

## Research article

# Positive fantasies predict low academic achievement in disadvantaged students

HEATHER BARRY KAPPES<sup>1\*</sup>, GABRIELE OETTINGEN<sup>1,2</sup> AND DORIS MAYER<sup>2</sup>

<sup>1</sup>Psychology Department, New York University, New York, USA; <sup>2</sup>Department of Psychology, University of Hamburg, Hamburg, Germany

### Abstract

*Unlike other forms of positive thinking (e.g., expectations), research finds that positive fantasies (experiencing one's thoughts and mental images about the future positively) predict low effort and little success in several domains. However, for vocational education students of low socioeconomic status and minority ethnicity, for whom the present environment is especially difficult, perhaps it would be appropriate to indulge in positive fantasies that depict the future as bright and easily attained. Three studies show that this is not the case. Positive future fantasies measured early in the program predicted more days absent (Studies 2–3) and lower grades at the end of the program (Studies 1–3), even when adjusting for initial academic competence, expectations of successful achievement, and self-discipline. Expectations of successful achievement predicted fewer days absent and higher grades only when measured midway through the school year, once participants had experience with their own academic standing (Study 3). Results indicate that positive fantasies, which allow people to indulge in images of a bright future, predict poor achievement even in vocational students immersed in a particularly difficult environment. Copyright © 2011 John Wiley & Sons, Ltd.*

Most people have associations to the word “fantasy” that are distinctly positive—daydream, fancy, hope, desire, castle in the sky, flight of the imagination. Positive fantasies are the causes of some of people’s richest and most embellished experiences, so it’s not surprising that the human mind is designed to have them plentifully. In their fantasies, people gather figures from film and fiction, experiences of friends and family, and far-removed aspects of the world in an attempt to adorn their present with non-existent but potentially implementable bounty. This bounty makes the world more pleasant and the hardships more bearable, and one might think that the ability to fantasize has allowed humans to thrive. However, one may also argue that these embellished fantasies, while good for the moment, in the long run hamper effort and success by seducing people to experience mentally rather than achieve in actuality.

In line with this latter idea, Oettingen and Mayer (2002) argued that positive fantasies allow people to mentally experience a desired future in the present, which yields little motivation to take action and invest effort toward achieving this future. Indeed, a series of studies testing this idea showed that positive fantasies predict poor achievement in domains including health and interpersonal (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991) as well as academic (introductory psychology grades for university students, Oettingen & Mayer, 2002, Study 3). The studies reported here build on this research and investigate whether positive fantasies would also predict poor achievement for disadvantaged students who have

enrolled in vocational school in order to advance their education and improve their career prospects.

### Positive Fantasies

When it comes in the form of expectations, or beliefs about the likelihood of a future event, positive thinking can be very beneficial. Ample evidence indicates that expecting future success is associated with achievement in school (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Caprara, et al., 2008; Pajares & Johnson, 1996), as well as with productive intellectual functioning and good mental health (Taylor & Brown, 1988). Expectations can refer to the likelihood of performing a given behavior in a certain context (i.e., self-efficacy expectations; Bandura, 1997), the likelihood of this behavior leading to a desired outcome (i.e. outcome expectations, instrumentality beliefs; Bandura, 1997; Vroom, 1964), the likelihood of a particular event occurring (i.e., general expectations, Heckhausen, 1991; Oettingen & Wadden, 1991, Reed, Kemeny, Taylor, & Visscher, 1999), or the likelihood of the future in general being positive or negative (i.e., generalized expectations such as optimism; Scheier, Carver, & Bridges, 1994). People base these judgments about future likelihood on what they or relevant others have experienced in the past (Bandura, 1997; Mischel, Cantor, & Feldman, 1996; Roese & Sherman, 2007; Usher & Pajares, 2006). Thus, expectations represent a solid foundation for action, and when success is expected, people feel capable of

\*Correspondence to: Heather Barry Kappes, Department of Psychology, New York University, 6 Washington Place, 7th Floor, New York, NY 10003.  
E-mail: heather.barry@nyu.edu

and are motivated to invest effort in pursuit of a desired future (Bandura, 1997; Pajares, 2003). Importantly, even when expectations of success are biased or illusory, because they refer to beliefs about what will happen in reality, they foster motivation and task persistence and lead to more successful outcomes (e.g., illusory optimism, Taylor & Brown, 1988).

The same is not true for fantasies, which we define in line with Oettingen and Mayer (2002) as the thoughts and mental images about the future that freely occur in the mind's eye. As discussed by Klinger (1990, 1996), who called them *daydreams*, such thoughts pertain to currently important concerns in one's life, including thoughts about instrumental activities to attain a desired future. Whereas expectations are assessed by asking participants to indicate the perceived likelihood of a given future, fantasies are assessed by projective measures that allow the participant to generate and describe idiosyncratic content in response to various stimuli (McClelland, 1985).

Fantasies are not magical thinking (in which people imagine events that violate the laws of nature; Nemeroff & Rozin, 2000)—for example, the fantasies of a student with an important upcoming exam might be about earning an A with relatively little studying rather than watching the correct answers appear on the exam in front of her as if written in temporarily invisible ink. However, fantasies are largely independent of past experience. In their fantasies, people imagine, elaborate, and embellish future events without being constrained by past experience or by future likelihood (Klinger, 1990, 2009; Singer, 1966). That is, the student with the upcoming exam could fantasize about herself earning an A even if her previous tests have yielded lower grades. Thereby, positive fantasies allow people to mentally experience a favorable future in the present, while concealing the fact that effort must be invested if this future is to be achieved (Oettingen & Mayer, 2002).

Indeed, the induction of positive fantasies promotes relaxation rather than energization, as captured by subjective feelings as well as objective physiological measures (i.e., a decrease in systolic blood pressure; Kappes & Oettingen, 2011). Apparently, positive fantasies disguise the need to exert the effort necessary to achieve the desired future. Further, careful planning (Gollwitzer, 1999; Taylor, Pham, Rivkin, & Armor, 1998) which, in turn, makes goal achievement more likely, is hampered by positive fantasies about a trouble-free path to success. Content analysis indicates “positively experienced fantasies entail descriptions of perfect futures that are effortlessly achieved, whereas comparatively more negatively experienced fantasies question a perfect future and its unencumbered realization” (Oettingen & Mayer, 2002, p. 1208). That is, in fantasies that are experienced positively (rather than negatively), people neither question whether a desired future can be achieved nor imagine that the path to the desired future may contain obstacles, setbacks, pain, or effort (Oettingen & Mayer, 2002, Study 4). Accordingly, such fantasies should hinder the obstacle-directed planning (Gollwitzer, 1999; Taylor, et al., 1997) that makes goal achievement more likely.

