



Supplementary Materials for

Just Think: The Challenges of the Disengaged Mind

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Studies 1-6: Standard Instructions versus Prompted Fantasy Instructions

Participants. Participants were 413 undergraduate university students (211 female, 162 male, 40 unspecified) who participated for course credit or pay. Four participants were dropped from the analyses of Study 1 due to experimenter error. For example, one person in the control condition was inadvertently left with a pen and wrote a to-do list during the fantasy period, and another was inadvertently left with an instruction sheet, which he used to practice origami during the time he was alone.

Procedure. Participants completed the study individually in a sparsely-furnished room in a psychology building. In Studies 1-4 instructions and dependent measures were presented on paper; in Studies 5-6 they were delivered on a computer via a Qualtrics program (Qualtrics, Provo, UT). In each study participants were randomly assigned to a standard instructions condition or one or more prompted fantasy conditions. The specific instructions participants received in these conditions are described in Table S1. Other procedural differences across studies are noted in Table S1; for example, participants in Studies 1-2 were told how long the thinking period would be and asked to follow the time on a clock, whereas participants in Studies 3-6 were given an estimate of the time (e.g., “10-15 minutes) and there was no clock in the room. The length of the thinking period ranged from 6 to 15 minutes (see Table S1). In addition to the main dependent measures reported in Table 1, we included a variety of exploratory measures, such as how much people were letting their thoughts flow and how much they were trying to control their thoughts. A list of these measures, and the data from all studies, are available at <https://osf.io/cgwdy/files/>.

Results. The mean reported enjoyment of the thinking period is displayed in Table S1 for each condition. There were no significant differences between prompted fantasy and standard instruction conditions in any study.

Study 7: Just Thinking at Home

Participants. As described below, there were two parts to the study, an initial session and then the experiment that participants completed in their homes. Two hundred college students participated in the first session; 192 of them (96%) visited the web site for the experimental session; and 169 (85%; 98 female, 67 male, 4 unspecified) completed the experimental session with usable data. Participants received partial course credit for each session.

Procedure. Participants first attended a session in the psychology building at which they completed individual difference scales and received instructions about the second part of the study. The experimenter explained that they would receive an email with a link to a web program that would administer the study, and that they should complete Part 2 in their apartment or dorm room at a time when they did not feel rushed and were free of all distractions. The experimenter emphasized that Part 2 should be completed only after participants turned off phones, televisions, and any music devices, and put aside any reading materials such as magazines or books. When participants clicked on the link they were connected to a Qualtrics survey software program that gave instructions identical to those in our lab studies, namely that they should spend the “thinking period” (12 minutes in this case) entertaining themselves with their thoughts, without falling asleep or getting up from their chair. Participants were reminded to turn off all electronic devices and to avoid other external distractions such as reading materials.

Participants were randomly assigned to one of four conditions in a 2 (Standard vs. Prompted Fantasy Instructions) x 2 (No Task vs. Minimal Monitoring Task Condition). The former manipulation was identical to the one used in Studies 5-6. For the latter manipulation, half of the participants received no instructions about an additional task whereas the other half were told that reminder instructions would appear on the computer screen during the thinking period two times, and that when they did they should click on them and continue with their thoughts. The reminder instructions, which appeared at the 4 and 8 minute marks of the 12 minute thinking period, repeated what participants had been told earlier about what to think about (see below, under the section “Scanner Hypothesis,” for a discussion of the results in this condition). After the thinking period participants completed the dependent measures (which were the same as in the previous studies). Twenty-six participants were dropped from the analyses because they spent more than 13 minutes on the Thinking Period, suggesting that they were not paying attention or following instructions. The results are very similar if all participants are included in the analyses or if a stricter criterion is used.

Study 8: Comparing Just Thinking to External Distractions

Participants. Participants were 30 undergraduate psychology students (15 female, 14 male, 1 unspecified) who participated for course credit.

