



# SSRIs May Not be the Most “Attractive” Way to Treat Depression: How Antidepressants Affect Romantic Attraction

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**Received Date:** August 14, 2019; **Published Date:** August 21, 2019

## Abstract

Selective Serotonin Reuptake Inhibitors (SSRIs), a class of antidepressants, help restore proper balance of serotonin in people suffering mental illness, but their usage may have social costs. Anecdotal findings suggest SSRIs often cause sexual dysfunction and less love for romantic partners. In an effort to expand on patient's reports of SSRI-induced social side effects, the current study investigated whether SSRI use impacts relationship initiation and attraction. Results showed that SSRI users were less physically attracted to novel individuals compared to their control counterparts. SSRI users who reported both a low libido and difficulty/inability to orgasm had an exceptionally lower rate of attraction to others when compared to SSRI users without the same symptom constellation. Our findings suggest that individuals taking SSRIs may be less physically attracted to potential mates at the relationship initiation phase, and that individuals on SSRIs who already endorse being sexually affected may be most vulnerable to this phenomenon.

**Keywords:** Attraction; SSRI; Sexual dysfunction; Emotional blunting; Antidepressants

**Abbreviations:** SSRIs: Selective Serotonin Reuptake Inhibitors

## Introduction

In the last decade, rates of antidepressant use have climbed to approximately 10% of the entire American population [1]. Due to the general tolerability of the medication, Selective Serotonin Reuptake Inhibitors (SSRIs) have become the main form of antidepressant prescribed to treat various clinical disorders such as depression, anxiety disorders, bulimia nervosa, and premenstrual dysphoric disorder. Although SSRIs are

popularly prescribed and well tolerated, adverse side effects of SSRIs exist. One side effect that is not well studied is an “apathy syndrome” also known as emotional blunting. Emotional blunting is “a reduction in sensitivity or a sense of numbing” in emotional responsiveness where an emotional response would be expected or appropriate [2]. While the mechanisms behind emotional blunting have not yet been determined, it is clear that a significant portion of patients taking SSRIs report diminished emotions and an overall apathetic disposition [3]. Importantly, the weakened emotional responses are widespread and extend to patients' social relationships, including their romantic relationships [4]. Our goal was to

examine the effects of SSRIs on relationship initiation processes and experimentally determine if SSRIs decrease physical attraction to others.

## Selective Serotonin Reuptake Inhibitors

### Physical side effects of SSRIs

In order to capitalize on the psychological benefits of increased extracellular serotonin, SSRIs combat mental illness by decreasing the amount of serotonin reabsorbed by the presynaptic neuron, thus in turn increasing the amount of serotonin lingering freely in the cleft between two connecting neurons [5]. The more serotonin left in the cleft, the stronger the chance that the neuron promotes better mood. Although SSRIs help restore proper balance of serotonin in patients with mental illness, the usage of SSRIs may come at some cost. For instance, SSRIs are known to cause a wide range of physical side effects. Rascati, Godley, and Pham [6] found that 41% of adult patients who were taking SSRIs for depression reported at least one adverse physical side effect of the drug. The most common side effects were sleep disturbances, gastrointestinal disturbances, nonspecific malaise, and appetite/weight change. Similarly, Uher, Zobel, Strohmaier, Placentino, Farmer, Henigsberg, et al. [7] found side effects of SSRI use such as dry mouth, insomnia, vertigo, blurred vision, and disorientation.

One of the most well documented and often-reported physical side effects of SSRIs is a disruption in normal sexual functioning, be it a low libido or inability/difficulty to orgasm [8]. Anecdotal data shows that SSRI use can disrupt many parts of sexual response including arousal, excitement, and orgasm [8]. Like most other symptoms, the sexual dysfunction side effect typically begins approximately one month after initiating SSRI use and can be fully explained by the SSRI. Sexual dysfunction is thought to affect as many as 80% of SSRI users [9]. Because sexual side effects are pervasive in SSRI users, further research into warning signs or markers of emotional blunting would be beneficial to this group [10].