Indeed, for defensive pessimists (Norem & Cantor, 1986), who prefer to anticipate difficulties as a preparation strategy, experimentally induced positive images of possibilities for a social interaction led to less effort and worse performance in getting to know somebody than induced negative images (Showers, 1992). Those who had positive images used fewer

confidence-building strategies than those who elaborated negative images, suggesting that the positive imagery interfered with preparation and planning. Similarly, 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). Mental imagery that depicted a less idealized vision of the future yielded better preparation and translated into more success.

### Positive Fantasies and Achievement

Testing the ideas outlined above, a series of studies showed that fantasies about a successful future predict low effort and relatively little success (Oettingen & Wadden, 1991; Oettingen & Mayer, 2002). In these studies, fantasies were measured from 2 weeks to 2 years before assessing effort and success, using semi-projective techniques tapping participants' thoughts and images about their future achievements. One such study directly addressed academic achievement: right before their mid-term exam, college students enrolled in an introductory psychology class completed (in writing) a scenario that depicted them as being on their way to the building in which the course grades were posted (Oettingen & Mayer, 2002, Study 3). Thereafter, participants rated the experienced positivity/negativity of the reported thoughts and images. Achievement was measured by change of course grades from mid-term (when expectations and fantasies were assessed) to the final exam. In line with the ideas presented above, more positive fantasies were associated with a decrease in course grades over time, and this relationship was mediated by less studying, lower reported study effort, and less extra-credit work completed. Thus, for university students, positive fantasies predict little effort and relatively poor academic achievement; the present research asks whether this would also be the case for disadvantaged vocational students.

### Economic and Social Disadvantage and Vocational Education

Vocational students are different from traditional university students. They differ in terms of both person variables and situation variables, which might mean that for them, positive fantasies would have a different relationship to academic achievement. Vocational students generally, as well as those in the present studies, tend to be people with low socioeconomic status (SES) and minority ethnicity. Low SES—in itself as well as combined with the lack of early English proficiency that can accompany minority ethnicity—is a strong predictor of less academic success (Kieffer, 2008). One study on fantasy play suggested that fantasy might be an effective way to improve the social and cognitive development of socially and economically disadvantaged children (Saltz & Johnson, 1974); although this research utilized role enactment of imaginary stories rather than visions of the self in the future, others have argued that the achievement of those with such disadvantages might be constrained by a lack of positive future self imagery (Day, Borkowski, Punzo, & Howsepian, 1994). Thus, there is some suggestion that for vocational students who have economic and social disadvantages, it might be appropriate to indulge in positive fantasies that depict the future as bright and easily attained.

Furthermore, as Taylor, Repetti, and Seeman (1997) pointed out, low SES and minority ethnicity are contextual factors that influence the physical and psychological environments where people live, work, and interact. Low SES and minority ethnic group membership increase the likelihood that people live in chronically stressful environments, characterized by low-quality, high-density housing, in high-crime areas, with less access to shops, health-care services, and transportation (Adler, Marmot, & McEwen, 2000; Power, Stansfeld, Matthews, Manor, & Hope, 2002). Low SES and minority ethnic group membership can also mean that people are subjected to negative stereotypes (Cozzarelli, Wilkinson, & Tagler, 2001), suffer adverse mental and physical health (Taylor, Lerner, Sage, Lehman, & Seeman, 2004), and have fewer social support resources (Huurte, Eerola, Rahkonen, & Aro, 2007). Taylor, et al. (1997) summarized the situation as: "The lower one is on the SES continuum, the greater the amount of hassle and time needed to address the basic tasks of living" (p. 419). Although indulging in fantasies about a wonderful future cannot help people prepare for these extra difficulties, perhaps it would facilitate coping with the added stress (Holahan & Moos, 1987) and therefore not necessarily predict low effort and achievement.

On the other hand, when the environment poses difficulties on the road to success, and successful performance is vital, as is the case for people with economic and social disadvantages, mastering daily tasks demands a great deal of effort. Such effort is particularly demanded from those in vocational school. Vocational school achievements such as good grades translate into jobs with higher salaries, access to more employer-paid benefits, and new supportive social ties (Kates, 1996; Smith, Wittner, Spence, & Van Kleunen, 2002; van der Veen & Preece, 2005), but these achievements are complicated by the difficult environment. Because positive fantasies predict relatively little effort and action, they might be inversely related to achievement in disadvantaged vocational students, just as is the case in relatively advantaged university students. We conducted three studies to investigate the role of positive fantasies for academic achievement in disadvantaged students.

### Study 1

Participants were disadvantaged men in a city-run tuition-free vocational school in Hamburg, Germany. According to the Organization for Economic Development and Cooperation's Programme for International Student Assessment (OECD, 2000) report, Germany has one of the highest levels of inequity in school achievement between students of different backgrounds. Vocational schools like the one investigated here are designed specifically for unemployed school dropouts, and offer them the chance to complete a first school degree and subsequently receive the license to apply for a trade apprenticeship. Many students are first-generation immigrants, a factor specifically associated with poor academic achievement in Germany (Ammermueller, 2007). Low SES and immigrant status shape a stressful environment that is accompanied by additional disadvantages. For example, students speak German, but many are not proficient at writing German, offering another barrier to academic achievement.

We approached the men in the fourth week of classes to measure their expectations of success in the program and the positivity of their school-related fantasies. Nine months later, at the end of the program, we recorded their final grade point average (GPA). As a baseline measure of academic achievement, we also recorded and controlled for midterm GPA (4 months after the assessment of expectations and fantasies).

## METHOD

### Participants and Procedure

Participants were 72 men who completed the one-year vocational program in Hamburg described above. They participated without monetary reward. Their mean age was 16 years ( $SD=0.95$ ), ranging from 15 to 20 years. Country of origin was 53% Germany, 12% Turkey, 11% South Asian countries, 11% Eastern European countries (Russia, Poland, etc.), 8% former Yugoslavia, 4% other European Union countries, and 1% African countries. Forty-eight per cent identified a language other than German as their native language.

