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journal homepage: [www.elsevier.com/locate/jesp](http://www.elsevier.com/locate/jesp)Positive fantasies about idealized futures sap energy<sup>☆</sup>Heather Barry Kappes<sup>a,\*</sup>, Gabriele Oettingen<sup>a,b</sup><sup>a</sup> New York University, Department of Psychology, 6 Washington Place, 7th Floor, New York, NY 10003, USA<sup>b</sup> Department of Psychology, University of Hamburg, Hamburg, Germany

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## ABSTRACT

Positive fantasies allow people to mentally indulge in a desired future. Whereas previous research found that spontaneously generated positive fantasies about the future predict poor achievement, we examined the effect of experimentally induced positive fantasies about the future. The present four experiments identify low energy, measured by physiological and behavioral indicators, as a mechanism by which positive fantasies translate into poor achievement. Induced positive fantasies resulted in less energy than fantasies that questioned the desired future (Study 1), negative fantasies (Study 2), or neutral fantasies (Study 3). Additionally, positive fantasies yielded a larger decrease in energy when they pertained to a more rather than a less pressing need (Study 4). Results indicate that one reason positive fantasies predict poor achievement is because they do not generate energy to pursue the desired future.

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Are job-seekers more likely to find work if they visualize themselves as future CEOs, or question whether they really will attain the ideal position? Do lovesick teens realize more romantic success when they picture themselves walking down the aisle toward their crush, or imagine themselves awkwardly stuttering as they invite him on a study date? Although it is tempting to believe that simple positive visions engender actual success, research finds something different. Specifically, fantasies that are experienced as positive – those that depict an idealized version of future events – are associated with poor achievement (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991; see also Showers, 1992; Spencer & Norem, 1996). The studies reported here investigate a motivational variable that may elucidate these findings: the energy to pursue the desired future.

## Positive fantasies about the future

Positive fantasies about the future are positively experienced mental images of future desired events that emerge in the stream of thought (Klinger, 1990, 1996; Oettingen & Mayer, 2002). They depict an idealized version of the future that may include the attainment of desired future outcomes, as well as smooth, idealized processes of working toward these outcomes. In such positive fantasies, people

hardly question whether a desired future can be achieved, nor do they imagine that the path to the desired future may contain obstacles, setbacks, pain, or effort (Oettingen & Mayer, 2002, Study 4). Importantly, idealized does not necessarily refer to an unrealistic version of the future. Rather, idealized positive fantasies about the future depict the best and most wonderful form of the future, which may be realistic or unrealistic. As images that emerge in the stream of thought, fantasies are mute to the realism of their content.

## Positive fantasies and achievement

Positive fantasies that idealize the future are found to be inversely related to achievement over time: the more positively the fantasies are experienced, the less effort do people invest in realizing these fantasies, and the lower is their success in achieving them. In studies showing this predictive relation, positivity of fantasies was measured via semi-projective measures, and at least a week before assessing achievement (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991). For example, in a study on beginning a romantic relationship, college students completed (in writing) several scenarios that depicted situations in which the liked person could reciprocate their feelings or not. Thereafter, participants rated the experienced positivity of the reported thoughts and images. More positive fantasies about romantic success predicted lower likelihood of establishing a romantic relationship with the crush in the following five months (Oettingen & Mayer, 2002, Study 2). In other domains including entering the workforce, recovering from hip surgery, and endeavoring to lose weight, the positivity of fantasies about a desired future also predicted less successful attainment of it (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991).

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Furthermore, positive fantasies that idealize the future result in lower achievement when they are experimentally induced. For example, induced positive images of possibilities for a social interaction led to less effort and worse performance in getting to know someone than induced negative images (Showers, 1992). Although these findings only applied to defensive pessimists (Norem & Cantor, 1986), in another instance, induced mental images of perfect performance in a dart game led to lower scores than induced images of missing the target and correcting for mistakes, for defensive pessimists and strategic optimists alike (Spencer & Norem, 1996). Further, when participants were asked to imagine that they had greatly succeeded on an upcoming anagram task and explain why this had happened, as long as they were not asked to explicitly state their expectations of success for the task, they subsequently solved fewer words than participants who had imagined and explained why they had failed (Sherman, Skov, Hertz, & Stock, 1981).

These findings are in line with the correlational research reported above, as they suggest that mental images that depict an idealized version of the future predict little success. However, experimental research examining the effects of mental images about the future has focused on particular groups of people (e.g., those high in fear of failure, Langens & Schmalt, 2002; defensive pessimists, Showers, 1992; defensive pessimists and strategic optimists, Spencer & Norem, 1996), and it is silent about the specific motivational variables that may make positive fantasies detrimental for successful performance. Thus, the present four experiments manipulate fantasies about the future and measure their effects on energy as a central motivational variable, in participants who are not pre-selected for individual differences.

### Positive fantasies and energy

Energy plays a key role in allowing people to pursue and achieve their desired futures (Brehm & Self, 1989; Heckhausen, 1991; Klingler, 1975). People approach cues that are desired, and avoid those that are disliked or feared (Elliot, 2006; Heckhausen, 1991), but they can do so with a little or a great deal of energy. Indeed, Elliot (2006) argued that: "a full account of motivation will attend to both direction and energization" (p. 114). Historically, the concept of energization arose from Cannon's (1915) concept of energy mobilization, and has been defined as "the extent to which the organism as a whole is activated or aroused" (Duffy, 1934, p. 194). Energization provides the resources needed to transform visions of a desired future into actual achievement (Oettingen et al., 2009).

Energy can be mobilized by physiological factors such as exercise, as well as by the anticipated exertion of effort (Wright, Brehm & Bushman, 1989). However, positive fantasies do not lead people to anticipate having to exert cumbersome effort. Instead, positive fantasies allow people to embellish idealized paths to idealized future outcomes. Not constrained by past performance, such fantasies may lack hardships or failures or other unwanted elements that characterize factual thinking (Klingler, 1990; Singer, 1966). In this way, positive fantasies allow people to anticipate and mentally experience a desired future in the present. Similar ways of thinking have been referred to as *reflection*, defined as

an experiential "as if" mode of thinking characterized by vividly simulating that information about the comparison standard is true of, or part of, the self...consider an average golfer making a comparison to Tiger Woods. Even average golfers can remember a few good shots that they made in the past...According to our conceptualization, however, reflection does not merely enhance the accessibility in memory of those few good shots one has made in the past. Rather, reflection in this case involves actually imagining that one is as good as Tiger Woods (i.e., "as if" one were Tiger Woods)... (Markman & McMullen, 2003, p. 248)

Reflection on an upward comparison, by making the desirable target part of the self, is posited to engender positive affect and low motivation to improve in the future (Markman & McMullen, 2003). Similarly, by allowing the mental attainment of the desired future, positive fantasies may conceal the need to invest effort in the service of actual attainment (Oettingen & Mayer, 2002). Positive fantasies about the future make energy seem unnecessary, and thus energy should not be mobilized. Indeed, by allowing people to mentally consummate a desired future, positive fantasies should be followed by the relaxation that accompanies actual achievement, rather than the effort that precedes it.

