

EXPECTANCY EFFECTS ON BEHAVIOR DEPEND ON SELF-REGULATORY THOUGHT

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Expectancy effects on behavior depend on whether relevant expectations are activated and used. When people contrast their fantasies about a positive future with negative aspects of impeding reality, a necessity to act is experienced that leads to the activation and use of expectations. When people only fantasize about a positive future or only ruminate about impeding reality, no necessity to act is experienced and expectations fail to be activated and used. In two experiments with different paradigms (a salience procedure and a reinterpretation procedure) and distinct fantasy themes (getting to know an attractive stranger and successfully combining work and family life), participants mentally contrasted a positive future with impeding reality, fantasized about a positive future, or ruminated about impeding reality. Expectations of success guided behavioral commitment towards fantasy realization only when a positive future was mentally contrasted with impeding reality. The findings have implications for the emergence of goals and the recent realism versus optimism debate.

An increasing body of research demonstrates that expectations about the future predict future behavior (Bandura, 1997; Scheier & Carver, 1992; Seligman, 1991; Taylor & Brown, 1988). Irrespective of whether expectations are operationalized as efficacy expectations (i.e., whether one can perform a behavior necessary for a desired outcome, Bandura, 1977), outcome expectations (i.e., whether a behavior will lead to a desired outcome, Bandura, 1977), generalized expectations (i.e., whether a particular outcome will occur, Heckhausen, 1991; Oettingen & Wadden, 1991),

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or as expectations of future outcomes in general (Scheier & Carver, 1987), optimistic expectations promote persistence, effort, and successful performance in life.

In the health domain, for example, expecting a positive future in general (measured by the Life Orientation Test, Scheier & Carver, 1987) is associated with better physical recovery in coronary heart patients (Scheier & Carver, 1992) and psychological recovery in women suffering from postpartum depression (Carver & Gaines, 1987). In the achievement domain, efficacy and outcome expectations regarding future success in math predict both willingness to enroll in math courses and final grades (Lent, Lopez, & Bieschke, 1993). In the interpersonal domain, optimistic expectations about finding a romantic partner promote romantic success (Oettingen, 1996).

The behavioral effects of expectations apply not only to expectations measured directly via people's judgments of the likelihood of future events, but also to expectations measured indirectly via people's optimistic versus pessimistic attributional style (Abramson, Seligman, & Teasdale, 1978; Seligman, 1991). Optimistic attributional style predicts lower rates of infectious disease in the following year (Peterson, 1988) and better health over a period of 35 years (Peterson, Seligman, & Vaillant, 1988). Attributional style also predicts success of insurance sales personnel (Seligman & Schulman, 1986) and undergraduate academic success (Peterson & Barrett, 1987).

In summary, a person who expects that he or she will perform well does perform well. The positive effects of expectations on performance are based on cognitive, motivational, and affective processes. For instance, people with high self-efficacy expectations apply analytic strategies more effectively (Wood & Bandura, 1989), adopt more challenging goals (Bandura & Cervone, 1983) and fewer distal goals (Bandura & Schunk, 1981), more successfully select and pursue a rewarding career path (Betz & Hackett, 1983), and show less physiological arousal during problem-solving tasks (Bandura, Cioffi, Taylor, & Brouillard, 1988) than people with low self-efficacy expectations.

It is not only these mediational processes that account for the positive effects of expectations on performance, but also that expectations reflect past experience. Four principal sources of information are relevant for appraising one's expectations: (a) vicarious experiences, (b) verbal persuasion, (c) relevant physiological and affective states, and, in particular, (d) past performances and outcomes (Bandura, 1986, 1997). Accordingly, expectations that reflect a person's past behavior additionally strengthen the expectancy-behavior link, because past behavior predicts future behavior via multiple pathways (e.g., habits or intentions; for summaries see Ouellette & Wood, 1998; Triandis, 1980).

Research on the expectancy–behavior link has focused on demonstrating the effects of expectations on behavior and specifying mediational processes. The question of why expectations sometimes fail to exert their predicted influence on behavior has received less attention. This is surprising considering that the search for moderators of expectancy effects on cognitive variables has a strong tradition. For example, Stangor and McMillan (1992) review 54 experiments on the memorability of information that is either consistent or inconsistent with expectations, trying to detect relevant moderator variables.

MODERATORS OF THE EXPECTANCY-BEHAVIOR LINK

Moderators of the expectancy–behavior link can be found in situations in which the behavior is to be carried out. Situational constraints can either limit performance of behavior or curb its expected consequences (e.g., when a person with whom one expects to discuss research at a conference fails to arrive). Other moderators are associated with the properties of expectations. Olson, Roese, and Zanna (1996) have recently pointed out that whether an expectancy is activated and used in relevant situations depends on its accessibility, which is determined by the frequency and recency of prior activation, and also by the importance of the expectancy. The property of importance depends on whether the expectancy relates to behaviors or outcomes that serve a person's motives, needs, or values. This is in agreement with the assumptions of expectancy-value theorists (Atkinson, 1957; Feather, 1982; Heckhausen, 1991; Tolman, 1932/1967) who hold that expected outcomes lead to relevant actions only when they carry high incentive value.

Certainly, the importance of an outcome (i.e., its incentive value or desirability) is a powerful moderator of expectancy effects on behavior, as observed in experiments with humans (Atkinson, 1974; Kuhl, 1986) and animals (Tolman, 1932/1967). However, the motivational significance of an incentive rests to a large degree on how it is mentally elaborated, as demonstrated by Walter Mischel (1973; Mischel, Shoda, & Rodriguez, 1989) in research on delay of gratification. Children can think about an attractive reward (e.g., pretzel sticks or marshmallows) in terms of "hot" concepts that focus on the arousing qualities of the reward (i.e., the crunchy, salty taste and the chewy, sweet taste, respectively) or in terms of "cool" concepts that focus on the more abstract qualities of the reward (i.e., thinking of pretzel sticks as long, thin, brown logs and of marshmallows as puffy, round clouds). The more abstract (cool) representations of the rewards make delay easier than the concrete (hot) representations, indicating that a reward can lose motivational significance when reflected on in certain ways (e.g., in cool, abstract concepts).

THREE MODES OF SELF-REGULATORY THOUGHT

Accordingly, ways of thinking about a desired future should affect whether expectations guide behavior. Oettingen (1996, 1999) has suggested that mentally contrasting a desired future with impeding reality should turn the desired future into something to be achieved and reality into something to be changed. Fantasies about the desired future point out the direction in which to act, contrasted reflections on impeding reality reveal that reality has to be changed. The experienced necessity to act raises the question of whether reality can be turned into the desired future. The answer is provided by a person's expectations to change reality into the desired future. Expectations of success should become activated and used, thus determining commitment to fantasy realization. Commitment should be strong when expectations of success are high, and weak when expectations are low.

