

Just a Little Bit Longer: Viewing Time of Erotic Material from a Self-Control Perspective

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Summary: For many individuals, watching erotic material constitutes a self-control conflict in which reflective tendencies compete with impulsive urges for the control of behavior. Boundary conditions such as the ability to control attention determine which influence will prevail over the other. Here, we tested this framework in the context of viewing erotic videos. Reflective tendencies, as indicated by self-reported attitudes, predicted viewing time of erotic videos for individuals high, but not low, in attention control. By contrast, impulsive tendencies, as indicated by automatic associations toward sex, predicted viewing time for individuals low, but not high, in attention control. This effect was particularly pronounced for single individuals. The adoption of a self-control framework to research on viewing erotic material has several advantages, including a better understanding of the psychological processes involved in watching erotic material, an illustration of these processes' interactive dynamic, and a more fine-grained prediction of viewing time behavior. Copyright © 2012 John Wiley & Sons, Ltd.

Many people like watching erotic material. This fact is reflected by the many million dollars that are spent on sexually explicit products each year. That said, erotic videos are often regarded as somewhat filthy, forbidden, and restricted to the most private life where one allows oneself to let rational thoughts aside and give in to lusty longings aloof from personal and societal norms. What determines how long individuals will look at sexually explicit material in a given situation? In this article, we propose that watching erotic material resembles an inner struggle between rational thoughts and lusty longings. We will show how individual differences in the ability to control attention regulate how one prevails over the other and illustrate this dynamic using the example of watching erotic videos.

Viewing time of erotic material is often regarded as the prime unobtrusive indicator of sexual interest if time, equipment, or resources are unavailable for more advanced physiological measures such as genital plethysmography (Gress, 2005; Harris, Rice, Quinsey, & Chaplin, 1996). Abundant research has investigated the factors that influence how long individuals look at erotic materials. For example, both heterosexual males and females view depictions of the opposite sex longer than of the same sex, and this is especially the case for attractive members of the other sex (Quinsey, Ketsetzis, Earls, & Karamanoukian, 1996). Viewing times are generally shorter and less variable when individuals are being observed while looking at the sexually explicit materials as compared with being alone (Brown, Amoroso, Ware, Pruesse, & Pilkey, 1973). Furthermore, men often (but not always) look longer at sexually explicit stimuli than women (Israel & Strassberg, 2009; Lykins, Meana, & Strauss, 2008; Rupp & Wallen, 2007), and this effect depends on how the particular stimulus set meets gender-specific preferences for sexual stimuli (Rupp & Wallen, 2009).

WATCHING EROTIC MATERIAL FROM A SELF-CONTROL PERSPECTIVE

As the brief literature review shows, much research on the determinants of viewing time of erotic material focused on characteristics of the social situation the viewing occurs in, properties of the presented stimulus materials, or basic demographic attributes of the participants such as gender. In the present research, we adopted an individual-differences perspective on viewing time of erotic materials as an index of sexual interest. In particular, we propose that the viewing of erotic videos can be understood as a self-control conflict in which consciously held beliefs and attitudes might conflict with more impulsive, affectively laden tendencies to perform or restrain certain behaviors. Such inner conflicts are typical for many self-control conflicts such as the regulation of food consumption, alcohol intake, drug use, or the control of one's temperament (Friese, Wänke, & Hofmann, 2009; Hofmann, Friese, & Strack, 2009). We propose that similar conflicts exist in many individuals when viewing erotic material. When both deliberate convictions and impulsive tendencies go hand in hand (e.g. to dislike erotic material), the respective behavior is facilitated (e.g. look away from an erotic video clip). However, for many individuals, deliberate attitudes and impulsive tendencies may diverge (e.g. 'I should not look at this, but I feel the desire to do so').

When reflective and impulsive tendencies diverge, certain boundary conditions may determine which tendency will prevail over the other (Strack & Deutsch, 2004). For example, personality characteristics that allow for the unfolding of reflective processes such as good inhibitory or trait self-control are typically associated with a heavy influence of personal attitudes and standards on behavior. By contrast, low inhibitory or trait self-control is associated with a greater impact of impulsive tendencies on behavior (Friese & Hofmann, 2009; Hofmann, Friese, & Roefs, 2009).