In line with these ideas, correlational research found that the predictive relation between positive fantasies about the future and low success was or tended to be mediated by indicators of low effort (e.g., few job applications submitted, few hours spent studying for an exam; Oettingen & Mayer, 2002). These findings suggest that as positive fantasies allow people to mentally experience a desired future in the here and now, such fantasies may deter people from mobilizing the energy that is needed to bring about their desired future. In other words, positive fantasies – those that depict an idealized version of the future – should result in low energy to pursue the desired future. To test this hypothesis, we conducted three experiments in which we induced either positive fantasies or a control condition, and then measured energy by physiological indicators (Study 1) and by subjective feelings (Studies 2–3). A final experiment tested whether positive fantasies would be particularly de-energizing when they addressed a currently pressing need (Study 4).

### Study 1: appearance fantasies

Study 1 examined the effect of positive fantasies on energy as indicated by systolic blood pressure. Energization has traditionally been assessed by indicators of autonomic function (Duffy, 1957; Gendolla & Krusken, 2002; Wright, 1996; Wright, Murray, Storey, & Williams, 1997), such as cardiovascular response, because energization leads to an increased demand for oxygen and nutrients that are supplied by the cardiovascular system (Brownley, Hurwitz, & Schneiderman, 2000).

The most reliable response of the cardiovascular system for assessing energization is cardiac contractility; this response can be indexed by systolic blood pressure (SBP, the maximum pressure exerted by the blood against the vessel walls following a heartbeat; Obrist, 1981; Wright, 1996), as SBP is systematically influenced by contractility. SBP is largely governed by the sympathetic nervous system, which is increasingly activated as a task proves more exciting (Duffy, 1962). For example, performing in a job interview should heighten blood pressure as compared to conversing with an old friend. Even anticipating a demanding behavioral task results in increased blood pressure (Wright et al., 1989); thus, simply imagining oneself performing in a job interview affects the cardiovascular response. However, idealized positive fantasies – such as imagining easily impressing the interviewer – obscure the need to invest effort. Thus, positive fantasy about a desired future should lead to low energy as indicated by SBP.

In Study 1, we tested this hypothesis by having female student participants positively fantasize about a desired future. Specifically, the desired future pertained to looking good in high-heeled shoes. Because wearing high-heeled shoes is associated with being fashionable, desirable, and attractive (Kaiser, 1996), it should be easy for young women to generate positive fantasies about this behavior and its wonderful outcomes. In the positive fantasy condition, we induced participants to generate positive fantasies about wearing high-heeled shoes, being admired for wearing high heels, and the glamor surrounding their appearance.

As a control condition, we directed participants to question whether wearing high-heeled shoes would actually be so glamorous,

thereby preventing them from mentally enjoying the desired consequences of wearing high heels. As our dependent variable, we measured the change in participants' SBP from before to after fantasizing. We hypothesized that participants in the positive fantasy condition would show lower energization than participants in the questioning fantasy control condition.

## Methods

### Participants

One hundred sixty-four female American undergraduate students ( $M = 19.52$  years,  $SD = 1.17$ ) participated in partial fulfillment of a course requirement. They were told that the study concerned how contemporary women view and think about fashion, and were randomly assigned to a positive fantasy ( $n = 84$ ) or questioning fantasy ( $n = 80$ ) condition.

### Procedure and materials

A female experimenter who was blind to condition obtained a baseline SBP measurement on the participant's dominant arm, using an automatic blood pressure monitor with non-constant oscillometry (Omron70). To support the premise that the study concerned opinions about fashion, participants completed a questionnaire about their impressions of several different clothing items. Thereafter, the pre-fantasy SBP measurement was taken.

### Fantasy induction

To ensure that the time between pre-fantasy and post-fantasy SBP measurements were equal for all participants, the fantasy induction was administered by computer, via two screens which were viewed for 3 min each. On the first screen, participants were told: "Imagine a beautiful pair of high-heeled shoes. Visualize yourself wearing these high-heeled shoes, and how wonderful it is. Please generate and write down some positive thoughts and daydreams about this situation." For example, one participant wrote:

I am wearing my favorite black patent-leather closed toe shoes. I'm wearing them with a black dress and walking down the street comfortably and confidently with them. I am able to walk down the street quickly in them and passersby notice me. They make me feel taller, more sophisticated and more confident. The heels make my legs look longer and thinner...

After 3 min, participants advanced to a second screen, which differed by condition. In the positive fantasy condition, instructions read: "Everything about these high-heeled shoes is definitely wonderful. Imagine how cool the shoes are, how good you look, and how much everyone admires you. Please generate and write down some more positive thoughts and daydreams about this situation." For example, the participant above now wrote:

Women admire how easily I can walk in them and men admire how great I look when I'm wearing the heels. I can run across the street in these heels without tripping or falling. I look graceful even when I'm dancing with my friends at a club. I no longer need to look up to people because I'm up to everyone else's fashion standards. I also do not get tired of the shoes because they are so comfortable...

In the questioning fantasy condition, instructions on the second screen read: "Maybe not everything about these high-heeled shoes is wonderful. Are they really as cool as you thought? Do you look good? Does everyone admire you? Please generate and write down some

negative thoughts and daydreams about this situation." For example, one participant wrote:

My feet hurt really badly and I trip once or twice while wearing them. Not everyone notices my high-heels, or even comments on how pretty they are. I feel gawky at times compared to those around me. I want to take them off just to ease the pain they cause, and a blister is forming on my right foot.

Participants notified the researcher by intercom at the conclusion of the manipulation, and the post-fantasy SBP measurement was taken.<sup>1</sup> The change in SBP from pre- to post-fantasy measurement was our dependent variable.

## Results

Participants in the positive fantasy and questioning fantasy conditions did not differ in baseline SBP,  $t(162) = 1.21$ ,  $p = .23$ . Mean SBP before the fantasy manipulation was 108.59 mmHg ( $SD = 11.23$ ), and change in SBP from before to after the fantasy manipulation ranged from  $-29$  to 21 mmHg ( $M = -1.10$  mmHg,  $SD = 6.97$ ); two participants with a change more than three standard deviations from the mean were excluded from analysis. To test the hypothesis that positive fantasies would result in less energization than questioning fantasies, as indicated by the change in SBP, we used an ANCOVA predicting SBP change, with baseline SBP included as covariate. Beyond the effect of the covariate, there was an effect of fantasy condition,  $F(1, 159) = 3.99$ ,  $p < .05$ ,  $\eta^2 = .024$  (estimated marginal means,  $M_{pos} = -1.73$  mmHg,  $SE = .68$  versus  $M_{ques} = .23$  mmHg,  $SE = .70$ ).

