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Forbidden Fruit: Inattention to Attractive Alternatives Provokes Implicit Relationship Reactance

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Being inattentive to attractive relationship alternatives can enhance relationship well-being. The current investigation, however, demonstrates that implicitly preventing people from attending to desirable relationship alternatives may undermine, rather than bolster, the strength of that person's romantic relationship. Consistent with the notion of "forbidden fruit," we found that subtly limiting people's attention to attractive alternatives reduced relationship satisfaction and commitment and increased positive attitudes toward infidelity (Experiment 1), increased memory for attractive relationship alternatives (Experiment 2), and increased attention to attractive alternatives (Experiment 3). Findings suggest that although attention to attractive alternatives can harm one's relationship, situations that implicitly limit one's attention to alternatives can, rather ironically, increase the temptation of alternatives and undermine relationship well-being.

Keywords: romantic relationships, attention, interest in alternatives, infidelity

Long-term romantic relationships bring tremendous love and happiness and can satisfy people's need for lasting social bonds. People's commitment to a long-term relationship can be threatened, however, by the presence of desirable alternatives to their current relationship partner. Consequently, people display a variety of cognitive processes that help them maintain satisfaction with their relationship in the presence of highly desirable alternatives. Understanding the way in which these processes work provides crucial insight into the means by which relationships ultimately succeed or fail.

One way in which people protect their relationship from the temptation of desirable relationship alternatives is by remaining inattentive to those alternatives. Several studies suggest that among people in a romantic relationship, being inattentive to attractive members of the opposite sex promotes relationship success (e.g., Miller, 1997). In the current work, however, we document just the opposite type of effect. We propose that when circumstances implicitly limit people's attention to attractive al-

ternatives, those alternatives may, rather ironically, garner greater interest rather than less interest and become especially enticing and endowed with a "forbidden" and desirable quality. Moreover, these negative effects of limited attention could reduce satisfaction with and commitment to one's current partner. We refer to this as the "forbidden fruit" hypothesis. The hypothesis is based partially on research from the media literature (Bushman & Stack, 1996; Nije Bijvank, Konijn, Bushman, & Roelofsma, 2009) and relationships literature (Driscoll, Davis, & Lipetz, 1972), which suggests the desirability of things that are forbidden or "off-limits."

In the current study, we tested the forbidden fruit hypothesis in three experiments using samples of romantically involved participants. In each experiment, some participants completed a task in which, unbeknownst to them, they had their attention subtly directed away from attractive alternatives to their relationship partner. We examined the effect this implicit attention modification task had on relationship satisfaction and attitudes toward infidelity (Experiment 1), memory for attractive relationship alternatives (Experiment 2), and attentional bias toward attractive relationship alternatives (Experiment 3). Across these studies, we hypothesized that implicitly limiting people's attention to attractive alternatives would reduce their relationship satisfaction and increase the desirability and salience of attractive relationship alternatives.

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When Are People Inattentive and Contented?

The benefits of romantic relationships are substantial. Romantic relationships contribute powerfully to mental and physical health (Horwitz, White, & Howell-White, 1996; Hu & Goldman, 1990). Involvement in long-term romantic relationships constitutes a fundamental aspect of human nature and can increase individual and interpersonal well-being.

Despite the immense benefits of maintaining long-term romantic relationships, people's commitment can be thwarted by the temptation of romantic alternatives, particularly alternatives who are highly attractive (e.g., Gangestad & Thornhill, 1997; Greiling & Buss, 2000; Haselton & Gangestad, 2006; Kenrick, Neuberg, Zierk, & Kronen, 1994; Lydon, Menzies-Toman, & Burton, 2008; Rusbult, 1983). Consequently, people display a number of psychological strategies aimed at down-regulating the threat of attractive relationship alternatives (Johnson & Rusbult, 1989; Lydon, Meana, Sepinwall, Richards, & Mayman, 1999; Miller & Maner, *in press*; Simpson, Gangestad, & Lerma, 1990).

One cognitive strategy people use to protect their relationship involves limiting their attention to attractive relationship alternatives (e.g., Maner, Gailliot, & Miller, 2009; Maner, Rouby, & Gonzaga, 2008). Some of the most direct evidence regarding the link between attention to alternatives and relationship well-being comes from Miller (1997), who argued that being inattentive to attractive members of the opposite sex functions as a relationship maintenance mechanism. In Miller's study, participants completed a task in which they were given the opportunity to gaze at pictures of attractive people of the opposite sex. Participants who chose to spend less time attending to these photographs reported greater commitment, satisfaction, adjustment, and investment in their romantic relationships. Even more impressive, people who chose to spend less time looking at the photos were less likely to have broken up 2 months later. In fact, inattention to alternatives was an even better predictor of relationship longevity than people's actual reports of relationship commitment and satisfaction. These findings suggest that choosing to pay limited attention to attractive alternatives can be an effective method for promoting relationship commitment and well-being.