One individual difference variable of particular importance in the context of viewing erotic materials is the ability to control attention. A widely used indicator of the ability to

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control attention is performance on complex span working memory tasks (Engle, 2002; Kane, Bleckley, Conway, & Engle, 2001). Although the concept of working memory capacity has been primarily researched in basic cognitive psychology and the neurosciences, an increasing number of researchers investigate the implications of this construct in more applied, real-world contexts (e.g. Kleider, Parrott, & King, 2010; Meinz & Hambrick, 2010).

Individuals with good attention control are able to keep goal-relevant contents in working memory and shield them from external or internal distractors such as impulsive desires and urges (Barrett, Tugade, & Engle, 2004). These individuals are thus able to bring behavior better in line with their reflective attitudes and standards than are individuals with poor attention control. For those low in attention control, impulsive tendencies (e.g. the urge to closely follow a sex scene in a movie) capture working memory more easily and guide behavior subsequently (Kavanagh, Andrade, & May, 2005).

In support of the notion that attention control plays a crucial role for the influence of reflective and impulsive tendencies on attention allocation processes, two recent studies found that impulsive tendencies were associated with viewing times in men who watched pictures of attractive women (Hofmann, Gschwendner, Friese, Wiers, & Schmitt, 2008) and with various indicators of attentional biases toward alcohol (Field & Cox, 2008) such as the initial orienting of attention or the total dwell time of alcohol-related relative to soft-drink related stimuli (Friese, Bargas-Avila, Hofmann, & Wiers, 2010) for individuals low, but not high, in attention control.

Beyond better attention control, individuals high in working memory capacity are also better able to inhibit prepotent action tendencies (Kane & Engle, 2003; Unsworth, Schrock, & Engle, 2004). Inhibition, in turn, is of central relevance for the control of sexual responses, for example, for regulating sexual arousal in situations when becoming aroused or even sexually active could be disadvantageous or risky (Bancroft, Graham, Janssen, & Sanders, 2009; Bancroft & Janssen, 2000). In sum, working memory capacity is predestined to tip the scales between reflective and impulsive tendencies in the self-control conflict of viewing erotic material.

MEASUREMENT OF THE THREE COMPONENTS

To test the proposed dynamic between reflective tendencies, impulsive tendencies and attention control, individual differences in all three components need to be measured. Reflective tendencies are routinely assessed with self-report questionnaire measures of attitudes or personal standards. By contrast, impulsive tendencies are less accessible to introspection and may be difficult to report for participants. Therefore, in recent research on self-control, many investigators relied on the widespread class of implicit measurement procedures (Fazio & Olson, 2003; Wittenbrink & Schwarz, 2007). These measures do not ask participants directly about their impulses. Instead, they often rely on the measurement of response latencies in computerized tasks in which

participants respond to stimuli that appear on the screen. Thereby, implicit measures are assumed to tap into the associative network in memory where impulses are thought to originate (Strack & Deutsch, 2004). They deliver indices of largely automatic associations between certain concepts (e.g. associations between the concept 'sex' with positive and negative valence) that are then used as proxies of impulsive action tendencies. The most prominent examples of these techniques are the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998) and its derivatives such as the Single Category Implicit Association Test (Karpinski & Steinman, 2006) or affective priming (Fazio, Jackson, Dunton, & Williams, 1995). Implicit measures have been successfully used to measure automatic associations that predicted a number of self-control behaviors such as eating, drinking, or choosing between affectively appealing, but unhealthy and affectively less appealing, but healthy products (for reviews, see Friese, Hofmann, & Schmitt, 2008; Perugini, Richetin, & Zogmaister, 2010), and they have also been successfully used to measure sexual orientation and automatic associations toward sexuality (Geer & Robertson, 2005; Snowden, Wichter, & Gray, 2008).