To further test whether positive fantasies decreased SBP, we isolated participants by condition and performed paired-samples *t*-tests on the pre- and post-fantasy SBP measurements. In the positive fantasy condition, SBP significantly decreased,  $t(82) = 2.33$ ,  $p < .02$ , whereas in the questioning fantasy condition, SBP did not change,  $t(78) = .16$ ,  $p = .87$ . Positive fantasies, but not questioning fantasies, decreased SBP.

## Discussion

Positive fantasies about wearing a beautiful pair of high-heeled shoes decreased SBP, whereas questioning fantasies did not change SBP. These results are in line with the existing correlational findings that positive fantasies predict low effort, as indexed via number of job applications submitted or number of hours studied for an exam (Oettingen & Mayer, 2002). By using an experimental design, the present findings go beyond previous research that suggested that positive fantasies about the future harm effort and performance. Although the effect of positive fantasies in Study 1 was rather small – perhaps due to the mild manipulation pertaining only to a very narrow life domain (wearing high heeled shoes) – induced positive fantasies resulted in lower energization than induced questioning fantasies.

However, the fantasies induced in Study 1 pertained to appearance rather than to a task that would clearly require immediate effort. Low energization could have been due to the perceived lack of opportunity to act in pursuit of the desired future, as participants in the lab may not have foreseen an imminent chance to shop for beautiful shoes or to wear them in a social setting. Thus, Study 2 measured energization following fantasy about success on an upcoming task, which participants were led to believe that they would subsequently perform.

### Study 2: performance fantasies

Study 2 addressed shortcomings of Study 1. Participants in the questioning fantasy condition in Study 1 had to generate negative

<sup>1</sup> Additional measures were administered after this final SBP measurement. As they are not the focus of the present paper, they are not addressed further here.



imagery after positive, whereas those in the positive fantasy condition only generated positive imagery. If it were more difficult to generate incongruent (i.e., positive and negative) imagery than congruent, then additional energy might have been mobilized. To address this potential alternative explanation, participants in Study 2 were assigned to generate only one type of fantasy, either positive or negative. We also recorded time spent on the fantasy manipulation, assuming that more effortful fantasies should take longer to generate. As a second indicator, we measured feelings of irritation immediately after the fantasy manipulation, to see whether the positive and negative manipulations might be differentially aversive. Although negative fantasies should not boost positive affect as much as positive fantasies, they should not necessarily create specific feelings of irritation; even if negative fantasies do result in greater irritation than positive fantasies, differential effects on energization should be present over and above these feelings.

To measure energization immediately following the fantasy manipulation, we utilized a self-report instead of a physiological indicator. Energization manifests itself in physiological indicators like SBP, as we assessed in Study 1, but importantly, it also surfaces in subjective feelings. Subjective feelings of energization have been found to be predictive of actual performance (Brunstein & Gollwitzer, 1996; Oettingen et al., 2009). Furthermore, measuring energization via self-report addresses the question of whether the effects of positive fantasies on energization are strong enough so that people can actually report on them. As in Study 1, we expected positive fantasies to result in lower energization than negative fantasies.

## Methods

### Participants

Fifty American undergraduate students (68% female; age  $M = 19.94$  years,  $SD = 1.13$ ) participated in partial fulfillment of a course requirement. They were told that the study, advertised as "Essay Contest," concerned factors influencing essay writing. Participants were randomly assigned to a positive fantasy ( $n = 26$ ) or negative fantasy ( $n = 24$ ) condition.

### Procedure and materials

Participants were told that they would do a mental simulation exercise that might help them in preparing an essay later in the study. Furthermore, they were told that the essay they wrote later in the study would be judged, and the writer of the best essay would be awarded a \$200 prize.

### Fantasy induction

Fantasies were induced using wording parallel to Study 1, except that the manipulation in Study 2 was presented on one computer screen rather than two, and participants had an unlimited amount of time to write in a response to the fantasy prompt (time was surreptitiously recorded, as addressed in more detail below). In the positive fantasy condition, participants were to imagine that they had won the \$200 essay contest prize and that everything related to winning the prize would go really well. For example, one participant wrote:

The best part about winning this \$200 is that I don't have to be so stingy anymore. I can go out to dinner with friends and be social again. I have had to be so stringent with my spending recently and I have felt more distant from my friends BUT NOW we go to our favorite bar and get drunk off of 4 dollar martinis. We laugh and joke and go out for three a.m waffles. I am not worried about how much anything costs because I have two hundred in cash. And when I'm with my friends at a place that doesn't accept cards and

they need to pay with a credit card I can be a good friend and cover them.

In the negative fantasy condition, participants were told to imagine that winning the \$200 essay contest prize was *not* a certainty, and that everything related to winning the prize would *not* go really well. For example, one participant wrote:

Two hundred dollars is a lot of money and I could definitely use it and treat myself for once. I am always working. I never have a time to just breathe and relax. I have to pick the prize up either Thursday at 1 or Friday at 1. I cannot pick it up. I have to go to work on Thursday and my internship on Friday. As soon as I believe that things are looking up my ridiculous schedule does not allow me to accept my prize. I really need this prize. I do not need the money; instead I need the feeling of joy that accompanies good luck. Now I am not actually winning the two hundred dollar prize. I wish that I had never known about the prize because now I wish that I have something that I cannot whereas before I just didn't have it.

### Dependent variable: energization

Immediately after the fantasy manipulation, energization was measured by asking participants to indicate how much they were presently feeling "excited," "enthusiastic," and "active," using the following options: 1 (*very slightly or not at all*), 2 (*a little*), 3 (*moderately*), 4 (*quite a bit*), and 5 (*extremely*). A mean was calculated ( $\alpha = .88$ ).

### Control variables: qualities of the manipulation

We surreptitiously recorded the time participants spent on the fantasy manipulation, assuming that they would spend more time generating negative fantasies if doing so were more effortful than generating positive fantasies. We also recorded their feelings of irritation following the manipulation, by asking them to indicate how much they were presently feeling "upset," "irritable," and "jittery," using the response scale above. A mean was calculated ( $\alpha = .68$ ).

## Results

As hypothesized, feelings of energization immediately following the fantasy induction were lower in the positive fantasy condition than in the control condition,  $t(48) = 2.07$ ,  $p = .04$ ,  $\eta^2 = .08$  ( $M_{pos} = 2.18$ ,  $SD = .84$  versus  $M_{neg} = 2.75$ ,  $SD = 1.10$ ).