More recent evidence suggests that the relationship protective effect of inattention to alternatives emerges even at automatic, "lower order" stages of social perception. Findings from several studies suggest that people interested in finding a romantic partner attend quickly and automatically to attractive members of the opposite sex (e.g., Anderson et al., *in press*; Maner, Gailliot, & DeWall, 2007; Maner, Gailliot, Rouby, & Miller, 2007; Maner et al., 2003). Yet, for people already committed to a romantic partner, priming relationship motives leads their attention to be repelled by, not attracted to, desirable relationship alternatives (Maner et al., 2009; Maner et al., 2008; see also Gonzaga, Haselton, Smurda, Davies, & Poore, 2008). These results complement those of Miller (1997) by showing that inattention to attractive members of the opposite sex occurs quickly and automatically and is linked to goals and emotions designed to fortify one's relationship.

Despite this literature, there are reasons to expect that, in some cases, inattention to attractive alternatives might produce relationship-damaging effects. We propose that a critical factor is whether inattention to attractive alternatives is internally versus externally motivated. The literature indicates that when inattention to attractive alternatives is internally motivated and freely chosen, inattention has positive consequences for relationship outcomes. In Miller's (1997) work, for example, participants were free to gaze at images of attractive members of the opposite sex and were unaware that their behavior was being observed. Under those circumstances, some participants chose to refrain from attending to attractive members of the opposite sex, and those individuals

displayed greater relationship commitment and experienced greater relationship success.

In contrast, we propose that, when inattention to attractive alternatives is externally imposed rather than internally motivated, inattention may produce relationship damaging effects. When attention to attractive alternatives is limited by extrinsic constraints posed by the situation or social environment, for example, inattention may have a detrimental effect on relationship processes. Under these circumstances, attractive relationship alternatives may become like forbidden fruit. This prediction fits with research suggesting that extrinsic motivation tends to undermine intrinsic motivation (Deci, 1971). In the prejudice literature, for example, internal motivation to reduce prejudice produces positive effects for intergroup interactions, whereas external motivation tends to undermine the quality of intergroup interactions (Plant, Devine, & Peruche, 2010). When situations pressure people into reducing their level of prejudice, this pressure can inadvertently increase prejudice, producing a "backlash" effect (Plant & Devine, 2001). Considered in the context of the current investigation, we expected that when situations prevent people from attending to desirable relationship alternatives, it may undermine people's intrinsic motivation to forego those alternatives and to stay committed to one's current partner. When the motivation to attend away from desirable alternatives is extrinsically rather than intrinsically motivated, inattention to alternatives may harm relationship commitment, rather than heighten it.

The Forbidden Fruit Hypothesis

Our primary hypothesis—the forbidden fruit hypothesis—predicts that imposing limitations on participants' attention to attractive alternatives will diminish relationship satisfaction and commitment. Just as people want jobs they cannot have, salaries they cannot earn, and cars they cannot afford, people may desire attractive alternatives more and desire their current relationship partner less when they are placed in situations that limit their ability to attend to attractive alternatives. The notion of forbidden fruit comes from the Biblical story set in the Garden of Eden in which Eve ate a quince—a fruit that God admonished both Eve and Adam from eating. Eve did not eat the fruit because it was the tastiest food available. Instead, Eve's desire for the fruit grew because God forbade her to eat it.

The story of the forbidden quince underscores a general human tendency to want what we cannot have. Reactance theory (Brehm, 1966) posits that people respond forcefully to threats to their own liberty by doubling their efforts to maintain their sense of freedom and autonomy. Hence, forbidding people from having something typically makes them desire it more. One implication is that being prevented from paying attention to alternative relationship partners may make those alternatives seem all the more enticing.

Some indirect evidence for the forbidden fruit hypothesis comes from the media literature. Warning labels, which are designed specifically to forbid people from purchasing or viewing a specific type of media, often have the exact opposite effect for which they are intended: people desire the forbidden media more than when such media are not forbidden (Bushman & Stack, 1996; Nije Bijvank et al., 2009). Thus, forbidding people from having particular types of media causes them to desire it more.

Other work has demonstrated a so-called *Romeo and Juliet effect*, in which members of a romantic couple desire each other more as the forbidden nature of their relationship grows (through parental interference; Driscoll et al., 1972). The implication is that situational factors that limit access to potential romantic partners make those partners seem more desirable.