However, when people fantasize about a positive future only, the desired future can be mentally enjoyed in the here and now. No contrasted reflections on negative reality remind one that the positive future still has to be realized. A necessity to act is not experienced and thus expectations of success are not activated and used. Commitment towards fantasy realization solely reflects the positive incentive value of the desired events imagined in one's fantasies (pull effect). It should be moderate and independent of the perceived chances of success (i.e., expectations). People will try too hard (when expectations of success are low) or not hard enough (when expectations of success are high).

Finally, people may dwell on the negative aspects of impeding reality. When reflections on negative reality are not preceded by fantasies about a positive future, they remain ruminations. As fantasies about the future do not lead the way, no necessity to act is experienced, and thus expectations are not activated and used. Commitment to fantasy realization should be based solely on the negative incentive value linked to negative aspects of impeding reality (push effect). As with indulging in positive fantasies about the future, dwelling on the negative reality should result in a moderate commitment towards fantasy realization. Again, people will try too hard (when expectations of success are low) or not hard enough (when expectations of success are high).

RELATED THEORETICAL APPROACHES

Research demonstrates that thinking of future events (Gregory, Cialdini, & Carpenter, 1982) or behaviors (Anderson, 1983; Taylor & Schneider, 1989) raises expectations and, in turn, motivation. In the experiments to be reported, all participants are first asked to think of posi-

tive aspects of a desired future. Only then are the three modes of self-regulatory thought (i.e., mental contrasting, indulging, and dwelling) induced. The desired future is mentally contrasted with impeding reality, indulged by ignoring impeding reality, or suppressed by dwelling on negative reality. The three modes of self-regulatory thought should not differentially affect the level of expectation and the respective motivation because the fact of thinking about the future is not varied, but how participants go about it is. The differentially experienced necessity to act towards fantasy realization will vary the link between expectations and behavioral commitment, whereas the level of expectation and respective commitment will remain unchanged.

Taylor, Pham, Rivkin, and Armor (1998) analyze the effects of two different mentations on performance: simulations of the implementation of goal-directed behaviors versus simulation of having attained the goal (i.e., process simulations versus outcome simulations). They observed that process simulations are more effective in furthering the attainment of a set goal (e.g., earning an A or a high grade in a course) than outcome simulations. The present ideas are similar to those of Taylor et al. (1998) in that performance effects are seen as a consequence of differential thinking about an anticipated future. Whereas Taylor et al. (1998) explore how people best plan the implementation of an already set task or goal, the present theory focuses on how people turn their free fantasies into binding goal commitments.

OVERVIEW OF EXPERIMENTS

Two experiments test the impact of the three modes of self-regulatory thought on the expectancy-behavior link. Both experiments contain three experimental groups, a fantasy-reality contrast group, a positive fantasy group, and a negative reality group. In the first experiment, female college students fantasized about getting to know an attractive stranger, whereas in the second experiment female doctoral students fantasized about successfully combining work and family life. As dependent variables, we did not assess actual behavior, but instead participants' commitment towards fantasy realization. We did this because the actual initiation of behavior aimed at fantasy realization also depends on the situations people face, so that the hypothesized effects of self-regulatory thought on the expectancy-behavior link might be concealed.

Commitment to fantasy realization was assessed by capturing various features and consequences of commitment. We measured participants' eagerness to reach the desired future and their willingness to exert effort (Locke & Latham, 1990; Wicklund & Gollwitzer, 1982). Moreover, we as-

sessed anticipated disappointment if fantasy realization failed (Dollard & Miller, 1950). We focused on disappointment instead of depression or anxiety, because our focus is on goal commitment per se and not on the differentiation between ideal versus ought goal commitments (Higgins, 1987), or between approach versus avoidance goal commitments (Carver & Scheier, 1998). Finally, participants' planning activities in the form of process simulations were measured (Taylor et al., 1998) because planning is a consequence of having formed goal commitments (Heckhausen & Gollwitzer, 1987; Taylor & Gollwitzer, 1995).

A critical feature of goal commitment is persistence over time (Atkinson & Birch, 1970; Heckhausen, 1991; Lewin, 1926). Therefore all dependent measures were taken 1 week (Experiment 1) or 2 weeks (Experiment 2) after participants' self-regulatory thought had been manipulated.

EXPERIMENT 1: GETTING TO KNOW AN ATTRACTIVE PERSON

Getting to know an attractive person qualifies as a powerful incentive. There is the joy of looking at an attractive person (Langlois & Roggman, 1990), the "beautiful is good" stereotype (Eagly, Ashmore, Makhijani, & Longo, 1991), and the comparatively better social skills of attractive people (Feingold, 1992). In the present experiment, female college students were given the (presumed) chance to get to know an attractive young man whose photograph they saw. Thus a high incentive value, necessary for strong expectancy-behavior relations to occur (Olson et al., 1996), was set up. Getting to know an attractive person is a complex event that can be elaborated on easily in one's fantasies. The uncertain outcomes of the scenario should further stimulate fantasies. Finally, differing personal performance histories in getting to know others assure variance in expectations of success. All this makes the theme of getting to know an attractive person an ideal topic for examining whether the three modes of self-regulatory thought (i.e., contrasting, indulging, dwelling) differentially affect the expectancy-behavior link.

METHOD

Participants. A total of 143 female German university students with a mean age of 21.1 years ($SD = 3.0$) participated. We recruited first-year students assuming that getting to know people is a particularly high incentive for students just starting university. Students were separated by

partitions and tested in groups of six to eight participants. Participation was rewarded by about \$12 American.

Design. There were three experimental conditions: a positive fantasy–negative reality contrast condition, a positive fantasy only condition, and a negative reality only condition. In a no-fantasy–no-reality control condition, participants neither elaborated the positive future nor the negative reality.

Procedure. Students were greeted by a female experimenter who gave an overview of the procedure, told the participants that their answers would remain confidential, and stressed that their participation was voluntary. Participants were also informed that 1 week after the experiment they would receive a short follow-up questionnaire.

After participants had given their informed consent, they were guided to their seats, where they found the experimental materials. To guarantee anonymity, participants were requested to write down a personal code instead of their names. They were asked to note this code on a business card provided by the experimenter, and to keep it until they had filled out the follow-up questionnaire 1 week later.

The cover story explained that the study was an investigation of daydreams and was part of a larger research program on human development across the life span. Daydreams were defined as free thoughts and mental images that unfold effortlessly in the mind's eye. It was explained that these thoughts could be about different things, the past or the future, and that they happen to people of all ages. The experimenter then said that the most intense daydreams are about interpersonal relationships and in particular, forming new relationships.

Finally, participants received the following specific instructions:

The first part of the study is about fantasies you have when you see someone for the first time. We will show you a picture of a person whom you do not know. Various colleagues helped us by having their photographs taken in the university's photo laboratory. Each of you will now receive a portrait of one of these colleagues. It is in the envelope on the desk in front of you. Please have a close look at the person in the photo. Take your time! Then please turn the page.