Finally, attention control can be assessed with complex span working memory tasks (Conway et al., 2005). In these tasks, stimuli such as digits, words, or letters are presented that participants are asked to remember. The number of stimuli that need to be remembered varies across trials. This primary memory task is hindered by a demanding secondary processing task such as the comprehension of sentences or the verification of mathematical equations. This secondary processing task interferes with the successful retention and rehearsal of the relevant information that needs to be remembered. Thus, complex span tasks require participants to keep task-relevant information active and accessible in working memory (the to-be-remembered information) while simultaneously engaging in the distracting processing of additional information. This specific setup resembles the demands of many challenges people face in their everyday lives: to focus on a specific goal or task, keep the relevant information active, and shield it from external or internal distractors. The ability to control attention in this way is therefore crucial in many everyday contexts including self-control (Hofmann, Friese, Schmeichel, & Baddeley, 2011; Ilkowska & Engle, 2010).

THE PRESENT RESEARCH

We set out to predict the viewing time of erotic video clips with self-reported attitudes as a reflective precursor of behavior, automatic associations toward sex as an impulsive precursor of behavior, and the ability to control attention as the regulator tipping the scales between both tendencies. We hypothesized self-reported attitudes to predict the viewing time for individuals with good, but not poor, attention control. By contrast, for individuals poor in attention control, we expected automatic associations toward sex to guide viewing time behavior, whereas automatic associations should be less influential for individuals with good attention control.

On an exploratory basis, we investigated the effects of participants' current relationship status on this dynamic between reflective and impulsive influences as a function of attention control. In a recent study, heterosexual female singles expressed more sexual interest for the opposite sex as indicated by viewing time than individuals in a steady relationship (Rupp et al., 2009). This effect was attributed to the higher motivation of women in a steady relationship to control their sexual responses. Other research has shown that a strong motivation to control can reduce the impact of automatic associations on self-control behavior (Friese, Hofmann, & Schmitt, 2008). Together, this leads to the hypothesis that for participants in a relationship, the influence of automatic associations as an impulsive precursor of behavior should be diminished even under conditions of low attention control because compared with singles, individuals in a relationship should be more strongly motivated to control the influence of their sexual impulses on behavior.

The present research goes beyond and extends earlier work that investigated the interplay of automatic associations and attention control on attention allocation processes in several ways (e.g. Friese et al., 2010; Hofmann et al., 2008). First, we sought to show that automatic associations (as well as self-reported attitudes) toward sex are traitlike constructs that allow for the assessment of stable individual differences that influence behavior not just in the particular measurement occasion but over a longer time span (Schmukle & Egloff, 2005). To this end, we assessed individual differences in automatic associations toward sex to predict viewing time behavior of sexually explicit material 1 week later. Second, the present study extends previous findings on viewing time of still pictures of attractive women (Hofmann et al., 2008) and alcohol-related stimuli (Friese et al., 2010) to a new and ecologically valid stimulus modality in that it is the first to employ actual film clips of sexually explicit material. Third, whereas previous research focused exclusively on male participants, we investigated both genders, particularly women. This is important as one may suspect that the proposed self-regulatory dynamic between impulsive and reflective tendencies may not apply to women because of a considerably less pronounced sex drive in women as compared with men (Baumeister, Catanese, & Vohs, 2001). From this perspective, converging evidence from a predominantly female sample would provide particularly strong support for the proposed hypotheses. Finally, we investigated if and how the suggested self-regulatory dynamic depends on the current relationship status of participants, a variable that should arguably affect the motivation to control one's sexual impulses and thereby reduce the impact of automatic associations on behavior even for individuals low in attention control.

METHOD

Participants

Participants were recruited with flyers and the local human subject pool management software. Ninety-three heterosexual students of psychology participated for course

credit (67 women, 26 men). The mean age was 21.52 years ($SD = 3.19$ years; range 18–35 years; one participant did not indicate his age).

Procedure

The study was embedded in a larger set of different studies in the domain of social and cognitive psychology involving two different sessions separated by 1 week for each participant. This setup allowed us to separate the measurement of the reflective and impulsive precursors of behavior from the measurement of viewing time behavior. This way, predictive values of the measured reflective and impulsive tendencies can be attributed to trait instead of state influences.

