Daydreaming Mediates Between Goal Commitment and Goal Attainment in Individuals High in Achievement Motivation

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Abstract

Empirical research has shown that conceptions of desirable future states seem to have a stronger motivational impact on individuals high (relative to low) in achievement motivation. Therefore, it was assumed that daydreaming mediates between goal commitment and goal attainment in individuals high (but not in those low) in achievement motivation. This hypothesis was tested in a sample of German first-year university students who rated two goals–a study and a friendship goal–for goal commitment and kept a daydream diary for two weeks. Among individuals high in achievement motivation, goal commitment was related to the number of daydreams revolving around advancing toward the two goals (positive daydreaming) and positive daydreaming was related to goal attainment assessed six weeks after the onset of the study. For individuals low in achievement motivation, goal commitment was related to goal attainment, but positive daydreaming was unrelated to both goal commitment and goal attainment. Additional mediational and path analyses supported the conclusion that positive daydreaming mediated between goal commitment and goal attainment for individuals high, but not for those low in achievement motivation. The results are interpreted with respect to recent findings on the motivational consequences of positive goal imagery.

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Daydreaming is a naturally occurring process in which attention is focused inwards on thoughts and images which spontaneously enter conscious thinking and typically revolve around a person's desires, needs, and goals [1, 2]. People seem to daydream most when their current activity requires little attention and the costs of absent-mindedness are low [3]. Thought-sampling procedures have shown that, on average, one third of all mental processes can be classified as daydreaming [4]. So while riding a bus, listening to music or waiting in the doctor's office, people commonly experience the unfolding of mental images which depict a romantic evening with an attractive person, writing a well-received research paper or spending time with friends one hasn't seen for a long time.

Daydreaming serves a variety of adaptive functions. Singer [2] has argued that daydreaming is a skill which enables people to mentally simulate the course of future events and the consequences of one's actions and may thus help to rehearse one's actions or to prepare for an upcoming situation [see also 5]. Since imagery has a strong potential to arouse emotions, daydreams are also an effective means to regulate one's emotional states [6]. There is now accumulating evidence that daydreaming may also play a vital role in motivational processes.

A comprehensive model which ties together concepts of goal striving and daydreaming has been proposed by Klinger [1, 7]. According to Klinger, committing oneself to a goal initiates a current concern, a hypothetical state which lasts until the goal is either attained or abandoned. A major property of a current concern is its ability to potentiate the emotional reactions to cues associated with the goal or means for attaining it. Thus, cues which are associated with the goal arouse a protoemotional response which prepares and motivates a person for action. However, not all the cues which remind a person of a goal also indicate an opportunity to advance toward the goal. In such cases, when a person is reminded of his or her goals but cannot act to attain them, daydreams may arise in which a person imagines goal attainment. Daydreams are assumed to

support goal striving, because imagining goal attainment revitalizes the incentives associated with goal attainment. In particular, the pursuit of long-term goals may benefit from daydreaming because the mental representation of a desirable future state may help people to sustain the motivation to strive for their goals in times when goal pursuit is not possible or feasible [1].

In sum, this model assumes that goal commitment induces a tendency to daydream about goal attainment. Such daydreams may then strengthen the motivation for goal striving and may thus facilitate goal attainment. The model thus assumes that daydreaming mediates between goal commitment and goal attainment: Goal commitment facilitates goal attainment because goal commitment triggers daydreams which then motivate people to strive for their goals. Although other mediational processes are inherent in Klinger's model, daydreaming appears to be a crucial mediator for goals which cannot be readily attained, such as finishing a degree or finding an interesting job.

This mediational model of daydreaming rests on the assumption that imagining the attainment of a goal motivates people to strive for their goals, regardless of individual differences. However, people seem to differ in the extent to which imagery actually induces a motivational state [cf. 8]. It seems reasonable to assume that a positive daydream may motivate some people to act, whereas it leaves others indifferent. The present paper argues that the mediational model may apply particularly to individuals who are high in achievement motivation.

