a point illustrated by Taylor (1985, p. 99):

She [an employer] may regret an action (sacking an employee) which overall she still considers necessary and beneficial.... It is possible also to regret an action but accept it [i.e., not wish to do it differently or to undo it] under the same description: she regrets sacking the employee because the girl [sic] was so easily crushed, but she had to be sacked, nevertheless, because she was so inefficient.

It seems likely that regret will frequently accompany counterfactual thought. However, all we know for sure about the "What-would-you-do-differently?" question is that, to answer it, one must engage in the cognitive process of imagining what might have been done differently, that is, counterfactual thought.

Essentially the same question as that first posed in the 1953 Gallup poll was asked again in 1965 of another national sample (Erskine, 1973), in the early 1980s of three diverse samples (Landman & Manis, 1992), and in 1989 of a sample of over 300 adults (Kinnier & Metha, 1989) and of a sample of educated adult women (Metha, Kinnier, & McWhirter, 1989). Although quite diverse in time and samples, most of the previous surveys found an *overall* incidence of counterfactual thought in the 35 to 65% range (35% in the 1953 Gallup poll; 54% in the Landman and Manis sample of adult men and women; 64% in the 1965 Gallup poll). *Education* has consistently proved to be the single most common area for counterfactual thought in previous research. Educational counterfactuals were mentioned by 15 and 12%, respectively, of the men and women in the 1953 Gallup poll, by 39% of the Kinnier and Metha (1989) sample, by 43% of the 1965 Gallup sample, and by 69% of the all-women sample queried by Landman and Manis (1992). After educational might-have-beens, career and marital decisions produced the next most common might-have-beens in all previous studies.

### Counterfactual Thought and Emotional Experience

Personally relevant counterfactual thought could conceivably be related to emotional experience in a number of ways. One possibility is that negative emotion may evoke later counterfactual thought (especially about negative life outcomes and events), as depression appears to give rise to negative thinking (Beck, 1982). Or it could be that counterfactual thought evokes negative emotion. A third possibility is that negative emotion and counterfactual thought are not causally related, but may simply be associated with one another. Whatever the specific nature of the relationship, a number of avenues of research suggest that counterfactual thought and negative emotion will go hand in hand.

The mood congruence literature finds better retrieval of negative life events among those in negative moods than among those in neutral or positive moods (see reviews by Blaney, 1986; Eich, 1989; Isen, 1984). In fact, mood congruence effects are stronger for autobiographical than laboratory material (Teasdale & Fogarty, 1979; Teasdale, Taylor, & Fogarty, 1980). It could be then that those who are chronically emotionally distressed may generate more counterfactual thought.

The line of research on depressive realism finds that those who clear-sightedly avow personal shortcomings and unpleasant realities also show distressing emotions, particularly depression (Alloy & Abramson, 1979, 1982; Lewinsohn, Mischel, Chaplin, & Barton, 1980). Imagining better alternatives to reality may prove to be another cognitive path to distressing emotion (Cohen & Lazarus, 1979; Kuhl, 1981; Taylor, 1983; Taylor & Brown, 1988). People who report a lot of negative past selves also tend to suffer a lot of negative affect (Markus & Nurius, 1986). By extension, these bodies of research point to the possible psychic costs—at least in the short run—of counterfactual thought concerning negative life realities.

### Counterfactual Thought About the Past and the Future

“Set yourself free from the paralysis of analysis,” commanded one self-help book (Price, 1979). From this perspective, thinking too much about the past is assumed to produce immobilization. There is some merit to this idea. Excessive counterfactual thought

might prove excessively demoralizing. Counterfactual thinking could conceivably even supplant future-oriented thoughts and goals, leaving one bogged down in the “slough of the past.”

On the other hand, counterfactual thinking, even in the face of missed opportunities or other misfortunes, may not be in principle paralyzing. Refusing to think about the past and its might-have-beens, though superficially progressive, could actually serve to keep us stuck in the past. One thinks here, of course, of Santayana’s adage: “Those who cannot remember the past are condemned to repeat it.” In contrast, those who are able to sustain their mental connection with the past could be in a better position to imagine alternative possible worlds and selves and eventually to take action to free themselves from an unsatisfactory past. Imagining how things might have been different might stimulate thoughts and feelings that form a bridge between the past and the future. Like pain, counterfactual thought about a regrettable past may serve instructional and motivational purposes—telling us that something is wrong and moving us to do something about it.