The study was conducted during class time. Teachers introduced the researchers to each class of students, who were told that researchers were interested in the everyday thoughts and daydreams of people in school and were given an overview of the study procedure. Once participants had given informed consent, they received the questionnaires, which were read aloud to them. Questionnaires were labeled with code numbers and to assure confidentiality, participants did not write their names anywhere on the questionnaire; one list matching names with code numbers was maintained by researchers and used only to match GPA later in the year.

### Measuring Achievement Expectations and Fantasies

Vocational schools in Germany have a minimum GPA that must be reached in order to graduate from the program. Therefore, to measure expectations of successful achievement, we asked, "How likely is it that you will graduate?" The response scale reached from 1 (*not at all*) to 7 (*very*).

In line with previous research (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991), achievement fantasies were measured by asking participants to imagine themselves as the main character in two scenarios. The scenarios were incomplete and the students had to fantasize each to its completion, writing down its individual ending. Specifically, the instructions read: "Imagine yourself in this situation. Complete the story, writing down all the thoughts and images that come to mind." The first scenario read: "We took a test in class and I do not know how well I did. Now, the teacher is returning the test, and I . . ." After imagining the scenario and writing down their thoughts and images, participants responded to the following question: "How do these thoughts and images make you feel?" They responded using a bipolar scale depicting five faces, reaching from a very sad face (1) to a very happy face (5). The second scenario read: "I did my homework, but I don't know whether it is right. The teacher calls on me and I say . . ." We computed the mean of the two bipolar scales ( $\alpha = .55$ ).

For example, one participant wrote down: "The teacher says, 'Your work is really wonderful, and you're getting an A.'" The participant rated these thoughts with the very happy face (5), the most positive response possible. Another participant generated negative thoughts to the scenario: "My grade is very bad. I tell my mother, and she says, 'Next time you have to practice more.'" The participant rated his fantasies with the slightly sad face (2).

### Dependent Variable: Final Grade Point Average

At the conclusion of the program (9 months later), we obtained participants' final GPAs from the school records. As a baseline measure of academic achievement, we also obtained the midterm GPA (both ranged from 1 to 6 on a 1 to 6 scale).

## RESULTS

### Descriptive Analyses

The mean score for fantasies ( $M=3.54$ ,  $SD=0.92$ ) indicated that participants had more positive than negative fantasies. Expectations were high ( $M=5.63$ ,  $SD=1.11$ ). They were not significantly correlated with fantasies ( $r=.09$ ). Both final and midterm GPAs were in the middle of the 1 to 6 scale (final GPA  $M=3.18$ ,  $SD=1.02$ ; midterm GPA  $M=3.57$ ,  $SD=0.83$ ).

### Fantasies and Expectations Predict Grade Point Average

Regression analyses with final GPA as dependent variable and midterm GPA, expectations of success, and positive fantasies as independent variables showed that positive fantasies predicted a lower final GPA,  $\beta = -.17$ ,  $p = .03$ . Expectations of success were not related to final GPA,  $\beta = .07$ ,  $p = .34$ . We entered the interaction between expectations and fantasies in a second step, and the interaction coefficient was not significant,  $p = .75$ , indicating that the negative relationship between positive fantasies and achievement applied to students with low and high expectations alike.

## DISCUSSION

Study 1 showed that positive fantasies predicted poor academic achievement for vocational students. Even in students faced with economic and social disadvantages, more positive fantasies about achievement in school predicted a lower GPA at the end of the school program, and this finding emerged even when controlling for baseline achievement in the form of midterm grades. However, there were aspects of the sample that may limit the generalizability of the findings. Although the students undeniably faced economic and social disadvantages, they were all teenaged men enrolled in one German school. Therefore, Study 2 targeted disadvantaged women with a wider age range at an American vocational school, to replicate the results across gender, age, and culture.

In Study 2, we refined the way we measured expectations, fantasies, and achievement. In Study 1, expectations about success in school did not predict GPA. This is different from

previous research, in which expectations of success were positively correlated with the same indicators of achievement that positive fantasies were negatively correlated with (Oettingen & Mayer, 2002; Oettingen & Wadden, 1991). It is conceivable that the Study 1 measure of expectations, the perceived likelihood of achieving a GPA sufficient to graduate from the program, was too vague. Perhaps this measure did not predict achievement because it did not capture students' more nuanced expectations about academic achievement. In Study 2, we refined the measure to be more specific and more sensitive, and therefore provide a more stringent test of the predictive power of expectations.

Additionally, in Study 2 we measured the experienced positivity of fantasies using not a bipolar scale, but two scales, one positivity scale and one negativity scale. In previous research on fantasies, bipolar scales and separate positive and negative scales yielded the same results, suggesting that both the presence of positive thoughts and the absence of negative thoughts influence the relation of fantasies to motivation and achievement (Oettingen & Mayer, 2002). We included both of these scales in Study 2 in order to better capture variability in participants' ratings.

Another measurement change in Study 2 regarded the timing and nature of the achievement measure. In Study 1, we utilized midterm GPAs in order to adjust for an academic achievement baseline. However, because midterm GPAs were issued a few months after the initial data collection, the academic baseline was not measured at the same time as fantasies and expectations, which was a limitation of Study 1. We addressed this point in Study 2 by recording scores on a pre-admissions test (which coincided with the measurement of fantasies and expectations) to serve as an academic baseline. Moreover, in Study 2 we obtained an objective measure of effort, school attendance. Although showing up for class is only one indicator of effort invested in school—others could include extra studying at home, seeking help from teachers or classmates, or completing extra-credit assignments—attendance is especially appealing because it can be measured objectively (i.e., from school records rather than self-report). Therefore, we investigated whether this indicator of effort would mediate the relationship between positive fantasies and poor achievement.

Further, in Study 2 we went beyond the previous research to test whether these results would be present over and above another variable that is related to academic achievement. Next to expectations, self-discipline is one of the most examined predictors of achievement. The correlation between self-discipline and GPA was twice as large as that between IQ and GPA in one longitudinal sample of junior-high-school students (Duckworth & Seligman, 2005); in college, students' self-discipline was the only one of 32 personality variables that predicted GPA better than SAT scores (Wolfe & Johnson, 1995). Self-discipline is especially interesting for the present samples because previous research has linked low SES to poor self-discipline (Mischel, 1974). In Study 2, we asked whether the lower achievement seen in vocational students with more positive fantasies would be present over and above differences in self-discipline.

