Dysfunctional anticipatory thoughts and the self-handicapping strategy

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Abstract

Self-handicapping is an anticipatory self-protective strategy in which individuals create or claim obstacles to success prior to an important performance in order to excuse potential failure. The present research sought in four studies to document the anticipatory nature of self-handicapping, examining the role of prefactual (“what if…?”) thoughts in this strategy. Individuals prone to self-handicap were more likely to generate prefactuals identifying ways to undermine their performance. Moreover, inducing individuals to consider these thoughts increased self-handicapping behavior, whereas focusing individuals on ways to improve their performance actually reduced self-handicapping behavior. Implications of this work for understanding the cognitive processes underlying self-handicapping behavior and for interventions that seek to minimize this self-defeating behavior are discussed.

KEYWORDS: Self-handicapping, Mental simulation, Motivation, Self-regulation
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Prior to an important performance, individuals often speculate about how they could succeed at the task. They might think about how to prepare and improve, for example, by rehearsing or getting extra sleep. On the other hand, individuals could focus their pre-performance thoughts on ways to protect the self from the negative implications of failure. In this case, they might consider how to undermine their performance in order to create an excuse for failure. Our research focuses on this latter self-protective strategy, examining the role of anticipatory prefactual thoughts in self-handicapping behavior.

Self-handicapping

Self-handicapping refers to the strategic creation or claiming of barriers to one’s own success prior to a performance in order to protect evaluations of the self (Jones & Berglas, 1978). For example, individuals may engage in behaviors such as using drugs or alcohol (Berglas & Jones, 1978; Isleib, Vuchinich, & Tucker, 1988), withdrawing preparatory effort (Hirt, Deppe, & Gordon, 1991; McCrea, Hirt, & Milner, 2008b), or placing themselves in a distracting environment (Rhodewalt & Davison, 1986; Shepperd & Arkin, 1989) prior to a test. Alternatively, they may claim hindering conditions such test anxiety (Smith, Snyder, & Handelsman, 1982), or stress (Hirt et al., 1991) before a performance. They can later blame failure on the presence of these obstacles. In attribution terms, self-handicapping results in discounted ability attributions, because the impediment is seen to have caused failure (Kelley, 1973). Past research has shown that self-handicapping effectively shifts attributions to the obstacle, protecting self-esteem in the short-term (McCrea & Hirt, 2001; Rhodewalt, Morf, Hazlett, & Fairfield, 1991), albeit at the potential cost of impaired performance (McCrea & Hirt,
Researchers have identified a number of situational and individual difference antecedents of self-handicapping behavior. Self-handicapping is more likely to occur prior to important tasks (Sheppard & Arkin, 1989) and when individuals feel uncertain about their ability to perform well (Berglas & Jones, 1978; Hirt, McCrea, & Kimble, 2000). For example, conditions of public self-focus (e.g., being observed via a camera) increase uncertainty and evaluative concern, resulting in self-handicapping behavior (Hirt et al., 2000).

With regard to individual differences, Jones and Rhodewalt (1982) developed the Self-Handicapping Scale (SHS) to assess the tendency to engage in self-handicapping behavior and excuse-making. The SHS contains two subscales (McCrea, Hirt, & Hendrix, 2006; McCrea, Hirt, Hendrix, Milner, & Steele, 2008a): the “behavioral” subscale, measuring the tendency to engage in more active forms of self-handicapping (e.g., drug use or reducing effort), and the “claimed” subscale, measuring the tendency to verbally report hindering conditions (e.g., stress or bad mood). These subscales correspond to a broader theoretical distinction made between behavioral and claimed forms of self-handicapping behavior (Arkin & Baumgardner, 1985; Leary & Shepperd, 1986). Consistent gender differences in self-handicapping have also been found (for reviews see McCrea et al., 2008b; Rhodewalt, 1990). Whereas both men and women are willing to claim the existence of self-handicaps, women are less likely to engage in more behavioral forms of self-handicapping (such as withdrawing effort or listening to distracting music, Hirt et al., 1991; Rhodewalt & Davison, 1986). In addition, women more negatively evaluate the use of behavioral self-handicaps by others (Hirt et al., 2003; McCrea et al., 2008b). Recent research suggests that women place greater personal value on displaying effort and view lack of effort by
others more negatively than do men (Hirt et al., 2003; McCrea et al., 2008a; McCrea et al., 2008b). Furthermore, controlling for differences in personal value placed on effort mediates gender differences in behavioral self-handicapping as well as in observer reactions to such behavior (McCrea et al., 2008b). At least with regard to reduced effort, it appears that women view such behavior negatively and therefore refuse to self-handicap in this manner.