Individuals high in achievement motivation are typically concerned with "doing things better, with surpassing standards of excellence" [9, p. 228]. Research on achievement motivation suggests that, as a consequence of this concern, individuals high and low in achievement motivation may respond differently to mental representations of desirable future states. Early research on achievement motivation demonstrated that individuals high (relative to low) in achievement motivation prefer the metaphors of time as "a galloping horseman" or "a bird in flight" to the metaphor of time as "a quiet motionless ocean" [10]. According to McClelland [11], these results indicate the inclination of individuals high in achievement motivation to focus on the future instead

of the present moment and their acute awareness of the passing of time. In accordance with this interpretation, Mischel [12] demonstrated that adolescents high in achievement motivation preferred to wait for a bigger future reward rather than settle for an immediate lesser reward. Similarly, Raynor [13, 14] found that individuals high (relative to low) in achievement motivation performed better on a task if the task's completion is a precondition for the attainment of a future goal. In accordance with this finding, Agarwal and Tripathi [15] showed that individuals high in achievement motivation have a future-oriented and more extended time perspective. Taken together, these results suggest that mental representations of future states have a stronger motivational impact on the behavior of individuals high (relative to low) in achievement motivation.

With respect to the mediational model outlined above, research on achievement motivation suggests that the model may apply particularly to individuals high in achievement motivation. Daydreams about attaining personal goals are conceptions of desirable future states and may thus motivate individuals high (but not those low) in achievement motivation to strive for their goals. If daydreaming about goal attainment works for individuals high in achievement motivation, they may also tend to employ goal imagery as a strategy to attain goals they are highly committed to. In contrast, if mental representations of future states have a smaller motivational impact on individuals low in achievement motivation, then daydreaming about goal attainment may not help them to actually advance toward their goals. Individuals low in achievement motivation may then also dismiss daydreaming and not consider it a useful tool in the process of goal striving, which may result in a weaker association between goal commitment and daydreaming.

In the present research, we tested these assumptions in a sample of first-year university students. Pilot studies had shown that German first-year university students have two major concerns. They want to acquire basic skills to succeed in their studies, which include (among other things) preparing for lectures, learning how to give presentations, and getting good grades in exams. At the same time, they want to keep in touch with close friends. In the present research, students

were asked to rate goal commitment for these two goals at the beginning of the semester. They were then asked to monitor and to write down their daydreams in the following two-week period. Six weeks after the beginning of the study, participants rated how much they had advanced toward the two goals investigated in this study. We expected the data of participants high in achievement motivation to be consistent with a mediational model in which (1) goal commitment predicted the amount of daydreaming about goal attainment and (2) daydreaming predicted actual attainment of the two goals. For individuals low in achievement motivation, we expected that daydreaming would not mediate the relationship between goal commitment and goal attainment.

Method

Participants and Overview of Procedure

Data were collected in three phases. At the beginning of the semester, participants received a take-home booklet which contained the TAT and a questionnaire which asked them to rate two goals–gaining competence in their studies and keeping in touch with close friends–on a number of scales. After participants had returned the booklet, they met with the experimenter in groups of 3 to 4 and the experimenter explained the concept of daydreaming ("thoughts and images spontaneously popping up in your mind which usually revolve around needs, desires and goals") and gave examples of situations in which people typically have daydreams ("while riding the train, during a lecture, when listening to music"). Participants then received a small booklet which was introduced as the daydream diary. Participants were asked to pay attention to their daydreams during the next 14 days and were encouraged to write down any daydream they noticed. They were asked to return the daydream diary at the end of the two-week period. Participants were contacted again approximately 6 weeks after the initial session and asked to pick up a questionnaire which assessed attainment of the goals investigated in this study.

Fifty-nine first year students enrolled in different faculties at the University of Wuppertal participated in the study. Seven participants failed to complete all the measures and were excluded from data analyses. This resulted in a sample of 52 participants (33 women and 19 men), the average age being 22.96 years (SD = 5.03).

Achievement motivation

To assess participants' achievement motivation, a TAT-type picture-story test was administered to participants using instructions described in Winter [16]. The TAT consisted of five picture cues that have been used in a number of previous studies [17]. The pictures showed (1) a ship captain talking with another man, (2) a man sitting at an office desk, (3) two female scientists in a laboratory, (4) two people sitting on a park bench and (5) a man and a woman on a trapeze [all pictures are contained in 18].