### Study 2

Study 2 was conducted with students enrolled in a tuition-free Business Skills training program for women in New York City.

These women are of low SES and primarily ethnic minorities; many are also first-generation immigrants. As with the students in Study 1, SES and ethnic group membership can be seen as contextual factors contributing to a stressful environment conferring economic and social disadvantages (Taylor, et al., 1997). For example, many of the students are single mothers who have been out of work. The school enrolls women receiving government assistance and trying to find a job, women currently working in low-paying jobs (e.g., fast-food, retail), and recent high-school graduates seeking skills training. Thus, the students' age range is much larger than that at the German school. The school program is also shorter, at 4.5 months rather than 10 months.

The New York school only issues grades at the end of the program. However, students take a pre-admissions test measuring basic academic and computer skills similar to those taught in the program. We used this test as a baseline measure of academic competence. As an objective indicator of effort, we also recorded attendance in the program.

## METHOD

### Participants and Procedure

Participants were 76 women who completed the Business Skills Program at a non-profit vocational education school in New York City and agreed to release their grades and attendance records. They participated without monetary reward. Their mean age was 35 years ( $SD = 11.90$ ), ranging from 17 to 62. Ethnicity was 43% African or African American, 18% Hispanic or Latina, 21% Caucasian or European American, 5% Asian or Asian American, 4% other minority, and 8% did not indicate.

Data were collected during one class period as part of a larger study.<sup>1</sup> Teachers or school administrators introduced the researchers to each class of students. They then left the room for the duration of the study to ensure they would not know which students consented to participate. The students were told that researchers were interested in the thoughts and ideas of students in the program, and were given an overview of the study procedure. Participating students signed the informed consent document and took a questionnaire packet. Those who did not consent to participate worked quietly on other tasks. The procedure described in Study 1 was used to assure confidentiality.

### Predictor of Achievement: Self-discipline

Self-discipline was measured with the 13-item Brief Self-Control Scale (Tangney, Baumeister, & Boone, 2004). Sample items include, "I am good at resisting temptation," and "Pleasure and fun sometimes keep me from getting work done" (reverse-coded). Because pilot work suggested that the students found a five-point response scale easier to understand, the questionnaire was given with a response scale ranging from 1 (*not at all*) to 5 (*very much*) rather than the seven-point response scale the

original authors utilized. The 13 items were summed to make an overall self-discipline score ( $\alpha = .83$ ).

### Measuring Achievement Expectations and Fantasies

We obtained separate measures of expectations about GPA and attendance, and we allowed participants to first indicate their own standard for success with regard to each. We first asked participants, "How well do you want to do as a student in the Business Skills Program?" The response scale ranged from D to A+. To measure GPA expectations, participants were then asked, "How likely is it that you will achieve the grade you marked above?" The response scale ranged from 1 (*likely*) to 5 (*very likely*); the low endpoint was labeled with *likely* following results of pilot testing. We measured attendance expectations the same way, first asking, "How good do you want your attendance in the Business Skills program to be?" with a response scale ranging from *Sometimes absent or late* to *Never absent, always on time*. As the measure of attendance expectations, participants were then asked, "How likely is it that you will achieve the attendance you marked above?" As with GPA expectations, the response scale ranged from 1 (*likely*) to 5 (*very likely*).

To measure achievement fantasies, participants were given the first several lines of four scenarios referring to being a student in the Business Skills program (see Appendix), and asked to imagine themselves in the situation and write down all the thoughts and images that came to mind. After writing about each scenario, they answered two questions, "How positive were your thoughts and images?" and "How negative were your thoughts and images?" The response scales ranged from 1 (*not at all positive/negative*) to 5 (*very positive/negative*). Negativity and positivity ratings on the four scenarios were significantly negatively correlated,  $r = -.87$ ,  $p < .001$ , so the negativity rating was subtracted from the positivity to create a sum score, and the four scenarios were combined to make an overall index score (with an observed range of  $-9$  to  $16$ ;  $\alpha = .63$ ).

### Dependent Variables: Grade Point Average and Attendance

Final GPAs (ranged from 1.17 to 4.05 on a scale of 0 to 4.05) and attendance (days absent ranged from 0 to 24) were obtained from school records at the conclusion of the program 4.5 months later. Scores on the pre-admissions test of academic and computer skills were also recorded (ranged from 3.3 to 12.9 on a scale of 0 to 13), as a baseline measure of academic competence.

## RESULTS

### Descriptive Analyses

Just as in Study 1, fantasies were more positive than negative ( $M = 9.00$ ,  $SD = 6.07$ ). Expectations of success were high (GPA expectations  $M = 4.03$ ,  $SD = 1.06$ ; attendance expectations  $M = 4.33$ ,  $SD = 0.89$ ) and were uncorrelated with positivity of fantasies ( $r_s < .17$ ,  $p_s > .16$ ). Positivity of fantasies was related to higher self-reported self-discipline ( $M = 47.49$ ,

<sup>1</sup>A portion of the data described in Study 2 is also presented in Kappes, Stephens, and Oettingen (2011), which investigates how implicit theories of intelligence shape the self-regulatory function of positive fantasies.

$SD=9.13$ ;  $r=.41$ ,  $p<.001$ ). The two expectation items were correlated with each other ( $r=.48$ ,  $p<.001$ ) but not with self-discipline ( $rs<.17$ ,  $ps>.16$ ).

Admissions test scores ( $M=9.76$ ,  $SD=2.38$ ) were recorded to adjust for baseline academic competence. These scores were correlated with final GPA ( $M=2.77$ ,  $SD=0.63$ ;  $r=.44$ ,  $p<.001$ ). Attendance ( $M=4.71$  days absent,  $SD=5.06$ ) was measured as an indicator of effort in the program. It was correlated with GPA ( $r=-.39$ ,  $p=.001$ ), but not with admissions test scores ( $r=.08$ ,  $p=.49$ ). Finally, unlike in Study 1, the sample had a wide age range, and age was significantly correlated with both higher GPA ( $r=.36$ ,  $p=.002$ ) and fewer days absent ( $r=-.30$ ,  $p=.009$ ), but not with admissions test scores ( $r=-.07$ ,  $p=.56$ ). Analyses below thus adjust for age, because it was independently related to achievement.