Procedure. The procedure was identical to Study 7. Half of the participants were randomly assigned to the standard instructions-no monitoring task condition and half were assigned to a new external activities condition. Participants in the latter condition were instructed to entertain themselves with one or more activities from a list that included watching a television show or movie, reading an enjoyable book or magazine, working on a puzzle (e.g., a crossword or Sudoku puzzle), looking at web pages (e.g., Facebook, Youtube), playing a videogame, and

listening to music on the radio. Participants were told that they could switch from one activity to another if they wanted, with the goal of “finding something enjoyable to do.” They were further instructed not to communicate directly with anyone else during the free time period, such as texting or talking on the phone. “The goal,” they read, “is to find something entertaining to do by yourself.” Participants then wrote down on a piece of paper the three activities from the list that they thought they would do, asked to keep that list nearby for reference, though they did not have to do all of them. Thus, participants in the standard instructions condition received our usual instructions to entertain themselves with their thoughts, whereas participants in the external activities condition received instructions to entertain themselves with one or more external activities. All participants then completed the same dependent measures as in Study 7.

Study 9: Community Sample

Participants. We recruited participants in two ways. First, research assistants stood at a table at a farmers’ market with a sign that read, “On-Line Psychology Study.” Interested passersby were told that they would receive a \$5 gift certificate if they participated in an on-line study in their homes. They were given written and verbal instructions similar to those received by participants in Study 7, namely that they should complete the study at home at a time when they did not feel rushed and were free of all distractions. The research assistant emphasized that the study should be completed only after participants turned off phones, televisions, and any music devices, and put aside any reading materials such as magazines or books. On two separate days, a total of 118 people gave us legible email addresses. Of these, 54 (46%) visited the web site and 47 (40%; 33 female, 14 male) completed the study. Second, we visited a local Methodist church at a social hour following a Sunday service and delivered the same written and verbal instructions as people received at the farmers’ market. Of the 24 people who provided us with

their email addresses, 21(88%) visited the web site and 19 (79%; 13 female, 6 male) completed the study. Combining the two samples, a total of 66 people completed the study (46 females, 20 males). We dropped from the analyses the data from four college student participants who said they had participated in one of our other studies and one person who stopped participating after being assigned to one of the experimental conditions, restarted the program, and was assigned to the other experimental condition. The resulting sample consisted of 61 participants (42 female, 19 male), who ranged in age from 18 to 79 ($M = 49.16$, $Mdn = 58.0$) and had a median income of \$75,000. The highest degrees obtained were high school (5%), some college (10%), a two-year college degree (7%), a four-year college degree (30%), and a post-graduate degree (49%). (Note that the demographic data reported in the main text are for the control condition only; these figures include both conditions, as described below.)

Procedure. The procedure was an exact replication of Study 7 (standard instructions only) except for these changes: As in Study 7 we randomly assigned participants to a no task or minimal monitoring task condition. In the minimal monitoring task condition, however, instead of presenting people with reminder instructions at the 4 and 8 minute mark of the thinking period, the phrase, “Please continue with the Thinking Period” was displayed. We made this change to rule out an alternative explanation of the results of the monitoring condition of Study 7, namely that giving them reminder instructions reminded them of what they were supposed to be doing and got them back on track.

Unlike in Study 7, participants did not complete any individual difference measures before completing the study. After the main dependent measures they completed the Need for Cognition scale (30), the single-item measure of the Big 5 personality traits, questions about their use of smart phones, social media, and demographics. The smart phone questions asked

participants to rate how frequently they used a smart phone to read and send email, read and send texts, browse the web, listen to music, watch videos, and other, all on 7-point scales, where 1 = *never* and 7 = *daily*. We summed people's responses to these questions to create an index of smart phone use. The social media questions asked participants how often they used Facebook, Twitter, Youtube, LinkedIn, and an email program, on the same 7-point scale. We summed people's responses to these questions to create an index of social media use.

Results. Here we report the results in the no task condition; see the section, "Analysis across Studies: Scanner Hypothesis" below for the results in the minimal monitoring condition. Similar to our college students participants in Study 7, our community participants found it difficult to follow the instructions: 54% reported that they had "cheated" by engaging in an external activity (e.g., consulting their cell phones, writing/doodling) or getting up out of their chair during the thinking period. Their reported level of enjoyment of the thinking period was higher than our student sample; $M_s = 5.81$ vs. 4.35 ($SD_s = 1.84, 1.95$), possibly because of self-selection. After learning about the study, fewer community participants (46%) than students (85%) completed the study on-line at home. Thus, it may be that a higher percentage of community members who would have disliked the study opted not to do it. And, it should be kept in mind that more than half of the community members who completed the study cheated by seeking external distractions.

As mentioned in the main text, the reported level of enjoyment of the thinking period was unrelated to participants' age, education, income, or the frequency with which they used smart phones or social media. It was correlated with participants' scores on the Need for Cognition scale and the Openness to Experience item from the Big 5 (see Table S2 for details).