## Emotional Blunting

### Anecdotal reports of emotional blunting

Physical side effects of SSRIs have been well documented and studied, but emotional side effects have also been revealed within the last twenty years. Many case studies have reported an *emotional blunting* of individuals taking

SSRIs [11]. This blunting is characterized by apathy, a lack of motivation and a lack of appropriate concern for relationships and interpersonal situations. Past literature has noted emotional blunting in children, adolescents, and adults taking SSRIs. Reviewing case studies of children and adolescents on SSRIs, Garland and Baerg [12] noted that one doctor reported a patient was generally apathetic and his affect was "markedly flat to the point of having the mask-like appearance associated with Parkinsonism." Many physicians in Garland and Baerg's study also reported that after six to eight weeks of SSRI treatment, their young patients no longer cared about social interactions or consequences for bad behavior. Hoehn-Saric, Lipsey, and Mcleod [13] similarly documented that adults who were taking SSRIs developed apathy, indifference, and loss of initiative towards work, social situations, and daily activities, and that higher SSRI doses caused stronger apathetic reactions. To date, many studies have anecdotally demonstrated SSRI-induced emotional blunting. Opbroek and colleagues (2002) found that patients on SSRIs reported lower frequency of many emotions ranging from sadness to anger. Patients also cited caring less about others' feelings, a loss in creativity, and difficulties with sexual pleasure and interest. In total, a staggering 80% of Opbroek and colleagues' participants (already suffering from SSRI-induced sexual dysfunction) reported a treatment-emergent dulling of emotions.

In order to understand the mechanisms behind emotional blunting, it is worth noting that the apathetic side effects caused by SSRIs resemble the loss of interest seen in depression and other psychological disorders for which SSRIs are prescribed. Therefore, it can sometimes be difficult to tease apart what portion of side effects is actually due to a drug effect and what portion is from the originally-treated disorder. In order to make this distinction, studies have been conducted to demonstrate that SSRI-induced emotional blunting is indeed a distinct and separate entity from the original depression. For instance, many patients on SSRIs describe their emotions as feeling chemical and artificial, which is different than their initial depressive symptomatology [4]. Another study supported the same distinction, showing that emotional blunting was associated with disinhibiting and aberrant motor behaviors, whereas depression was associated with anxiety, agitation, irritability, and hallucination [14]. From this set of findings, it appears that emotional blunting is a stand-alone condition, and that SSRI-induced blunting could be considered drug-related rather than connected to the preceding depression under treatment.

## Inhibited emotional and social responses due to emotional blunting

With emotional blunting laid out as a separate entity from depression, illustrating instances where SSRI-induced blunting symptoms affect a person's social realm becomes pertinent. In a qualitative study, Price et al., [4] identified numerous key features of bluntness including a reduction of positive emotions, emotional detachment, and altered personality. Additionally, social implications of SSRIs were clearly present; participants complained of reduced enjoyment of social interactions, and reduced love/affection towards others. Many also had reduced attraction towards their romantic partner. Other side effects included reduced care or love towards family members and lower sympathy and empathy for others in general. Along with less care and sympathy, some patients exhibited detachment during social situations, including those with partners and children. Some participants even went as far as saying that they cared less about themselves, which impacted their everyday life.

While a small daily pill can have a direct positive impact on mental health, it is notable that SSRIs are simultaneously capable of causing individuals to lose love and attraction toward family and romantic mates. This decrease in social affection is especially important since social interactions often aid in combating mental illness and feelings of isolation [15]. Without reliance on and connections to others, one may be faced with a lonely fight against mental illness. Furthermore, there is evidence suggesting that adult social bonds have psychopathological benefits, for instance via romantic partners' provision of safety and comfort during challenging times [15]. If SSRIs negatively affect the way one relates and feels towards partners, there should be concern that SSRIs are potentially creating a different problem while physically working to solve another.

## Neural mechanisms of SSRI use on relationship satisfaction

Up to this point, emotional bluntness has typically been discussed anecdotally in the literature [4,11,12,16]. These findings suggest patients taking SSRIs often have a loss of attraction, loss of affection, and loss of love toward romantic partners [4,11,12,16]. Some have proposed that emotional blunting can be explained by a decreased neural processing of rewarding and aversive stimuli [17]. In one study, the SSRI group showed no difference in their "wanting" or "liking" a stimulus outwardly, their neural processing was diminished [17]. Specifically, the SSRI

group had significantly lower blood oxygen levels in brain regions known to process aversive and rewarding stimuli.

Based on these findings, it seems that some patients on SSRIs may not be consciously aware of their side effects, but at a neurobiological level SSRIs nevertheless influence behavior. With this knowledge, SSRI-induced emotional blunting can serve as an alert to doctors or loved ones for potential relationship and attraction difficulties, even when some of the individuals taking the drug do not notice the side effects.