**Anticipatory thinking in self-handicapping**

One of the most intriguing aspects of self-handicapping is that it is assumed by most theorists to be an anticipatory strategy (Berglas & Jones, 1978; Higgins & Berglas, 1990; Snyder, 1990). Unlike other forms of self-protection (e.g., self-serving attributions, biased social comparisons), self-handicapping occurs prior to the performance. The strategy would therefore seem to involve a certain amount of forethought. Here we make a distinction between anxiety-related cognitions that might occur automatically prior to a performance, and more effortful, conscious, cost-benefit analyses involved in identifying a viable self-handicap. Higgins and Berglas (1990) argued that chronic self-handicappers should experience relatively automatic negative cognitions or worries prior to a performance. Supporting this view, individuals who automatically associate the self with negative evaluation are more likely to engage in self-handicapping behavior (Spalding & Hardin, 1999). Self-handicapping also involves more strategic consideration of the attributional implications of failure and how these attributions might change if one creates a handicap. In other words, individuals likely engage in a cost-benefit analysis to identify the “best” self-handicap. For example, self-handicappers select the handicap least costly to performance when more than one option is available (Hirt et al., 1991) and do not acquire additional self-handicaps when an existing hindrance can serve this purpose (Shepperd & Arkin, 1989). Individuals prone to engage in self-handicapping behavior anticipate feeling more upset if they fail having tried
their best than if they fail having inadequately prepared, again suggesting they consider the relative costs and benefits of a self-handicap (McCrea, Hirt, & Myers, 2009). Swann and Schroeder (1995) argued that, because self-handicapping involves cost-benefit reasoning, it may require considerable cognitive resources. Indeed, individuals make fewer self-handicapping choices when cognitively busy (Silvera, 2000). A more direct test of this idea would be to investigate whether individuals consciously consider possible self-handicapping strategies. We examine this issue in the context of prefactual thinking.

Prefactual thoughts indicate how a future event could unfold and are of the form “If X occurs, then Y will happen” (McConnell et al., 2000; Sanna, 1996). Prefactuals can identify how an event could be positive (called “upward” prefactuals), or negative (called “downward” prefactuals). For example, prior to a test, one might generate the upward prefactual “If I go to the review session, then I will do better on the test.” Alternatively, one could generate the downward prefactual “If I go to the party tonight, then I will do worse on the test.” Of particular interest to this discussion is whether the generation of upward or downward prefactuals is dependent upon the motives of the individual and whether such thoughts predict subsequent behavior. Sanna (1996, 1998) demonstrated that there are meaningful individual differences in prefactual thought between optimists and defensive pessimists. Optimists simply hope for the best outcome, and therefore do not engage in a great deal of prefactual thought. In contrast, defensive pessimists harness low expectations for a performance in order to motivate themselves to perform better (Norem & Cantor, 1986). As a result, they are more likely to generate upward prefactuals identifying ways to improve. Research has also demonstrated that prefactual thinking can influence subsequent behavior. Sanna (1996, 1998) found that generating upward prefactuals resulted in better performance among defensive pessimists. Similarly, considering obstacles to be
overcome increases goal attainment (Oettingen, Pak, & Schnetter, 2001; Stadler, Oettingen, & Gollwitzer, 2009) and mental simulations concerning how to improve subsequently enhance performance (Taylor & Pham, 1999).

In most previous studies of future-directed thinking (e.g., Oettingen et al., 2001; Taylor & Pham, 1999), it was assumed that participants were motivated to do their best. However, at times individuals may be more concerned with the desire to protect a cherished self-concept and maintain self-esteem (Sedikides & Strube, 1997). Self-handicapping is a prime example of behavior motivated by such concerns, and thus presents an interesting case in which to examine prefactual thought. How might individuals use prefactual thoughts when they are motivated to self-handicap? We have argued that the strategic nature of self-handicapping requires relatively conscious cost-benefit analyses in order to identify a viable excuse for failure (see also Swann & Schroeder, 1995). To accomplish this, individuals prone to self-handicap should generate more downward prefactuals indicating how a performance could be negative, relative to those not prone to self-handicap. We expect these effects will be specific to thoughts concerning potential self-handicaps, rather than a more general focus on failure. Furthermore, we predict that prefactual thoughts will affect subsequent behavior, such that considering possible hindrances increases self-handicapping behavior, whereas considering ways to improve performance minimizes such behavior.

**Study 1: Public self-focus and gender**

Study 1 investigated whether the motivation to self-handicap is associated with dysfunctional patterns of prefactual thought. We based Study 1 on the work of Hirt et al. (2000), who found that men self-handicapped by withdrawing effort when placed in a condition of public self-focus, compared to a control condition. In contrast, women did not self-handicap in either
condition. We therefore expected that public self-focus and gender would moderate the
generation of downward prefactuals concerning low effort. We predicted that men under public
self-focus would be more likely to generate downward prefactuals, particularly those concerning
reduced effort, compared to those in a control condition. We did not expect self-focus to
influence the prefactual thoughts of women.

Method

Participants and Design

Participants were 104 (52 male, 52 female) introductory psychology students (mean age =
19) at a large Midwestern university. They received partial fulfillment of a course requirement as
compensation. Participants were randomly assigned to one of two conditions of self-focus
(public vs. control) in a between-subjects design.