All participants received the same photograph of an attractive young man. This photograph was selected as follows: from a catalogue of male models, 26 female students chose the photographs of 10 young men whom they considered to be most attractive. Another 10 female students ranked these 10 photographs (presented in random order) according to how attractive, sympathetic, and interesting they considered the men to

be (using a 7-point scale ranging from "not at all" to "very"). We chose the picture of the man who achieved the highest combined score.

At the bottom of the photo we supplied some information about the man. His name was Michael S., a 27-year-old doctoral student at a Berlin university. His dissertation was on the psychology of groups. To make it plausible to the students that they might get to know Michael S., we mentioned that he was seeking participants for an experiment.

After participants put the picture back into the envelope, they were asked to fill out a three-part questionnaire. In the first part, we measured participants' expectations by asking two questions: (a) If you met this person, do you think that you would get to know him? and (b) If you came across this person, how likely do you think it is that you would get in closer contact to him? The two items answered on 7-point scales correlated highly ($r = .75$). They were combined as an overall index of participants' expectations of being able to get to know the attractive person. Participants then rated how attractive, sympathetic, and interesting the person appeared. The items were identical to those used to select the photo. The internal consistency of the three items was high (Cronbach's $\alpha = .79$).

In the second part of the questionnaire, we asked participants to imagine that they actually met the person in the picture (e.g., at a party, at the university, at work) and that they had the opportunity to watch him "unobtrusively." We asked participants which positive aspects came to their mind when imagining getting to know him. They were asked to write six such aspects (e.g., participants named affection, company, not being alone). Finally, we asked participants to think of hindrances and obstacles getting to know the depicted person (e.g., participants named my shyness, not being attractive enough, he might not be interested). Again, participants had to write six different aspects. To prevent extensive mental elaborations, participants were asked to write keywords only.

The third part of the materials was designed to establish the three experimental groups. In the fantasy-reality contrast condition participants had to mentally elaborate two positive aspects of getting to know the man and two negative aspects of impeding reality, in alternating order beginning with a positive aspect. More specifically, participants first ranked the positive aspects and negative aspects they had listed in terms of their importance. Thereafter, participants transferred the fourth most important positive keyword to a new sheet of paper with the following instructions at the top of the page:

Think about this aspect and depict the respective events or experiences in your thoughts as intensively as possible! Let the mental images pass by in your train of thought and do not hesitate to give your fantasies free reign.

Take as much time and space as you need to describe the scenario. If you need more space to write, please use the back of the page.

After participants had finished mentally elaborating the positive keyword and had written down their thoughts and images in the designated space on the upper half of the page, they transferred the third most important negative keyword to the middle of the page, which contained the same instructions as above. After participants had finished working on the first sheet, they moved on to a second sheet that carried the same two sets of instructions. This time the keyword labeling the most important positive aspect was transferred to the top of the page and mentally elaborated, then the second most important negative aspect was transferred to the middle of the page and mentally elaborated.

Participants in the positive fantasy group were requested only to elaborate the four most important positive aspects of getting to know the attractive stranger. More specifically, the keyword labeling the aspect of getting to know the person ranked fourth most important had to be transferred to the top of the first page and was mentally elaborated. Participants continued with the keywords of the third most, second most, and finally the most important aspect.

Participants in the negative reality group were requested only to elaborate the four most important negative aspects of impeding reality. Participants began with the keyword denoting the fourth most important negative aspect, and then moved on to the third most, second most, and most important keywords.

Participants in the no-fantasy-no-reality group were supposed to mentally elaborate neither the positive future nor the negative reality. We asked them to solve arithmetic tasks requiring full concentration. The tasks (Düker, 1965) consisted of computing the sums of two consecutive rows of numbers (e.g., $3 - 2 + 7$) and remembering the sum of both. If the sum of the upper row was larger than the sum of the lower row, then the sum of the lower row had to be subtracted from the sum of the upper row. In the reverse case, the sums of the two rows had to be added. We asked participants to work on a stack of papers filled with such tasks. The amount of time participants worked on these tasks was yoked to the amount of time that randomly chosen participants in the other three groups took to write their mental elaborations.

Dependent Variables. One week after the experiment, all participants received a short questionnaire that they were asked to return within 3 days. The first set of questions pertained to participants' eagerness to get to know the attractive person. Participants were asked three questions: (a) Would you like to get to know this person in reality?, (b) How happy would you be if you got to know this person in reality? and (c) How ea-

ger are you to meet this person? The three items were answered on 7-point scales ranging from "not at all" to "very much." Internal consistency was high (Cronbach's $\alpha = .92$).

The second set of questions pertained to participants' anticipated disappointment if getting to know the attractive stranger remained a fantasy. The three questions read: (a) Would you feel sorry if this was just a fantasy? (b) Would you feel disappointed if you had gotten to know this person only in your thoughts? and (c) How frustrated would you feel if getting to know this person was just a mental image? Again, these items were answered on 7-point scales ranging from "not at all" to "very" and showed high internal consistency (Cronbach's $\alpha = .95$).

Two weeks after mailing the follow-up questionnaire, we debriefed participants in a final letter. We explained in detail the purpose of the study, the hypotheses tested, and the experimental design. We encouraged students to contact us at any time with further questions.

RESULTS

Descriptive Analyses. Participants' expectations of getting to know Michael S. were in the middle of the scale ($M = 3.84$, $SD = 1.22$), whereas the mean of the perceived attractiveness of Michael S. was at the upper end of the scale ($M = 5.54$, $SD = .95$). The dependent variables, eagerness and anticipated disappointment ($M = 4.01$, $SD = 1.41$ and $M = 2.64$, $SD = 1.46$), correlated positively ($r = .62$, $p < .001$).

Of the total participants, 93.7% (134 of 143) returned the follow-up questionnaires. Of the nine participants who did not send back their questionnaires, one participant belonged to the contrast condition, three to the positive fantasy group, and five to the negative reality group. Two further participants in the positive fantasy group failed to complete all questions in the follow-up questionnaire, and thus were not included in the analyses. Expectations and perceived attractiveness of Michael S. did not differ between participants with and without follow-up questionnaires ($ps > .50$).

Eagerness. The link between participants' expectations of getting to know Michael S. and their eagerness to do so (Figure 1, left) was stronger in the contrast condition ($r = .56$) than in the positive fantasy condition ($r = .15$; $z = 1.84$, $p = .03$) or the no-fantasy-no-reality condition ($r = .09$; $z = 2.20$, $p = .01$), and it tended to be stronger than in the negative reality condition ($r = .31$; $z = 1.20$, $p = .11$). There were no differences among the positive fantasy, negative reality, and no-fantasy-no-reality groups in their links between expectations and eagerness to get to know Michael S. (all $zs < .17$).