## Relationship initiation and emotional blunting

At this point, research has yet been done to show if people on SSRIs have difficulty *initiating* new romantic relationships. The initiation phase of a relationship is important to look at in terms of emotional blunting because early interactions between people often dictate if and how a relationship will continue [18]. It is possible emotional blunting negatively impacts mate selection processes by causing people to find others less attractive, have a lack of desire for closeness, or both. Past research has shown that relationship initiation requires "bold and direct action," but without a full range of emotions, a person on SSRIs may not even be given the opportunity to act upon their feelings [19].

Often, the initiation phase of a relationship is exciting and brings joy. In Western culture, initiating romantic relationships results in personal and sexual gratification as well as intimacy [20]. Given these benefits, it is imperative to systematically study interrelationships among SSRI use, emotional bluntness, and sexual/mating behaviors, in order to balance the benefits and drawbacks of SSRIs for current SSRI users or potential candidates.

## Current study

To determine if SSRI use may affect people at the relationship initiation stage, we sought to experimentally demonstrate differences in romantic physical attraction based on SSRI usage. This study addressed two primary hypotheses. First, it is already known that individuals taking SSRIs for anxiety and/or depression complain of reduced enjoyment of social interactions, reduced attraction to current romantic partners, and reduced love/affection towards others [4]. Therefore, we predicted that SSRI use would also decrease attraction to novel individuals. Second, because they may have a greater susceptibility to side effects caused by SSRIs, we hypothesized that people on SSRIs who reported sexual dysfunction side effects would be less attracted to novel

faces when compared to SSRI users who did not have sexual dysfunction symptomology.

In sum, we aimed to address a potential irony regarding SSRI use – the negative impact of SSRIs on one’s quality of life socially. For those already dealing with mental illness, SSRI use could potentiate isolation through a lack of attraction to potential romantic mates, and decrease the desire to initiate relationships.

## Method

### Participants

One hundred and sixty eight people (103 women, 123 single, *Mage*=30) participated in this study. In the sample, 70.8% were Caucasian, 11% were Asian, 7.7% were African American, 3% were Latino, and 7.5% were other ethnicities. 87% of the sample was heterosexual, 10.8% was bisexual, 1.2% was homosexual, and .6% described them as having another sexual orientation. Sixty-eight of the participants were SSRI users (44 women, *Mage*= 31) and 100 were control subjects who were not taking an SSRI (59 women, *Mage*= 29). Participants were recruited from Amazon’s Mechanical Turk (restricted to USA only), Facebook, and introductory psychology courses at a large Northeastern university. Participants were compensated with .25 cents, filled out the survey on their own volition without compensation, or were compensated one research credit for their course, respectively.

### Measures

**SSRI usage form:** This 5-item self-report measure was developed by us to inquire about length, dosage, and

brand of SSRI. Sample items included “What brand is your SSRI?” and “What dosage in milligrams do you currently take daily?” Participants were also asked to endorse any side effects they currently attributed to their SSRI usage. Sample side effects listed included low libido, weight gain, nausea, and difficulty reaching orgasm, or “other.”

**Experiences in close relationships-revised:** The Fraley, Waller, and Brennan (2000) measure is a 36-item self-report measure of adult romantic attachment. Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). To assess attachment, the ECR-R asks questions pertaining to two separate attachment dimensions: avoidance and anxiety. A sample item that measures avoidance is “I prefer not to show a partner how I feel deep down” and an item that measures anxiety is “My romantic partner makes me doubt myself.” The Cronbach’s alphas showed high reliability at  $\alpha = .94$  for the avoidance dimension and  $\alpha = .90$  for the anxiety dimension.

**Chicago face database:** This computerized database contains standardized photographs of male and female faces of African Americans and Caucasians between the ages of 18-40. To reflect the racial frequencies of 2013 US Census data, 13% of the pictures included were African American individuals. Researchers using the database are provided with independent judges’ subjective ratings of the targets’ physical attractiveness. Participants rated their attraction to each face from 1 (*not at all attractive*) to 7 (*extremely attractive*) [21].

Measure	Overall Mean	Standard Deviation	SSRI Users’ Means (SD)	Controls’ Means (SD)
ECR-R Anxiety	3.71	1.35	3.9 (1.30)	3.56 (1.34)
ECR-R Avoidance	3.40	1.20	3.58 (1.21)	3.26 (1.17)
CFD Attractive Faces	4.80	.92	*4.62 (1.01)	4.93 (.84)
CFD Average Faces	3.13	1.07	2.95 (1.06)	3.26 (1.06)
CFD Unattractive Faces	2.40	1.03	*2.21 (.99)	2.53 (1.04)

Table 1: Descriptive Statistics for Self-Reported Measures.

*Note.* Higher scores on each measure indicate greater levels of the respective construct.