Feelings of irritation after the manipulation did not differ by condition,  $t(48) = .38$ ,  $p = .71$  ( $M_{pos} = 1.72$ ,  $SD = .75$  versus  $M_{neg} = 1.81$ ,  $SD = .88$ ); they were not significantly correlated with energization,  $r = .10$ ,  $p = .49$ . Further, the effect of fantasy condition on energization remained significant when irritation was included as a covariate,  $F(1, 47) = 4.09$ ,  $p = .05$ ,  $\eta^2 = .08$ . Finally, time spent on the fantasy manipulation did not differ by condition,  $t(48) = 1.09$ ,  $p = .28$ , ( $M_{pos} = 4.40$  min,  $SD = 3.81$  versus  $M_{neg} = 5.70$  min,  $SD = 4.62$ ), and the effect of fantasy condition on energization remained marginally significant when time was included as a covariate,  $F(1, 47) = 3.49$ ,  $p = .068$ ,  $\eta^2 = .07$ . The finding that the effect of fantasy condition on energization emerged over and above feelings of irritation and time spent on the manipulation suggests that the effect of positive fantasies on low energy was not due to this manipulation being less effortful or less aversive than the negative fantasy manipulation.

## Discussion

Induced positive fantasies about success on an upcoming performance task resulted in lower energy than negative fantasies about the same task. This was true when energization was measured via

subjective feelings, just as it had been when energization was measured via SBP in Study 1. The manipulation in Study 2 utilized only congruent imagery. This change, as well as results with regard to time spent generating imagery and feelings of irritation immediately afterward, addressed limitations of Study 1. These findings suggested that qualities of the manipulation itself are not responsible for the effect of positive fantasy on low energization.

Participants in Study 2 who positively fantasized about writing a winning essay mustered less of the energy that would help them to achieve the prize in actuality than did participants who negatively fantasized about the task and questioned whether they would win. Low energization resulting from positive fantasies should hinder accomplishment when energization is required for success. We address this point in Study 3.

### Study 3: fantasies and actual accomplishment

If positive fantasies obscure the need to invest effort in tasks that demand effort, they should evoke less accomplishment. We tested this hypothesis in Study 3 by having student participants engage in positive fantasies about an ideal upcoming week. After one week, participants reported on their actual accomplishment during the week by responding to indicators of their mastery of everyday challenges (Dweck, Chiu, & Hong, 1995; Dweck & Leggett, 1988; Hong, Chiu, Dweck, Lin, & Wan, 1999). Participants who succeed in reaching such accomplishment by mastering everyday challenges should report that their week went well, that they are not disappointed about how the week went, and that they felt in control and on top of things during the week, so we included these direct indicators. We also included relatively indirect indicators, by having participants report about the extent to which they were able to manage their time and felt pressed for time (reversed), because the successful mastery of everyday challenge should promote an ease in time management. Together, these items indexed accomplishment during the week in the form of mastery of everyday challenge. Idealized positive fantasies that fail to prepare people for effortfully preventing and mastering everyday challenge should predict comparatively low reported accomplishment.

In addition, we measured energy immediately following the induction of fantasies, and tested whether this energy would mediate possible effects on accomplishment after one week. Low energy following the manipulation should indicate that participants have mentally attained their desired future of an ideal upcoming week. We speculated that low energy, as felt right after the manipulation, would serve as a sign that later effort, throughout the week, was not necessary. Thus, participants who positively fantasized about an ideal week should have invested relatively little effort toward actual attainment. In addition, after leaving the initial study session, the induced positive fantasies may have surfaced repeatedly in participants' minds, feigning the mental attainment of the idealized week. Again, these fantasies should have yielded relatively little energy and effort to reach the desired outcomes. In sum, both as a sign of the low need for effort and as a possibly ongoing mental activity, positive fantasies should have translated into little effort and poor accomplishment over the course of the week. Because accomplishment is measured after a week, this design also indicates whether the effects of induced positive fantasies on energy have meaningful consequences for accomplishment after people leave the lab.

In Study 2, control participants had to generate strictly negative fantasies, rather than the incongruent (positive and negative) fantasies used as control in Study 1. Negative fantasies can prepare people to invest effort (Showers, 1992; Spencer & Norem, 1996); thus, the difference between conditions in Study 2 could have been due to an energy-bolstering effect of negative fantasy rather than an energy-sapping effect of positive fantasy. Therefore, in the control condition in Study 3, we asked participants to generate neutral fantasies about the upcoming week. We hypothesized that participants in the positive

fantasy condition would feel less energized than those in the neutral fantasy condition. Participants in the positive fantasy condition would also report lower accomplishments in their daily activities a week later. Importantly, the differences in immediate feelings of low energy in the positive fantasy versus the neutral fantasy condition should mediate the parallel differences in accomplishments a week later.

## Methods

### Participants

Forty-nine American undergraduate students (70% female, age  $M=19.72$  years,  $SD=1.77$ ) participated in partial fulfillment of a course requirement. They were randomly assigned to a positive fantasy ( $n=23$ ) or control ( $n=26$ ) condition. Nine students participated in the first session of the study but did not return for the second, yielding a final sample of 40 (positive fantasy  $n=17$ ; control  $n=23$ ). Participants were told that the study concerned people's thoughts about the upcoming week.

### Procedure and materials

#### Fantasy induction

Fantasies were induced using wording and format parallel to that in the earlier studies. In the positive fantasy condition, participants were to imagine that everything they did in the coming week would go really well, and to generate and write down positive thoughts and daydreams. For example, one participant wrote:

I get my paper back from Cultural as well as my Psych exam and do really well on both. I take a walk through Central Park because the weather is so nice out. The 4th season of *Six Feet Under* that I ordered 2 weeks ago comes in. The party planned for Thursday night is really fun and the girl I like also decides to come...I have a relaxing train ride home for the weekend...

In the control condition, participants were not directed to make their fantasies especially positive or negative. Instead, they were asked to generate and write down their thoughts and daydreams about the coming week. For example, one participant wrote:

I think that my music quiz will go reasonably well, and hopefully I will finish drafting my final paper for my writing class. I am excited that it is the last week of classes for the semester, I have been waiting for the summer for a long time, and it is very rewarding to finish classes. Hopefully the weather will stay nice, it is quite a motivator. But according to the weather Monday will rain, which would be typical.

#### Dependent variable: energization

Immediately after the fantasy manipulation, energization was measured by having participants indicate how much they were presently feeling "excited," "enthusiastic," and "active," as described in Study 2 ( $\alpha = .76$ ).

#### Control variable: feelings of irritation

Irritation following the manipulation was measured by having participants indicate how much they were presently feeling "upset," "irritable," and "jittery," as described in Study 2 ( $\alpha = .56$ ).