Mean levels of the positive fantasy, negative reality, and

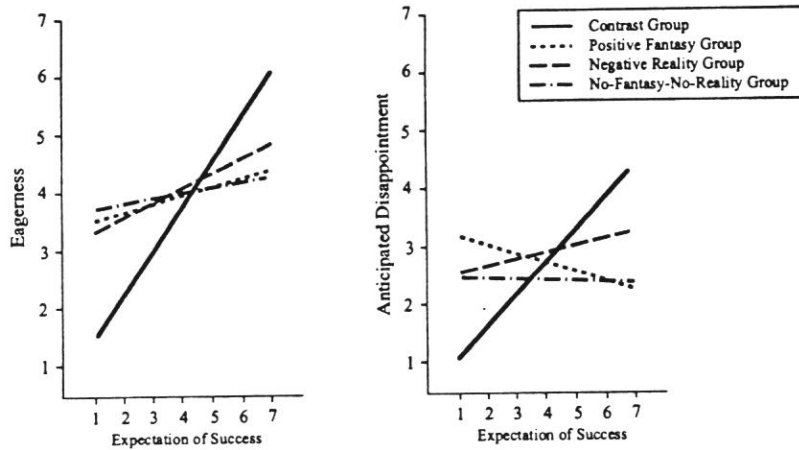


FIGURE 1. Regression lines depicting the link of expectation of success to eagerness (left) and to anticipated disappointment (right) as a function of mode of self-regulatory thought.

no-fantasy-no-reality groups emerged at about the midpoint of the scale (between 3 and 5 of the 7-point scale; Figure 1, left) for both high and low expectations, whereas in the contrast condition, the mean levels reached the upper end of the scale for high expectations and the lower end of the scale for low expectations. To test for differences in the mean levels of eagerness between participants who entertain high versus low expectations in the contrast condition versus the other conditions, we computed a 2 (expectations: high vs. low) \times 2 (conditions: contrast vs. others) ANOVA that yielded a significant interaction effect, $F(1, 128) = 5.50, p = .02$. Participants in the contrast group tended to be more eager to get to know the attractive person than participants in the other groups when expectations of success were high, $t(128) = 1.34, p = .18$, and they were less eager than in the other groups when expectations of success were low, $t(128) = 1.99, p = .05$.

Anticipated Disappointment. A similar pattern of results emerged for the link between participants' expectations of getting to know the per-

son in the picture and their disappointment or frustration if getting to know him remained a fantasy (Figure 1, right). The link was stronger in the contrast condition ($r = .39$) than in the positive fantasy condition ($r = -.15$; $z = 1.84$, $p = .01$) or the no-fantasy-no-reality condition ($r = -.01$; $z = 1.73$, $p = .04$), and it tended to be stronger in the contrast condition than in the reality only condition ($r = .10$; $z = 1.22$, $p = .11$). Again, there was no difference between the positive fantasy, negative reality, and no-fantasy-no-reality groups (all z s $< .16$).

For both high and low expectations the mean levels of the positive fantasy, negative reality, and no-fantasy-no-reality groups emerged at about the lower third of the scale (between 2.5 and 3.0 of the 7-point scale, Figure 1, right), whereas the mean levels in the contrast condition were above the middle of the scale for high expectations and at the low end of the scale for low expectations. To test for differences between participants who entertain high versus low expectations in the contrast condition versus the other conditions, we computed a 2 (expectations: high vs. low) \times 2 (conditions: contrast vs. others) ANOVA that yielded a significant interaction effect, $F(1, 128) = 4.78$, $p = .03$. Participants in the contrast group tended to be more disappointed than participants in the other groups when expectations of success were high, $t(128) = 1.67$, $p = .09$, and less disappointed when expectations were low, $t(128) = 1.41$, $p = .16$.

DISCUSSION

When participants contrasted their positive fantasies of getting to know the attractive person with negative aspects of impeding reality that hinder fantasy realization, they acted rationally in the sense that expectations of success had a strong effect on their commitment. This effect emerged no matter how commitment was assessed, whether in terms of eagerness to get to know the attractive person or in terms of frustration and anticipated disappointment in case getting to know the attractive person remained a fantasy.

Expectations had weaker or no effects on commitment when participants indulged in positive fantasies only or merely ruminated over impeding reality. Apparently, fantasizing about a positive future or dwelling on impeding reality fail to create a necessity to act, and expectations of success are not activated and used. Commitment becomes an issue of being pulled by the positive future or pushed by negative reality, leading to a mild level of commitment. Both fantasizing and dwelling lead to irrational commitment in the sense that it is too strong when subjective probabilities of success are low and too weak when subjective probabilities of success are high.

In the no-fantasy-no-reality condition, participants' expectations also

did not guide commitment. An absorbing task hinders people from mentally contrasting their fantasies with impeding reality, and thus no necessity to act occurs. Still, although no pull or push effects should have operated, commitment was just as high as in the positive fantasy and the negative reality groups. It seems that doing the arithmetic problems could not prevent pull effects from occurring. Participants rated Michael S. as very attractive, and very attractive incentives are known to have the power to spontaneously appear in a person's flow of thought (Klinger, 1977). As a test of whether fantasies about a positive future and ruminations on impeding reality do indeed produce pull and push effects, the second experiment had a control group for whom the relevant future event had a low incentive value.

The attractiveness of the depicted man might also account for the finding that participants who dwelled on the negative reality showed a slight, unforeseen expectancy effect on commitment to act. The image of Michael S. might have appeared up in their mind's eye, even though they were supposed to focus solely on the negative reality. This might have created an incipient mental contrast that led to weak expectancy effects on commitment.

The present paradigm is insufficient when the positive future or the negative reality are highly salient. Positive fantasy may then intrude upon ruminations on the negative reality and negative reality may intrude upon indulgence in positive fantasies. To avoid such unwanted mental contrasting experiences in the positive fantasy condition and the negative reality condition, one can induce participants to see impeding reality in a different light. In the second experiment, participants in the positive fantasy condition and in the negative reality condition were instructed to reinterpret the negative reality. In the positive fantasy group the negative reality is denied and therefore cannot intrude on positive fantasies; in the negative reality group it is intensified and therefore made resistant to intrusions by positive fantasies.

EXPERIMENT 2: COMBINING WORK AND FAMILY LIFE

The topic of the present study was the successful combining of work and family life by women. We conducted the study in Germany, where 58% of mothers with children under 18 years of age participate in the working world (Statistisches Bundesamt, 1992), and 89% of working mothers report problems with combining work and family life (Hegner & Lakemann, 1989). Numbers are particularly grim when the percentage of women in German academia is considered. Although 45% of dissertations are written by female doctoral students, only 5.3% of the associate

professorships and 5.7% of the full professorships are held by women (MPG-Spiegel, 1995).