\*Indicates significance at  $p = .05$

For the current study, descriptive statistics of frequency, mean, mode, range, and cumulative percentiles were taken of a truncated attraction average and age average of all photos included in the Chicago Face Database (CFD) in order to select 30 pictures of the same 15 individuals both smiling and neutrally posed. To reflect real world differences in attractiveness and explore potential

differences between groupings, a broad range of looks was chosen and categorized into attractive, average, and unattractive appearances<sup>1</sup>. Similarly, we included both

<sup>1</sup>After looking at range and frequencies, a floor effect in the CFD data was noted. Although the CFD uses a 7 point Likert Scale (1-7), no picture was pre-rated above a 5.0 or below a 1.6 on attractiveness.

smiling and neutral posed faces to more closely simulate interactions in the real world and explore any differences in reactions to targets that were displaying various emotional expressions. See Table 1 for descriptive statistics of all measures.

## Procedure

After obtaining consent, all participants first responded to demographic questions. Next, participants on SSRIs were asked to complete the SSRI Usage Form. After completing these questionnaires, participants were prompted to complete a face rating task on the computer that used 30 photographs from the Chicago Face Database. The facial photos (10 attractive, 10 average, and 10 unattractive) pictured people with either neutral or smiling facial expressions.<sup>2</sup> Participants rated their attraction to 15 neutral faces and 15 smiling faces. After completing the attraction task, subjects were thanked and debriefed.

## Results

**SSRIs and attraction:** In order to address our hypothesis that SSRI users would generally rate target photos as less attractive, attraction ratings were compared between the experimental and control group. As predicted, SSRI users gave target photos lower attractiveness ratings overall ( $M = 3.26, SD = .89$ ) compared to controls ( $M = 3.57, SD = .86$ ;  $t[166] = 2.26, p = .03$ ;  $d = .35$ ).

Attraction differences between SSRI users versus non-SSRI users as a function of targets' facial expressions and pre-rated attractiveness level were also assessed. In terms of facial expression, people on SSRIs were less attracted to neutral faces ( $M = 3.14, SD = .81$ ) than were controls ( $M = 3.47, SD = .83$ ;  $t[166] = 2.56, p = .01$ ;  $d = .40$ ), and were also slightly less attracted to smiling faces ( $M = 3.38, SD = 1.04$ ) than controls ( $M = 3.68, SD = .94$ ;  $t[166] = 1.89, p = .06$ ;  $d = .30$ ). See Figure 1.

Based on the photos' pre-ratings, SSRI users were less attracted to pictures of very attractive faces ( $M = 4.62, SD = 1.01$ ) than were controls ( $M = 4.93, SD = .84$ ;  $t[166] = 2.12, p = .04$ ;  $d = .33$ ). Similarly, people on SSRIs were less attracted to pictures of unattractive faces ( $M = 2.21, SD =$

$.99$ ) than were controls ( $M = 2.53, SD = 1.04$ ;  $t[166] = 1.99, p = .05$ ;  $d = .32$ ). Finally, although marginally significant, SSRI users were also somewhat less attracted to pictures of average attractiveness faces ( $M = 2.95, SD = 1.06$ ) than were controls ( $M = 3.26, SD = 1.06$ ;  $t[166] = 1.87, p = .06$ ;  $d = .29$ ). See Figure 2.

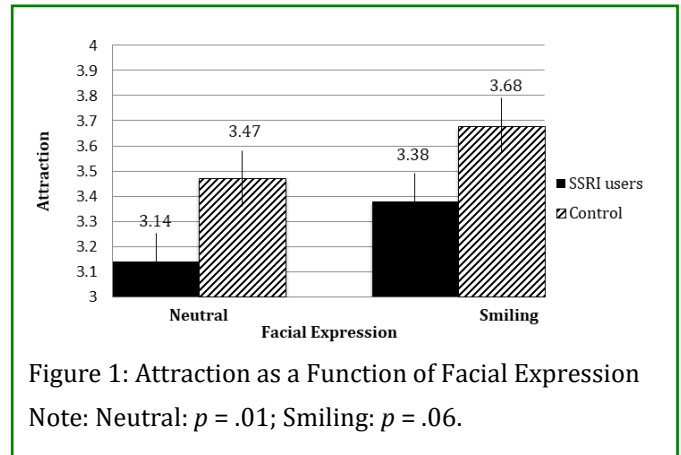


Figure 1: Attraction as a Function of Facial Expression  
Note: Neutral:  $p = .01$ ; Smiling:  $p = .06$ .