Though there is, to our knowledge, no empirical evidence directly relevant to the question of how thinking about past missed opportunities might relate to future-oriented thoughts and action, certain avenues of theory and research indirectly bear on the question. First, those working from a psychodynamic perspective have stressed the importance of acknowledging and integrating negative personal experiences to the end of unfixating those who were fixated and unparalyzing those who were paralyzed (Erikson, 1963; Freud, 1917/1963). An implication of this body of thought is that temporary demoralization may be the price of long-term well-being.

Second, recent social psychological research finds that imagining a future behavior can bring about behavior that actually changes the future. Gregory, Cialdini, and Carpenter (1982) found that people who were induced to imagine enjoying cable TV were later more likely than those who did not engage in this act of imagination to get cable. Sherman, Skov, Hervitz, and Stock (1981) found that subjects who had been induced to imagine and explain their own successes or failures on a future anagram task actually performed differentially in self-fulfilling, prophecy-like directions (see also Johnson & Sherman, 1990).

More directly relevant to the question at hand is the work of Ruvolo and Markus (1992), who had

subjects generate positive or negative possible selves by imagining themselves succeeding or failing at a task. The type of possible selves they imagined significantly affected their persistence at a task. Finally, Markman et al. (1993) have posited that the process of imagining better possible worlds serves the motivational function of "prepar[ing] one for the future" (p. 87).

### Counterfactual Thinking in Women

Especially when what might have been is tantalizingly easy to imagine or when reality fails to compare favorably with what "might have been" (Kahneman & Miller, 1986), counterfactual thinking may prove to be the rule. Both these circumstances apply to the lives of many modern women. The alternative to the decision to work only at home is undoubtedly easier to imagine for women today than for women in the past. Further, the ever-present conflict between relational imperatives and the necessity and/or desire for work in the public domain provides fertile soil for counterfactual thought. For example, a world that presses women (and less often men) to choose between staying home with a sick child and keeping a job is a world primed to evoke counterfactual thought. In general, insofar as women's lives are beset with role change, role strain, constraint, and incommensurable choice, counterfactual thought will probably be very much a part of their inner lives.

That women do seem to experience a good deal of counterfactual thought is supported by the results of the previous research on regret that targeted women or reported women's results separately from men's. The all-women sample studied by Landman and Manis (1992) showed high rates of personally relevant counterfactual thought, with 69 percent of the 1145 respondents reporting educational counterfactuals, 61% career-related counterfactuals, 40% marital counterfactuals, and 37% parenting counterfactuals. The incidence of educational counterfactuals (called "regrets" in that and most other studies) was 38% among the women in the Metha et al. sample (1989). Other, less frequent counterfactuals included imagining having been more assertive, more self-disciplined, or more risk-taking (reported by 25, 16, and 15%, respectively, of the women of the Metha et al. sample). Sears (1979) found that a sample of women identified early in life as gifted reported counterfactual thoughts regarding their family/work choices later

in their 60s. Whereas 41% of this sample of women described themselves as having been primarily homemakers, in their 60s only 29% said they would make the same choice if they had it to do over again. In contrast, although 30% of the same sample reported having worked at a "career" during most of their adult lives, even more (37%) later said they would choose that pattern if they could choose over again. In general, Sears found that many women entertained thoughts of having pursued a career throughout their adult lives or except when raising small children, rather than having worked in a noncareer job (for income only) or as a homemaker.

The present study then addresses the following questions. How common an experience is the generation of personal counterfactuals—specifically, thoughts about missed opportunities—in educated women early in middle age? What sorts of as-yet-unrealized possibilities are these women most likely to imagine? How is this form of counterfactual thought related to past and present emotional distress? Finally, how is counterfactual thinking about the past related to counterfactual thinking about the future? The present research addresses these issues through the questionnaire responses of a nonclinical sample of women.

## METHOD

### Sample

The sample was part of a group of 186 adult women who graduated from an elite women's college in 1964 and who responded to questionnaires as a part of a larger longitudinal study of women's lives (Stewart, 1975, 1978, 1980). For the purposes of these analyses, data from two waves are of interest: responses to questionnaires mailed in 1976 ( $N = 96$ ) and in 1986 ( $N = 102$ ). The questionnaires concerned respondents' familial, educational, and occupational experiences, attitudes, and values. In addition, respondents were asked questions about their missed opportunities and hopes and wishes for the future; and they were administered measures of affect. These data provided information about the incidence, content, and emotional and cognitive concomitants of counterfactual thinking among these women.