Materials and Procedure

Participants were told that they would be taking a nonverbal test of intelligence called the
Culture-Fair Intelligence Test (CFIT, Cattell & Cattell, 1961). They were told that performance
differences between ethnic groups found on traditional intelligence tests are not found on the
CFIT, and that the test is predictive of academic and career success. Participants completed
multiple-choice items from the “conditions” subtest in which relationships between geometric
figures must be recognized (see Cattell & Cattell, 1961). For example, an item might require
selecting the option in which a circle and square overlap. The experimenter explained a relatively
easy example item to ensure that participants understood the instructions for the exam.
Participants then attempted two relatively difficult items. Regardless of their answer, they were
told that they were correct on the first and incorrect on the second item. This non-contingent
feedback was used to magnify uncertainty and thereby increase the motivation to self-handicap
(see also Berglas & Jones, 1978; Hirt et al., 2000). Following the example items, participants were given instructions designed to establish lack of practice effort as a viable self-handicap. They were told that prior research had indicated that sufficient practice is necessary for scores on the CFIT to be accurate, and that insufficient practice can result in a score that is lower than warranted by the person’s intelligence (see Hirt et al., 1991). Participants were told they would be given a chance to practice for the CFIT.

Participants were then randomly assigned to one of two self-focus conditions. In the public self-focus condition, participants were seated in front of a camera, and told that they would be observed through a video monitor by the experimenter during the remainder of the study. They were told that the video monitor was being used to ensure that individuals responded accurately and honestly during the experiment. The experimenter demonstrated to participants that the camera was working. Participants in the control condition were seated alone in a cubicle with no camera and could not be observed by the experimenter.

Participants were then given instructions concerning the prefactual generation task, adapted from Sanna (1996). Participants were asked to list any thoughts concerning how their performance on the CFIT could be better or worse, and nothing else they might be thinking. Example upward and downward prefactuals (i.e., “If only I do __ during the practice session, I might do better on the nonverbal test.” “What if I __, during the practice session, I might do worse on the nonverbal test.”) were provided. Participants had four minutes to list their thoughts. At the end of the study, participants indicated whether they felt that they had been observed using a five-point scale (1 = not at all to 5 = extremely), and were then debriefed.

**Results**

**Overview and manipulation checks**
Three participants in the control condition were eliminated from the analyses for indicating that they had been observed (i.e., scores above the midpoint) during the study despite the lack of a camera. One participant was eliminated for indicating during debriefing that he had not taken the study seriously. As a result, 50 men and 50 women were retained in the analyses. Individuals in the public self-focus condition ($M = 3.89$) felt that they had been observed to a greater extent than did those in the control condition ($M = 1.52$), $F(1, 98) = 163.28, p < .001$.

Prefactual thoughts

Thoughts were coded by two independent judges blind to participant gender and experimental condition. Only thoughts mentioning a factor that could affect the outcome of the exam (and not other events) were included. Thoughts indicating how the test score could be better were coded as upward (e.g., “If I take my time I may do well on this exam”), whereas thoughts indicating how the test score could be worse were coded as downward (e.g., “What if I sit here and do nothing during practice, I might do worse”). It was not crucial that the thought followed a strict if-then format, but rather that the thought indicated that the outcome could be different. In addition, the content of the prefactuals were classified as concerning either the amount (or lack of) effort (e.g., “What if I study for the whole ten minutes, I might do better on the exam”) or other miscellaneous factors (e.g., “If only I keep my mind on the test and concentrate, I will do well on the test”). Inter-rater agreement for these judgments was 86% ($\kappa = .72$), and disagreements were resolved through discussion.

The number of prefactuals generated in each category was submitted to a 2 (Gender) x 2 (Focus condition) x 2 (Thought direction: upward vs. downward) x 2 (Thought content: effort vs. miscellaneous) mixed-measures ANOVA. The Gender x Focus x Thought direction interaction was significant, $F(1, 96) = 4.78, p < .03, \eta^2 = .05$. The Focus x Thought direction interaction was
significant among men, \( F(1,48) = 4.43, p < .05, \eta^2 = .09 \), see Figure 1a, but not women, \( F(1,48) < 1, p > .36, \eta^2 < .02 \), see Figure 1b. Subsequent analyses revealed that this overall difference in the pattern of prefactual thought was driven by men in the public self-focus condition generating more downward prefactuals concerning a lack of effort than did men in the control condition, \( t(48) = 2.02, p < .05, \eta^2 = .08 \). The number of thoughts in other categories did not differ by focus condition, \( ts < 1.26, ps > .21, \eta^2 < .04 \).

**Discussion**

Hirt et al. (2000) found that men in conditions of public self-focus were more motivated to self-handicap by withdrawing preparatory effort. Similarly, we observed that men in the public self-focus condition generated more downward prefactuals than did men in the control condition. This effect was largely due to the increased generation of downward prefactuals concerning the potential self-handicap of reduced effort among men in the public self-focus condition.