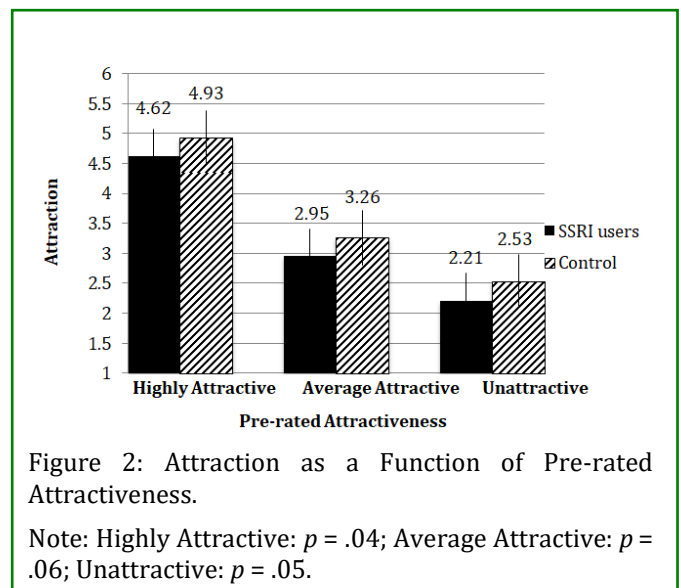


Figure 2: Attraction as a Function of Pre-rated Attractiveness.  
Note: Highly Attractive:  $p = .04$ ; Average Attractive:  $p = .06$ ; Unattractive:  $p = .05$ .

When looking at differences in attraction based on *both* facial expression *and* pre-rated attractiveness simultaneously, additional results emerged. First, SSRI users rated targets who were pre-rated as highly attractive *and* who had a neutral expression as less attractive ( $M = 4.54, SD = 1.03$ ) compared to controls ( $M = 4.87, SD = .91$ ;  $t[166] = 2.19, p = .03$ ;  $d = .34$ ). Similarly, SSRI users were less attracted to average faces with a neutral expression ( $M = 2.81, SD = 1.00$ ) compared to controls ( $M = 3.15, SD = 1.09$ ;  $t[166] = 2.06, p = .04$ ;  $d = .33$ ). See Figure 3.

Based upon this pre-rating range and the 25th, 50th, and 75th percentiles, unattractive, average, and attractive ratings were operationally determined. Scores ranging from the minimum obtained score of 1.6 to the 25th percentile of 2.5 were considered unattractive, while scores ranging from 2.6 to the 75th percentile of 3.6 were considered average attractiveness. Scores from 3.7 to the maximum obtained score of 5.0 were considered attractive.

<sup>2</sup>Both neutral and smiling positioned faces were chosen to better simulate real-world encounters.

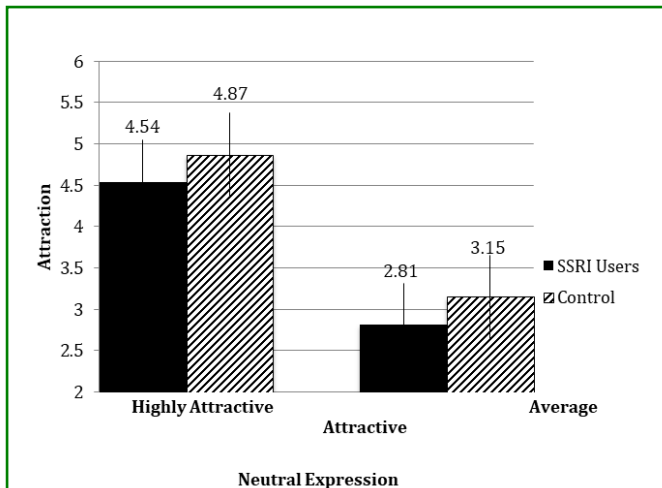


Figure 3: Interactions between Neutral Facial Expression and Pre-Rated Attractiveness

Note: Highly Attractive:  $p = .03$ ; Average Attractive:  $p = .04$ .

We also observed differences for pre-rated unattractive faces. SSRI users were less attracted to pictures of unattractive faces with a neutral expression ( $M = 2.06$ ,  $SD = .90$ ) compared to controls ( $M = 2.38$ ,  $SD = .97$ ;  $t[166] = 2.15$ ,  $p = .04$ ;  $d = .34$ ), but only rated unattractive smiling faces as slightly less attractive ( $M = 2.36$ ,  $SD = 1.15$ ) than controls ( $M = 2.67$ ,  $SD = 1.18$ ;  $t[166] = 1.73$ ,  $p = .09$ ;  $d = .27$ ). See Figure 4.