The forbidden fruit hypothesis is also consistent with the ironic process model of mental control (Wegner, 1994), which suggests that suppressing thoughts about something will lead that thing to become more salient. According to this model, limiting a person's attention to attractive alternatives could have three unintended consequences, all with negative implications for relationship well-being. First, limiting a person's attention to attractive alternatives may make those alternatives become more salient, which, in turn, may lead people to feel less satisfied and committed to their current partner. We tested this possibility in Experiment 1. Second, because suppression often results in a rebound of the forbidden idea, limiting a person's attention to attractive alternatives may actually make those alternatives stand out more strongly in memory. This would be consistent with evidence from Gonzaga et al. (2008), who showed that suppressing thoughts of attractive alternatives can lead desirable aspects of those alternatives to stand out more strongly in memory. We tested effects of inattention on memory for attractive alternatives in Experiment 2. Third, because limiting attention to attractive alternatives should cause the cognitive "monitoring system" to scan the environment for the presence of alternatives (Wegner, 1994), it may lead people to attend selectively to those alternatives. This highlights the essential irony of the forbidden fruit hypothesis: inhibiting people's attention to attractive relationship alternatives may cause the alternatives to capture attention even more strongly. We tested this possibility in Experiment 3.

Implicit Aspects of Relationship Reactance

If people's attention to attractive alternatives was overtly and consciously constrained (e.g., by a jealous partner's scornful reaction), it would perhaps not be so surprising if people responded with greater interest in the alternatives. This would be a straightforward extension of classic reactance theory (Brehm, 1966). But what if the constraints on people's attention to attractive alternatives are implicit and occur below people's conscious awareness?

We proposed that limiting people's attention to attractive alternatives would undermine positive relationship processes, even when the limitations on attention are posed outside people's conscious awareness. This would be consistent with social cognitive theories that goals and motives can be activated and pursued without conscious attention or awareness (Bargh, 1990; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Chartrand & Bargh, 1996). To date, there have been only two investigations into whether reactance processes can operate nonconsciously. Both showed that people need not be aware that their freedom has been limited in order for reactant responding to occur. When participants were subliminally primed with the name of a relationship partner who limited their freedom, they rebelled and pursued a goal that ran counter to the partner's wishes (Chartrand, Dalton, & Fitzsimons, 2007). Similarly, implicitly priming participants with a reactance goal led them to behave inconsistently with an experimenter's wishes (Wellman & Geers, 2009).

For the purposes of the current investigation, we used an attention modification task designed to limit people's attention to attractive alternatives beneath their conscious awareness. The task was a modified dot probe task used in several previous studies to nonconsciously limit people's attention to particular stimuli (e.g., Amir, Beard, Burns, & Bornyea, 2009; Schmidt, Richey, Buckner, & Timpano, 2009). In our experiments, participants completed a version of the task in which photographs of two opposite-sex targets (one highly attractive and one average-looking) were presented on a computer monitor. We subtly manipulated the proportion of trials on which participants attended to the location of the attractive images. In the experimental condition, the task required participants to attend away from the images of attractive targets on the majority of the trials, thus limiting their attention to attractive relationship alternatives. At no point did the experimenter instruct participants to attend away from the attractive alternatives; instead, the task limited participants' attention to attractive alternatives without any awareness that their attention had been constrained. On the basis of the forbidden fruit hypothesis, we predicted that implicitly constraining people's attention would lead them to display lower relationship commitment and satisfaction (Experiment 1), greater interest in relationship alternatives (Experiment 1), greater memory for attractive alternatives (Experiment 2), and heightened attention to attractive alternatives (Experiment 3).

Experiment 1

Experiment 1 provided an initial test of the forbidden fruit hypothesis. Participants completed an implicit attention modification task in which, unbeknownst to them, they were (or were not) limited from attending to attractive members of the opposite sex. After completing this task, participants completed measures of relationship satisfaction and commitment and reported their attitudes toward infidelity. We predicted that implicitly limiting participants' attention to attractive alternatives would reduce their level of satisfaction with and commitment to their relationship and (conversely) increase their interest in infidelity.

Method

Participants. Forty-three undergraduates (26 women, 17 men) participated for partial course credit. All participants were involved in a romantic relationship of at least 1 month in duration. Most participants described their relationship as committed (76.7% committed, 16.3% dating casually, 4.7% married, and 2.3% other). One participant was dropped from analyses because of failure to perform the task correctly (resulting in an error rate > 10 SDs above the sample mean), which left a sample of 42 participants (25 women, 17 men).