Participants in the present study were female doctoral students. For some, combining work and family life should be a pressing issue that brings out fantasies about an enchanting future, but also ruminations on the barriers of reality. For others, the difficulties associated with combining work and family life may have spoiled its attractiveness. Still others may never have found the idea attractive in the first place. Thus, for some female doctoral students combining work and family life should have high incentive value and for others it should have low incentive value. We predicted that only high-incentive individuals would show the familiar pattern of results (an expectancy-based commitment in the mental contrast group and a mild, expectancy-independent commitment in both the positive fantasy and negative reality groups). Low-incentive participants should show no behavioral commitment, irrespective of their experimental group and strength of expectations.

Because combining work and family life is a demanding long-term project, we did not assess commitment to act in terms of eagerness to combine work and family life. Rather, we measured intended effort expenditure and frequency of planning (in terms of process simulations; Taylor et al., 1998) next to anticipated disappointment and frustration in case combining work and family life should fail. All dependent measures were assessed 2 weeks after the manipulation because strong commitments should persist over time.

METHOD

Participants. Female doctoral students from two Berlin universities participated. The 149 participants were on average 30.4 years old ($SD = 2.9$, range 23 to 39) and had no children. Students were separated by partitions and tested in groups of six to eight participants. For their participation they received about \$12 American.

Design. We established three experimental groups that differed in how participants mentally elaborated the positive future and the impeding reality: a positive fantasy–negative reality contrast group, a positive fantasy only group, and a negative reality only group. Each of the three groups was separated further into a high- and a low-incentive group. Thus the experiment follows a 3 (self-regulatory thought: contrast, positive fantasy, negative reality) \times 2 (incentive value: high vs. low) design.

Procedure. Participants were welcomed by a female experimenter who explained the procedure, assured confidentiality, and stressed that participation was voluntary. Participants also learned that 2 weeks after the experiment they would receive a short follow-up questionnaire.

After giving their informed consent, participants read materials informing them that the study was part of a larger project about life planning. The present study focused on life planning of doctoral students. To ensure anonymity, participants were asked to write down a personal code.

The materials had two parts. The first part pertained to participants' life circumstances 10 years ahead. Participants were told that many people think about their future life in positive images and scenarios, and that the present study was designed to explore how doctoral students imagine their future professional and private lives. Participants were asked to generate positive thoughts, images, and daydreams when looking at their professional and private lives 10 years in the future, to let these positive thoughts and images pass by in their mind's eye, and to give a detailed written account of the generated thoughts and images. After participants had written their positive thoughts and images, we assessed their expectations for successfully combining work and family life. Participants indicated how hopeful they were about successfully combining work and family life for themselves personally. The response scale ranged from 1 (not at all) to 7 (very).

The written reports of participants' thoughts and images about their professional and private lives 10 years in the future were content analyzed by two trained raters who were blind to the hypotheses. They independently scored whether each participant had mentioned a future with a child or family and a professional future. Following Klinger's (1977) observation that high incentives appear spontaneously in a person's flow of thought, participants who mentioned work and family life were placed into the high-incentive condition and those who mentioned only work were placed into the low-incentive condition.

The second part of the materials described the dire reality of working mothers. More specifically, participants were confronted with 12 pages, each of which contained one statement supposedly made by a different working mother. Participants were instructed: "The following are excerpts from interviews with different mothers who try to combine work and family life." The statements described problems typical in the every-day lives of working women. Examples include: "Nina had to wait again at kindergarten, because I had to finish something urgent at the office," and "At the office I am always so distracted and tired, because my little boy cries every other hour of the night."

In the fantasy-reality contrast group, participants were instructed as follows: "What thoughts and images come to your mind when reading these statements? Please give your thoughts and images free rein and describe them in detail." Participants were then asked to write down their thoughts and images.

In the positive fantasy group and in the negative reality group, participants also received these instructions. However, they were given additional instructions to ensure that they would either trivialize the mothers' statements or take them particularly seriously, respectively. The additional instructions in the positive fantasy group read: "In each of these statements there is an excuse, a false pretense involved. Can you imagine what is behind this false pretense?" The additional instructions in the negative reality group were: "Please describe those thoughts and images which have contributed to your not yet having a child." After participants finished completing the questionnaires, they received the honorarium and were reminded of the follow-up questionnaire.

Two weeks later all participants received a questionnaire assessing the dependent variables. Participants' willingness to exert effort was measured by the following item: "How much do you intend to do to combine having a child and working?" The 7-point response scale ranged from 1 (nothing) to 7 (very much). Two items assessed anticipated disappointment in case of failure to combine work and family life: "How hard would it be for you if you had only your work (and no child)?" and "How hard would it be for you to never have a child?" The 7-point scales ranged from 1 (not at all hard) to 7 (as hard as getting seriously ill). The two items correlated strongly ($r = .90$) and were combined as an overall measure of disappointment. Finally, 2 items measured process simulations of combining work and family life: "In the last 2 weeks how often have you thought about how you could combine work and family life?" and "In the last two weeks, how often have you thought about how to cope with having a child?" The 7-point response scale ranged from 1 (never) to 7 (very often). The two items correlated highly ($r = .75$) and were combined as an index of process simulation.

We completed the experiment with sending a debriefing letter that described the experimental design, procedure, hypotheses, and purpose of the study. Participants were told to contact us at any time with further questions.

RESULTS

Manipulation Check. The thoughts participants had generated in response to the 12 statements by the working mothers were content analyzed. In the positive fantasy group ($n = 51$), we checked whether participants viewed the statements as pretenses and identified other problems the mothers supposedly had. Participants in the positive fantasy group were quite successful at finding the mothers' "true" problems: more than 75% did so for at least 10 of the 12 statements. One participant, for example, wrote in response to the scenario about the son

crying at night: "This woman is unhappy with herself at work, perhaps she does not like her job. It is more convenient, however, to attribute failure to her little boy instead of tackling the professional situation."

In the negative reality group ($n = 50$), participants also followed the instructions. All participants recorded thoughts containing reasons why they did not have a child or a family yet, in response to at least 7 of the 12 statements. More than 80% of the participants did so for at least 10 of the 12 statements. A participant's response to the mother's report that Nina waited again at kindergarten was, for example, "She is all alone. Nobody helps her out. Who will support me? All my family and work problems stay with me; in my life there is not enough room for a child. The responsibility of a child is too much for me." In sum, participants in the positive fantasy group and in the negative reality group succeeded in following their instructions. This was also true for the fantasy-reality contrast group, where participants had to freely associate to the 12 scenarios describing negative aspects of the daily life of working mothers.

Finally, two independent raters blind to participants' conditions were asked to sort participants into their respective experimental groups on the basis of their associations to the working mothers' statements. One rater succeeded in correctly classifying 96.9% of the participants, the other rater 93.0%, indicating that the three different instructions unambiguously produced the intended free associations (in the mental contrast group) and reinterpretations (trivializing in the positive fantasy group and intensifying in the negative reality group).