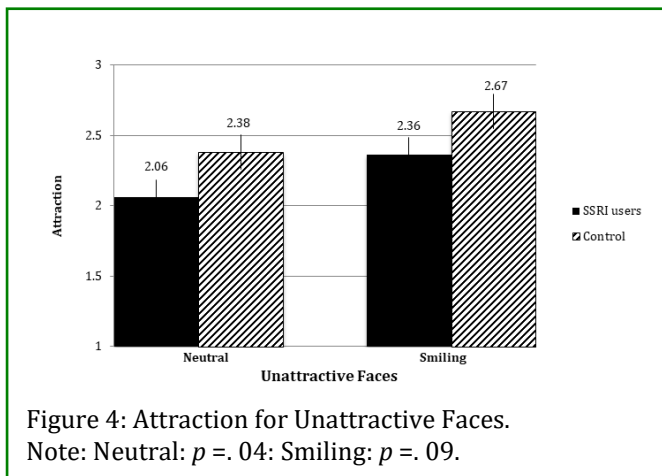


Figure 4: Attraction for Unattractive Faces.

Note: Neutral:  $p = .04$ ; Smiling:  $p = .09$ .

In sum, people taking SSRIs rated photos of others more harshly than their control counterparts, especially if the person pictured had a neutral facial position. When parsing out the targets' pre-rated attractiveness, SSRI users rated very attractive individuals and unattractive

individuals more harshly compared to controls. Given this pattern of findings, it is clear that SSRI use factored into the way people viewed others in terms of physical attraction.

### SSRI-Induced sexual dysfunction and attraction

To assess our hypothesis that SSRI users experiencing sexual dysfunction would be less attracted to others than SSRI users without sexual dysfunction, differences between attraction ratings of the two aforementioned groups were compared. Within the SSRI user group, an expected effect emerged between participants without difficulty/inability to orgasm and libido disruption and those with *both* of the aforementioned sexual dysfunctions. SSRI users who reported the combined sexual dysfunction rated unattractive photos as less attractive ( $M = 1.65$ ,  $SD = .56$ ) than did SSRI user without this combination of symptoms ( $M = 2.34$ ,  $SD = 1.02$ ;  $t[66] = 2.22$ ,  $p < .01$ ;  $d = .84$ ).<sup>3</sup> SSRI users who reported both sexual symptoms also rated unattractive smiling photos as less attractive ( $M = 1.68$ ,  $SD = .73$ ) than did SSRI users without these symptoms ( $M = 2.50$ ,  $SD = 1.17$ ;  $t[66] = 2.31$ ,  $p = .02$ ;  $d = .84$ ). Lastly, unattractive neutral posed photos received lower attractiveness ratings from SSRI users who reported both difficulty with orgasm and libido ( $M = 1.62$ ,  $SD = .47$ ) than from SSRI users without this symptom combination ( $M = 2.15$ ,  $SD = .95$ ;  $t[66] = 2.90$ ,  $p < .01$ ;  $d = .71$ ). See Figure 5. No parallel findings existed when an SSRI user presented with only one of the two aforementioned side effects.

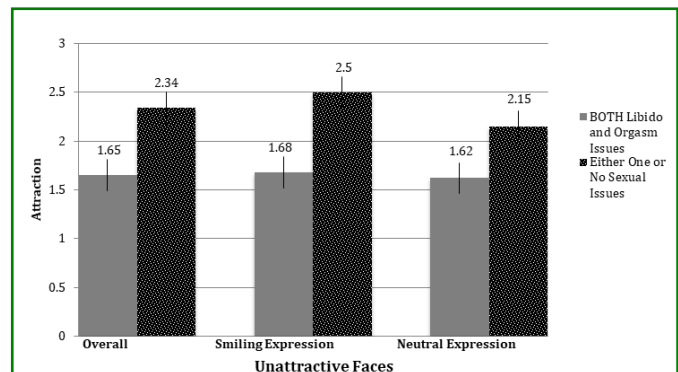


Figure 5: SSRI Users' Attraction as a Function of Sexual Dysfunction.

Note: Overall:  $p < .01$ ; Smiling:  $p = .02$ ; Neutral:  $p < .01$ .

<sup>3</sup>Although results regarding ratings of unattractive photos emerged, SSRI users who reported both difficulty/inability to orgasm and a libido issue did not differ in *overall* attraction ratings (e.g., collapsed among unattractive, average, and attractive) of target photos ( $M = 3.04$ ,  $SD = .48$ ) when compared to SSRI users without this symptom presentation ( $M = 3.31$ ,  $SD = .96$ ;  $t[66] = .941$ ,  $p = .35$ ).