Study 10: Shock Study

Participants. Participants were 55 undergraduate students (31 female, 24 male) who participated for course credit or pay.

Procedure. Participants were informed that the purpose of the study was to learn how people rate various external stimuli and how they are able to pass the time with their thoughts. The study would be in two parts, they learned, and they would complete parts both on a computer. The instructions said that the first part would involve rating the pleasantness or unpleasantness of a variety of stimuli, including sounds, pictures, and a mild electric shock. “The shock is designed to be unpleasant but not painful,” participants read, “nothing more than you would experience from a static shock.” Part 2, they learned, would involve sitting by themselves for 10-20 minutes. During this time, participants read, “You will also be given the opportunity to experience one or more of the stimuli you had previously rated.” Participants were then asked to sign a consent form that included the statement, “You will be asked to do one or more of the following: think about topics of your choice while sitting by yourself, work on a problem solving task, rate various stimuli as to how pleasant or unpleasant they are (e.g., pictures, sounds, mild electric shocks).” All participants signed the consent form and agreed to participate.

The experimenter then attached two Ag-AgCl shock electrodes to the participant’s ankle, which were connected to an isolated physiological stimulator (Coulbourn Instruments, Allentown, PA). Participants were told that at a certain point the computer program would ask them to deliver a shock to themselves, which they could do by pressing the number 5 on a numeric keyboard. The keyboard and shock apparatus were connected to a computer in the next room that recorded the number of times participants administered shocks.

Participants were then left alone in a sparsely-furnished room, where they received instructions and answered questions on a computer running a Qualtrics program. After rating

their current emotional state on items from the PANAS (28) and other filler questions, participants read instructions reiterating the purpose and procedures of the study. Then they completed the first part of the study, which involved rating three negative stimuli (the sound of a knife rubbing against a bottle, the electric shock, a color photo of a cockroach) and three positive stimuli (guitar music, a color photo of a river scene, a color photo of a bird). Participants rated the pleasantness of each stimulus on a 9-point scale ($1 = \textit{very unpleasant}$, $9 = \textit{very pleasant}$). They also were asked to imagine that the experimenter gave them \$5, and indicated the amount (if any) they would pay to see/hear/experience the stimulus again in the second part of the study and the amount (if any) they would pay NOT to see/hear/experience the stimulus again in the second part of the study.

All participants delivered the shock to themselves in this first part of the study. Thus, in Part 2 of the study, when people had the opportunity to shock themselves again, everyone knew what the shock entailed and how painful it was. We initially set the intensity of the shock at the same level, 4 milliamperes (mA), for men and women. In pilot testing we discovered, however, that women rated the shocks as more painful than men, which is consistent with research showing that women have a lower threshold of pain tolerance (29). We thus reduced the level for women to 2.3 mA whereas men continued to receive 4mA. With this procedure there was no significant difference in the pleasantness ratings of the shock, $t(52) = 1.40$, $p = .167$ (men rated the shocks as somewhat less pleasant).

Participants then read the instructions to Part 2 of the study, which were very similar to those given in the standard control condition of our previous studies. Specifically, participants learned that they would be asked to sit by themselves in the room without getting up from their chair or falling asleep. They were told that they could think about whatever they wanted, with the

goal of “entertaining yourself with your thoughts as best you can. That is, your goal should be to have a pleasant experience, as opposed to spending the time focusing on everyday activities or negative things.” In preparation for the thinking period, they were then asked to describe three activities they might enjoy thinking about. “You don’t have to think only about these items that you write down,” they read, “but these can be starting points if you want.”

Participants then read that during the thinking period they “can also experience one of the stimuli (sounds, shock, pictures) you rated earlier, but only if you want to. Different participants may get different stimuli in Part 2.” They were asked to wait a few seconds for the computer to display the stimulus that would be available to them. All participants learned that the electric shock would be available during the thinking period, that they could experience it again if they wanted to, but that “Whether you do so is completely up to you--it is your choice.” Participants were quizzed with two questions to make sure they understood the instructions and asked to call for the experimenter, who came in and answered any questions. Participants then were left alone for 15 minutes. During this time the computer in the next room recorded how many times (if any) they opted to shock themselves. Following the thinking periods participants answered questions on the computer, similar to our previous studies, about how much they enjoyed the thinking period, etc.