The respondents were about 33 years old in 1976 and 43 in 1986. Ninety percent of these women had

been married<sup>5</sup> at some time in their lives; of these, 34% had been divorced at least once. Most (79%) of the respondents were employed outside the home by the time they were 43. This sample was quite well educated: By 43 years of age, 45% had attained doctoral-level degrees, 27% had attained master's degrees, and the remaining 28% had attained bachelor's degrees. Finally, this sample was financially well off, with 47% at age 43 (i.e., in 1986) reporting a total family income level of \$75,000 or more, 32% reporting a total family income level of \$35,000 to \$74,000, and the remaining 21% reporting a total family income of \$10,000 to \$34,000. The high levels of educational and socioeconomic position of this sample made it a particularly interesting one with which to examine these questions, as the respondents presumably had a lot of choices and opportunities potentially to replay.

### Measures and Procedures

The form of counterfactual thought assessed was missed opportunities, which were measured in 1986 by this question: "Were there any attractive opportunities for career or other long-range activities which you did not pursue?" A yes/no response format was used. In addition, respondents who answered yes were asked to describe their missed opportunities. The missed opportunities fell into the categories of education, close interpersonal relationships, parenting, career, leisure, and self (average interrater agreement = 95%).

The relationships between personally relevant counterfactual thought and emotional distress were also examined. Depression and anxiety at ages 33 and 43 were measured by the Zung (1965) self-rating scales. In this measure, subjects are asked to rate symptom items such as loss of appetite, feeling downhearted and blue, and constipation (for depression) and feeling nervous, panicky, and having shaking hands (for anxiety) on a 4-point scale ranging from *never* to *nearly all the time*. Depression and anxiety scores were created for each subject by averaging their answers on the 20 and 15 items making up each scale, respectively. These scores were then standardized, with the mean set at 0 and the standard deviation at 1. The

emotion scores ranged from -0.68 to 2.89 for anxiety and from -1.62 to 3.21 for depression.

Finally, the relationship between counterfactual thoughts about the past and the future was explored. Future hopes were measured by respondents' answers to this open-ended question, which appeared in a different section of the questionnaire than the missed-opportunities question: "If you could do anything you wished in the next ten years, what would you do?" The responses fell into five categories: career, interpersonal (a combination of marital- and friend-related plans), parenting, lifestyle (e.g., plans to slow down, to travel more), and self-related hopes (with interrater agreement ranging from 88% to 96%).

## RESULTS

### Frequency and Content of Counterfactual Thoughts

As Table I shows, 64% of the 95 respondents reported that there were opportunities that they had not pursued. The mean number of missed opportunities listed was .95, with a range of 0 to 4.

Among the responses to the question about past missed opportunities were the following: (a) A professor reported that she had given up her idea to start a women's clothing store/chain in favor of a decision to take the "tamer academic/professional path"; (b) a poet wrote about having declined invitations to do readings, workshops, and conferences

Table I. Percentage of Missed Opportunities Reported in Different Domains<sup>a</sup>

Life domains	Missed opportunities (% of total sample)
Unspecified	64
Career	63
Education	41
Parenting	3
Relationships	0
Leisure	2
Self	2

<sup>a</sup>The columns do not sum to 100% because the life domains are not mutually exclusive; respondents reported counterfactual thoughts in more than one domain.

<sup>5</sup>These data, which were originally gathered in 1974, provided no information on the issue of sexual orientation. Naturally, inasmuch as sexual orientation is not an either/or matter and is not static over the life course, marital status is not a substitute for knowledge of sexual orientation.

because she had been "just plain scared"; (c) a physician wrote about having forgone the Peace Corps because she was accepted into medical school; and (d) many wrote about not having completed their educational goals sooner.

Most of the counterfactual thinking (63% of the sample) focused on careers. Missed opportunities concerning education were also common (mentioned by 41% of the sample). Very small proportions of this sample reported missed opportunities concerning parenting, self, and leisure; and no one reported missed opportunities related to close interpersonal relationships (marriage and friendships).

Of those who reported at least one missed opportunity in the career domain, 85% felt they had missed a chance for a career offering greater challenge; the remaining 15% described having missed an opportunity for an earlier career. Of those who reported missed educational opportunities, 68% felt that they had missed a chance for more education, 24% felt that they had missed a chance for a different sort of education, and 8% felt that they had missed a chance to complete their education earlier.