Descriptive Analyses. Of the 149 participants, 60 (40.3%) were in humanities, 68 (45.6%) in the natural sciences or engineering, and 21 (14.1%) in law or business. The mean of participants' expectations of successfully combining work and family life was near the middle of the scale ($M = 3.42$, $SD = 1.85$; range 1 to 7) and did not correlate with the participants' age ($p = .62$).

Mean levels of the dependent variables were as follows: willingness to exert effort, $M = 4.44$, $SD = 2.22$, anticipated disappointment, $M = 3.51$, $SD = 1.84$, and process simulation, $M = 3.36$, $SD = 1.81$. Scores ranged from 1 to 7. Willingness to exert effort correlated positively with anticipated disappointment ($r = .70$) and process simulation ($r = .57$). Anticipated disappointment correlated positively with process simulation ($r = .62$).

Of the total sample ($N = 149$), 143 participants (96%) returned their questionnaires. Two of the missing participants were in the positive fantasy group and four were in the negative reality group. These six participants did not differ in their expectations of success from those who had returned their questionnaires. In addition, one low-incentive participant in the contrast group did not record her expectations, and three high-incentive participants (one in the positive fantasy group and two in

the contrast group) did not record their willingness to exert effort. Statistical analyses for willingness to exert effort could thus be computed only with 139 participants. For anticipated disappointment and process simulation, the analyses were based on 142 participants.

Participants who returned their questionnaires were divided into participants for whom combining work and family life had high incentive value (i.e., had mentioned a child or a family in their fantasies about the future; $n = 102$) and those participants for whom it had low incentive value (i.e., had mentioned only professional issues and no child or family; $n = 40$ for all dependent variables). The high incentive and low incentive participants were distributed rather evenly across groups: contrast group (32 and 15 participants, respectively), positive fantasy group (34 and 15), and negative reality group (36 and 10).

Willingness to Exert Effort. The link between high incentive participants' expectations and their willingness to exert effort towards combining work and family life was stronger in the contrast condition ($r = .40$) than in the positive fantasy condition ($r = -.09$, $z = 1.96$, $p < .03$) and the negative reality condition ($r = -.12$, $z = 2.12$, $p = .01$; Figure 2, upper left), whereas the positive fantasy condition and the negative reality condition did not differ from each other ($z = .12$, $p = .45$).

Willingness to exert effort in the contrast condition reached from the midpoint to the highest possible score (4 to 7), depending upon expectations. Willingness to exert effort in the positive fantasy group and the negative reality group was at the upper middle level of the scale for both low and high expectations (between 5 and 6 of the 7-point scale; Figure 2, upper left). To test for differences in the mean willingness to exert effort between participants with high versus low expectations in the contrast condition versus the other conditions, we computed a 2 (expectations: high vs. low) \times 2 (conditions: contrast vs. others) ANOVA, yielding a significant interaction effect, $F(1, 95) = 10.41$, $p = .002$. Direct comparisons between the contrast group and the other groups were significant for participants with high expectations, $t(95) = 2.93$, $p = .006$, and tended to be significant for participants with low expectations, $t(95) = 1.71$, $p = .10$. Participants in the contrast group were willing to exert more effort to combine work and family life than participants in the other groups when expectations of success were high. When expectations were low, they tended to give up more readily than the other groups (Figure 2, upper left).

The link between low incentive participants' expectations of combining work and family life and their willingness to exert effort did not differ between the three groups (all z s $< .09$; p s $> .41$; contrast group: $r = -.26$, positive fantasy group: $r = -.23$, negative reality group: $r = -.25$; Figure 2, lower left). This indicates that mental contrasting does not lead to a stronger link

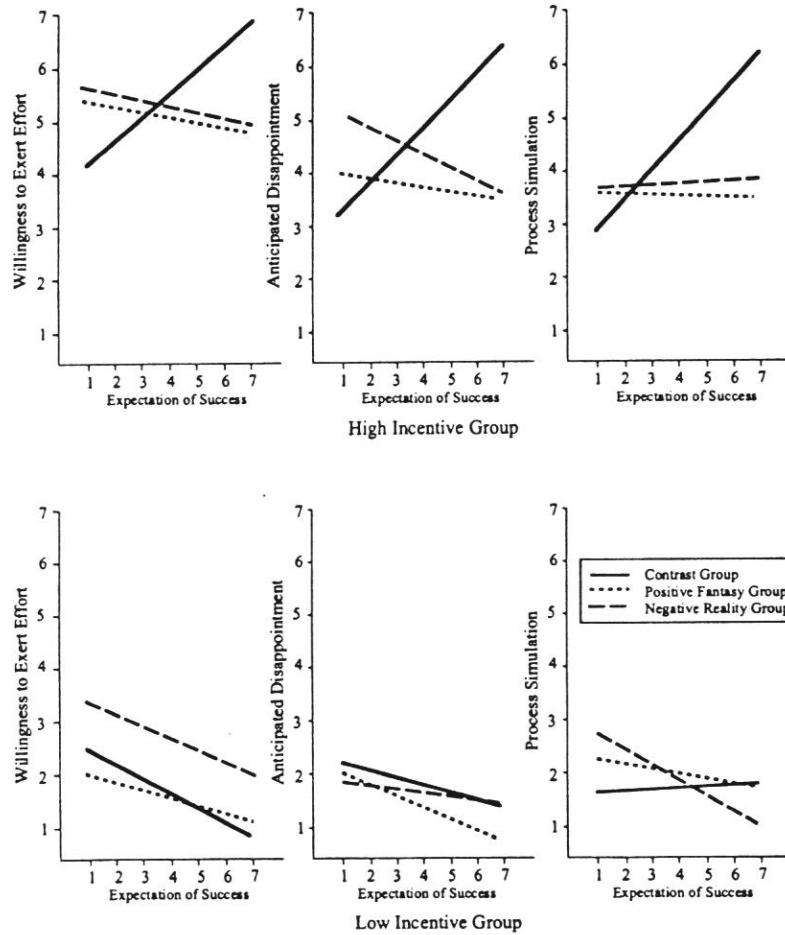


FIGURE 2. Regression lines depicting the link of expectation of success to willingness to exert effort (left), anticipated disappointment (middle) and process simulation (right) as a function of mode of self-regulatory thought for high incentive (top) and low incentive participants (bottom).

between expectations and willingness to exert effort than fantasizing or ruminating, unless the critical future event is of high incentive value. The mean levels of all three groups of low incentive participants were at the middle and low end of the scale and were no different for participants with high and low expectations. An ANOVA yielded no significant interaction effect, $F(2, 34) = .01, p = .99$.

Finally, we compared high incentive versus low incentive participants within each of the three groups (contrast group, positive fantasy group,

negative reality group). With respect to the link between expectations and willingness to exert effort, high incentive participants and low incentive participants differed only in the contrast group ($z = 2.01, p = .02$), and not in the positive fantasy or the negative reality group ($z = .42, p = .33$ and $z = .32, p = .37$, respectively). In all three groups, mean levels of the high expectation participants differed significantly from each other ($ts > 2.78, ps < .01$) and the same was true for low expectation participants ($ts > 2.46, ps < .02$; Figure 2, upper and lower left).