Results. It is important to remove from consideration participants who did not find the shocks to be unpleasant. In the main text we thus reported the results for the 42 participants (out of 55) who reported in Part 1 of the study that they would pay not to receive the shock again. The results are similar if we include all 55 participants: 71% of the men and 26% of the women gave themselves at least one shock during the thinking period. When we use a stricter criterion, including only those who were willing to pay to avoid the shocks again and who rated the

pleasantness of the test shock below the midpoint of the scale (resulting in an n of 27), 64% of the men and 15% of the women gave themselves at least one shock during the thinking period.

We analyzed participants' reported enjoyment of the thinking period with a 2 (male vs. female) x 2 (did not shock themselves, did shock themselves) analysis of variance (ANOVA). There was a significant main effect of gender, $F(1, 38) = 11.59, p = .002$, reflecting the fact that men reported higher enjoyment than women, $M_s = 5.35$ vs. 3.89 ($SD_s = 1.67, 1.48$). Participants who shocked themselves reported less enjoyment than those who did not, $M_s = 4.46$ vs. 4.56 ($SD_s = 1.63, 1.80$), but this difference was not significant, $F(1, 38) = 2.55, p = .118$. The interaction was not significant, $F(1, 38) = < 1, ns$. It should be noted that this is the only study in which we found a gender difference in reported enjoyment of the thinking period.

Analysis across Studies: Individual Differences in Enjoyment of Just Thinking

We assessed the relationship of several individual difference measures to reported enjoyment of the thinking period. Some of these measures were assessed in an on-line pretesting session conducted by the Department of Psychology prior to participation in our study; some were completed in initial sessions prior to our study; and others were completed at the end of our studies. The correlations between these measures and enjoyment of the thinking period are reported in Table S3, along with the results of two regression models that entered different measures simultaneously.

Test of Person-Situation Fit Hypotheses (Studies 1-7)

We collapsed across all studies that randomly assigned participants to the standard or prompted fantasy instructions (Studies 1-7) and conducted regression analyses to see whether individual difference variables moderated the effects of the instructional manipulations. Three of the Big 5 personality traits, conscientiousness, emotional stability, and conscientiousness, were

significant or nearly-significant moderators: Condition x Agreeableness $t(365) = -3.48, p = .001$; Condition x Emotional Stability $t(365) = -2.62, p = .009$, and Condition x Conscientiousness $t(364) = -1.909, p = .057$. When we entered agreeableness, emotional stability, conscientiousness, and all interactions into a regression, the only significant effects were a main effect of Agreeableness, $t(351) = 2.43, p = .02$, and the Condition x Agreeableness interaction, $t(351) = -2.68, p = .008$. In the standard control condition, participants who were high in agreeableness enjoyed themselves more than did participants who were low in agreeableness (see Figure S1). Perhaps agreeable participants were more willing to go along with the instructions to entertain themselves with their thoughts than were disagreeable participants. When given more specific instructions and time to prepare (in the prompted fantasy condition), disagreeable participants enjoyed themselves as much as agreeable participants. Put differently, when situational demands were low, individual differences in agreeableness predicted enjoyment, but in a more structured situation, they did not.

Study 11: Forecasters

We investigated whether people are aware of the conditions under which they enjoy thinking the most. Participants read a description of either the standard instruction or prompted fantasy condition of Study 6 and then predicted how much they would enjoy the thinking period.

Participants. Participants were 66 undergraduate students (49 female, 17 male) who participated in return for a \$5 gift certificate to Amazon.com. An additional 25 participants (21 female, 4 male) participated but indicated that they had taken part in one of our earlier studies and were thus not included in the analyses.

Procedure. We emailed an invitation to students who had indicated a willingness to participate in psychology studies. Those who chose to participate clicked on a link that took them

to a Qualtrics program. These participants were asked to imagine that they had participated in a psychology experiment and to predict how they would respond. They were asked to complete the study only if they had the time to read the materials carefully, and told that there would be questions at the end testing their recall of the material presented. After reading a consent form and agreeing to continue, participants read a detailed description of either the standard instructions condition or prompted fantasy condition of Study 6. They then completed the dependent measures of Study 6 as they thought they would if they had been a participant in the study. After that participants completed the brief Big 5 personality measure (the same ones completed by participants in Study 6) and five questions testing their recall of the details of the study they read about.