Materials and procedure. Participants arrived individually for a study on relationships and were told that they would perform a visual discrimination task, which was actually a modified version of the visual dot probe procedure (MacLeod, Mathews, & Tata, 1986). On each trial, two pictures appeared for 500 ms. After 500 ms, both pictures disappeared, and one of the two pictures was replaced by either the letter *E* or the letter *F*. Participants were instructed to press the *E* or *F* key to indicate the letter. The instructions emphasized the importance of making correct and fast responses. To become familiar with the task, participants then

completed a series of practice trials. The stimuli used for the practice trials contained neutral household objects.

After completing the practice trials, participants completed the main portion of the visual discrimination task. On each trial, two photographs of stimulus persons were presented (one at the top center of the screen and one at the bottom center of the screen) for 500 ms. One of the photographs was always of the face of an attractive opposite-sex individual; the other was always of the face of an average-looking opposite-sex individual. We used 10 images of attractive and 10 images of average-looking opposite-sex individuals, presented in a random order to each participant. All images were extensively pretested, ranked on 1- to 9-point Likert scales (attractive faces, $M = 7.42$, $SD = 1.37$; average faces, $M = 4.71$, $SD = 1.68$).

This part of the computer task was programmed so that some participants were randomly assigned to have their attention implicitly directed away from images of attractive members of the opposite sex. Participants were assigned to one of two conditions: attention-limiting versus control. For participants in the control condition, the target letter appeared an equal number of times in the location of the attractive and average stimulus person. Thus, the type of face was nondiagnostic of where the target letter would appear. For participants in the attention-limiting condition, however, the target letter appeared in the location of the photograph of the average-looking person 80% of the time. In this condition, the type of face was diagnostic of where the target letter would appear. Thus, to perform the task quickly and accurately, participants in the attention-limiting condition generally needed to look away from the attractive stimulus person once it appeared. The task was designed so that the attractive person always appeared in the same location. This aspect of the design encouraged participants in the attention-limiting condition to develop a response tendency in which they would begin to attend away from the location of the attractive face as soon as the face appears. This task has been used previously to nonconsciously train people's attention away from particular types of stimuli (e.g., Amir et al., 2009; Schmidt et al., 2009); data from Schmidt et al. (2009) confirm that participants undergoing this task are unaware that their attention has been manipulated.

The location of the attractive versus average face was counterbalanced so that the attractive person appeared on the top of the screen for half of the participants and the bottom of the screen for the other half of the participants. Participants completed three blocks of 54 trials, for a total of 162 trials.

After completing the computer task, participants completed a "state" version of the Commitment and Satisfaction subscales of the Perceived Relationship Quality Components questionnaire (Fletcher, Simpson, & Thomas, 2000). Example items include "How dedicated are you to your relationship?" and "How happy are you with your relationship?" Participants were instructed to respond to each item according to how they were feeling at that moment. The internal reliability of these items was good ($\alpha = .85$) and responses were summed. Higher scores indicated higher levels of commitment and satisfaction.

Participants also completed a five-item ad hoc attitude toward infidelity scale (ATI). Items on the ATI scale were "Cheating on my partner is morally wrong," "If I could get away with it, I would cheat on my partner" (reverse-scored), "Being faithful to my romantic partner is important to me," "Cheating on my romantic

partner would not be a big deal" (reverse-scored), and "I would cheat on my romantic partner if I was given the opportunity" (reverse-scored). The internal reliability of the five items was good ($\alpha = .78$), and responses were summed. Lower scores indicated more positive attitudes toward infidelity.

After completing these measures, participants were carefully probed for suspicion and any awareness that their attention had been constrained via the attention-modification task. None of the participants reported awareness that his or her attention had been constrained, nor did any of the participants report knowledge of the study's hypotheses.

Results

Relationship satisfaction and commitment. We first examined the effect of the attention manipulation on participants' perceptions of their current relationship. An analysis of variance (ANOVA) showed a significant effect of experimental condition, $F(1, 40) = 4.54$, $p < .04$, $d = .65$. Participants in the attention-limiting condition ($M = 31.90$, $SD = 9.48$) reported less satisfaction and commitment than participants in the control condition ($M = 36.77$, $SD = 4.79$). There was no interaction with participant gender, $\beta = -0.02$, $t(38) = -0.15$, $p = .88$. Thus, participants whose attention to attractive opposite-sex targets was experimentally limited, compared with participants in the control condition, reporting feeling less satisfied with and committed to their current relationship partner.

Attitudes toward infidelity. We next tested the hypothesis that the attention manipulation would cause participants to report more positive attitudes toward cheating on their partner, as assessed with responses to the ATI. An ANOVA revealed the predicted effect of experiment condition, $F(1, 40) = 6.86$, $p = .01$, $d = .80$. These findings did not interact with participant gender, $\beta = -0.10$, $t(38) = -0.10$, $p = .51$. Participants in the experimental condition ($M = 26.15$, $SD = 4.07$), compared with control participants ($M = 28.68$, $SD = 1.91$), reported more positive attitudes toward infidelity.