### Fantasies and Expectations Predict Grade Point Average and Attendance

To predict GPA, admissions test scores, age, and self-discipline were entered in the first step of a regression analysis, and fantasies and expectations in the second step. As in Study 1, positive fantasies predicted lower GPA ( $\beta=-.27$ ,  $p=.02$ ); expectations of obtaining one's desired GPA did not predict GPA ( $\beta=-.08$ ,  $p=.43$ ; see Table 1).

To predict attendance, age and self-discipline were entered in the first step, and in the second step fantasies and expectations. Positive fantasies predicted more days absent from the school program ( $\beta=.25$ ,  $p=.04$ ).<sup>2</sup> Expectation of obtaining one's desired attendance was not related to days absent ( $\beta=-.13$ ,  $p=.26$ ; see Table 1). Self-discipline did not significantly relate to GPA or attendance (see Table 1). For analyses predicting both GPA and attendance, we entered the interaction between fantasies and expectations in a third step. The interaction coefficients were not significant,  $ps>.25$ .

### Attendance as a Mediator of Grade Point Average

When days absent were added to the regression equation in which fantasies and expectations predicted GPA, days absent were significantly related to GPA ( $\beta=-.32$ ,  $p=.001$ ). Positive fantasies were now only marginally significant ( $\beta=-.19$ ,  $p=.07$ ). Combined with the fact that days absent were initially significantly related to GPA, this fulfills the mediation criteria outlined by Baron and Kenny (1986). We used a bootstrap test (Preacher & Hayes, 2008) to assess the indirect effect of positive fantasies on GPA via attendance, adjusting for admissions test scores, age, and self-discipline. Although the 95% confidence interval for the indirect effect contained 0, the 90% confidence interval did not,  $-.021$  to  $-.0008$ , indicating that there was a marginally significant indirect effect of positive fantasies on GPA through attendance. Those with more

Table 1. Standardized regression coefficients predicting academic achievement in Study 2 and Study 3

Predictor	Final GPA		Days absent	
	Study 2	Study 3	Study 2	Study 3
Entered in Step 1				
Admissions test score	.41**	.37***		
Age	.40***	.33**	-.25*	-.33**
Self-discipline	.06	.16	-.18	-.07
Entered in step 2				
Fantasies	-.27*	-.23*	.25*	.22*
Expectations	-.08	.39***	-.13	-.47***
$R^2$	33.3%	28.0%	12.1%	35.8%

Note: All  $\beta$  coefficients represent Step 2 values. In Study 2, two participants have missing data for grade point average expectations.

\* $p<.05$ ;

\*\* $p<.01$ ;

\*\*\* $p<.001$ .

positive fantasies missed more school, and this tended to explain their lower final GPAs.

## DISCUSSION

In a sample of different culture, gender, and age, we replicated the findings of Study 1 that positive fantasies predict poor academic achievement over time in disadvantaged vocational students. Positive fantasies also predicted more days absent, an objective indicator of low effort invested in the school program. These relationships were present even when adjusting for two other factors related to achievement: self-discipline and age. These findings extend previous research by showing that positive fantasies predict achievement beyond self-reported self-discipline and beyond developmental characteristics related to age (e.g., age-related cognitive and emotional skills; Eisenberg, Fabes, & Spinrad, 2006; Kuhn, 2006).

In spite of their economic and social disadvantages, participants in Studies 1 and 2 reported very high expectations of academic success. However, expectations did not predict achievement, even when using a measure (Study 2) that tapped separate, nuanced expectations about successfully achieving a desired GPA and attendance record. Extensive research on academic achievement finds that expectations of success predict achievement (e.g., standardized tests, course grades, solving intellectual tasks, application of learning strategies; Caprara, et al., 2008; Pajares & Johnson, 1996; Schunk, 1989; Zimmerman & Martinez-Pons, 1990; summaries by Bandura, 1997; Multon, Brown, & Lent, 1991). Likewise, in previous research distinguishing expectations from fantasies, higher expectations of success were related to better course grades and more time studying for university students (Oettingen & Mayer, 2002). However, this research has been done with students (whether in elementary school, high school, or college) who have sufficient experience in their academic setting to be able to estimate their future chances of success based on their past performance. More specifically, expectations and achievement are reciprocally determined (Bandura, 1978), as strong expectations of success lead to successful achievement, and successful achievement strengthens expectations of future success (Bandura, 1997; Mischel, et al., 1996; Roese & Sherman, 2007).

<sup>2</sup>To verify that both the presence of positivity and the absence of negativity predicted low achievement, we repeated the analyses twice, once with just the sum of the positivity scales as predictor, and a second time with just the sum of the negativity scales as predictor. The summed positivity scale predicted a lower GPA,  $\beta=-.26$ ,  $p=.02$ , and more days absent,  $\beta=.25$ ,  $p=.04$ . The summed negativity scale predicted a higher GPA,  $\beta=.25$ ,  $p=.03$ , and fewer days absent,  $\beta=-.23$ ,  $p=.07$ , although the latter relation was marginal. These findings replicate the results of Oettingen and Mayer (2002, Study 4).

In Studies 1 and 2, measures were taken at the beginning of a school program, and when transitioning into a new learning environment, as is the case for students starting a vocational program, expectations may be more ephemeral (Könings, Brand-Gruwel, van Merriënboer, & Broers, 2008). The measure comes before participants have collected much experience with this school program; indeed, many participants had not been students for years or decades. With little or no experience on which to base expectations, expectancy judgments may be simply a guess without much confidence to back it up (Gilovich, Kerr, & Medvec, 1993; Shepperd, Ouellette, & Fernandez, 1996). Therefore, in Study 3 we asked whether a measure of expectations taken later in the school year, after participants had some experience on which to base their judgments, would predict achievement.

In addition to expectations, self-discipline typically predicts a higher GPA (Duckworth & Seligman, 2005; Wolfe & Johnson, 1995), but it did not in Study 2. We speculated that perhaps as with expectations, perceived self-discipline would be related to achievement once participants had experience utilizing their self-discipline skills in the academic setting. However, it was also conceivable that even an experience-based measure of self-discipline would not be related to achievement in the present sample. For these adult students, unforeseen obstacles often crop up during the school year—for example, they may face eviction or custody challenges while enrolled in the school program. These obstacles make achievement more challenging, and even optimal self-discipline may not be enough to compensate. With this in mind, in Study 3 we measured perceived self-discipline later in the school year (at the same time as expectations and fantasies), to see whether it would now predict achievement. We were particularly interested in whether positive fantasies would still predict lower GPA and more days absent over and above self-discipline measured at this point in the program.