Participants had been told that high effort was necessary for the test results to be accurate. Thus, the results are consistent with the notion that individuals prone to self-handicap (i.e., men facing a public performance) use downward prefactuals to identify potential handicapping strategies.

**Study 2: Self-handicapping in the classroom**

A limitation of Study 1 was that we explicitly requested that participants generate prefactuals, which may have led them to generate thoughts they would not have otherwise considered. We conducted a second study to address this issue, as well as examine whether prefactual thoughts predict subsequent self-handicapping behavior. Study 2 was based on a study by McCrea and Hirt (2001), showing that men are more likely than women to self-handicap by reporting low study effort prior to an academic test. We examined whether downward prefactual thinking might explain this effect. Our predictions for Study 2 were that (1) men would be more
likely to consider downward prefactuals concerning a lack of effort than would women, replicating Study 1, (2) men would report studying less than women, and (3) downward prefactuals concerning a lack of effort would mediate gender differences in reported studying.

Method

Participants

Participants were 100 (73 female, 27 male) students in two sections of a psychology course at a large Midwestern university. All were in at least their second year (29% sophomores, 41% juniors, 30% seniors). The course was required for the majority of participants (62%). They completed measures in two sessions, receiving extra credit as compensation.

Materials and Procedure

Session 1. Session one occurred approximately one week prior to the midterm exam in the course. Participants were told the researchers were interested in how students perceive psychology courses, including how they prepare for exams, and that all responses would be kept confidential. On the first page of the questionnaire, participants were asked to provide their gender, most recent GPA, and to answer a number of filler questions concerning the nature of their class (e.g., “Approximately how large is your class?”). Next, participants were asked to list any thoughts they were having about the upcoming exam in that course. Thus, there were no explicit instructions concerning the generation of prefactual thoughts.

Session 2. Following the receipt of exam scores, students completed a questionnaire concerning how they had prepared for the exam. They were asked to what extent they had read the textbook, studied with other students, created study materials, attended a review session, asked questions in class, and asked other students questions (1 = not at all to 7 = very much). They were also asked
how hard they had studied overall (1 = *not at all* to 7 = *very hard*), how many hours they had studied in total for the exam, and how many days before the exam they had begun studying.

**Results**

**Prefactual thoughts**

Two judges (agreement = 86%, $\kappa = .68$) identified prefactuals and coded their direction (upward vs. downward) and content (related to study effort vs. miscellaneous). Disagreements were resolved through discussion. Coded thoughts were submitted to a 2 (Gender) x 2 (Thought content) x 2 (Thought direction) mixed-measures ANOVA. There were significant thought content, thought direction, and Thought content x Thought direction effects, $F$s > 4.73, $p$s < .05, qualified by a significant Gender x Thought content x Thought direction interaction, $F$(1,98) = 8.42, $p$ < .01, $\eta^2$ = .08, see Figure 2. Men generated significantly more downward prefactuals concerning study effort than did women, $t$(98) = 2.05, $p$ < .05, $\eta^2$ = .04, whereas women generated significantly more miscellaneous downward prefactuals than did men, $t$(98) = 2.63, $p$ < .05, $\eta^2$ = .07. Examining the miscellaneous downward prefactual category more closely, 90% of these thoughts concerned a lack of ability, test difficulty, or difficulty of the material. The number of upward prefactuals generated did not differ by gender, $t$s < 1, $p$s > .60.

**Study effort**

The study effort questions were standardized and combined into a single index (Cronbach’s $\alpha = .71$). Preliminary analyses revealed no effects of GPA on reported study effort, and so we do not discuss this variable further. Men ($M = -2.22$) reported studying less than did women ($M = 0.83$), $t$(97) = 2.73, $p$ < .01, $\eta^2$ = .07. As discussed above, gender differences were observed on the two downward prefactual categories, leaving these variables as candidate mediators of the gender difference in reported studying. We entered gender in the first step in a regression model,
followed by the two downward prefactual categories, see Table 1. Both thought categories significantly predicted reported study effort. Those generating more effort-related downward prefactuals and those generating fewer miscellaneous downward prefactuals reported studying less for the test. The gender difference in reported study effort was reduced to non-significance. Analyses of multiple mediation (Preacher & Hayes, 2008) revealed that the gender difference in reported study effort was mediated by downward prefactuals ($z = 2.20, p < .05$). However, neither downward prefactual category alone fully mediated the gender difference (effort-related $z = 1.45, p = .14$; miscellaneous $z = 1.64, p = .10$). That is, each type of downward prefactual partially accounted for the gender difference in reported study effort.