Discussion

Results of Study 1 supported the forbidden fruit hypothesis. Participants whose attention to attractive alternatives was implicitly limited, compared with participants who did not have their attention limited, reported less satisfaction with and commitment to their current relationship partner. Implicitly limiting participants' attention to attractive alternatives also caused them to report more positive attitudes toward infidelity. Thus, our findings suggest that implicitly limiting people's attention to attractive alternatives had negative consequences for relationship well-being. Notably, no participants reported awareness of the attention manipulation, attesting to the implicit nature of the attention-modification task.

Experiment 2

In Experiment 2, we extended the previous findings by examining effects of the attention manipulation on memory for attractive alternatives. Participants first completed the same attention task as in Experiment 1. Next, they completed a surprise recogni-

tion test in which they were asked to remember some of the faces presented during the attention task (along with a set of foils). We predicted that participants in the attention-limiting condition (compared with those in the control condition) would display better memory for the attractive faces.

Method

Participants. Thirty-nine undergraduates (29 women 10 men) participated in exchange for partial course credit. Participants were involved in a romantic relationship of least 1 month in duration. Most participants described their relationship as committed (73.7% committed, 13.2% dating casually, 7.9% engaged or married, and 5.3% other). Three participants performed the task incorrectly (error rates > 10 *SDs* from the sample mean), leaving a sample of 36 participants (26 women, 10 men).

Materials and procedure. Participants arrived for a study on relationships and, after providing informed consent and completing a short demographic questionnaire, completed the same attention-limiting task used in Experiment 1. By random assignment, participants were assigned to one of two conditions: attention-limiting versus control.

Next, participants completed a distraction task that consisted of a series of anagrams. Each participant unscrambled 15 sets of letters to form words (three blocks of five sets of letters). This task was intended to empty participants' short-term memory of the faces they had just seen in the attention task.

After participants completed the filler task, participants completed a surprise recognition memory task. This memory task was designed to determine whether the attention manipulation affected participants' memory for the faces they had seen in the attention task. Intuitively, one would expect that participants in the attention-limiting condition would display worse memory for the attractive faces, because the target letter had appeared behind those faces only 20% of the time (whereas it had appeared behind those faces 50% of the time for participants in the control condition). However, on the basis of the forbidden fruit hypothesis, we predicted the opposite: that limiting participants' attention would actually increase memory for those attractive faces.

The memory task involved three attractive faces that each participant had seen before, as well as three attractive faces that he or she had not seen. There were also two average faces that each participant had seen before and two average faces that he or she had not seen. A 10-point Likert scale was used (0 = *definitely did not see the face*, 9 = *definitely saw this face*). Similar measures have been used in prior research (Maner et al., 2003). After completing the memory task, participants were carefully probed for suspicion or awareness of the experimental manipulation. None of the participants in either condition reported awareness that his or her attention had been constrained, nor did any of the participants report knowledge of the study's hypotheses.

Results

We predicted that implicitly limiting participants' attention to attractive alternatives would increase their memory for those attractive alternatives. As expected, there was a significant effect of condition on memory for attractive faces seen in the attention task, $F(1, 34) = 4.11, p = .05, d = .66$. There was no interaction with

participant gender, $\beta = -0.28, t(32) = -1.58, p = .13$. Participants in the attention-limiting condition ($M = 6.63, SD = 1.90$) remembered the attractive faces better than did participants in the control condition ($M = 5.15, SD = 2.51$). Thus, implicitly limiting participants' attention from attractive alternatives caused participants to display better memory for those attractive alternatives. There were no significant differences between conditions on recognition rates for average faces that had been seen, attractive foils, or average foils, all $F_s < 1.77, p_s > .19$.

Discussion

Experiment 2 offered additional evidence supporting the forbidden fruit hypothesis. Our findings confirmed a highly counterintuitive prediction: limiting attention to a stimulus caused that stimulus to be remembered better (cf. Becker et al., 2010). Compared with participants in the control condition, participants whose attention was directed away from attractive alternatives showed enhanced memory for those attractive alternatives. We observed no memory improvement for opposite-sex targets who were average in attractiveness. This is notable, because the attention-limiting version of the task was designed so that participants would attend to average-looking targets a high proportion of the time. Yet, it was the attractive targets, not the average-looking ones, who were better remembered. The implication is that implicitly limiting attention to attractive alternatives caused a rebound of the forbidden targets, leading them to stand out more strongly in memory. Thus, limiting attention to attractive alternatives not only detracted from relationship satisfaction and commitment (as shown in Experiment 1), but it also led those attractive alternatives to stand out more strongly in memory.