Results. We conducted the same regression analyses used to test the person-situation fit hypothesis in the main text (see Figure S1). Specifically, participants' predicted enjoyment of the thinking period was regressed on the condition they read about (standard instructions, prompted fantasy), the standardized agreeableness or conscientiousness scores, and the interaction between condition and standardized agreeableness or conscientiousness. There were no significant effects in the regression assessing agreeableness, $t_s(62) = -1.39, p = .17$. This could be a power issue, of course, given that we had substantially fewer participants in the forecaster study than we did in the studies shown in Figure S1. However, the pattern of the interaction among forecasters did not match the pattern shown in Figure S1. Instead, participants low in agreeableness predicted that they would enjoy the prompted fantasy condition more than did participants high in agreeableness, whereas they made very similar predictions about how much they would enjoy the standard control condition.

Analysis Across Studies: What Topics Are Enjoyable To Think About?

It is not enough to have the cognitive resources to engage in directed thinking and to know the conditions that best match one's personality—one has to know what to think about. To see what kinds of thoughts predicted enjoyment, we analyzed participants' written descriptions of their thoughts with the Linguistic Inquiry and Word Count (LIWC) program (18). The thought categories that best predicted enjoyment of the thinking period are displayed in Table S4. Not surprisingly, there was a tendency for the use of negative emotions words to predict less enjoyment. Writing about work (probably schoolwork, in our student population) also correlated negatively with enjoyment. Of greater interest, the more social and inclusion words people used the more enjoyment they reported. This variable is the sum of social words (a large category that includes all non-first-person-singular personal pronouns, verbs that express human interaction, such as “talk,” and nouns referring to close others, such as “friend” and “family”) and inclusive words (such as “with,” “close,” and “around”). Also, the more people wrote about the future relative to the present, the greater their enjoyment. Together, these analyses suggest that people enjoyed thinking about future activities with close others. It is well-known that the frequency and quality of contact with other people is a major predictor of happiness (31). Our results suggest that when people are by themselves with no external distractions, they enjoy creating virtual social contact in their heads (32).

Analysis across Studies: Scanner Hypothesis

In addition to the experimental conditions reported in the main text, we have investigated whether participants would enjoy the thinking period more if they were given a minimally engaging task to do at the same time. Our reasoning was that when people have nothing to do, the mind might search the environment for something worthy of attention--but because it can't find anything to “lock onto,” it keeps searching, using up resources that could be devoted to

thinking. Paradoxically, it might be easier to sustain an internal line of thought in the presence of minimal external stimulation than no stimulation, because in that case the scanner stops searching for something to lock onto (26). This would explain why our participants find it difficult to entertain themselves with their thoughts in a barren environment, and yet people often report that they daydream when minimally engaged in a task, such as driving a car or listening to music.

We tested the scanner hypothesis in Study 4 by randomly assigning half of the participants to a “fidget” condition, in which they were given a rubber band and asked to “manipulate it or play with it in any way you would like” during the thinking period. We hypothesized that having an object to fidget with would occupy the scanner enough to make it easier to generate pleasant thoughts. Contrary to this hypothesis, however, there was no significant effect of the fidget manipulation on reported enjoyment of the thinking period, $F(1, 72) < 1$, *ns*. (The data reported in Table S1 for Study 4 are for the no fidget condition only.) We tried a different approach in Studies 7 and 9: Some participants were randomly assigned to the standard condition in which they were asked to entertain themselves with their thoughts in the absence of any external distractions, whereas others were assigned to do the same thing, but also to engage in a minimal monitoring task during the thinking period, as described earlier in the methods sections of the supplementary materials. As it happened, the results were in different directions in these two studies. In Study 7, participants in the monitoring condition reported that it was not as difficult to concentrate on their thoughts (5.13 vs. 6.09, *SDs* = 1.96, 1.72), $t(73) = 2.25$, $p = .03$. They also reported higher enjoyment of the thinking period (*Ms* = 4.94 vs. 4.35, *SDs* = 1.94, 1.95), though this difference was not significant, $t(73) = 1.29$, $p = .20$. In Study 9 (the community sample), however, participants in the monitoring condition reported that it was

slightly harder to concentrate on their thoughts ($M_s = 4.88$ vs. 4.21 , $SD_s = 2.70, 2.33$) and reported less enjoyment of the thinking period than did people in the no monitoring condition ($M_s = 5.09$ vs. 5.81 , $SD_s = 1.57, 1.84$). Neither difference was significant, $t(59) = 1.64$, $p = .11$ and $t(59) = 1.02$, $p = .31$. Thus, to date the idea that people will enjoy thinking more when they are engaged in a minimally engaging task has not received much support.