## Discussion

This study examined if SSRI use affects one's ability to feel physically attracted to others. Past research has primarily focused on SSRI-induced emotional blunting in existing relationships, where our study assessed SSRI's effects on attraction to new people. This study also set out to determine if SSRI-induced emotional blunting is more pervasive in users who already experience sexual dysfunction side effects. The present findings showed that SSRI users were less attracted to novel faces overall, were less attracted to people with neutral facial expressions, and that SSRI users with more pervasive sexual dysfunction did indeed show greater deficits in attraction. Collectively, these findings provide an empirical demonstration of SSRIs effects on physical attraction, particularly to novel individuals.

### Does objective beauty matter to SSRI users?

SSRI users were less attracted to novel faces, regardless of the targets' objective level of physical attractiveness. This finding shows that there is a systematic difference between SSRI users' and non SSRI users' degree of attraction to others. Therefore, it appears that objective physical appearance does not greatly affect SSRI users' attraction to new people. For example, if SSRI users *only* differed in their ratings of attraction to unattractive faces, it might follow that it takes a more physically attractive individual to break through SSRI users' potential apathy barrier. In our study, no such finding was observed, suggesting that SSRI users struggle to feel attracted to *anyone* when compared to people who are not on the drug. Our findings parallel anecdotal reports from patients taking SSRIs who report feeling less reward from social interactions and less love towards established romantic partners [4].

Now knowing that SSRI users have decreased attraction to novel faces, speculating on real world effects of this phenomenon is valuable. The decreased attraction SSRI users experience could potentially aggravate their prior condition under treatment (i.e., depression). For instance, if a person is not physically attracted to others, they may not easily initiate new romantic connections. Therefore, SSRI users may not reap the psychological benefits of company and social support, which often come from healthy romantic relationships, but instead could fall into romantic isolation due to an insidious drug side effect.

### Does SSRI-Induced sexual dysfunction lead to attraction deficits?

SSRI users who reported both a low libido and difficulty/inability to orgasm had lower physical

attraction to unattractive faces overall, unattractive neutral posed faces, and unattractive smiling faces when compared to SSRI users without the same symptom constellation. This interaction effect suggests that more serious sexual dysfunction is a precursor or warning sign to having decreased attraction to others, providing initial evidence that the emotional bluntness of SSRIs is to blame. It is possible that individuals with more pervasive sexual dysfunction are more prone to being unattracted to less attractive individuals, whether those individuals are displaying positive facial expressions or are neutral. Interestingly, having only one of these two sexual side effects did not affect attraction for SSRI users. Thus, people who are susceptible to several sexual side effects may be most at risk for developing attraction deficits due to their SSRI use. This result parallels the theoretical work behind emotional blunting. For example, one of Fisher's theories behind emotional blunting states that a lack of sexual desire may lead to relationship disruption [3].

Our findings suggest it is possible that the emotional blunting mechanism may work through a similar biological pathway as libido, but has the ability to disrupt a relationship before it even has the chance to start. Our findings suggest people with more serious sexual dysfunction require a rather attractive mate in order to compensate for their blunted feelings and lack of sexual desire. The fact that there were no significant findings in terms of attraction for users who reported both low libido and difficulty/inability to orgasm for average or attractive photos suggests that SSRI users with more serious sexual dysfunction are still able to find others appealing as long as they are reasonably physically attractive. It thus appears that although some SSRI users may have difficulty with relationship maintenance due to their sexual dysfunction, they are not at an increased risk over and above the average SSRI user for struggling with relationship initiation with a reasonably attractive mate.

The current findings indicate that SSRI users with the specific combination of libido disruption and inability/difficulty with orgasm could benefit by being screened for emotional blunting [22]. Our results showed that SSRI users with more pervasive sexual dysfunction are most at risk for emotional blunting. This suggests a certain threshold of side effects may be necessary to develop emotional blunting. SSRI users who state they are having sexual dysfunction could thus be treated in a secondary prevention typed manner. Secondary prevention focuses on at-risk populations in order to prevent a condition from appearing or getting worse [23]. Identifying SSRI patients who report severe sexual dysfunction as the "at risk" population for emotional

blunting could help to educate these individuals and their loved ones about warning signs (i.e., loss of love or decreased attraction to others) in order to catch emotional blunting before it fully comes to fruition.