### Emotional Distress and Counterfactual Thought

As the modal number of missed opportunities listed by those respondents who listed any was 1, the sample was divided into two groups: those who reported at least one missed opportunity ( $n = 61$ ) and those who reported none ( $n = 34$ ). The following analyses examined to what extent these two groups differed in emotional state prior to or concurrent with their responses to the missed-opportunity question.

The levels of depression and anxiety at age 33 were not related to acknowledgment of missed opportunities at age 43 [depression  $t(1, 53) = .363$ , n.s.; anxiety  $t(1, 53) = .297$ , n.s.].

Concurrent depression and anxiety were significantly related to reporting missed opportunities: depression [ $t(1, 90) = 6.72$ ,  $p < .01$ ], anxiety [ $t(1, 90) = 6.74$ ,  $p < .01$ ]. However, mood scores at age 33 were also significantly and highly correlated with mood scores at age 43: depression at age 33 with depression at age 43,  $r = .64$ ,  $p < .001$ ; anxiety at age 33 with anxiety at age 43,  $r = .69$ ,  $p < .001$ . In order to examine the relations between counterfactual thinking and later mood (age 43) independent of prior mood, the prior mood scores were treated as a covariate in the relevant analyses (ANCOVAs). That

is, depression at age 33 was the covariate in all analyses with depression at age 43, and so on.

As shown in Table II, even when prior mood was controlled for, those who reported missed opportunities at age 43 had significantly higher levels of concurrent depression than those who did not,  $F(1, 53) = 5.38$ ,  $p < .05$ . They also reported significantly higher levels of concurrent anxiety,  $F(1, 53) = 7.69$ ,  $p < .01$ .

### Counterfactual Thinking about the Past and the Future

Reported thoughts about the future included matters like the following: (a) career ambitions, such as obtaining tenure or a higher-level management job, finishing a book, designing and carrying out a specific piece of research, increasing the profitability of one's company, and "collecting a mess of grants"; (b) lifestyle hopes, such as moving to California, traveling more, and reading more novels; and (c) interpersonal hopes like spending more time with one's partner and friends.

Compared with those who reported no counterfactual thoughts about the past, those who did report such thoughts were significantly more likely to specify wishes to change something about their future life,  $t(1, 83) = 2.24$ ,  $p < .05$ . When the domains were examined separately, three approached significant relationships with counterfactual thought: career [ $t(1, 83) = 1.7$ ,  $p = .09$ ], lifestyle [ $t(1, 83) = 1.9$ ,  $p = .07$ ], and the interpersonal domain [ $t(1, 83) = 1.7$ ,  $p = .10$ ]. See Table III.

Table II. Past and Present Emotional States by Counterfactual Thought<sup>a</sup>

Emotional states	Mean emotion score by group	
	Some missed opportunities	No missed opportunities
Age 33		
Depression	-.049	-.122
Anxiety	-.047	-.145
Age 43		
Depression	-.080 <sub>a</sub>	-.380 <sub>b</sub>
Anxiety	.156 <sub>a</sub>	-.384 <sub>b</sub>

<sup>a</sup>Cell entries for age 43 are standardized means adjusted for prior mood at age 33. Higher scores represent more of the particular dysphoric emotion. Within each row, means with different subscripts differ significantly.

Table III. Hopes for the Future by Counterfactual Thought

Life domain	Mean number of hopes for the future by group		<i>t</i>	<i>p</i>
	Some missed opportunities	No missed opportunities		
Total hopes	.269	.182	2.2	.03
Career hopes	.497	.322	1.7	.09
Lifestyle hopes	.276	.173	1.9	.07
Interpersonal hopes	.191	.083	1.7	.10

## DISCUSSION

### Frequency and Content of Counterfactual Thought

Counterfactual thinking clearly is not limited to the laboratory, but occurs in response to real-life, personal choices as well. Thoughts of not having made the most of one's chances were quite commonly reported in this sample in the domains of work and education, but not in other areas of life (close interpersonal relationships, parenting, leisure, self). The overall incidence of counterfactual thoughts about the past observed in this sample (64%) is identical to that observed in the 1965 Gallup survey of men and women as well as similar to that (54%) observed in the sample of adult men and women who were asked a comparably generic question in the Landman and Manis (1992) study. The high incidence of thoughts about past missed opportunities probably reflects the nature of life for such well-educated individuals in the prosperous period between the 1960s and 1990s: that is, the period frequently did offer a greater number of attractive options than individuals were able to choose.