### Study 3

For Study 3, we returned to the Business Skills training program where Study 2 was conducted. As in Study 2, participants were women of low SES and primarily ethnic minorities, facing many economic and social disadvantages. This time, we approached the students approximately 3 months into the 4.5-month vocational school program. After 3 months, the students had completed tests and assignments that yielded feedback from instructors. This experience should provide a foundation on which to base expectations of success. The women had also had the opportunity to evaluate their self-discipline skills, as they were supposed to attend class regularly and manage their time to keep up with assigned work. GPA and days absent from the program were recorded 6 weeks after the measurement of expectations, fantasies, and self-discipline. We expected that, as in Studies 1 and 2, positive fantasies would predict lower GPA and more days absent; in contrast to those studies, expectations of success might now predict higher GPA and fewer days absent.

## METHOD

### Participants and Procedure

Participants were 70 women who completed the Business Skills Program at the same New York City vocational education

school as in Study 2 and agreed to release their grades and attendance records. They participated without monetary reward. Their mean age was 33 years ( $SD = 11.35$ ), ranging from 19 to 61. Ethnicity was 50% African or African American, 19% Hispanic or Latina, 17% Caucasian or European American, 1% Asian or Asian American, 4% other minority, and 9% did not indicate. Again, data were collected as part of a larger study, and the procedure was the same as in Study 2, except that data were collected approximately 3 months (rather than 2 weeks) into a 4.5-month program.

### Predictor of Achievement: Self-discipline

As in Study 2, the Brief Self-Control Scale (Tangney, et al., 2004) was used to measure perceived self-discipline ( $\alpha = .76$ ).

### Measuring Achievement Expectations and Fantasies

GPA expectations and attendance expectations were measured as described in Study 2. Fantasies were also measured as described in Study 2, using scenarios 1, 3, and 4 (see Appendix). We omitted a fourth scenario that referred to taking the first big test, because participants had already taken multiple tests in the program. Just as in Study 2, positivity and negativity ratings on the scales were strongly negatively correlated,  $r = -.58$ ,  $p < .001$ , and so negativity ratings were subtracted from positivity ratings and the three scenarios were combined to form a fantasy sum score (with an observed range of  $-6$  to  $12$ ;  $\alpha = .67$ ).

### Dependent Variables: Grade Point Average and Attendance

Final GPAs (ranged from .40 to 3.90 on a scale from 0 to 4.0) and attendance (days absent ranged from 0 to 21) were obtained from school records at the conclusion of the program, 6 weeks after the measurement of fantasies and expectations. Scores on the pre-admissions test of academic and computer skills were also recorded (ranged from 4 to 13 on a scale of 0 to 13) as a baseline measure of academic competence.

## RESULTS

### Descriptive Analyses

In many ways, the descriptive findings were similar to Study 2. Fantasies were more positive than negative ( $M = 6.01$ ,  $SD = 4.17$ ). The two measures of expectations were positively correlated ( $r = .40$ ,  $p = .001$ ), and both measures tended to be positively correlated with positivity of fantasies (GPA expectations  $r = .16$ ,  $p = .18$ ; attendance expectations  $r = .24$ ,  $p = .05$ ). Positivity of fantasies was again related to higher self-reported self-discipline ( $r = .30$ ,  $p = .01$ ;  $M = 48.80$ ,  $SD = 7.82$ ). Admissions test scores ( $M = 9.88$ ,  $SD = 2.69$ ) were correlated with final GPA ( $M = 2.30$ ,  $SD = 0.83$ ;  $r = .27$ ,  $p = .03$ ) but not with days absent ( $M = 5.01$ ,  $SD = 5.36$ ;  $r = .06$ ,  $p = .60$ ). Days absent, our indicator of effort, were negatively correlated with GPA ( $r = -.55$ ,  $p < .001$ ).

However, in other ways the descriptive findings differed from those in Study 2. Expectations were lower (GPA expectations  $M = 3.16$ ,  $SD = 1.22$ ; attendance expectations  $M = 3.54$ ,  $SD = 1.41$ ; in Study 2 GPA expectations  $M = 4.03$ ; attendance expectations  $M = 4.33$ ). Expectations were also correlated with self-discipline (GPA expectations  $r = .34$ ,  $p = .004$ ; attendance expectations  $r = .34$ ,  $p = .004$ ; in Study 2  $r_s < .17$ ).

### Fantasies and Expectations Predict Grade Point Average and Attendance

Positive fantasies predicted a lower GPA ( $\beta = -.23$ ,  $p = .05$ ) and more days absent ( $\beta = .24$ ,  $p = .03$ ).<sup>3</sup> However, in contrast to Study 2, expectations about attaining one's desired GPA predicted higher GPA ( $\beta = .39$ ,  $p = .001$ ). Expectations about attaining one's desired attendance predicted fewer days absent ( $\beta = -.45$ ,  $p < .001$ ; see Table 1). As in Study 2, self-discipline did not predict GPA or days absent (see Table 1). For both dependent variables, there were no significant effects of the interaction between expectations and fantasies ( $p_s > .53$ ); as in the previous studies, positive fantasies predicted lower GPA and more days absent for students with low and high expectations alike.

### Attendance as a Mediator of Grade Point Average

When days absent were added to the regression predicting GPA, positive fantasies were no longer significant ( $\beta = -.13$ ,  $p = .22$ ), but days absent were ( $\beta = -.44$ ,  $p < .001$ ). As in Study 2, we used a bootstrap test (Preacher & Hayes, 2008) to assess the indirect effect of positive fantasies on GPA via attendance, adjusting for admissions test scores, age, self-discipline, and expectations of success. The 95% confidence interval for the indirect effect was  $-.05$  to  $-.003$ , indicating that there was a significant indirect effect of positive fantasies on GPA through attendance. Again, students with more positive fantasies missed more school, which at least partially explained the low GPA results.

Because in this study expectations of success predicted a higher GPA, we tested whether this relation was also mediated by attendance. With attendance included in the regression predicting GPA, the coefficient for expectations was smaller but still a significant predictor,  $\beta = .23$ ,  $p = .04$ . A bootstrap test (Preacher & Hayes, 2008) controlling for age, baseline competence, and positive fantasies showed that there was a significant indirect effect of expectations on GPA through attendance, 95% confidence interval for indirect effect  $.02$  to  $.22$ . Students with higher expectations of attaining their desired GPA had better attendance, and this translated into a higher final GPA.