#### Dependent variable: week accomplishment

At the second session, participants first read, "Last time, we asked about your thoughts about the upcoming week. Consider the past week (that is, the last 7 days)." Then, participants answered seven items indicative of their mastery of everyday challenges (Brunstein & Gollwitzer, 1996; Dweck et al., 1995; Dweck & Leggett, 1988; Hong

et al., 1999). The items were: “How well did the past week go for you?”; 1 (*not at all well*) to 7 (*really well*); “How disappointed do you feel about the way that this past week went for you?” (reversed); 1 (*not at all disappointed*) to 7 (*extremely disappointed*); “How close was the way the week went to the way you had imagined it would go?”; 1 (*much worse than expected*) to 7 (*much better than expected*). Participants were also asked, with regard to the past week: “How often did you feel in control?” “How often did you feel ‘on top of it’?” “I felt very pressed for time” (reversed), and “I managed time easily.” Scales ranged from 1 (*never*) to 7 (*very often*). Notably, the first five indicators assessed mastery of everyday challenges directly, whereas the latter two did so indirectly. An overall mean was calculated ( $\alpha = .83$ ).

## Results

### Manipulation check

A research assistant who did not know about conditions, design, or hypotheses coded whether each participant questioned the attainment of a wonderful week or mentioned any obstacles, problems, or negative aspects of the upcoming week.<sup>2</sup> A second research assistant also coded a sample of ten participants; as interrater reliability was high (Cohen's kappa = .74), the ratings of the first rater were used. In the positive fantasy condition 44% of participants did question the attainment of a wonderful week or mentioned obstacles, problems, or negative aspects, compared to 95% of participants in the control condition,  $\chi^2(1) = 11.64, p < .01, \phi = .57$ .

The coders also rated how much the participant described the “best” version of the upcoming week, using a 1 (*worst version*) to 5 (*best version*) scale (interrater reliability was  $r = .92$  for the sample of 10 participants). Positive fantasy condition participants described a version of the week that was closer to “best” than control participants,  $t(34) = 4.06, p < .001, \eta^2 = .33$ ; ( $M_{pos} = 4.13, SD = 1.09$  versus  $M_{con} = 2.60, SD = 1.14$ ). As compared with the control condition, the manipulation in the positive fantasy condition produced fantasies that depicted a more idealized version of the week containing fewer obstacles, problems, or negative aspects.

### Energization

As hypothesized, feelings of energization immediately following the fantasy induction were lower in the positive fantasy condition than in the control condition,  $t(38) = 2.73, p = .01, \eta^2 = .16$  ( $M_{pos} = 2.27, SD = .99$  versus  $M_{con} = 3.00, SD = .70$ ). Participants in the positive fantasy condition also reported lower levels of irritation than participants in the control condition,  $t(38) = 2.13, p = .04, \eta^2 = .11$  ( $M_{pos} = 1.71, SD = .59$  versus  $M_{con} = 2.23, SD = .88$ ). However, as in Study 1, irritation was not significantly correlated with energization,  $r = -.11, p = .48$ , and the effect of fantasy condition on energization remained significant when irritation was included as a covariate,  $F(1, 37) = 10.52, p = .003, \eta^2 = .22$ .

We also hypothesized that positive fantasies would result in lower accomplishment during the upcoming week, as measured by participants' reports. Indeed, accomplishment as reported a week later was lower in the positive fantasy than in the control condition,  $t(38) = 2.00, p = .05, \eta^2 = .10$  ( $M_{pos} = 5.74, SD = 1.36$  versus  $M_{con} = 6.57, SD = 1.26$ ).

We next tested whether poor week accomplishment was mediated by low initial feelings of energization. When energization was used as a covariate in an ANCOVA predicting week accomplishment (also covarying irritation measured after the manipulation), fantasy condition was no longer a significant predictor,  $F(1, 36) = .47,$

$p = .49$ , but energization remained significant,  $F(1, 36) = 4.67, p = .04$ . Using a bootstrap test (Preacher & Hayes, 2008) showed that there was a significant indirect effect of positive fantasies on week accomplishment through low feelings of energization, 95% bias-corrected confidence interval (CI) for indirect effect .03 to .65. Participants in the positive fantasy condition had lower feelings of energization at the beginning of the week, and this translated into poorer accomplishment as reported at the end of the week. This finding supports the hypothesis that induced positive fantasies would result in immediately low energy, which would in turn impair accomplishment during the upcoming week.

## Discussion

Positive, idealized fantasies about the upcoming week resulted in lower energization than neutral fantasies. This was the case for energization as measured via subjective feelings immediately after the experiment as well as via accomplishment during the upcoming week, reported a week later. Indeed, feelings of energization right after producing the fantasies mediated self-reported accomplishment during the week in the form of mastery of everyday challenge. These results support previous correlational findings, where positive fantasies predicted low effort (e.g., number of job applications submitted or hours studied), which in turn mediated less successful achievement over time (Oettingen & Mayer, 2002).

Positive fantasies in Study 3 resulted in lower energy than neutral fantasies, indicating that the condition differences in earlier studies were not due merely to energy-bolstering effects of negative fantasies. Additionally, in Study 3, as in Study 2, covarying feelings of irritation left the effect of fantasy on energy unchanged, suggesting that this effect was not due to a differential aversiveness of the manipulation.

Studies 1 to 3 provided converging evidence that positive fantasy saps energy. These results are in line with our argument that positive fantasies cause low energization because they allow people to mentally experience a desired future in the present, thereby concealing the need to invest effort to attain it. In this case, positive fantasies should be particularly de-energizing when they mentally satisfy a future that is particularly important and desired. Just as effort is mustered more in pursuit or anticipation of especially desirable outcomes (Eubanks, Wright, & Williams, 2002; Tranel, Fisher, & Fowles, 1982), positive fantasies that permit mental consumption of especially desired ends should result in lower energy than positive fantasies that pertain to less desired ends. Thus, whereas participants' fantasies in Studies 1 to 3 addressed generally desirable futures (an admirable appearance, success in a contest, a wonderful week), in Study 4 we tested whether positive fantasies resulted in particularly low energy when they depicted an especially desired future. Specifically, we measured energization as a function of positive fantasies that did or did not pertain to a currently pressing need state.

### Study 4: need-satisfying fantasies

Needs energize people, and need satisfaction decreases energy expenditure (Atkinson, 1964; Heckhausen, 1991; Hull, 1943). For example, hungry people mobilize energy in order to find food; when their need is satisfied by eating, energy expenditure decreases. Needs also make people find events in the future more or less important and desired. For individuals with a high need for achievement, for example, future academic and professional success represents a particularly desired future. University students are individuals who are generally high in a chronic need for achievement (Franke, Ruiz, Sharkness, DeAngelo & Pryor, 2010), and thus relevant future events are important and desired for them. We hypothesized that in student participants, positive fantasy about successful academic achievement (e.g., earning a good grade on an exam), as it addresses the need for achievement, should decrease their energization.