Table S1: Reported Enjoyment in Standard and Prompted Fantasy Conditions

Study	Min [‡]	N	Standard Condition: M (SD)	Prompted Fantasy Conditions						F	p
				Version 1 ^a M (SD)	Version 2 ^b M (SD)	Version 3 ^c M (SD)	Version 4 ^d M (SD)	Version 5 ^e M (SD)	Version 6 ^f M (SD)		
Study 1*	15	68	4.471 (1.568)	5.333 (1.686)	4.083 (2.119)	5.356 (1.237)				2.391	.08
Study 2*	15	53	4.412 (1.934)	4.510 (1.796)			4.67 (1.18)	4.704 (1.637)		.06	<i>ns</i>
Study 3 [#]	12	84	4.494 (1.562)				4.161 (1.57)	4.857 (1.649)		1.359	.26
Study 4 [#]	12	39	5.267 (1.583)				5.947 (1.758)			1.618	.21
Study 5 [#]	12	63	5.490 (1.745)						5.129 (1.740)	.674	<i>ns</i>
Study 6 [#]	6	65	5.879 (1.756)						5.677 (1.894)	.198	<i>ns</i>
Study 7 ^{#†}	12	79	4.349 (1.946)						4.991 (1.897)	2.206	.14

[‡]Length of the Thinking Period (minutes)

^aVersion 1: Participants picked a topic from a menu of three (going on a hike in a beautiful location, ordering and eating dinner at a fine restaurant, or playing a sport) and were asked to imagine doing it in the future. They wrote a few sentences planning their fantasy and then completed a timeline in which they indicated what they would be fantasizing about each minute of the thinking period. They were also asked to look at clock occasionally during the thinking period to help them imagine the activity in real time.

^bVersion 2: Same as Version 1, except participants were told that if their mind wandered, to return to the point in their fantasy where they left off.

^cVersion 3: Same as Version 1, except participants were told that if their mind wandered, to skip ahead in their fantasy to the proper point on the timeline.

^dVersion 4: Same as Version 1, except participants did not complete a timeline

^eVersion 5: Same as Version 1, except that participants described two “equally pleasant but different” endings to their fantasy and were asked not to choose which one to imagine until they were well into the thinking period.

^fVersion 6: Same as Version 1, except participants were not given a menu to choose from but asked to choose three activities they would enjoy thinking about. For each one they wrote about what they would be doing, where they would be, and who (if anyone) they would be with, and then were asked to spend the thinking period thinking about one or more of their activities, or something different, as long as the topic was pleasant and entertaining.

*Participants in Standard Conditions were told to “think about whatever you want.” All participants were told that Thinking Period would last 15 minutes and there was a clock in the room.

#Participants in Standard Conditions were told to “spend the time entertaining yourselves with your thoughts.” Participants given a range of time for the thinking period (e.g., “10-15 minutes”) with no clock in room.

[†]Study completed in participants’ home.

Table S2. Predictors of Enjoyment in Study 9 (Community Sample)

Predictor Variable	No Task Condition (<i>N</i> = 27 to 28)					Minimal Monitoring Condition (<i>N</i> s = 31 to 33)				
	<i>r</i>	Model 1		Model 2		<i>r</i>	Model 1		Model 2	
		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Age	-.01	.01	.03	.02	.02	.01	.02	.02	.02	.02
Education	.15	-.06	.41	-.40	.37	-.07	-.12	.26	-.24	.30
Income (log)	-.20	-.22	.61	-.39	.55	-.38*	-1.15*	.47	-.76	.46
Smart Phone Use	-.24	-.05	.03	.00	.03	-.07	.04	.03	.01	.03
Social Media Use	.12	.16	.10	.04	.10	-.06	-.06	.07	-.02	.07
Meditation Experience	.32 [†]					.24				
Engaged in Meditation	.13			-.13	.21	.40*			.22 [†]	.11
Agreeableness	-.06					.40*				
Conscientiousness	.18					-.30 [†]				
Openness to Experience	.45*			.30	.32	.40*			.33	.28
Need for Cognition	.58***			1.49*	.63	.25			.84	.59
<i>R</i> ²		.18		.49 [†]			.20		.47*	
Adjusted <i>R</i> ²		-.01		.26			.04		.28	