<sup>3</sup>As in Study 2, to verify that both the presence of positivity and the absence of negativity predicted low achievement, we repeated the analyses twice, once with the positivity scale as predictor, and a second time with the negativity scale as predictor. The positivity scale predicted a lower GPA,  $\beta = -.28$ ,  $p = .02$ , and more days absent,  $\beta = .23$ ,  $p = .05$ . The negativity scale predicted a higher GPA,  $\beta = .15$ ,  $p = .18$ , and fewer days absent,  $\beta = -.20$ ,  $p = .07$ , although the former relation was not significant and the latter was marginal. This pattern of results replicates Study 2 as well as the findings of Oettingen and Mayer (2002, Study 4).

## DISCUSSION

This study replicated the findings of Studies 1 and 2 that positive fantasies predict poor academic achievement in disadvantaged vocational students. Students with more positive fantasies midway through the vocational school program had a lower final GPA and missed more days of school. Again, these results were present even when adjusting for differences in age and perceived self-discipline.

The mean value of expectations was lower in this study than in Study 2, presumably because students had adjusted expectations to their experience in school. At the same time, students with higher expectations about achieving a desired GPA did indeed earn a higher GPA at the end of the program. In addition, students with higher expectations about achieving their desired attendance missed fewer days of school, and this indicator of effort partially mediated the relation of positive fantasies to GPA. The positive relation between expectations and achievement in Study 3 is in line with a large body of research on the predictive power of expectations (e.g., Caprara, et al., 2008; Oettingen & Mayer, 2002; Pajares & Johnson, 1996; Schunk, 1989; Zimmerman & Martinez-Pons, 1990; summaries by Bandura, 1997; Multon, et al., 1991).

In both Study 2 and 3, the relationship between positive fantasies and final GPA was no longer significant when attendance was considered, whereas attendance remained significant, satisfying the criteria for mediation provided by Baron and Kenny (1986). Moreover, a bootstrap test (Preacher & Hayes, 2008) for the mediation of GPA by attendance was marginally significant in Study 2 and significant in Study 3. The fact that attendance did not completely account for the relationship between positive fantasies and GPA is not surprising; there are ways other than attendance in which students can invest effort toward school achievement (e.g., extra studying at home, seeking help from teachers or classmates, completing extra-credit assignments). Supporting this idea, in Study 3 attendance significantly, but only partially, mediated the relationship between expectations and GPA. Thus, the present findings are in line with the argument that positive fantasies, as well as expectations, relate to academic achievement via various ways of exerting effort.

### General Discussion

In three studies with students who were largely low SES and from minority ethnic groups, positive fantasies about achievement in school predicted lower grades and more days absent from school. These students live in difficult, stressful environments, and one might speculate that such difficulties would prescribe visions of a bright future as an antidote. However, positive fantasies allow people to mentally experience a desired future in the present and conceal the fact that effort must be invested if the future is to be actually achieved; thus, positive fantasies are not the key to mastering a difficult environment. Quite to the contrary, they predicted low effort in the form of more days absent from school and poor achievement in the form of lower school grades. The present research thus indicates that the findings of Oettingen and Mayer (2002, Study 3) apply not only to the academic achievement of relatively advantaged



university students but also to the academic achievement of vocational students who have economic and social disadvantages.

The present studies extend previous findings by showing that the predictive relation between positive fantasies and low achievement is not due to other variables related to achievement. Self-discipline has been linked to success in school, but adjusting for it, as well as for age (Studies 2 and 3), positivity of fantasies continued to predict low achievement. Further, as in the earlier work (Oettingen & Mayer, 2002), there were no significant interaction effects between positive fantasies and expectations. Positive fantasies predicted lower achievement for students with low and high expectations alike.

In Study 3, expectations of success predicted higher GPA and fewer days absent from the program; this was not the case in Studies 1 and 2. The present studies thus add to previous research on expectations. Expectations are a strong predictor of achievement when they are measured after people have sufficient experience on which to base them. At other times, expectancy judgments may be guesses that are less meaningful and fail to guide effort and action. Other work has pointed out that likelihood judgments are more accurate when made closer in time to the outcome they refer to (Gilovich, et al., 1993; Shepperd, et al., 1996).

In both Studies 2 and 3, self-reported self-discipline at the beginning of the program was unrelated to final GPA and attendance. This lack of a predictive relation may be due to the unforeseen stressors that the students in these vocational schools have to deal with throughout the school year. For them, achievement reflects not only tackling schoolwork in a disciplined manner but also balancing schoolwork with a stressful environment. Because the environmental stressors are often unforeseen and/or uncontrollable (e.g., students sometimes face eviction or custody challenges while enrolled in the school program), self-discipline alone may not guarantee achievement. Future research should examine whether self-reported self-discipline will only predict academic achievement when students have relatively predictable environments that pose potentially controllable problems.

Another explanation is suggested by the positive correlation between the positivity of fantasies and self-discipline. It may be that people's self-reports of their self-discipline are informed in part by their fantasies about academic success; perhaps self-report measures are particularly susceptible to the influence of fantasies when experience is lacking, as is the case in the present samples of vocational students. This idea lends credence to the approach of measuring self-discipline not only by self-report but also by more objective indicators (e.g., teacher ratings; Duckworth & Seligman, 2005).

### Limitations of the Present Research

It is important to note that in all studies, the achievement measure was change over time. In Study 1, final GPA was adjusted for midterm GPA; in Studies 2 and 3, it was adjusted for initial academic competence. As in previous research (Oettingen & Mayer, 2002), the correlation of positive fantasies with poor achievement was seen in situations that require extended effort over a period of time. In Study 2, the academic baseline was measured at the beginning of the school program, at the same time as the measurement of fantasies and expectations.

The concurrent measurement of baseline and predictor variables in Study 2 is important, as it addresses a potential limitation of Studies 1 and 3, in which the baseline achievement measure was earlier or later than the measure of expectations and fantasies. However, these limitations are mended by the fact that the same pattern was found in Study 2, when academic baseline, expectations, and fantasies were measured virtually simultaneously.