In the first session, participants completed the measures of automatic associations, self-reported attitudes, relationship status, and demographic variables. In the second session, participants completed the attention control measure and the video-viewing task. Data from both sessions were matched with an anonymous code that participants provided in both sessions. Participants completed the study in groups of up to four at individual working stations that were separated by partition walls such that each participant could only see her or his screen.

Measures and materials

Automatic associations

We measured automatic associations with a Single-Category Implicit Association Test (SC-IAT; Bluemke & Friese, 2008; Karpinski & Steinman, 2006). In an SC-IAT, participants sort stimuli of three different categories on two different response keys. Category labels were *pleasant*, *unpleasant*, and *sex*. Evaluative categories were represented by five stimuli, and the sex category was represented by 10 stimuli. Evaluative stimuli were positive and negative words and pictures taken from the International Affective Picture System (Lang, Bradley, & Cuthbert, 2005). Sex stimuli were pictures of heterosexual couples engaged in sexual intercourse or other plainly sexual acts. In a training block of 20 trials, participants sorted pleasant and unpleasant stimuli on two different response keys. In the first (second) critical block, *sex* and *pleasant* (*unpleasant*) shared one response key. Each critical block contained 70 trials in a predetermined random order. The proportion of left and right key responses was 3:4 in the first combined block and 4:3 in the second combined block. Block order was held constant across participants because the primary interest of this study was on individual differences and not on mean SC-IAT effects (Egloff & Schmukle, 2002). SC-IAT scores were calculated using the D600-algorithm (Greenwald, Nosek, & Banaji, 2003) such that more positive values indicated a more positive reaction to sex. The mean error rate was 5.55% ($SD = 3.87\%$). Internal consistency was calculated based on four mutually exclusive subsets of trials ($\alpha = .87$).

Self-reported attitudes

Self-reported attitudes toward sex were measured with two questions ('All in all for me sex is something...', 1 = negative, 7 = positive; 'I find sex...', 1 = repellent, 7 = appealing). These

items were averaged to form an index of attitudes toward sex ($\alpha = .79$).

Relationship status

We assessed relationship status with the following question: 'Are you currently in a steady relationship? (1 = Yes, I am in a relationship; 2 = No, I am single).

Attention control

A complex span working memory capacity task was used to assess attention control (Oberauer, Süß, Schulze, Wilhelm, & Wittmann, 2000). Sequences of simple equations were presented for 3 seconds each. Equations consisted of one addition or subtraction, which was either correct or incorrect (e.g. '3 + 5 = 8'). After each sequence, participants were prompted to enter the suggested one-digit results of the equations in the correct order. As a secondary task, participants judged each equation as either 'true' or 'false' by pressing the appropriate key. Of these responses, 90% ($SD = 0.09\%$) were correct, indicating that participants were seriously engaged in the secondary task while memorizing the results of the equations. After one practice trial, sequence length increased gradually from four to eight, with three sequences per length. The sum of correctly reported sequences served as an indicator of attention control. The Spearman-Brown corrected split-half reliability was $r = .82$.

Video-viewing task

Participants were asked to look at a total of eight video sequences until they felt comfortable enough to answer a couple of questions about each sequence. All videos were downloaded from publicly available websites and cut to a length of 10 seconds each. Videos were shown in an endless loop until participants pressed the space bar to move on to the questions. All videos were soundless. In half of the videos, a heterosexual couple was shown having sex. In the other half of the sequences, a heterosexual couple was shown in mundane activities such as cooking or playing the piano together. Each video was followed by two questions pertaining to the persons and/or the content of the video clip just seen (e.g. 'How much would you like to talk to the other-sex person in the video?', seven-point scales). Responses to these questions were not analyzed as they merely served to give participants a reason for looking at the videos. As we were primarily interested in individual differences, not on mean

effects of viewing time, all participants saw the same predetermined random order of videos (Egloff & Schmukle, 2002). The time until participants moved on to the screen was unobtrusively measured. To control for general differences in viewing time, the difference between the average viewing time of the erotic videos and the average viewing time of the casual videos served as the dependent variable (Friese et al., 2010).