Experiment 3

In Experiment 3, we investigated whether limiting participants' attention to attractive alternatives would cause them to attend preferentially to attractive members of the opposite sex in a subsequent attention task. This prediction followed directly from ironic process theory (Wegner, 1994), which argues that limiting attention to a stimulus causes people to (nonconsciously) scan the environment for information relevant to the stimulus. In Experiment 3, participants completed the same attention-limiting task as in the previous experiments. Next, they completed a dot-probe task used to assess how much their attention was captured by images of attractive alternatives. We predicted that participants in the attention-limiting condition (compared with participants in the control condition) would have their attention captured more strongly by images of attractive opposite-sex targets.

Method

Participants. One hundred fifty-eight undergraduates (121 women, 37 men) participated in exchange for partial course credit. To participate in the study, participants must have been involved in a romantic relationship of least 1 month in duration. Most participants described their relationship as committed or dating casually (33.5% committed, 41.8% dating casually, 17.1% engaged or married, and 10% other).

Materials and procedure. Participants arrived individually and, after completing a demographic questionnaire, took part in the same attention task used in Experiments 1 and 2. Participants were randomly assigned to either the attention-limiting condition or the control condition.

After completing the attention task, participants were instructed that they would complete a visual cuing task. The task was a version of the visual dot-probe procedure (e.g., Fox, Russo, Bowles, & Dutton, 2001; Maner, Gailliot, & DeWall, 2007). Our version of the task was used to assess attentional engagement (how strongly a stimulus “captures” a person’s attention) and attentional disengagement (how efficiently a person shifts his or her attention away from a stimulus). Each trial followed the same procedure. First, a fixation cross appeared in the center of the computer screen for 1,000 ms. Next, a target face appeared in one quadrant of the computer screen for 500 ms. Once the target photo disappeared, a categorization object (circle or square) appeared in either the same location as the picture (attentional engagement trials) or in the opposite quadrant (attentional disengagement trials). The participant’s job was to categorize the object as a circle or square by pressing the *E* or *I* key, respectively, on the keyboard. The experimenter reminded participants that their responses would be timed, so they should respond as quickly and accurately as possible. Attentional engagement trials (in which the target letter appeared in the same location as the face) was used to measure how strongly attention was initially drawn and held by the target photos (shorter reaction times indicated that attention was firmly fixated on the stimulus, and thus participants responded quickly when the letter appeared in the same location as the face). Attentional disengagement trials was used to measure how long it took participants to pull their attention away from the location of the target photo to a different location on the computer screen (longer reaction times indicated that attention was strongly held by the stimulus face, so that participants were slower at disengaging from the face).

Participants completed a block of 10 practice trials (neutral objects), which was followed by one block of 44 experimental trials. Half of the experimental trials assessed attentional engagement, and the other half assessed attentional disengagement. Target photos depicted opposite-sex targets, half of which had been pre-rated on a 7-point scale as relatively attractive ($M = 5.49$, $SD = 2.03$) and half of which had been pre-rated as being somewhat unattractive ($M = 3.21$, $SD = 1.83$). After completing the visual cuing task, participants were carefully probed for suspicion or awareness of the attention manipulation. As in the previous studies, none of the participants reported any awareness that his or her attention had been manipulated or any awareness of the study’s hypotheses.

The main dependent measure was the reaction time (in milliseconds) on attentional engagement and attentional disengagement trials. Averaging responses within each target category yielded separate indices of attention to attractive and less attractive opposite-sex targets. Incorrect responses were excluded from all analyses (< 5.8% of all trials).

Lower engagement scores and higher disengagement scores indicated greater attentional bias. Lower engagement scores reflected stronger initial capture of a participant’s attention, whereas higher disengagement scores reflected greater difficulty in disengaging a participant’s attention from the target photo.

Results

Our main hypothesis was that compared with participants in the control condition, participants who underwent the attention-limiting manipulation would show greater attentional bias toward attractive alternatives. Consistent with our predictions, attention-limited participants ($M = 591.82$, $SD = 118.26$), as compared with control participants ($M = 662.41$, $SD = 173.55$), displayed stronger initial attentional capture to images of attractive alternatives, $F(1, 156) = 8.97$, $p = .003$, $d = .48$. This effect was not moderated by participant gender, $\beta = -0.10$, $t(154) = -1.08$, $p = .28$.¹ In contrast, the attention manipulation had no effect on initial attentional capture for less attractive opposite-sex targets, $F < 1$. No significant effects were observed on attentional disengagement trials, both F s < 2.42, p s > .11. Thus, the attention manipulation led participants to attend preferentially to images of attractive opposite-sex targets, such that their attention (compared with the attention of control participants) was strongly captured by those targets.