Counterfactual thoughts concerning careers were the most common of all such thoughts among the present sample. The rate of career counterfactuals in the present study (43% of the sample) is nearly identical to that observed in the sample most comparable to the present one—the academically talented women of the Sears (1979) sample, in which 48% said they would change some aspect of their earlier home/career choices. Interestingly, the most common thoughts about missed opportunities in the present study had to do with chances for a more *challenging* career. It will be important to find out

whether this pattern, reminiscent of the frequent regret for having avoided risk observed in Kinnier and Metha's (1989) research, generalizes beyond these three samples, all of which were highly educated.

The incidence of career-related counterfactuals in the present sample is, however, far higher than that observed in the 1953 Gallup poll, where only 3% of the women polled then said they would make different career decisions if they could live their lives over. Cohort effects offer a possible explanation for this difference. Relative to the Gallup sample of women responding in the early 1950s, the present group, responding in the 1980s, encountered a very different social climate with respect to norms concerning working women. The women in the Gallup sample were queried before the women's movement. In contrast, the present sample came of age at the beginning of the women's movement and were queried in its wake, a social factor that might be expected to influence both their career histories and their later counterfactual thinking about their career decisions—in the direction observed.

All other surveys have found educational counterfactuals to be the most common counterfactuals and they were the second most common counterfactuals reported in the present study. One plausible reason for the difference is the very high educational attainment of the present sample. It would be astonishing for a group in which almost half earned doctoral degrees and another 27% masters degrees to report a preponderance of educational missed opportunities. However, the relatively high reported incidence of career-related counterfactuals and relatively low incidence of other types of counterfactuals in the present sample may also be partially due to measurement differences. Whereas previous samples were asked a general question (e.g., "If you had your life to live over, what, if anything, would you do differently?"), the present respondents were asked a more specific question (i.e., "Were there any attractive opportunities for career or other long-range activities which you did not pursue?"). The career focus of this question undoubtedly contributed to the respondents' focus on their careers.

Probably the most obvious question arising from this study is whether these results are limited to one developmental stage. We anticipated that midlife would provide a good point for studying the assessment of past commitments at a time of life when it is still possible to make changes. It will be valuable to ascertain whether this midlife counterfactual proc-

ess is, in fact, different from the processes that young adults engage in when imagining alternative futures for themselves in the absence of constraining commitments as well as those that older adults engage in when reflecting on past commitments without the possibility of future change.

It is also important to consider whether these results generalize to men or to other individuals in different life circumstances. We think it likely that men and other women in similar circumstances will show a similar overall rate of counterfactual thought, but not necessarily similar patterns on the specific areas of life targeted by these counterfactual thoughts. Our expectation of generalizability with respect to overall incidence is based on the following types of evidence: (a) The overall rate of counterfactual thinking observed in the present sample was identical to that observed in the national survey of men and women that was conducted by Gallup in 1965 and not far from that observed in a completely different sample of men and women studied by Landman and Manis (1992); and (b) the available studies of regret do not find gender differences in its overall incidence (Chin, 1993; Erskine, 1973; Kinnier & Metha, 1989; Shimanoff, 1985). However, for the reasons discussed above, other samples may be expected to differ in the incidence of domain-specific counterfactual thought. Besides age, other demographic features such as level of education and social class might also affect the incidence of counterfactual thinking. Surely for people with fewer educational, occupational, and financial resources, counterfactual thought about missed opportunities might differ in frequency, in content, and in psychological ramifications.

It is also possible that the incidence of other types of counterfactual thoughts may differ from that for thoughts about unseized opportunities. If so, this may explain some of the differences in the frequency of counterfactual thought observed between the present study and previous research that explored the more general "If I had it to do over" type of counterfactual thinking. For example, counterfactual thoughts about major life decisions may prove less common than counterfactual thoughts about specific missed opportunities. This is conceivable on a couple of counts. First, the process of reconsidering one's major life decisions may be a more difficult cognitive task than that of recalling missed opportunities. Construction is undoubtedly harder than retrieval (Kahneman & Miller, 1986). In addition, questioning

a major life decision requires one to undo mentally a significant portion of one's personal history; but thinking of forgone opportunities often requires one to undo only a single event (or non-event). Thinking about forgone opportunities may, therefore, prove to be the more common form of counterfactual thought because it is both cognitively and emotionally easier to do.