RESULTS

Means, standard deviations, and correlations of the central variables are depicted in Table 1. Automatic associations toward sex and self-reported attitudes toward sex were significantly correlated, and there was a trend for a reliable correlation between automatic associations and video-viewing time. Surprisingly, participants in a steady relationship had significantly higher attention control scores than single participants. These correlations should, however, be interpreted in the context of the multiple regression analyses reported below.

To arrive at the correct beta weights, we z -standardized all continuous variables (Aiken & West, 1991). We predicted that automatic associations would primarily influence the viewing time of erotic videos for individuals with poor attention control and that self-reported attitudes would transfer into viewing behavior primarily for individuals with good attention control. To test these hypotheses, we regressed video-viewing time on automatic associations, self-reported attitudes, attention control, and all two-way interactions. In line with our hypotheses, both the interaction between self-reported attitudes and attention control, $\beta = .30$, $t = 2.98$, $p = .004$, and the interaction between automatic associations and attention control, $\beta = -.36$, $t = -3.45$, $p = .001$, were significant. Follow-up analyses revealed that as predicted, automatic associations were positively related to viewing time for participants low ($\beta = .47$, $t = 3.43$, $p = .001$), but not high, in attention control ($\beta = -.25$, $t = -1.61$, $p = .110$). Conversely, and as predicted, self-reported attitudes were positively related to viewing time for participants high in attention control ($\beta = .35$, $t = 2.32$, $p = .023$) and even marginally negatively related to viewing for participants low in attention control ($\beta = -.25$, $t = -1.86$, $p = .067$). Figure 1 depicts these relationships with

Table 1. Means, standard deviations, and zero-order correlations between central variables

	1	2	3	4	5
1. Automatic associations	–	.21*	–.15	.19*	.07
2. Self-reported attitudes		–	–.07	.02	–.11
3. Attention control			–	–.10	–.23**
4. Video-viewing time				–	.08
5. Relationship status					–
<i>M</i>	–0.03	6.27	7.16	–109 ms	–
<i>SD</i>	0.47	0.67	3.40	4688 ms	–

Note: $N = 93$. Automatic associations: higher scores reflect more positive associations toward sex. Self-reported attitudes: higher scores reflect more positive attitudes toward sex. Attention control: higher scores reflect better attention control. Video-viewing time: higher scores reflect longer viewing time of erotic videos relative to mundane videos. Relationship status: 0 = in a relationship, 1 = single.

* $p < .10$.

** $p < .05$.

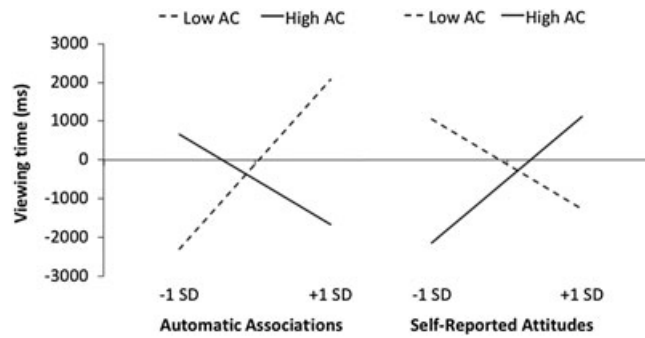


Figure 1. Influence of automatic associations and self-reported attitudes toward sex on viewing time of erotic videos relative to mundane videos as a function of attention control (AC; estimated slopes based on values of one SD below and above the means of self-reported attitudes, automatic associations, and AC)

video-viewing time scores unstandardized for ease of interpretation. Gender (0 = female, 1 = male) was unrelated to video-viewing time ($r = .10, p = .352$), and both interactions remained significant when controlling for gender. Neither the main effect of automatic associations toward sex, $\beta = .11, t = 0.08, p = .283$, nor the main effect of self-reported attitudes toward sex, $\beta = .05, t = 0.50, p = .618$, nor the main effect of attention control, $\beta = -.04, t = -0.42, p = .672$, nor the interaction between automatic associations and self-reported attitudes, $\beta = .05, t = 0.41, p = .681$, were significant.