Anticipated Disappointment. The link between high incentive participants' expectations and their anticipated disappointment was stronger in the contrast condition ($r = .61$) than in the positive fantasy condition ($r = -.07, z = 3.05, p < .001$) and the negative reality condition ($r = -.30, z = 4.07, p < .001$; Figure 2, upper middle). The positive fantasy and the negative reality groups did not differ from each other ($z = .99, p = .16$).

Participants' anticipated disappointment in the contrast condition ranged from the lower middle to the high end of the scale (from 3 to 6.5), depending upon expectations. Anticipated disappointment in the positive fantasy and the negative reality groups emerged at the upper middle of the scale (between 4 and 5 of the 7-point scale; Figure 2, upper middle) for both low and high expectations. To test for differences in anticipated disappointment between participants with high versus low expectations in the contrast condition versus the other conditions, we computed a 2 (expectations: high vs. low) \times 2 (conditions: contrast vs. others) ANOVA that yielded a significant interaction effect, $F(1, 98) = 16.43, p < .001$. Direct comparisons between the contrast group and the other groups were significant for both high and low expectations, $t(98) = 3.73, p < .001$ and $t(98) = 2.04, p = .04$, respectively. Participants in the contrast group anticipated more disappointment than in the other groups when expectations were high and less disappointment when expectations were low.

The link between low incentive participants' expectations of combining work and family life and their anticipated disappointment did not differ between the three groups (all $zs < .81, ps > .20$; contrast group: $r = -.16$, positive fantasy group: $r = -.46$, negative reality group: $r = -.14$; Figure 2, lower middle). This indicates that mental contrasting leads to a stronger link between expectations and anticipated disappointment than does fantasizing or ruminating only if the critical future event is of high incentive value. In all three groups, the mean levels of anticipated disappointment were toward the low end of the scale and were no different for participants with high and low expectations. The respective ANOVA yielded no significant interaction effect, $F(2, 34) = .43, p = .66$.

Finally, we compared high incentive versus low incentive participants within each of the three groups (mental contrast group, positive fantasy

group, negative reality group). The link between expectations and anticipated disappointment differed only in the mental contrast group ($z = 2.59, p = .004$), but not in the positive fantasy group or the negative reality group ($z = 1.26, p = .10$, and $z = .42, p = .33$, respectively). The mean levels of anticipated disappointment of high and low incentive participants differed for high expectations ($t_s > 4.23, p_s < .001$) and low expectations ($t_s > 3.96, p_s < .001$), except for one comparison: participants with low expectations in the contrast condition. When probabilities of success were low, the mental contrasting procedure reduced high incentive participants' disappointment towards a low level (Figure 2, upper and lower middle), so that their anticipated disappointment was no longer different from that shown by low incentive participants, for whom the combining of work and family life had no incentive value in the first place.

Process Simulation. The relation between high incentive participants' expectations and reported process simulations was stronger in the contrast condition ($r = .58$) than in the positive fantasy condition ($r = -.03, z = 2.68, p < .004$) and the negative reality condition ($r = .03, z = 2.47, p < .007$; Figure 2, upper right), whereas the positive fantasy and the negative reality groups did not differ from each other ($z = .26, p = .40$).

Participants' use of process simulations in the contrast condition ranged from the lower midpoint to the upper end point of the scale (from 2.9 to 6.3) depending upon expectations, while use of process simulations in the positive fantasy and the negative reality groups emerged at the middle of the scale for both low and high expectations (between 3.5 and 4.0 of the 7-point scale; Figure 2, upper right). To test for differences in the mean levels of process simulation between participants with high versus low expectations in the contrast condition versus the other conditions, we computed a 2 (expectations: high vs. low) \times 2 (conditions: contrast vs. others) ANOVA that yielded a significant interaction effect, $F(1, 98) = 6.72, p < .02$. Direct comparisons between the contrast group and the other groups were significant for high expectations, $t(98) = 3.16, p < .002$, but not for low expectations $t(98) = .57, p = .57$. Participants in the contrast group reported more process simulations than did the other groups when expectations of success were high; there was no difference, however, when expectations of success were low.

The link between low incentive participants' expectations of combining work and family life and their use of process simulations did not differ between the three groups (all $z_s < 1.01, p_s > .16$; contrast group: $r = .05$, positive fantasy group: $r = -.11$, negative reality group: $r = -.40$; Figure 2, lower right). This indicates that mental contrasting leads to a stronger link between expectations and use of process simulations than fantasizing or ruminating only if the critical future event is of high incentive value. The mean levels of all three groups of low incentive participants

were at the lower end of the scale and were no different for participants with high and low expectations. The respective ANOVA did not yield a significant interaction effect, $F(2, 34) = .64, p = .54$.

Finally, we compared high incentive versus low incentive participants within each of the three groups (mental contrast group, positive fantasy group, negative reality group). The link between expectations and use of process simulations differed in the mental contrast group ($z = 1.78, p = .04$), but not in the positive fantasy group or the negative reality group ($z = .24; p = .41$, and $z = 1.1, p = .13$, respectively). The mean levels of process simulation of high and low incentive participants differed for high expectations in the contrast and the negative reality groups ($ts > 2.74, ps < .01$) and tended to differ in the positive fantasy group ($t = 1.66, p = .10$). With respect to low expectations, high incentive versus low incentive participants differed in the mental contrast group ($t = 2.81, p = .007$) and the positive fantasy group ($t = 1.94, p = .05$) but not in the negative reality group ($t = 1.12, p = .27$; Figure 2, upper and lower right).

DISCUSSION

The results of the second experiment further support our hypothesis that the way people deal with their positive fantasies moderates expectancy effects on commitment towards fantasy realization. The female doctoral students fantasized about combining work and family life. Realizing such fantasies demands much commitment, which we assessed in terms of intended effort, anticipated disappointment in case of failure, and use of process simulations. Fantasizing about a positive future or ruminating about impeding reality by themselves prevented expectations from influencing these indicators of behavioral commitment. Mental contrasting of the positive future with the negative impeding reality, to the contrary, led to strong expectancy effects.

Unlike Experiment 1, which used a salience procedure, Experiment 2 used a reinterpretation procedure to induce the three types of self-regulatory thought. This new paradigm produced clearer results than the one used in Experiment 1. In the negative reality condition, where we had observed slight expectancy effects on commitment in Experiment 1, no such effects emerged in Experiment 2. Apparently, the reinterpretation procedure used in Experiment 2 effectively suppressed intrusions of positive fantasies into dwelling on impeding reality and intrusions of impeding reality into indulgence in positive fantasy.