<sup>2</sup> The written samples of 4 participants were not available for coding.



To test our hypothesis, we looked for a control group where the need for achievement would be temporarily made low, that is, less pressing. We reasoned that needs that are chronically high can become less pressing through contextual conditions. A student's chronic need for achievement might become more pressing as she takes an exam, but it might become less pressing when there is an alternative, more pressing need. Hierarchical models of needs (e.g., Kenrick, Griskevicius, Neuberg & Schaller, 2010; Maslow, 1943) posit that before people can attend to satisfying higher-order psychological and social needs (e.g., need for achievement), they must have satisfied their lower-order (e.g., physiological) needs. We used this principle to establish a control group of student participants in which the need for academic achievement would be low, by inducing a lower-order physiological need for water. Specifically, we induced thirst in half of the participants to create a need (for water) that was more pressing than the need for achievement. For these control participants, positive fantasy about academic success should not decrease energy. Rather, positive fantasy that addresses their pressing need – i.e., about drinking water – should do so.

In sum, we hypothesized that the effect of positive fantasy on energy would depend on fantasy content and need state. Participants with a high need for achievement (i.e., the need for achievement was allowed to surface, as participants had no need for water) should show a stronger decrease in energy after fantasizing about a good grade than about a drink, because the academic success fantasy rather than the drinking fantasy pertains to their pressing need. This difference should not evince in participants with a low need for achievement (i.e., the need for achievement was silenced as participants had a need for water). For the latter participants (i.e., thirsty control participants) the physiological need is most pressing. Therefore, fantasies about drinking should lead to a stronger decrease in energy for these participants than fantasies about academic success.

Participants in both fantasy conditions in Study 4 visualized positive imagery, albeit about different contents, academic success versus drinking. We wanted to make sure that one content was not more difficult to visualize than the other, because images about contents that are difficult to generate may be evaluated relatively negatively (Petrova & Cialdini, 2005). We took two steps to address this point. First, rather than having participants generate their own fantasies in response to prompts as in Studies 1 to 3, we prescribed the scenario that they should visualize. This ensured that the academic success versus the drinking fantasy scenarios were depicted in equally positive and detailed terms, and any differences in energy following the fantasy manipulation should not result from a differential ease of visualizing the scenarios. Second, we asked participants to report how easy it was for them to visualize the fantasy, to make certain that there were indeed no differences.

Finally, as in Study 1, our dependent variable was energization as indicated by change in SBP from before to after the fantasy manipulation. We hypothesized that participants high in need for achievement should decrease more in SBP after positive fantasies about academic success than after positive fantasies about drinking, whereas those low in need for achievement (i.e., thirsty) should decrease more after positive fantasies about drinking than about academic success. These differences should not be due to ease of imagination.

## Methods

### Participants

Participants were 80 American undergraduate students (75% female). They completed the study in partial fulfillment of a course requirement. Their mean age was 19.27 years ( $SD = 1.15$ ), ranging from 17 to 24. Participants were told that the study concerned how perception of hidden health characteristics in food may be related to

other attitudes and beliefs. They were randomly assigned to one cell of the 2 (achievement need condition: high versus low) X 2 (positive fantasy manipulation: academic success versus drinking) design ( $ns = 19–21$ ).

### Procedure and materials

Upon signing up for the study, participants were told, “In order to provide a controlled test of the sense of taste, it is very important that you do not eat or drink for at least 4 h prior to the study.” Those who did not meet this criterion were excluded.

Unlike in the previous studies, materials were administered on paper rather than by computer. At the beginning of the study, participants answered several questions about their present food cravings and typical food consumption, to support the premise that the study concerned taste perceptions. Embedded in these questions was a baseline measure of participants' thirst, which they answered by marking a 10-cm line with endpoints labeled *not at all* and *extremely*. When these questions had been completed, an experimenter obtained a baseline SBP measurement on the participant's dominant arm, using an automatic blood pressure monitor with non-constant oscillometry (Omron70).

### Need manipulation

Academic achievement is generally a chronically important need for university students (Franke et al., 2010). In order to silence this need in one group of participants, we induced a pressing physiological need: the need for water. We manipulated the need for water (and the resulting thirst) by having participants eat dry salty crackers in the guise of a “Taste Test.” Participants were given a plate containing two pieces of sour gummy candy, two pieces of spicy cinnamon candy, one piece of chocolate, and six dry salty crackers. They were asked to eat each food sample slowly and carefully before answering several questions about its taste (e.g., how rich versus bland it tasted, how healthy versus unhealthy). Between food samples, they were asked to eat two crackers to cleanse their palates. The resultant consumption of six dry crackers was intended to heighten thirst. Pre-testing and manipulation checks (see below) showed that the induction of thirst was effective. Finally, participants again answered several questions about their present food cravings, including a second measure of thirst.

At this point, the experimenter gave those participants in the high achievement need condition a cup and filled it one-half of the way full with water from a one-liter Fiji bottle. The experimenter told each participant, “You can drink some water now if you want to. Drink as much as you want and let me know if you want more, but don't go on to the rest of the questionnaire until you're finished drinking.” Participants who asked for more water were given additional half-glasses until they indicated they had had enough, at which point their glass was discarded and they went on to the fantasy measure. Participants drank between one-quarter and two glasses of water. Participants in the low achievement need condition were kept thirsty. These participants were not offered water, and went directly from the taste test manipulation to the fantasy manipulation.

### Positive fantasy manipulation

Participants were told that they would read a description of a situation, and should imagine themselves in the situation, following their thoughts and images in vivid detail. In the positive fantasies about academic success condition, the description read:

You're in class at school and the TA hands back your last exam. You pick up the exam and see that you got an A. It feels richly deserved and wonderfully satisfying. You bask in the feeling for a moment, barely pausing for breath. Mmmm...how great. Your whole demeanor feels full of pride. You can't think of anything more fantastic.



In the positive fantasies about drinking condition, the description read:

You're in a restaurant and the waitress brings you a big glass of ice water. You pick up the cup and drink the water. It tastes cool and refreshing and is wonderfully satisfying. You drink the whole cup down, barely pausing for breath. Mmmm...how thirst-quenching. Your whole mouth feels cleaner and cooler. You can't think of anything more delicious.

After completing the manipulation and answering a few brief questions about it (see below), participants verbally notified the experimenter, and the post-fantasy SBP measurement was taken. The change in SBP from pre- to post-fantasy measurement was our dependent variable.