On an exploratory basis, we investigated how the current relationship status (RS) of the participants influenced the dynamic interplay of automatic associations (AA) and self-reported attitudes (SRA) with attention control (AC). Fifty-six participants (60%) reported being in a steady relationship, whereas 37 participants (40%) reported being single. Similar to the analysis for the complete sample that is reported in Table 1, there were no significant relationships on the zero-order level between SRA and AA with viewing time for participants in a steady relationship ($r_{SRA} = .11, p = .424; r_{AA} = .09, p = .515$) and single participants ($r_{SRA} = -.08, p = .647$). Only automatic associations of single participants were marginally significantly related to viewing time ($r_{AA} = .31, p = .060$). Relationship status was nonsignificantly related to the viewing time dependent variable ($r = .08, p = .422; 0 = \text{in a steady relationship}, 1 = \text{single}$).

We re-ran the multiple regression analysis reported earlier with current relationship status as an additional dummy-coded predictor, all two-way interactions, and the two three-way interactions between self-reported attitudes, attention control, and relationship status as well as between automatic associations, attention control, and relationship status. The 2 three-way interactions were significant ($\beta = .53, t = 2.58, p = .012$, for $SRA \times AC \times RS$; $\beta = -.51, t = -2.42, p = .018$, for $AA \times AC \times RS$). Follow-up analyses revealed that the interaction between self-reported attitudes and attention control as well as the interaction between automatic associations and attention control were particularly pronounced for single participants ($\beta = .61, t = 3.61, p = .001$, for $SRA \times AC$; $\beta = -.57, t = -3.79, p < .001$, for $AA \times AC$), whereas they were much weaker and insignificant for participants in a steady relationship ($\beta = .08, t = 0.71, p = .481$, for $SRA \times AC$; $\beta = -.07, t = -0.45, p = .655$, for $AA \times AC$). Again, we investigated the nature of these interactions more closely with simple slope analyses. Similar to the results of

the whole sample, automatic associations were positively related to viewing time for participants low in attention control ($\beta = .54, t = 2.94, p = .004$) and were negatively related to viewing time for participants high in attention control ($\beta = -.61, t = -2.14, p = .035$). Conversely, self-reported attitudes were positively related to viewing time for participants high in attention control ($\beta = .60, t = 2.29, p = .025$) and negatively related to viewing time for participants low in attention control ($\beta = -.63, t = -3.04, p = .003$). For participants in a steady relationship, none of the simple slope effects was significant, all $ps > .280$.

Together with the zero-order correlations as a function of relationship status, these results suggest that the viewing time behavior of participants in a steady relationship was driven by other forces than self-reported attitudes and automatic associations toward sex and their interplay with attention control. We will come back to this issue in the discussion.

DISCUSSION

Self-control conflicts are often characterized by an inner struggle between reflective, rational tendencies on one side and impulses, desires, and urges on the other side. The outcome of this struggle depends on boundary conditions such as the ability to control attention in the face of distraction. We argued that watching erotic material constitutes such a self-control conflict for many individuals. In line with this hypothesis, self-reported attitudes as a reflective precursor of behavior were closely related to viewing time of erotic videos for individuals with good, but not poor, attention control as indicated by a working memory capacity task. By contrast, automatic associations toward sex predicted viewing time for individuals with low, but not high, attention control. These results were particularly pronounced for single participants and less evident for participants in a steady relationship. It is noteworthy that individual differences in both self-reported attitudes and automatic associations were assessed 1 week prior to the viewing time measure and still predicted viewing time behavior under theoretically expected conditions. Taken together, the findings converge with several studies in different domains that are prone to self-control conflicts such as eating, drinking alcohol, controlling one's temperament, or

consumer choice (Friese, Hofmann, & Schmitt, 2008; Friese, Hofmann, & Wänke, 2008; Hofmann, Friese, & Strack, 2009).