**Discussion**

Men were more likely than women to consider downward prefactuals related to a lack of study effort, even when the thought listing instructions did not explicitly request prefactual thoughts. In contrast, women were more likely than men to generate downward prefactuals concerning factors that could not serve as a self-handicap (e.g., low ability or exam difficulty). These interpretations are confirmed by the observed relationships with reported study effort. Effort-related downward prefactuals predicted lower reported study effort, whereas miscellaneous downward prefactuals predicted higher reported study effort. Men reported studying less for their exam than did women, both because they had generated more prefactuals concerning a lack of effort and because they had generated fewer miscellaneous downward prefactuals. Thus, increased self-handicapping by men (relative to women) was at least partly explained by their tendency to identify ways to undermine their own performance, supporting the view that self-handicapping entails conscious consideration of ways to undermine performance.

**Study 3: Reducing self-handicapping in the classroom**
In Study 2, we observed a link between downward prefactual thinking and subsequent self-handicapping behavior. One could argue that these thoughts merely reflected pre-existing behavioral tendencies rather than influencing behavior. To examine this question, we tested whether inducing individuals to consider upward prefactuals reduces self-handicapping.

A second aim of Study 3 was to extend our findings with gender to another individual difference in self-handicapping: the behavioral subscale of the Self-Handicapping Scale (see McCrea et al., 2006). The behavioral subscale includes eight items specifically related to self-defeating behavior, including low effort (e.g., “I tend to put things off to the last moment”, “I would do a lot better if I tried harder”). Men typically score higher than women on the behavioral subscale, paralleling the gender differences observed in behavioral self-handicapping (McCrea et al., 2006). We predicted that (1) those scoring high on the behavioral SHS would report lower study effort than those scoring lower on the scale, and (2) that reported study effort would be higher in the upward prefactual condition than in the spontaneous thought condition. Because encouraging upward prefactual thinking may prove beneficial for low as well as high behavioral SHS students, we did not predict a Behavioral subscale x Thought condition interaction.

**Method**

**Participants and Design**

Participants were 57 (30 male and 27 female) students in grades 10-13 (mean age = 16.8 years) at a German high school located in the United States. Informed consent was obtained from each student and his or her legal guardian. Students took part voluntarily and without compensation. They were randomly assigned to one of two conditions (spontaneous or upward prefactual thought) in a between-subjects design.

**Materials and Procedure**
The study involved three sessions. The first session occurred approximately four weeks before the relevant math exam, the second occurred approximately three days before the exam, and the third occurred immediately preceding the exam. The previous year’s math grades were obtained from students’ records. At each session, questionnaires were identified only by a unique code. Students were assured that their teachers would not be aware of their responses, and completed questionnaires were placed in an envelope and sealed by the student.

Session 1. Participants completed the 25-item SHS (Jones & Rhodewalt, 1982) using a six-point scale (0 = disagree very much to 5 = agree very much) and provided their age and gender as part of an initial prescreening questionnaire.

Session 2. Students were randomly assigned to thought condition. Those in the upward prefactual condition were asked to write “If-then” thoughts concerning how they could do well on the math exam. They received the following statement as an example: “If I think about the problems thoroughly, then I will do better on the exam.” Students in the spontaneous thought condition were asked to write any “If-then” thoughts they might have concerning the test. They received the following statement as an example: “If the test looks like it always does, then it will contain questions that are written out.” They were told that the researchers were interested in their current thoughts, and so there was no right or wrong answer.

Session 3. Immediately before the math exam, participants received a short questionnaire asking them to indicate how many hours they had studied in total for the exam.

Results

Overview and manipulation check
Reliability for the behavioral SHS was acceptable (Cronbach’s α = .60). Consistent with past work (McCrea et al., 2006), men (M = 21.23) scored significantly higher than did women (M = 16.89) on the behavioral SHS, t(55) = 3.39, p < .01.

Thoughts were coded as in Study 2 (agreement = 83%, κ = .53). A 2 (Condition) x 2 (Thought content) x 2 (Thought direction) ANOVA revealed a significant Condition x Thought direction interaction, F(1,55) = 13.15, p < .001, η² = .19. Confirming the manipulation, upward prefactuals were generated more frequently in the upward prefactual condition (M = 2.62, SD = 1.80) than in the spontaneous condition (M = 1.32, SD = 1.19), t(55) = 3.20, p < .01, η² = .16. In contrast, downward prefactuals were generated less frequently in the upward prefactual condition (M = 0.07, SD = 0.25) than in the spontaneous condition (M = 0.39, SD = 0.74), t(55) = 2.23, p < .05, η² = .08. Indeed, downward prefactuals were virtually eliminated in the upward prefactual condition. Additional correlational analyses revealed that higher behavioral SHS scores predicted increased generation of effort-related downward prefactuals, r(57) = .32, p < .05, but not other thoughts, all rs < .23, ps > .09.

Reported study hours

To reduce skewness, scores on the measure of reported study hours (M = 7.78, SD = 6.24) were square-root transformed. Following the recommendations of Aiken and West (1991), the condition variable was dummy-coded (spontaneous condition = 0, upward prefactual condition = 1) and behavioral SHS scores were mean-centered. Although men reported studying less than did women, this gender difference was eliminated when controlling for behavioral SHS scores. Therefore, gender was not included in the final model. To ensure any effects on reported study effort were not reflective of prior academic performance, average previous grade was included as a covariate. Prefactual thought condition, behavioral SHS scores, and the interaction of these
variables were then entered into the model, see Table 2. Those with better previous grades reported studying less for the upcoming exam. Individuals scoring higher on the behavioral SHS also reported studying less for the upcoming exam (predicted scores in original units are presented in Figure 4). In addition, those in the upward prefactual condition reported studying significantly more for the exam than did those in the spontaneous thought condition.