#### Control variable: ease of imagining

Immediately after the fantasy manipulation, ease of imagining was measured with six items taken from Petrova and Cialdini (2005). The first three items were: "Were you able to imagine this situation?" "How easy was it to imagine this situation?" and "How long did it take you to create the mental image?" The 9-point response scales were labeled 1 (*definitely no*) to 9 (*definitely yes*), 1 (*extremely easy*) to 9 (*extremely difficult*), and 1 (*very little time*) to 9 (*very much time*), respectively; we reverse-coded the latter two items. Participants were also asked to rate the mental images they created on three additional 9-point scales, labeled *vague to vivid and clear*; *not dynamic to alive and dynamic*; and *not detailed to detailed*. We calculated the mean of the six items ( $\alpha = .80$ ).

## Results

#### Manipulation check

A paired-samples *t*-test on the thirst ratings before and after the taste test manipulation showed that participants increased in thirst,  $t(79) = 7.55, p < .001$  ( $M_{before} = 5.66, SD = 1.79$  versus  $M_{after} = 7.18, SD = 1.40$ ). Participants in the high achievement need condition were allowed to drink as much water as they wanted before continuing to the fantasy measure, so they should not have been thirsty anymore. Participants in the low achievement need condition were kept thirsty, so that the need for water would be more pressing than the need for achievement.

#### Energization

Mean SBP prior to the fantasy manipulation was 120.81 mmHg, and change in SBP from before to after the positive fantasy manipulation ranged from  $-28$  to  $32$  mmHg ( $M = -3.24$  mmHg,  $SD = 8.29$ ). We used an ANOVA predicting SBP change from need condition and fantasy condition. There were no main effects of need condition,  $F(1, 76) = 1.40, p = .24$ , or fantasy condition,  $F(1, 76) < 1$ , but a need by fantasy interaction,  $F(1, 76) = 7.80, p < .01, \eta^2 = .093$ .

Estimated marginal means are depicted in Fig. 1. As hypothesized, participants in the high achievement need condition had a larger decrease in SBP when they fantasized about an idealized academic success scenario ( $M = -7.11$  mmHg,  $SE = 1.83$ ) than about an idealized drinking scenario ( $M = -1.62$  mmHg,  $SE = 1.74$ ),  $t(38) = 2.31, p < .03$ . Isolating participants by condition and performing paired-samples *t*-tests on the SBP change measures showed that the SBP decrease only reached significance when high achievement need participants fantasized about academic success,  $t(18) = 3.91, p = .001$ , and not when they fantasized about drinking,  $t(20) = 1.05, p = .31$ .

On the other hand, participants in the low achievement need condition (i.e., those who were thirsty) tended to have a larger decrease in SBP when they fantasized about an idealized drinking

scenario ( $M = -4.50$  mmHg,  $SE = 1.79$ ) than about an idealized academic success ( $M = 0.00$  mmHg,  $SE = 1.79$ ),  $t(38) = 1.68, p = .10$ . Isolating participants by condition showed that SBP only decreased when low achievement need (thirsty) participants fantasized about drinking,  $t(19) = 2.50, p = .02$ , and not when they fantasized about academic success,  $t(19) < 1$ .<sup>3</sup> That is, the effect of positive fantasy on low energy depended on need state; positive fantasies only decreased energy when they pertained to a currently pressing need.

#### Ease of imagining as alternative explanation

There were neither main nor interaction effects predicting ease of imagining,  $F_s < 1$  (overall  $M = 7.18, SD = 1.22$ ). Thus we can be confident that differences in SBP change were not due to differential ease of generating imagery in the fantasy conditions.

## Discussion

Positive fantasies resulted in lowered energization when they pertained to a currently pressing need. For university students, academic achievement is consistently one of the most important needs (Franke et al., 2010). In line with this finding, student participants were less energized as indexed by SBP following positive fantasies about receiving a high exam grade than about consuming water. Indeed, only academic success fantasies significantly decreased SBP for participants high in achievement need. However, this finding was not observed when the need for achievement was silenced by inducing a more pressing need: the need for water. For these low achievement need participants, only positive fantasies about drinking decreased SBP.

Study 4 lends additional support to the argument that fantasy effects on energy are not due to differential ease or difficulty of the manipulation itself. Participants in both conditions were told what to imagine rather than fantasizing in response to prompts, meaning that they did not have to create their own mental imagery. Moreover, ease of imagining was measured, and showed no effect of the manipulation. It was not the ease of generating positive fantasy imagery that dampened energization. Rather, positive fantasy allowed people to mentally experience a desired future in the present, thereby yielding low energy to pursue it in reality.

## General discussion

In four experiments positive fantasies about an idealized future resulted in low energization. In Study 1, energization was measured physiologically, via SBP. Participants who had to generate positive fantasies about wearing high-heeled shoes were less energized than participants who had to generate fantasies that questioned the glamor of wearing high-heeled shoes. Indeed, participants in the positive fantasy condition showed decreased SBP, whereas those in the

<sup>3</sup> Given that academic achievement is a chronic need for students, readers might wonder why fantasies about idealized academic achievement did not always produce a decrease in SBP. Although the mean SBP change for participants in the low academic need condition who fantasized about idealized academic success was 0, it ranged from  $-11$  to  $32$  mmHg. We looked at the correlation between SBP change and ratings of thirst after the taste test for these participants, and found that higher thirst predicted less decrease (or more increase) in SBP,  $r(18) = -.31$ . This was not the case for thirsty participants who had to fantasize about idealized drinking,  $r(18) = -.02$ . Although neither correlation reaches significance, their difference in magnitude suggests that in those participants for whom the need for drinking was very strong, the need for academic achievement may have been temporarily completely obscured, leading the fantasies about idealized academic success to produce no decrease (or an increase) in SBP. However, in those participants for whom the need for drinking was less strong (even though they were made thirsty), the need for academic achievement may not have been completely obscured, and the idealized academic achievement fantasy still decreased SBP.

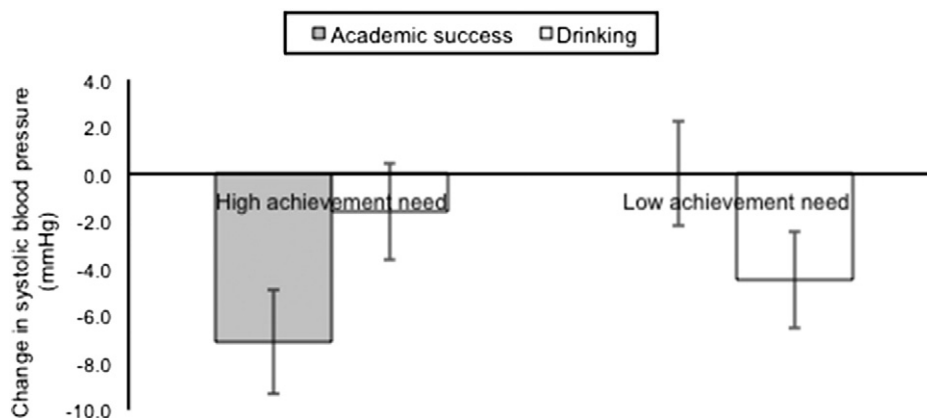


Fig. 1. Change in systolic blood pressure (SBP) in Study 4 as a function of need condition and positive fantasy topic. Error bars are plus/minus one standard error.

questioning fantasy condition sustained their blood pressure. Study 2 conceptually replicated this effect, measuring subjective feelings. Participants who had to produce positive fantasies about success in an essay contest reported feeling less energized than those who produced negative fantasies.