The resulting TAT protocols were content-coded for achievement motivation according to Winter's [16] Manual for Scoring Motive Imagery in Running Text which has been used extensively in previous research on motivation [cf. 19]. According to the manual, the achievement motive is scored for any indication of concern with a standard of excellence which may be expressed by (1) adjectives which positively evaluate performances, (2) hard work or thoroughness in the pursuit of excellence, (3) winning or competing successfully with others, (4) negative feelings about a lack of excellence and (5) unique accomplishments. Protocols were independently scored by two trained scorers who had demonstrated percentage agreement of at least 85% with the calibration material provided in Winter [16]. Percentage agreement of the two scorers was 89%. Disagreements were resolved by discussions and yielded the final scores for achievement motivation (M = 1.77, SD = 1.31). Following recommendations by Smith et al. [17], participants' motive scores were corrected by regression for protocol length (M = 492 words, SD = 116) and converted to z scores. A median split procedure (Mdn = -.48) was employed to identify participants high and low in achievement motivation.

Goal commitment

The TAT was followed by a questionnaire which described two goals which first-year students typically pursue, namely gaining competence in their studies (the study goal) and keeping in touch with close friends (the friendship goal). They read that "first year students typically try to reconcile two goals. First, they want to gain competence in their studies, which means, for example, keeping track of lectures, learning how to give presentations, passing tests, and so on. At the same time, most students try to keep in touch with close friends by writing letters, making phone calls, or seeing them once in a while. First of all, we want to know how important these goals are to you." Goal commitment was assessed using the scales of Brunstein [20]. Participants were asked to rate

each goal on four items asking for their determination (e.g., “No matter what happens, I will not give up this goal”) and their willingness (e.g., “Even if it means a lot of effort, I will do everything necessary to accomplish this goal”) to pursue the two goals. Items had to be answered on 7-point scales with endpoints labeled completely disagree (1) and completely agree (7). Ratings of goal commitment for the study and the friendship goal were combined to give a single index of goal commitment which had sufficient internal consistency ($\alpha = .61$).

Daydream diary

The daydream diary summarized the definition of daydreaming given in the first session and provided 12 double-pages for writing down up to 12 daydreams. Participants reported a mean of 6.23 daydreams (SD = 3.29), which is comparable to studies in which a similar technique was employed [21]. Daydream protocols were content-analyzed for daydreams which dealt with advancing toward or successfully achieving the study or the friendship goal. On average, 1.29 (SD = 1.46) daydreams satisfied this criterion. We will refer to this class of daydreams as positive goal daydreaming. For example, the following two protocols were categorized as positive goal daydreaming:

> I see myself giving my first talk in front of the class. Everything is running smoothly and I’m really enjoying it. The other students are interested and the teaching assistant seems to like my way of presenting things. I have a very good feeling about my presentation.
>
> I was daydreaming about meeting good friends at a coffee bar. We’re gabbing about many different things, about life in general, also about existential matters. Everybody seems to be interested and involved. We’re sharing a special feeling of community.

Positive goal daydreaming was only moderately correlated with the total number of daydreams ($r = .24$, $p < .10$). The majority of daydreams not classified as positive goal daydreaming were either memories ($M = 1.37$, $SD = 1.86$) or positive fantasies elaborating unrealistic scenarios (e.g., being able to fly or being a famous rock star, $M = 1.98$, $SD = 2.01$).

Goal attainment

Approximately six weeks after the initial session, participants completed six items taken from Brunstein [20] which assessed goal attainment. The items asked for goal advancement and stagnation, success and failure of goal pursuit, and difficulties encountered during goal pursuit.

Ratings of goal attainment for the study goal and the friendship goal were combined to give a single index of goal attainment which had high internal consistency ($\alpha = .84$).

Results

Participant Attrition, Descriptive Statistics, and Preliminary Analyses

Seven of the initial 59 participants did not complete the study, resulting in an attrition rate of 11.8%. Attrition analyses revealed no significant differences between participants who dropped out and participants completing the study. Neither age nor sex of participants had a significant impact on the results reported below.

Comparison of Means and Correlation Analyses

Means, standard deviations, reliabilities, and intercorrelations of the central variables of this study are presented in Table 1. Individuals high and low in achievement motivation reported similar levels of goal commitment ($t(50) = .33$, $p > .70$), positive goal daydreaming ($t(50) = .47$, $p > .60$), and goal attainment ($t(51) = 1.42$, $p > .15$).