**Discussion**

Extending our prior studies, those prone to behaviorally self-handicap were more likely to consider downward prefactuals concerning a lack of effort and to report lower study effort. More importantly, inducing individuals to consider upward prefactuals increased reported study effort (relative to the control condition) for both low and high behavioral SHS individuals. Those likely to behaviorally self-handicap (i.e., one standard deviation above the mean) reported studying approximately two and a half hours more as a result of the upward prefactual intervention, equivalent to that of low behavioral SHS participants in the control condition.

**Study 4: Effects on self-handicapping behavior and performance**

Study 4 was designed to replicate these findings with a more objective measure of self-handicapping behavior, as well as determine whether the success of the intervention in Study 3 was due to increased upward prefactual thinking or reduced downward prefactual thinking. An additional goal of Study 4 was to examine the effects of prefactual thought on performance. Although there is evidence that upward prefactual thinking improves performance (Taylor & Pham, 1999), this may not be the case for all individuals. Sanna (1996, 1998) found that altering the default prefactual thoughts of defensive pessimists and optimists undermined performance. Similarly, preventing self-handicapping could prove so threatening to some individuals that
performance suffers. It is therefore important to examine whether upward prefactuals minimize self-handicapping, but at a cost to subsequent performance.

In Study 4, we manipulated prefactual direction prior to an intelligence test. Choosing to listen to distracting music during the exam served as the behavioral self-handicap of interest (see also Rhodewalt & Davison, 1986; Shepperd & Arkin, 1989). Based on pretesting and past work (Rhodewalt & Davison, 1986) showing that women are unwilling to select performance-inhibiting music as a self-handicap, we included only men in the study. We predicted that men exposed to downward prefactuals would choose more performance-inhibiting music than would those in a control condition, whereas those exposed to upward prefactuals would choose more performance-facilitating music than would those in the control condition.

All participants received the same music regardless of their selection, allowing a direct test of the effects of prefactual thought on performance. If individuals perform better when they consider the same thoughts they typically generate (as found by Sanna, 1996), performance should be better in the downward prefactual condition. If, on the other hand, the beneficial effects of upward prefactuals outweigh any increased anxiety that results from the lack of a self-handicap, performance should be better in the upward prefactual condition.

Method

Participants and Design

Participants were 58 male students at a German university. They received course credit or 5€ as compensation. Two-thirds of participants were 17-25 years of age, and the remaining third ranged from 26-40 years old. They were randomly assigned to one of three (upward, downward, or control) prefactual thought conditions in a between-subjects design.

Procedure
As in Study 1, participants were told they would be taking the CFIT. The items were taken from the “series” subtest (see Cattell & Cattell, 1961), requiring participants select the next figure in a sequence (e.g., objects rotated 45° clockwise). Participants saw five example items. The correct solution was given for the first two items to ensure that participants understood the test instructions. As in Study 1, non-contingent feedback was given on the next three items to increase self-handicapping motivation. Participants were told that they were correct on the first and the third item, but that they were incorrect on the second.

Participants were told that the study concerned the effects of music on performance on the CFIT. They were told that previous research had shown that different kinds of music can either impair or facilitate performance on the test. They would have the opportunity to select the type of music that they would hear during the exam (see also Rhodewalt & Davison, 1986). Next, participants were told that the researchers were interested in how well test-takers can imagine certain thought scenarios and they were assigned to one of three prefactual conditions. Those assigned to the control condition did not receive information about prefactual thoughts. The remaining participants were presented with ten thoughts adapted from responses in Study 1. To reduce experimental demand, the thoughts were a mix of content categories, including two about the effects of music, two about motivation, two about stress, two about attention, and two about understanding the exam. Thoughts were presented by computer in a random order for 30 seconds each, and participants were asked to vividly imagine each thought and relate it to their own performance. Those in the upward prefactual condition considered ten thoughts suggesting how one could do well on the test (e.g., “If I select the extreme performance-facilitating music, I might perform better on the test”, “If I concentrate, I might get a higher score on the test”), whereas those in the downward prefactual condition considered ten thoughts suggesting how one
could do poorly on the test (e.g., “If I select the extreme performance-inhibiting music, I might perform worse on the test”, “If I don’t concentrate, I will get a lower score on the test”).

Following the thought manipulation, participants were asked to choose the music they would hear during the exam using a five-point scale (1 = very helpful to 5 = very hindering).

Participants attempted 20 CFIT items while listening to the same piece of classical music.