In Study 3, energization was measured via subjective feelings and self-reported accomplishments. Participants who had to generate positive fantasies about the upcoming week had lower immediate feelings of energization than participants who had to merely record their fantasies about the upcoming week. Immediate feelings of low energization instilled by positive rather than neutral fantasies had a sustained impact: they resulted in poorer accomplishment in terms of lower mastery of everyday challenge, as reported at the end of the week. Poorer accomplishment in positive fantasy participants was mediated by feelings of low energization right after the experiment.

Finally, Study 4 indicated that positive fantasy effects on energy apply particularly when the fantasies pertain to a pressing need. We supplanted the need for achievement in one of two groups of student participants, and had them positively fantasize about academic success or about drinking. Only the fantasy that addressed the presently pressing need resulted in a decrease in SBP: a high exam grade for participants in whom the need for achievement was allowed to surface because they were not thirsty, consuming water for those in whom the need for achievement was superseded by the need for water.

We utilized several indicators to address the possibility that the positive fantasy manipulations were easier or less aversive than the control fantasy manipulations. If the positive imagery were easier to generate, participants should have spent less time doing so; if it were less aversive, they should have spent more time doing so. However, time spent on the manipulation did not differ when it was measured in Study 2. Measuring and statistically adjusting for feelings of irritation after the manipulation did not change the results in Studies 2 and 3, suggesting that the control and fantasy manipulations were not differentially aversive. Finally, participants in Study 4 reported no differences in the ease of imagining either version of the manipulation. It seems that fantasy effects on energy are not merely side effects of the manipulation itself.

The present experiments support a causal relationship between positive fantasies about desired futures and low energy devoted to their realization. These findings build on previous research, which has either used correlational designs with self-rated positivity of fantasies as a predictor (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991), or has induced positive mental images in participants pre-selected for individual differences (Langens & Schmalt, 2002; Showers, 1992; Spencer & Norem, 1996). These findings indicate that engaging in fantasies that depict an idealized future, even during a brief

experimental manipulation, has a detrimental effect on energization. Although future research might address whether this pattern is accentuated for certain groups of people (those high in fear of failure, defensive pessimists, etc.), our findings held for student participants in general.

To date, research has largely focused on factors that increase energization rather than on those that decrease it. For example, SBP is increased by evaluation from a high-status other (Wright, Killebrew & Pimpalpure, 2002), induced positive mood while working on a difficult task or induced negative mood while working on an easy task (Gendolla & Krüsken, 2002), completing a difficult task prior to a similar easy one (Wright & Penacerrada, 2002), or the combination of high ego-involvement with task difficulty (Gendolla & Richter, 2006). The present studies found that positive fantasies decreased energy more than questioning, negative, or neutral fantasies. Thus, future research on energy and achievement might address other factors that decrease energy, in addition to factors that increase it.

Previous research indicated that needs influence the content of people's thoughts and mental images (McClelland, Clark, Roby, & Atkinson, 1949). For example, as hunger increased, people were more likely to generate stories where food was the central theme and where the need for food was mentioned (Atkinson & McClelland, 1948). However, these early studies did not speak to the effect of such fantasies on energy to address the need. In the present Study 4, positive fantasies that depicted satisfaction of a pressing need resulted in low energy. Fantasies that depict need satisfaction as uncertain or as hindered by obstacles should be experienced less positively, but may muster the energy needed to address the deficit. On the other hand, when needs cannot be satisfied in actuality (such as when thirsty people are not given an opportunity to obtain water), satisfying them in fantasy may be adaptive in terms of decreasing arousal so that one can focus on immediate tasks. It is interesting to note that Freud (1923/1961) made a similar suggestion, proposing that the energy of the id (basic, primitive instincts) could be discharged either through consummatory actions or through fantasy, which would be experienced as pleasurable.

Although positive fantasy hampers subjective feelings of energization like excitement and enthusiasm, it can elevate low-energy positive affect – feelings like relaxation and contentment (e.g., Mellalieu, Hanton, & Thomas, 2009; Sheldon & Lyubomirsky, 2006; Tiggemann, Polivy, & Hargreaves, 2009). Thus, when relaxation is the aim, positive fantasy is beneficial. For example, induced visions of future success are successfully used to counteract anxiety and stress in a variety of patient groups, including people being treated for eating disorders (Shapiro et al., 2008), children with anxiety disorders (Wilde, 2008), and pregnant women at risk of early delivery (Jallo,

Bourguignon, Taylor, & Utz, 2008). However, because effortful pursuits require energy and action, positive fantasies are disadvantageous for achievement of such pursuits.

Future research should investigate the level of task difficulty and required energy that modulates the detrimental effects of positive fantasies on achievement. In simple tasks requiring little energy, positive fantasies may actually increase achievement, simply by making easy action and outcomes mentally accessible. For example, this was the case for such easy tasks as returning a pre-paid postcard or accepting a free trial of cable television (Gregory, Cialdini, & Carpenter, 1982). Manipulating task difficulty would also provide insight into whether positive fantasies affect the level of justified energy (i.e., the amount of energy people are willing to exert) as well as the level of mobilized energy. These constructs have been distinguished in studies based on motivation intensity theory (Brehm & Self, 1989), which find that mobilized energy may diverge from justified energy, depending on the difficulty of the task (Wright, 2008). Following this line of reasoning, the present studies cannot speak to whether positive fantasies change the level of energy that people would be willing to exert, because the present studies left task difficulty unspecified. It may be that by allowing the mental enjoyment of a desired future, positive fantasy leaves people willing to exert less effort in pursuit of this future, as well as with relatively little energy mobilized. Future research could shed light on these questions.

Generally speaking, energy facilitates the accomplishment of difficult tasks. The present four studies indicate that positive fantasies about an idealized future diminish energy, which should hamper achievement on such tasks. Although it is tempting to believe that simple positive visions can engender actual success, this belief is not always justified. Instead of promoting achievement, positive fantasies will sap job-seekers of the energy to pound the pavement, and drain the loveborn of the energy to approach the one they like. Fantasies that are less positive – that question whether an ideal future can be achieved, and that depict obstacles, problems, and setbacks – should be more beneficial for mustering the energy needed to attain actual success.

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