Discussion

Experiment 3 provided further support for the forbidden fruit hypothesis. Implicitly limiting participants’ attention to attractive relationship alternatives caused them subsequently to display heightened attention to attractive opposite-sex target stimuli. Participants’ attention was initially captured more quickly and strongly by those images. That the attention manipulation increased how much attention was initially captured (rather than held) by images of attractive relationship alternatives is consistent with ironic process theory (Wegner, 1994), which suggests that limiting participants’ attention may have enhanced their subsequent scanning or monitoring of the environment for the presence of attractive relationship alternatives. It also shows that the attention-limiting task influenced not only downstream cognitive processes as indicated by Experiments 1 and 2 (e.g., attitudes, memory), but it also impacted early-in-the stream perceptual processes (i.e., visual attention). Regardless of the stage of processing, implicitly limiting participants’ attention to attractive alternatives led participants to display heightened processing of desirable relationship alternatives.

General Discussion

Although close romantic relationships can bring tremendous love and happiness, the success of those relationships can be threatened by the temptation of desirable romantic alternatives. Extant research suggests that being inattentive to attractive alternatives provides one strategy through which people stay commit-

¹ To obtain the overall average effect size of the interaction between the attention limiting manipulation and participant gender, we performed a meta-analysis across the three studies (Rosenthal & Rosnow, 1991). We first converted to z scores the one-tailed p values for the interactive effect of gender on the attention-limiting manipulation. Because the two effect sizes in Experiment 1 were not from independent samples, we used the average z score to generate a single effect size estimate from that study. Results revealed an overall effect size of $r = .01$ (a very small effect). Thus, across all studies, the attention-limiting task affected male and female participants equally.

ted to their relationship. On the basis of this literature, one straightforward piece of advice for a person interested in avoiding temptation might be, “Just don’t look.” The current studies demonstrate, however, that when situational demands prevent people from attending to attractive alternatives, those alternatives become even more enticing.

Implications of the Current Research

Consistent with the forbidden fruit hypothesis, we found that subtly limiting people’s attention to attractive alternatives led them to report lower relationship satisfaction and commitment (Experiment 1), to report more positive attitudes toward infidelity (Experiment 1), to display heightened memory for attractive alternatives (Experiment 2), and to attend preferentially to images of attractive alternatives at an early stage of visual processing (Experiment 3). In each case, performing a task designed to implicitly prevent people from attending to attractive alternatives had the counterintuitive effect of producing outcomes detrimental to the success of the participant’s current relationship. These findings provide support for the notion that situations that limit people’s attention to alternatives lead those alternatives to take on a forbidden—and thus more desirable—quality.

Moreover, findings suggest that this type of relationship reactance can occur at a relatively nonconscious level. The attention modification task used in the current study was designed to manipulate people’s attention outside conscious awareness. A very subtle means of manipulating participants’ attention was used—varying only the proportion of trials (50% vs. 80%) on which a target letter appeared behind rapidly presented images of attractive opposite-sex targets. No explicit mention of attractiveness or relationship alternatives was made during any of the experiments, and consistent with previous research (Schmidt et al., 2009), participants reported no awareness that their attention had been constrained or manipulated. These findings are thus consistent with previous research suggesting that reactance can occur without conscious awareness (Chartrand et al., 2007; Wellman & Geers, 2009).

Findings also fit with theories of ironic mental control, which suggest that forms of psychological reactance can result from the operation of nonconscious processes (e.g., Wegner, 1994). Our experiments offer evidence that two aspects of the ironic processes model—rebound and monitoring—can result from implicit limitations on attention. When the situation limits people’s attention to attractive alternatives, people respond in a manner similar to that in which they are instructed to suppress a particular thought. The suppressed thought becomes more accessible, such as by becoming more firmly ingrained in memory (consistent with the findings of Experiment 2). When people suppress thoughts, the nonconscious cognitive system implicitly scans the environment for cues related to the forbidden thought (Wegner, 1994); this is consistent with findings from Experiment 3, in which participants’ visual attention was quickly and automatically captured by images of attractive alternatives.