[†]*p* < .10 **p* < .05 ***p* < .01 ****p* < .005

Table S3: Correlations between Reported Enjoyment of the Thinking Period with Individual Difference Measures

Variable	Standard Conditions				Prompted Fantasy Conditions					
	<i>r</i> with Enjoyment (<i>N</i>)	Regression Model 1 (<i>N</i> = 116)		Regression Model 2 (<i>N</i> = 114)		<i>r</i> with Enjoyment (<i>N</i>)	Regression Model 1 (<i>N</i> = 95)		Regression Model 2 (<i>N</i> = 95)	
		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
SIPI Pos Daydreaming ^a	.180* (123)	.757*	.308	.838**	.306	.428*** (98)	1.491***	.319	1.452***	.340
SIPI Poor Attention ^a	-.307** (123)	-1.124***	.273	-1.013***	.315	-.218 * (98)	-.735*	.294	-.674*	.320
Big 5: Agreeableness ^b	.204*** (205)	.640**	.188	.594**	.205	-.030 (202)	.003	.178	-.025	.230
Big 5: Emotional Stability ^b	.224* (204)			.094	.186	.012 (203)			.295	.189
Big 5: Conscientiousness ^b	.181* (203)			.149	.179	-.003 (203)			-.180	.226
Big 5: Openness ^b	.184* (185)			.195	.165	.097 (184)			.074	.196
Big 5: Extraversion ^b	-.029 (205)			-.367*	.169	.055 (203)			.015	.187
Engaged in Meditation ^c	.161* (190)					.159* (179)				
ERQ: Reappraisal ^d	.264** (114)					.159 (95)				
ERQ: Suppression ^d	.251*** (114)					.023 (96)				
Prevention ^f	.265*** (116)					.122 (92)				
Promotion ^f	.206* (115)					.186 (95)				
COPE: Suppression ^e	.188 (90)					.197 (67)				
COPE: Pos Reinterp ^e	.097 (90)					.223 (67)				
COPE: Mental Diseng ^e	-.044 (90)					-.188 (67)				
Mindfulness ^g	.258* (76)					.020 (67)				
Reflection ^h	.052 (114)					.198 (95)				
Beck Depression Inv ⁱ	-.183* (117)					-.179 (97)				
Working Mem Storage ^j	.062 (109)					-.051 (98)				
Working Mem Att ^j	.054 (109)					-.041 (98)				
Working Mem Exec ^j	-.089 (109)					.035 (98)				
Initial Positive Affect ^k	.160* (152)					.187 (99)				

Initial Stress ^k	-.166* (152)					-.070 (99)				
Initial Alertness ^k	.103 (152)					-.086 (99)				
Hrs Sleep Night Bef ^k	-.042 (172)					-.126 (118)				
Meditation Experience ^l	.154* (233)					.143* (260)				
Prayer Experience ^l	.122 (191)					.016 (180)				
Engaged in Prayer ^c	.002 (190)					.093 (179)				
Gender ^m	-.052 (232)					-.032 (259)				

* $p < .05$ ** $p < .01$ *** $p < .005$

Note. The N s vary because not all scales were included in all studies. When we added (individually) each of the scales that were significantly correlated with enjoyment to Model 1, none of the resulting standardized betas for these scales were significant, with the exception of the ERQ: Suppression in the standard condition, $\beta = .178$, $p = .03$.

^aItems from the Positive-Constructive Daydreaming and Poor-Attentional Control Scales of the Short Imaginal Processes Inventory (11)

^bSingle-item measures of the Big-Five personality traits (33)

^cQuestion asking participants extent to which they engaged in meditation or prayer during the thinking period

^dSubscales of the Emotion Regulation Questionnaire (ERQ), assessing the extent to which people regulate their emotions with cognitive reappraisal and expressive suppression (34)

^eItems from the Suppression of Competing Activities, Positive Reinterpretation and Growth, and Mental Disengagement subscales of the COPE inventory (35)

^fPromotion and prevention subscales of the Regulatory Focus Questionnaire (36)

^gItems from the Mindfulness Attention Awareness Scale (37)

^hReflection subscale of the Rumination-Reflection Questionnaire (38)

ⁱFour items from the Beck Depression Inventory (39)

^jItems from the three subscales of the Working Memory Questionnaire that assess short-term storage, attention, and executive control (40)