Understanding the viewing of erotic material as a self-control conflict as well as specifying and measuring the involved components (i.e. reflective and impulsive precursors of behavior, boundary conditions such as attention control that shift the relative weights between these components) has several advantages. First, such a framework allows for a more sophisticated understanding of the psychological processes that are involved when individuals watch erotic material. Second, it illustrates the dynamic interplay between the three components and makes clear that the influence of each component on self-control behavior depends on the characteristics of other components (Figure 1). Third, the measurement of all three components allows for a more fine-grained prediction of viewing time behavior on an individual basis than would be possible on the basis of commonly investigated factors such as sex or characteristics of the social situation alone.

ROLE OF INDIVIDUALS' CURRENT RELATIONSHIP STATUS

The thought-provoking finding that the dynamic interplay between the three components was particularly pronounced for single participants and much less evident for participants in a steady relationship calls for a theoretical explanation. Previous research found decreased expressed sexual interest as indicated by lower viewing times of pictures of the opposite sex for individuals in a steady relationship (Rupp et al., 2009). This effect was attributed to an increased motivation of individuals in a relationship to control their sexual responses. On the basis of the findings that an increased motivation to control can diminish the influence of automatic associations on behavior (Friese, Hofmann, & Schmitt, 2008), we hypothesized that automatic associations would exert less influence on viewing time behavior independent of attention control for individuals in a steady relationship. The pattern of results fits this expectation. In addition, self-reported attitudes had neither a direct effect on viewing time on the level of zero-order correlations nor a conditional effect as a function of attention control for participants in a relationship. This suggests that these individuals' viewing time behavior was driven by other forces than self-reported attitudes, automatic associations, and their interplay with attention control. We speculate that for these individuals, sexual restraint standards (Gailliot & Baumeister, 2007) may have exerted a dominant influence on viewing time behavior. Similar to self-reported attitudes, restraint standards are a reflective precursor of behavior. However, different from self-reported attitudes, restraint standards are not concerned with what an individual likes but with personal standards on how to behave (e.g. 'I like this video, but I want to restrain myself and not look at it'). It seems reasonable to assume that restraint standards are of particular importance for individuals in a steady relationship because these individuals, compared with single individuals, may feel much more committed to avoid viewing erotic videos even when they in principle like viewing such videos. The unexpected finding that participants

in a relationship had better attention control than single participants may have helped them to transfer their sexual restraint standards into viewing time behavior. Future research should more closely investigate these questions by including sexual restraint standards as an additional reflective precursor of behavior and a measure of felt commitment to the partner to not view erotic materials as a measure of motivation to control one's urges and desires.

LIMITATIONS

An abundance of previous research has investigated gender differences in viewing time of sexually explicit material (e.g. Brown, 1979; Israel & Strassberg, 2009; Lopez & George, 1995; Lykins et al., 2008; Quinsey et al., 1996; Rupp & Wallen, 2007, 2009; Rupp et al., 2009). A limitation of the present study is that especially the subsample of men is too small to run a conclusive separate analysis for this group only. However, it is noteworthy that the general pattern of results replicates in the larger subsample of female participants, including the additional moderation by relationship status (*ps* of all critical interactions < .05). Given the high practical and theoretical relevance of gender effects in this context, it would be desirable to investigate the effects of individuals' current relationship status on the dynamics of self-control with larger samples that allow for more confident conclusions with respect to this issue.

Another limitation refers to the question of how generalizable the current findings are to other contexts. Although we ensured participants' privacy in that nobody else could view their computer screen and observe how long they looked at the erotic videos, subjective anonymity may still have been reduced. Future studies may investigate similar effects in an additional online sample that completes the different tasks at home in full privacy and compare the results with data collected in the laboratory.

CONCLUSIONS

For many individuals, viewing erotic material is associated with an inner conflict between reflective tendencies and more impulsive urges and desires. Boundary conditions such as the ability to control attention determine which tendency will prevail over the other. The notion that watching erotic material resembles a self-control conflict has several advantages, including a better understanding of the psychological processes involved in viewing erotic material and more fine-grained predictions of viewing time behavior.

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