### Is a smile the way to break through to SSRI users?

This study found that the expression of a target person's face (smiling versus neutral) affected SSRI users' attractiveness judgments. SSRI users rated neutral positioned faces as being less attractive than their control counterparts, whether the target was pre-rated as highly attractive or of average attractiveness. Thus, it seems that the neutral position of the face was potent enough to deter SSRI users' attraction regardless of the level of the targets' objective attractiveness.

The finding that SSRI users had reduced attraction to neutral faces suggests they may not be as willing to interact with less approachable-looking individuals, such as nonsmiling strangers. Given these findings, it seems unlikely that a person on SSRIs with emotional blunting would attempt to initiate a relationship with a non-smiling individual. In other words, SSRI users may struggle to form relationships and feel attracted to individuals who do not demonstrate an outward approachability. Instead, a person on SSRIs may need a potential romantic partner that is warm, smiling, and inviting in order to inspire attraction.

### Implications

SSRI-induced apathy is a varying late onset side effect of the drug, taking place between months and years of starting drug use [24]. Because of the delayed effects, sometimes a patient may not attribute the apathy to the SSRI; therefore, the side effect can often go unreported and undetected (Barnhart et al., 2004). Most times, it is family members or doctors who pick up on the apathetic tendencies. Meanwhile, patients often tell physicians they feel "fine" and do not find their apathy a problem, most likely because they are too apathetic to care or notice. With this in mind, it is imperative that clinicians learn to detect and manage this insidious side effect of SSRI-induced apathy, as it can cause serious social, financial and emotional difficulties, often without the patient's knowledge (Barnhart et al., 2004). While many SSRI users are not aware of their newfound emotional bluntness, some can detect the change, and this study has experimentally detected a change in terms of physical attraction to others [4].

Because it is the physician's responsibility to recognize when emotional blunting is pharmacologically induced, our study's novel findings on attraction reduction may be a window into identifying if and when emotional blunting has occurred. Ideally, a clinician should not only look for blunted emotions in patients taking SSRIs, but also take necessary procedures to lower side effects by titrating the dose of SSRI, augmentation, or switching the patient to a different class of antidepressant [11,12]. Physicians and patients might work together to find an appropriate treatment that combats the presenting depression, while taking into account quality of life effects from emotional blunting. Clinicians should also probe questions about romantic attraction to both single and partnered patients to ensure that this domain has remained unaffected by the SSRI use. In a diagnostic sense, the decreased attraction this study identified in individuals using SSRIs could be used to facilitate clinicians' ability to pick up on SSRI-induced emotional blunting, as the person taking the drug often misses it.

### Limitations and future directions

While this study identified novel findings on SSRIs and physical attraction, there were some limitations that should be noted. First, due to challenges in recruitment, only 68 SSRI users were included in this study, so replicating these findings with a larger sample size would be beneficial. While the decreased attraction demonstrated in this study is likely due to SSRI use, one could also propose that people with an inherent difficulty in feeling attracted to others prior to medication may also have a greater propensity to become depressed and need an SSRI. While the association between SSRI use and decreased attraction is notable, we are unable to make a causal inference due to our cross-sectional design. Specifically, it is impossible to determine if the decreased attraction is due to the SSRI or the condition the SSRI was treating in the first place. In order to eliminate this confound, a possible waitlist control drug trial incorporating attraction would be needed. Lastly, this study did not attempt to tease apart varying degrees of decreased attraction based on dosage or brand name of drugs.

### Conclusion

In sum, SSRIs appear to increase the likelihood of experiencing decreased attraction to potential romantic partners. Our findings also demonstrate that SSRI users may seek more approachable looking mates. This study contributes to the literature on emotional blunting by showing that SSRI users are less physically attracted to



others and that SSRI users with previous pervasive sexual dysfunction are less likely to find others attractive when compared to SSRI users without a similar sexual dysfunction presentation. This finding suggests that SSRI users already endorsing two or more sexual side effects are most at risk for emotional blunting in terms of attraction.

It would be beneficial for clinicians to inform patients, especially in reproductively active ages, of this possible side effect before prescribing medications and to determine if this lack of physical attraction and sexual functioning in certain populations could be contributing to the increased suicidal ideation side effect that comes along with many SSRIs [25]. By educating patients on potential physical side effects and also social implications of the drug, depressed patients would be able to make a more informed decision about their treatment. Social repercussions from drugs can be as detrimental as physical side effects in terms of quality of life and should be taken seriously by physicians. By increasing the knowledge and understanding of emotional bluntness and its effect on physical attraction, both physicians and SSRI users can on the lookout for disruptions in relationship functioning.

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