^kParticipants' ratings of positive affect, stress, alertness, and amount of sleep the night before, reported right before the Thinking Period

^lReported experience with the practice of meditation or prayer

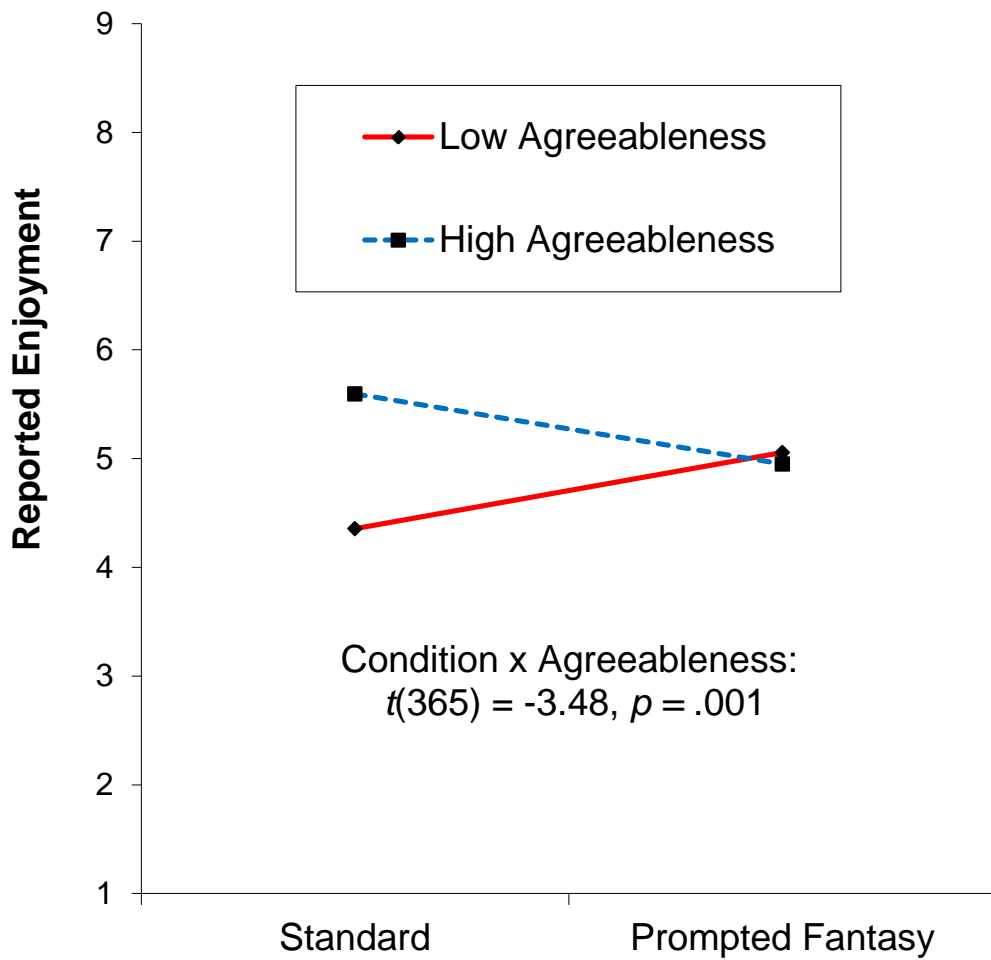
^m1 = male, 2 = female

Table S4. Predictors of Enjoyment of Thinking Period

Predictor Variable	Standard Conditions (<i>N</i> = 218, <i>adj R</i> ² = .169)		Prompted Fantasy Conditions (<i>N</i> = 262, <i>adj R</i> ² = .093)		Combined (<i>N</i> = 480, <i>adj R</i> ² = .123)	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Negative Emotions	-.116	.083	-.082	.096	-.114 [†]	.063
Work-Related Words	-.056*	.023	-.112***	.036	-.068***	.019
Social & Inclusion Words	.029	.018	.032*	.016	.031*	.012
Future minus Present	.066*	.031	.082***	.028	.067***	.020
Number of Words	.008***	.002	.003*	.002	.006***	.001

[†]*p* < .10 **p* < .05 ***p* < .01 ****p* < .005

Fig. S1. The interaction between dispositional agreeableness and fantasy instructions. These data are averaged over all studies that randomly assigned people to the standard thinking or prompted fantasy instructions (Studies 1-7).



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