One limitation of the present studies is the relatively low reliability of the measures of positive fantasies, which should be in part because of the use of relatively few items (two in Study 1; eight in Study 2; six in Study 3). McClelland (1985) pointed out that it is common for projective measures to show lower reliability than questionnaire measures of feelings or attitudes; even with optimal instructions, projective measures may produce reliability coefficients around .60. However, these projective measures still validly predicted behavioral outcomes (McClelland, 1985). The same is true of the semi-projective assessment of positive fantasies. Despite being diverse in content, positive fantasies predicted outcomes such as objectively assessed recovery from surgery (Oettingen & Mayer, 2002).

Low reliability raises questions about what exactly the measures of positivity of fantasies are tapping. As outlined in the introduction, Oettingen and Mayer (2002, Study 4) showed that fantasies experienced positively (rather than negatively) depict an idealized version of the future. Importantly, these positively experienced fantasies may include the attainment of desired future outcomes, as well as smooth, idealized processes of working toward these outcomes. These findings have been substantiated by recent experimental work. University student participants who had to imagine an idealized version of their upcoming week subsequently reported lower achievement (i.e., mastery of everyday challenges) than student participants who had to imagine a less idealized week (Kappes & Oettingen, 2011, Study 3). These results corroborate the argument that it is the depiction of an idealized version of the future that explains why positive fantasies predict low achievement.

However, the fact that in the present studies, the positivity of self-generated fantasies was not perfectly consistent across scenarios related to one topic (i.e., academic achievement) raises the interesting supposition that people probably vary even more widely in the positivity of their fantasies about different topics (e.g., academic achievement versus relationship success). Future research might investigate the personal and situational cues that prompt the generation of particularly positive fantasies. With regard to the present studies, it is important to note that the clear relation between positive fantasies and low academic achievement is particularly striking in light of the relatively low reliability of the predictor.

Readers might also wonder about the use of hypothetical scenarios to measure this predictor variable, because using such scenarios as a proxy for actual behavior has been criticized (Baumeister, Vohs, & Funder, 2007). However, it is important to note that in the present studies, we were not interested in how people would actually respond should they encounter such a scenario (e.g., how they would really react when having a test returned). Rather, we were interested in the positivity of the fantasies that these scenarios would elicit. As argued throughout this manuscript, these fantasies in and of themselves have consequences for motivation and achievement.

## Implications for Future Research

Our findings are in line with work by Fredrickson (2001) showing that positive affective states lead to a broader focus of attention, allowing people to imagine and explore creative possibilities rather than readying them for action. In tasks requiring effort and action, as school achievement does in the studies reported here, positive mental imagery indeed predicts lower achievement. However, the present research focuses on students who are already enrolled in school and thus does not inform us about the role positive fantasies may play earlier, when it comes to exploring the idea of enrolling in a school program. Perhaps thinking in broaden-and-build terms (Fredrickson, 2001) is important at the point when people want to mentally explore whether to return to school and embark on the path to a higher standard of living. It may be that the same fantasies that predicted poor performance in a school setting were helpful in allowing people to imagine that their lives could be different (see Day, et al., 1994). This area merits further research.

Likewise, previous research on learning indicates that there are ways in which fantasy can be used beneficially in the school context. For example, the enactment of imaginary stories may aid social and cognitive development of socially and economically disadvantaged children (Saltz & Johnson, 1974); constructing imaginary representations can be helpful for associate learning (Pressley, Symons, McDaniel, Snyder, & Turnure, 1988). Because these ways of using the imagination do not entail constructing idealized visions of future achievement, they do not contradict the present findings.

It is also possible to use negatively toned fantasies to envision and thereby prepare for future obstacles. For instance, defensive pessimism, "the strategy of setting low expectations (being pessimistic) and then thinking through, in concrete and vivid detail, all the things that might go wrong as one prepares for an upcoming situation or task" (Norem, 2008, p. 123), has been identified as a way that students can channel anxiety into goal-directed action. It would be interesting to know whether for disadvantaged students living in stressful environments, defensive pessimism would translate into the same moderate-or-better levels of performance that it predicts in high-achieving university students (Cantor & Norem, 1989; see Norem, 2008).

Helping people of disadvantaged background improve their standard of living is clearly an important task, and education is a proven way to do this (Kates, 1996; Smith, et al., 2002; van der Veen & Preece, 2005). To date, more is known about the societal factors and individual characteristics that impede successful return to education, than about how to actually help these students to succeed by equipping them with relevant self-regulatory tools. The present research suggests that positive fantasies are detrimental for achievement, which calls for strategies for making them more fruitful. One such strategy is mental contrasting (Oettingen, 2000; Oettingen, Pak, & Schetter, 2001), which translates positive future fantasies into binding goal commitments. Likewise, research on mental simulations finds that when participants are guided through imagery of the detailed steps that must be taken to achieve a goal, such as a high grade on a test, they feel less anxious about exam preparation, study more hours, and achieve higher exam grades (Pham & Taylor, 1999). Knowing how to use the valence and content of fantasies and mental imagery to

improve achievement for vocational students would mean that students are empowered to bring about their own success, rather than relying on factors that are not within their control (e.g., government funding, familial support).

## CONCLUSION

Positive thinking is often believed to be beneficial in and of itself, and it may be especially prescribed to those whose lives are in reality particularly arduous. The present three studies shed a more differentiated light on this commonly held premise. Positive fantasies about successful achievement in vocational school predicted lower grades and more days absent over the course of a school year, even in people who are economically and socially disadvantaged. Though one might think that people in such circumstances would be predisposed to benefit from positive thoughts, positive fantasies predict low effort and poor achievement on tasks that demand effort and action.

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## APPENDIX

### SCENARIOS USED TO MEASURE FANTASIES IN STUDIES 2 AND 3

1. You see an old friend who mentions that students sometimes have a hard time balancing being in school with their social and family life. She asks, “Have you had any problems with your family or friends?” You think to yourself. . .
2. You took your first test as a Business Skills Program student, and your teacher graded them last night. Now you’re sitting in class, the teacher walks in and starts to hand the tests back. She puts your test in front of you. . .\*
3. Your teacher for Business Writing assigned the first big paper a week ago, and it’s due next week. Today in class he is talking to everyone about how they are doing with working on their papers. You think about how your paper is going so far. . .
4. A few days ago you went on a job interview that the school set up for you. The interviewer said he would call you on Friday afternoon. It’s now Friday afternoon and you hear the phone ring, you pick it up, and. . .

\*This item was used only in Study 2.