– Insert Table 1 here –

Among individuals high in achievement motivation, goal commitment was positively related to positive goal daydreaming ($r = .60$, $p < .01$), whereas this relationship was not significant for individuals low in achievement motivation ($r = -.22$, $p > .20$). The difference between these correlation coefficients was significant, $Z = 3.11$, $p < .01$. In addition, positive goal daydreaming and goal attainment were significantly related among individuals high in achievement motivation ($r = .54$, $p < .01$), whereas this correlation was not significant for individuals low in achievement motivation ($r = -.15$, $p > .40$). Again, the difference between these correlations was significant, $Z = 2.56$, $p < .05$. Goal commitment was significantly related to goal attainment for individuals low in achievement motivation ($r = .51$, $p < .01$) and for individuals high in achievement motivation ($r = .38$, $p = .057$). Although the correlation is weaker for individuals high in achievement motivation and just fails to approach standard levels of significance, the two correlations did not differ significantly, $Z = .60$, $p > .50$.

Mediation Analyses

Following the recommendations by Baron and Kenny [22], we employed correlation and regression analyses to test whether the following conditions for mediation were met: (a) The predictor (goal commitment) is associated with the outcome (goal attainment); (b) the predictor is associated with the mediator (positive goal daydreaming); (c) the mediator is associated with the outcome, after controlling for the predictor; and (d) the predictor is unrelated to the outcome after controlling for the mediator. Positive goal daydreaming can be assumed to mediate the relationship between goal commitment and goal attainment if all four conditions were met.

For individuals high in achievement motivation, all criteria for mediation were met. First, goal commitment was associated with positive goal attainment ($r = .38$, $p = .057$). Second, goal commitment was associated with goal daydreaming ($r = .60$, $p < .01$). Third, positive goal daydreaming was associated with goal attainment after controlling for goal commitment ($pr = .42$, $p < .05$). Finally, after controlling for positive goal daydreaming, goal commitment was no longer associated with goal attainment ($pr = .08$, $p > .70$). These results are consistent with the hypothesis that positive goal daydreaming fully mediated the effects of goal commitment on goal attainment for individuals high in achievement motivation.

For individuals low in achievement motivation, only the first criterion was met. Goal commitment was associated with goal attainment ($r = .51$, $p < .01$). However, neither was goal commitment associated with positive goal daydreaming ($r = -.22$, $p > .20$), nor was positive goal daydreaming associated with goal attainment after controlling for goal commitment ($pr = -.05$, $p > .80$). For individuals low in achievement motivation, there seems to be a direct association between goal commitment and goal attainment which was not mediated by goal daydreaming.

Path Analyses

To further substantiate the correlational and mediation analyses, path analyses using the AMOS 3.6 software [23] were conducted. The mediational model (a causal chain in which goal commitment predicted positive goal daydreaming and positive goal daydreaming predicted goal attainment) was tested separately for individuals low and high in achievement motivation. For

individuals low in achievement motivation, the data did not fit the path model, as indicated by a significant chi-square for this model, χ^2 (1, N = 26) = 7.03, p < .01 and a low adjusted general fit index (AGFI) of .16. For individuals high in achievement motivation, however, the path analyses yielded a non-significant chi-square, χ^2 (1, N = 26) = .16, p > .90, and an AGFI of .97, indicating a good fit to the path model. Thus, the path analyses further corroborated the hypothesis that daydreaming mediates between goal commitment and goal attainment only among individuals high in achievement motivation.

Discussion

In a sample of first-year university students, daydreaming about attaining study goals and friendship goals mediated between goal commitment and attainment of these goals in individuals high in achievement motivation. For them, goal commitment was related to subsequent daydreaming about attaining these goals and daydreaming was in turn related to perceived goal attainment assessed four weeks later. In contrast, a mediating role of positive goal daydreaming could not be demonstrated for individuals low in achievement motivation. Rather, goal commitment was related to goal attainment independent of positive goal daydreaming in individuals low in achievement motivation. These results cannot be attributed to differences in goal commitment or to the amount of positive goal daydreaming: Individuals high and low in achievement motivation reported about the same commitment to their goals and equal levels of daydreaming as well as goal attainment. So while individuals low in achievement motivation do have daydreams, daydreaming does not seem to play a major role in the process of goal striving.

The present study replicated the frequently reported association between goal commitment and goal attainment [20, 24, 25]. However, it also suggests that different motivational processes may be responsible for this relationship. I argued in the introduction that daydreaming may be more intimately integrated in processes of goal striving in individuals high in achievement motivation because empirical research suggests that mental representations of a desirable future state have stronger motivational consequences for individuals high (relative to low) in achievement

motivation. Recent research by Oettingen [26, 27] may help to explain the more molecular processes mediating this relationship.