Results

Three participants were eliminated from the analyses due to missing data. Music selection and performance data are presented in Table 3. A one-way ANOVA conducted on music selections revealed a condition effect, \( F(2, 52) = 3.55, p < .05 \). Planned contrasts indicated that men in the downward prefactual condition selected more distracting music than did those in the control condition, \( t(52) = 2.25, p < .05, \eta^2 = .09 \), whereas the upward prefactual condition did not differ from the control condition, \( t < 1, \text{ns}, \eta^2 < .01 \). The frequency of self-handicapping choices (i.e., those above the scale midpoint) also differed across conditions, \( \chi^2(2) = 7.40, p < .05, \varphi^2 = 0.14 \). Men were more likely to select performance-hindering music in the downward prefactual condition than in the control condition, \( \chi^2(1) = 7.24, p < .01, \varphi^2 = 0.19 \). The upward prefactual condition did not differ from the control condition, \( \chi^2 < 1, p > .32, \varphi^2 = 0.03 \).

Test scores from two participants were excluded as outliers (more than 3 SD below the mean). A one-way ANOVA revealed an effect of condition, \( F(2, 50) = 3.09, p = .05 \). Performance was higher in the upward prefactual condition than in the control condition, \( t(50) = 2.34, p < .05, \eta^2 = .10 \). The downward prefactual and control conditions did not differ, \( t < 1, p > .92, \eta^2 < .01 \).

Discussion

As predicted, individuals exposed to downward prefactuals chose more distracting music than did those in the control condition. Surprisingly, upward prefactuals had no effect on self-
handicapping relative to the control condition. Thus, the benefits of the intervention in Study 3 may have been due reduced downward rather than increased upward prefactual thinking. On the other hand, self-handicapping was relatively low in the control condition in Study 4, and so any additional benefits of upward prefactuals may have been limited by a floor effect.

Although downward prefactuals increased self-handicapping behavior, they did not impair performance relative to the control condition. Of course, the music participants heard was held constant. In cases in which downward prefactuals undermine preparation or increase distraction, performance is likely to suffer. Performance was not lower in the control conditions, and higher in the upward prefactual condition (see also Oettingen et al., 2001; Taylor & Pham, 1999).

Unlike optimists (Sanna, 1996), individuals prone to self-handicap do not seem to be adversely affected by encouraging upward prefactuals. One possible explanation for this difference is that, whereas optimists do not generate many prefactuals, men and high behavioral self-handicappers were found to generate both upward and downward prefactual thoughts. Perhaps Sanna (1996, 1998) induced optimists to engage in an unfamiliar cognitive process, whereas our manipulations merely shifted the relative proportion of upward to downward prefactuals generated by men.

We examined the selection of performance-inhibiting music because this behavior is clearly self-defeating. Given our earlier focus on reduced effort, we conducted a final study examining the effects of prefactual direction on preparative effort. Seventy participants we exposed to either upward or downward prefactuals, adapted from Study 4 to include thoughts concerning the effects of practice rather than of music. Time spent and number of items attempted on a practice CFIT were standardized and combined into an index of preparatory effort. Participants assigned to consider downward prefactuals \( (M = -0.43) \) practiced significantly less than did those assigned
to consider upward prefactuals \((M = 0.41), F(1, 66) = 4.27, p < .05, \eta^2 = .06\), and considering upward prefactuals \((M = 87\%)\) resulted in better performance than did considering downward prefactuals \((M = 83\%)\), \(F(1, 66) = 7.38, p < .05, \eta^2 = .10\). Taken together, the present findings demonstrate that downward prefactuals increase self-handicapping behavior. Inducing individuals to consider upward prefactuals minimizes self-handicapping behavior, if for no other reason than downward prefactual thinking is reduced. Importantly, upward prefactual thinking does not appear to come at a cost to performance.

**General Discussion**

Self-handicapping is assumed by most researchers to be an anticipatory self-protection strategy, designed to create excuses in advance in order to minimize the negative implications of failure (Higgins & Berglas, 1990; Jones & Berglas, 1978). Self-handicappers consider future evaluations of their performance (McCrea et al., 2009), strategically choose the least costly self-handicap available (Hirt et al., 1991), and avoid additional self-handicapping when an existing obstacle can serve the purpose (Shepperd & Arkin, 1989). These findings imply self-handicappers engage in strategic cost-benefit analyses, processes likely to require cognitive resources (Silvera, 2000; Swann & Schroeder, 1995). The present research more directly documents the importance of strategic anticipatory thinking in self-handicapping. As predicted, we found that both situational antecedents of self-handicapping (i.e., public self-focus; threatening tasks) and individual differences in the tendency to engage in this behavior (i.e., men; high behavioral SHS), led to the generation of more downward prefactuals. These effects were limited to prefactuals related to a salient self-handicap. Thus, it was not the case that the thoughts of self-handicappers reflected low performance expectations. Instead, they focused strategically on the identification of self-imposed obstacles.
These thoughts in turn predicted self-handicapping behavior. Downward prefactuals concerning a lack of effort partially mediated gender differences in reported studying, and directly priming downward prefactuals increased self-defeating behavior. In contrast, inducing individuals to consider upward prefactuals or otherwise preventing downward prefactual thinking reduced self-handicapping behavior. This finding is consistent with evidence that cognitive load reduces self-handicapping behavior (Silvera, 2000). Cognitive load may minimize self-handicapping precisely because it prevents the effortful generation of downward prefactuals.