Expectancy effects on behavior should be observed only if the fantasized outcomes are very attractive (Olson et al., 1996). Indeed, we observed expectancy effects associated with mental contrasting only for participants who in their positive fantasies had spontaneously men-

tioned combining work and family. Such spontaneous fantasies attest to the high incentive value (Klinger, 1977) of combining work and family life.

The findings also support the hypothesized pull effects of fantasizing about a positive future and push effects of ruminating on impeding reality, because the respective high incentive groups showed stronger (expectancy independent) commitment than did the respective low incentive groups. Accordingly, there are routes to behavioral commitment that do not require the consultation of expectations. This kind of commitment is irrational in the sense that it suggests behavioral investment where little can be gained, and lack of behavioral investment where chances are promising. Also, this kind of behavioral commitment might be associated only with "hype," a relatively fleeting sense of being motivated (Taylor & Pham, 1996). Such hype serves immediate consummation (i.e., grabbing the pretzels in delay of gratification experiments, Mischel, Shoda, & Rodriguez, 1989), rather than the persistent realization of one's fantasies in light of demanding long-term projects. Future studies may explore how commitment stemming from indulging and ruminating differs from commitment stemming from mental contrasting in terms of temporal stability and the kinds of behaviors stimulated.

GENERAL DISCUSSION

Even though the analysis of expectancy effects on behavior has so far focused on demonstrating main effects (Bandura, 1997; Scheier & Carver, 1992; Schunk, 1989; Seligman, 1991), the results of the present two experiments suggest two powerful moderator variables. First, there is incentive value. As expectancy value theorists have pointed out (Atkinson, 1957; Feather, 1982; Heckhausen, 1991; Tolman, 1932/1967), expectancies determine behavior only if the future outcomes are perceived as attractive. Second, even if future outcomes are perceived as attractive, whether expectations will influence commitment towards realizing the desired future depends on the person's mode of self-regulatory thought. Merely indulging in fantasies about a desired future or solely ruminating about impeding reality robs expectations of their behavior guiding function. The individual does not experience a necessity to act and thus expectations are not activated and used. A necessity to act is experienced, however, when a desired future is mentally contrasted with aspects of impeding reality. When probabilities of success are high, contrasting individuals attempt to realize the desired future. When probabilities of success are low, they disengage from fantasy realization.

Applied psychologists may wonder whether mental contrasting in individuals with high expectations of success promotes not only behav-

ioral commitment, but also actual behavior toward and successful completion of fantasy realization. People's actual fantasy realizing behaviors and successes also depend on the situation. Guaranteed success requires suitable opportunities for fantasy realization and mental contrasting. Nevertheless, as strong behavioral commitments are found to be more closely linked to success than weak commitments (Locke & Latham, 1990; Oettingen & Gollwitzer, *in press*), the contrasting procedure can be expected to foster the actual realization of positive fantasies and not just behavioral commitment.

The observed differences between the experimental groups are not because of differential effects of our manipulations on the mean levels of expectations. If this had been the case, mean differences in the commitment to act should have emerged between conditions. What we observed instead were differences in the strength of the link between expectations and behavioral commitment, supporting our hypothesis that the different modes of self-regulatory thought affect whether expectancies are activated and used. In more recent experiments (Oettingen, Pak, & Schnetter, 1999), when we assessed expectations prior to and after our manipulations of the mode of self-regulatory thought, no changes in level of expectations prior to and after the manipulations were observed. Moreover, the links between prior expectations and commitment to act showed the same pattern as in the present experiments, even when the second measure of expectations was controlled.

THE ISSUE OF GOAL SETTING

Theories of goal pursuit are mostly concerned with how set goals are implemented. The issue of how goals emerge tends to be neglected (Gollwitzer & Moskowitz, 1996; Oettingen & Gollwitzer, *in press*). The present research can be understood as a first step towards unveiling the processes of goal emergence. Apparently, binding goals cannot develop on the basis of a person's indulging in positive future fantasies or ruminating about impeding reality. If anything, a medium level of commitment originates that keeps a person's fantasies or ruminations alive. The emergence of a binding goal requires the mental elaboration of a positive future contrasted with negative aspects of impeding reality. Engaging in such elaborations allows expectations of success to determine whether the fantasies become binding goals or are abandoned.

Simply experiencing a discrepancy between one's fantasies and impeding reality does not suffice to create a felt necessity to act, thus, expectations do not become activated and used. In all conditions of both experiments, participants had to think about both aspects of the future and aspects of the present reality. Only when participants mentally elab-

orated the discrepancy between the positive future and impeding reality, as was asked for in the fantasy-reality contrast condition, did expectations guide behavioral commitment. This suggests that goal emergence and goal implementation are indeed different phenomena (Gollwitzer, 1990; Heckhausen, 1991; Lewin, Dembo, Festinger, & Sears, 1944). Noticing the discrepancy between a desired state (standard) and the status quo (feedback) is enough to stimulate the realization of already set goals (Bandura, 1991; Carver & Scheier, 1998). However, the emergence of goals requires that a desired future and its impeding reality are conjointly elaborated in the mind's eye and expectations of success are high. Accordingly, expectations of success must be strengthened (e.g., through the acquisition of new competencies, the imitation of powerful models; see Bandura, 1997) before a desired future is mentally contrasted with its impeding reality.

IMPLICATIONS FOR THE OPTIMISM VERSUS REALISM DEBATE

There are two opposing sides in the recent debate on whether illusory positive thinking about the future fosters or hinders personality development. Experimentally oriented social psychologists (Taylor & Brown, 1988, 1994) interpret their data by suggesting that a positive view of the self and the world, even if somewhat illusory, is a clear asset, whereas personality psychologists (Colvin & Block, 1994) propose on the basis of their own findings that a realistic view of the self and the world is preferable. So far, methodological arguments focusing on how illusory optimism and their consequences are assessed have been advanced to understand the two contradictory positions (Asendorpf & Ostendorf, 1998; Colvin & Block, 1994; Colvin, Block, & Funder, 1995; Shedler, Mayman, & Manis, 1994).

The present findings suggest that an analysis of the question whether illusory optimism is beneficial to personality development would benefit from a differentiation between two forms of thinking about the future (expectancy judgments vs. free fantasies) and between various modes of self-regulatory thought (contrasting, indulging, dwelling). The proponents of the realism position may advance more persuasive arguments if, instead of questioning the validity and reliability of the findings reported in the illusory optimism literature, they pointed to the irrational commitment resulting from indulging in positive fantasies (i.e., investing too much in light of low and too little in light of high probabilities of success). At the same time, the proponents of the illusory optimism position would be able to offer more consistent evidence, if they recognized that expectancy effects on behavior are influenced by moderators such as incentive value or the mode of self-regulatory thought. The desired future has to be

mentally contrasted with impeding reality for expectancy effects on behavioral commitment to occur. If the desired future is only indulged in or the impeding reality is only dwelled on, the potentially beneficial effects of optimistic expectations on behavior will not emerge.

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