Oettingen [26] has suggested that imagining the successful attainment of a personal goal (as compared to imagining failure of goal pursuit) is typically related to lower levels of motivation and to a lower degree of goal attainment. She argues that such positive imagery leads to an "anticipatory consumption of success" [26, p. 239], which suspends the motivation to act or to the need to elaborate plans for action. According to Oettingen [26], positive fantasies may also strengthen the motivation to pursue one's goals if positive imagery is contrasted with reflections on current reality in which this goal is not yet attained. Contrasting positive fantasies with reflections on reality produces a discrepancy between an actual and a desired state, which then motivates people to act. A series of studies [27, 28] has shown that people were better able to attain their goals when they were asked to contrast positive fantasies with reflections on reality than when they only imagined the successful attainment of their goal.

Oettingen's findings offer an interesting interpretation of the results of the present research. They suggest that individuals high in achievement motivation are motivated by positive daydreaming because they automatically contrast positive daydreams with reflections on reality. The mentality of individuals high in achievement motivation outlined in the introduction seems to support such an interpretation. For example, since individuals high in achievement motivation tend to perceive time as passing rapidly, imagining goal attainment may induce a sense of urgency and of running out of time. Similarly, because people high in achievement motivation seem to have a more extended time perspective, they may automatically tend to consider the current reality when imagining the attainment of a goal in the future. Thus, while daydreaming about attaining a desirable personal goal, individuals high in achievement motivation may spontaneously become aware of the reality in which they have not yet attained their goal. As Oettingen's findings suggest, such a superposition of positive fantasy and reality should motivate people to strive for their goals. Individuals low in achievement motivation, in contrast, may not benefit from positive goal

daydreaming because they do not necessarily contrast positive fantasies with reflections on reality.

The notion that individuals high in achievement motivation may spontaneously contrast positive fantasies and daydreams with reflections on reality is consistent with research showing that individuals high in achievement motivation can be characterized by a realistic, down-to-earth outlook on life. For example, individuals high in achievement motivation strive to obtain an accurate assessment of their skills and competence [29, 30] and typically set high but realistic goals [31, 32]. It seems reasonable to assume that seemingly different correlates of high achievement motivation – perceiving time as passing rapidly, having an extended time perspective and being down to earth – are manifestations of a single underlying mechanism which also leads individuals high in achievement motivation to spontaneously contrast fantasy and reality.

Some limitations concerning the present research need to be mentioned. First, the results are limited to perceived goal attainment, which may be biased or inaccurate. However, a study by Sheldon and Elliot [33, Study 3] suggests that Likert-type ratings of goal attainment are both valid and meaningful. This research employed both ratings of goal attainment and the Goal Attainment Scaling methodology [GAS, 34]. The GAS identifies ranges of potential outcomes at the beginning of a study which are used to objectively assess goal attainment at the end of the study. The correlation between GAS attainment and rated goal-attainment was .71 in this study, suggesting that both methods share a substantial amount of variance. Second, the results of the present study are limited to the sample of first-year university students and to the two goals the present study focussed on. The generality of the effects reported here should be examined in future analyses using different samples, different goals, and different outcome variables.

In sum, the present research yielded encouraging results which suggests that daydreaming may play an important motivational function by mediating between goal commitment and goal attainment for individuals high in achievement motivation. By extending the scope and using different methodologies in future research, we may further enhance our understanding of the motivational significance of daydreaming and imagery.

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Footnotes

[1] The data for this study were collected as part of a larger project, and a portion of the data was examined in a study by Langens and Schmalt (under review) to investigate a conceptually distinct set of issues.

Table 1

Descriptive Statistics and Two-Tailed Correlations Among Variables for the Total Sample and for Individuals High and Low in Achievement Motivation

	Total Sample				Low Achievement				High Achievement			
	1	2	M	SD	1	2	M	SD	1	2	M	SD
1. Goal Commitment			5.71	.73			5.74	.73			5.67	.74
2. Positive Daydreaming	.13		1.29	1.46	-.22		1.38	1.68	.60**		1.19	1.23
3. Goal Attainment	.43**	.19	4.35	1.04	.51**	-.15	4.55	.90	.38+	.54**	4.14	1.15

Note. N = 52 for the total sample. N = 26 for individuals low in achievement motivation. N = 26 for individuals high in achievement motivation.

** p < .01. * p < .05. + p = .06.