Although the current research focused on implicit processes, psychological reactance can also occur consciously, as demonstrated by research on warning labels in the media (Bushman & Stack, 1996). We suspect that conscious processes may also play a role in relationship reactance. For example, conscious concerns

about behaving in socially desirable ways could lead people to feel that they are unable to attend to relationship alternatives. The degree to which such conscious constraints would also lead to relationship reactance warrants consideration. Nevertheless, the current studies indicate that relationship reactance can occur without a person’s conscious awareness or intent. This is critical because many situations could extrinsically constrain people’s attention without those constraints necessarily being experienced at a conscious level. Classic psychological theories indicate that people often are unaware of external constraints on their behavior (Nisbett & Wilson, 1977). The presence of one’s partner or other observers, for example, could implicitly lead a person to refrain from attending to attractive members of the other sex. The current findings suggest that even in the absence of explicit attentional constraints, inattention can lead to relationship reactance.

We do not mean to imply with this research that inattention to relationship alternatives always produces negative relationship outcomes. Indeed, a wealth of evidence suggests that relationship maintenance motives lead people to attend away from attractive alternatives (Maner et al., 2008, 2009) and that inattention to alternatives can enhance relationship success (Miller, 1997). In conjunction with the current findings, the literature on attention to alternatives suggests that when inattention to alternatives is internally motivated, it leads to positive relationship processes; when inattention is externally motivated, however, it has the potential for undermining relationship success. One intriguing hypothesis would be that if people were made to feel that they freely chose not to look at attractive alternatives, then, even in the presence of situational demands, inattention might lead to positive rather than negative relationship outcomes (consistent with classic theories of cognitive dissonance; e.g., Brehm & Cohen, 1962).

The current findings have important implications for identifying and promoting processes that enhance relationship success. Considered in light of the existing literature, the current studies suggest that, although attending to desirable relationship alternatives can be harmful, so too can attending away from attractive alternatives, at least when that inattention is demanded by the situation. Being told simply not to look is probably not an effective strategy for boosting satisfaction and commitment or reducing interest in alternatives. To be sure, spending most of one’s time attending to attractive alternatives is not a boon to a good relationship (Miller, 1997). Probably the most effective solution involves working on enhancing relationship processes that naturally lead to decreased attention, such as focusing on positive aspects of one’s partner (e.g., Fletcher & Simpson, 2000; Murray, Holmes, & Collins, 2006; also Campbell, Simpson, Boldry, & Kashy, 2005; Lehmiller & Agnew, 2006).

Limitations and Future Directions

There are several limitations to the current experiments that provide valuable opportunities for future research. One limitation involves our use of static social stimuli and a relatively artificial laboratory context. Our goal was to provide rigorous and controlled tests of the forbidden fruit hypothesis. Yet, these tests did not afford the dynamic qualities that characterize real social interactions and environments. Relationship protection processes—including inattention to attractive alternatives—occur within an active social context. For example, although inattention to attrac-

tive alternatives in the current studies was manipulated with a computer program, constraints on what people attend to in actual social contexts may stem from the presence of other people. We would speculate that the effects we observed in the lab would be even stronger in a dynamic social context, but this speculation needs to be evaluated empirically. It would be beneficial if future research were focused on the importance of social attention—and on further identification of both its positive and negative effects—within the context of dynamic social interactions.

A second limitation is that our samples consisted primarily of university undergraduates, whose relationships were not as long term as those of married individuals. In the current studies, the attention manipulation had striking effects on members of relatively new relationships. Yet, relationship commitment tends to increase with time (Sternberg, 1986), and how much the current findings generalize to more committed long-term relationships needs to be evaluated. Future examinations of the effects of inattention to attractive alternatives in longer term relationships would be useful.

A third limitation is that we did not directly examine effects on long-term psychological or behavioral relationship outcomes. For example, although we demonstrated that inattention to attractive alternatives caused people to report more positive attitudes toward infidelity, we did not examine whether it caused people to actually cheat on their relationship partner at some later time. There would be obvious ethical implications associated with such a design, and thus all of the participants in the current studies were thoroughly debriefed at the end of each session. However, researchers could profitably apply the framework developed in the current paper to assess whether constraints on people's attention could lead to long-term relationship consequences. The current investigation provides a valuable springboard for investigating effects on long-term relationship outcomes and assessing the possibility that some forms of inattention to alternatives might ironically undermine relationship success.

Concluding Remarks

No matter how supportive, caring, and committed people are to their relationship, there are always desirable alternatives to their current relationship partner. Encouraging people not to look at those attractive alternatives seems like an obvious solution to the potential threat posed by desirable relationship alternatives. The current research, however, demonstrates one set of circumstances in which such a solution is likely to backfire. When the situation implicitly mandated that people attend away from attractive alternatives, those alternatives became like “forbidden fruit”: they became more enticing, more memorable, and more eye-catching. The degree to which attending to desirable alternatives helps or hurts one's relationship likely depends on a variety of factors, both within the person and the situation. The current investigation provides a valuable starting point for identifying those factors, not only so that they can be understood, but also so that they can be employed to enhance the success of close relationships.

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