**Self-deception in self-handicapping**

That self-handicappers consciously consider ways to undermine their performance seems to imply a contradiction within the strategy. On the one hand, individuals motivated to self-handicap consider ways to undermine their performance and are capable of reporting on such thoughts. On the other hand, there is considerable evidence that self-handicapping is effective in protecting self-esteem following failure (McCrea & Hirt, 2001; Rhodewalt et al., 1991). How is it that self-handicappers come to believe these excuses when they have been intentionally created? Does this imply that self-handicappers are engaging in self-deception? We suggest two possible answers to these questions. First, it is possible that certain forms of self-handicapping (e.g., a lack of effort) are perceived to be harmful to performance regardless of their intentionality. Thus, it may not matter that a student knows that he intentionally did not study; a lack of study effort remains an undeniable explanation for failure. Although observers are more critical of intentionally low effort, actors typically are not (Baumgardner & Levy, 1988; Covington & Omelich, 1979; Hirt et al., 2003).

On the other hand, it is possible that relatively conscious prefactual thoughts are dissociated from the non-conscious, automatic cognitions that motivate self-handicapping. Chronic self-
handicappers may be prone to automatic anxiety-related cognitions (Higgins & Berglas, 1990), processes shown to predict self-handicapping behavior (Spalding & Hardin, 1999). Thus, self-handicappers may be able to report that they are thinking about the possibility of failure, yet remain unaware of the motivations underlying their generation. Examples of such dissociations between motive and behavior have been documented by a number of researchers (Wegner, Fuller, & Sparrow, 2003; Wilson & Nisbett, 1978), and form a basic explanation for how apparently self-deceptive processes occur (Baumeister, 1996; Gur & Sackheim, 1979; Paulhus, Fridhandler, & Hayes, 1997). Our current research is focused on determining to what extent these processes occur outside of awareness and what implications that has for the ability of self-handicapping to protect self-esteem.

**Implications for altering self-handicapping behavior**

Our findings suggest that preventing downward prefactual thinking can reduce or eliminate self-handicapping behavior, without negative consequences to performance. Although the latter finding is particularly encouraging, it is important to replicate this result in other performance contexts. Although self-handicapping impairs performance in some contexts (McCrea & Hirt, 2001), it can also indirectly facilitate performance by reducing test anxiety (Leary, 1986). In cases in which meta-task concerns negatively impact performance, reducing self-handicapping could have adverse consequences. Future research should therefore focus on extending these findings to other performance contexts. Additionally, we do not know how long-lasting the beneficial effects of upward prefactual thinking might be. Given that self-handicapping has long-term negative consequences for motivation, achievement, and psychological well-being, future research should examine whether upward prefactuals offer more lasting change or merely serve to “short-circuit” self-defeating behavior.
References


Table 1.

*Regression model predicting reported study effort (Study 2)*

<table>
<thead>
<tr>
<th>Term</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>$f^2$</th>
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<tr>
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<td>2.73</td>
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<tr>
<td><strong>Mediation model</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Gender</td>
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<td>Downward effort</td>
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<td>.04</td>
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<tr>
<td>Downward miscellaneous</td>
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<td>2.07</td>
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<td>.04</td>
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*Notes:* Initial model $R^2 = .07$; Mediation model $\Delta R^2 = .09$, $F(2,95) = 4.84$, $p < .05$
Table 2.

*Regression model predicting reported study effort (Study 3)*

<table>
<thead>
<tr>
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<th>$p$</th>
<th>$f^2$</th>
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<tr>
<td>Thought condition</td>
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<td>.08</td>
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<td>&gt;.60</td>
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</table>

*Note: $R^2 = .21$, $F(4,52) = 3.47$, $p = .01$*
Table 3.

*Self-handicapping behavior and performance by condition (Study 4)*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Downward prefactual</th>
<th>Upward prefactual</th>
<th>Control</th>
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<td>Music selection</td>
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<tr>
<td><em>Non-hindering (≤3)</em></td>
<td>8</td>
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<td>16</td>
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<tr>
<td><em>Hindering (&gt;3)</em></td>
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<td>3</td>
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<tr>
<td><em>M</em></td>
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<td><em>M</em></td>
<td>83%</td>
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<td>83%</td>
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<tr>
<td><em>SD</em></td>
<td>8.4</td>
<td>7.7</td>
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Figures 1a and 1b. Prefactual thought generation (Study 1)
Figure 2. Prefactual thought generation (Study 2)
Figure 3. Effects of prefactual condition and behavioral SHS on reported study time (Study 3)