### **Counterfactual Thought and Emotional Distress, Past and Present**

The present study does not support the idea that it is chronic or dispositional emotional distress that produces later counterfactual thought. However, having counterfactual thoughts does appear to be associated with higher levels of depression and anxiety at the same age, even when the earlier emotional state is controlled for. This suggests that the depressive realism phenomenon may apply not only to judgments about reality but also to thoughts about what might have been. An alternative explanation is mood congruence effects: It may be that, compared with those in happier emotional states, those in more dysphoric moods retrieve from memory more of the negative life events that missed opportunities represent. An experimental design will be necessary to determine which mechanism better explains the observed relationship.

Again, it will be important to find out whether the unpleasant emotional concomitants of counterfactual thought also show up before and after middle age. There may be a cumulative effect of counterfactual thinking (and the losses and limitations of life that presumably evoke it) so that it is not until middle age that it adds up to significant emotional distress. How the level of emotional distress experienced during middle age (when some change is still possible) over counterfactual thinking compares to that experienced in old age (when the possibility of most change is foreclosed) is still an open question.

### **Counterfactual Thought About the Past and the Future**

It appears that, compared with those who report no such counterfactuals, those who acknowledge thoughts of past missed opportunities are more likely to envision future changes in their lives. Taken to-

gether, the observed relationships between counterfactual thought and emotion and between counterfactual thought about the past and the future suggest some intriguing possibilities. For one thing, those individuals with stable propensities toward counterfactual thinking, such as that third of Markus and Nurius's (1986) subjects who thought about negative past selves all or almost all the time, may turn out to be at risk for chronic emotional distress.

However, it is conceivable that those who eschew counterfactual thought may also be at risk. Johnson and Sherman (1990, p. 510) expressed the idea well: "Without considering alternatives to reality, we must accept the past as having been inevitable and must believe that the future will be no different from the past." Conversely, thoughts about what might have been may point to a way out of an unsatisfactory past or present. They may, for example, mobilize action to seek out or make better use of available opportunities—which could in turn enhance one's life and thus one's psychological well-being over the long run. Those individuals who engage in counterfactual thought, followed by intentions to take steps to improve their future, may actually make changes that in turn stave off a continuing state of emotional distress. Such a pattern would follow from the research that finds a strong relation between thoughts or intentions and behavior (Fishbein & Ajzen, 1980; Gregory et al., 1982; Ruvolo & Markus, 1992; Sherman et al., 1981). In accordance with the thinking of clinical psychology, social cognition theory, and recent research on counterfactual thinking (Markman et al., 1993), the process of actively entertaining counterfactual thoughts may have a motivating function.

Counterfactual thoughts probably will not serve to improve the future if these thoughts about the future amount merely to fuzzy wishes and wildly unrealistic pipe dreams. However, most of the future-oriented counterfactual thoughts generated by the present respondents appeared reasonably concrete and realistic: for example, to finish a book, design and carry out a specific piece of research, travel and read more, and "be respected in my community." Interestingly enough, some of the respondents gave evidence of being aware of this distinction, unprompted. One listed five sets of wishes for her future, starting with "to win the lottery, be rich and be able to sleep till noon daily, travel, and spend a lot of time at the beach" and ending with "read a lot (this one I'll get to do)." With this last comment, she wryly showed

her awareness of the difference between improbable fantasies and real possibilities. Another individual assigned a number of 1, 2, or 3 to each of her thoughts about the future, explaining that 1 designated *possible*, 2 *unlikely*, and 3 *very unlikely* wishes. Still, even those she had marked 3 were not all that farfetched for the successful physician that she was: "help form, develop, run a psychosomatic/internal medicine training program," and "run a clothing store." Though counterfactual thoughts about one's future may not always end in people's actually realizing those thoughts, certainly in the absence of such thoughts people are unlikely to make changes for the future.

If the hypothesized mobilizing effects of counterfactual thoughts prove valid, it may also be that the process of generating counterfactuals enhances emotional well-being—in the long run—after the occasion for the unpleasant emotion has been removed or changed for the better—or (failing that) after one's mourning has been worked through (Freud, 1917/1963). Thus, the negative appraisal often entailed in counterfactual thinking, though associated with dysphoric emotion in the short run, may turn out to be beneficial in the long run. If, with further research, this proves to be the case, it will represent significant evidence of what has aptly been called "the power of backward thinking" (Kahneman & Miller, 1986, p. 137).

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