Experimental and Clinical Psychopharmacology
2018, Vol. 26, No. 1, 2–5


1064-1297/18/$12.00 http://dx.doi.org/10.1037/pha0000165

BRIEF COMMUNICATION

# Is Antidepressant Use Associated With Difficulty Identifying Feelings? A Brief Report

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Studies on the subjective effects of antidepressants suggest that they may not only improve depressed mood, but as an adverse effect also cause "emotional blunting." This phenomenon is poorly understood and little studied. The aim of this study was to examine the association of serotonergic antidepressant use and subjective emotional awareness. Emotional awareness was assessed using the Difficulty Identifying Feelings subscale from the 20-Item Toronto Alexithymia Scale. Fifty-seven individuals on antidepressant medication and 441 controls were compared. The effects of sex, age, education, as well as current depressive symptoms were controlled for. After controlling for selected variables, the antidepressant group scored higher in subjective difficulty identifying feelings, compared to controls. ($p$ = .043, Adjusted means by Group 14.2 vs. 15.5, 95% confidence interval for mean difference between Groups 0.04–2.5). Serotonergic antidepressant use may be associated with difficulty identifying feelings. Future studies with a longitudinal setting are warranted to clarify causality.

***Public Health Significance***
Patient reports on the effects of SSRI antidepressants suggest that emotional blunting, meaning a lower capacity to experience positive emotions and diminished emotional awareness, is a commonly experienced side effect. This phenomenon is very little studied and poorly understood. The study found an association between serotonergic antidepressant use and subjective difficulty in identifying feelings. It is important to acknowledge that our study could not examine causality, and future studies with a prospective design are needed to clarify whether the observed association is a real side effect of antidepressant use.

*Keywords:* antidepressant, emotional awareness, emotional blunting, alexithymia



Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) are antidepressants widely used to treat major depressive disorder (MDD), anxiety disorders, and other psychiatric conditions. Most frequent adverse effects of SSRI/SNRIs include agitation, nausea, headache, gastrointestinal symptoms, and decreased libido and sexual functioning (Stahl, 1998; Ferguson, 2001). Another common subjective adverse effect of SSRI treatment that has received less attention, is the 'emotional blunting' effect: Many patients feel that SSRIs not only relieve depression, but also diminish positive feelings (Opbroek et al., 2002; Price, Cole, & Goodwin, 2009). Another phenomenon, perhaps related, is SSRI-induced apathy syndrome, which is characterized by indifference, and loss of interest and motivation (Barnhart, Makela, & Latocha, 2004). These potential adverse effects of SSRIs on affective functioning are poorly understood and little studied.

This article was published Online First January 15, 2018.

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We thank the Finnish Cultural Foundation Satakunta Regional Fund (Max Karukivi and Jani Kajanoja), Signe and Ane Gyllenberg Foundation (Hasse Karlsson, Jani Kajanoja, Noora M. Scheinin, and Linnea Karlsson), Jane and Aatos Erkko Foundation (Hasse Karlsson and Linnea Karlsson) and Academy of Finland (Hasse Karlsson, Grant 287908) for funding this study. In addition, the FinnBrain cohort study has received funding from the Academy of Finland (Hasse Karlsson and Linnea Karlsson; Grants 134950 and 253270) and State grant for clinical research (Hasse Karlsson and Linnea Karlsson; ERVA project P3498). We assert that all authors contributed to this paper in a significant way, and that all authors have read and approved the final manuscript.

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Few studies have examined the association of antidepressant use and subjective emotional functioning. A recent study analyzed 192 MDD patients who were involved in a loving relationship and were being treated either with an SSRI or tricyclic antidepressant (Marazziti et al., 2014). They found that men who used SSRIs experienced diminished feelings of love and attachment toward their partner. An earlier study analyzing 15 patients with previous SSRI-induced sexual dysfunction, found that 80% of patients reported treatment-induced blunting of emotions (Opbroek et al., 2002). Both studies had methodological challenges: They used unvalidated questionnaires and adequate control groups with similar symptomatology were lacking. Also, in both studies the patients were asked to retrospectively report changes in emotional functioning after starting SSRI treatment and therefore may be subject to recall bias. Price et al. (2009) conducted a qualitative study with a semistructured interview on 38 SSRI treated individuals. They found that most participants experienced diminished intensity of emotions, describing their emotional life as "dulled," "numbed," and "flattened." Others felt that their emotional experience had become more "cognitive" and "intellectual." On the other hand, many also experienced improved control over emotional reactions and fear. Some patients also described not being in tune with, and difficulty understanding their own feelings, perhaps implying reduced emotional awareness. An online survey of 1,829 adults who had received antidepressant prescriptions in the last 5 years, found that more than half of the subjects described emotional and interpersonal side effects, the most frequent problems experienced were feeling emotionally numb (60%), not feeling like oneself (52%), reduction in positive feelings (42%), and caring less about others (39%; Read, Cartwright, & Gibson, 2014). Similarly, an analysis of descriptions by patients using fluoxetine ($n$ = 226) and venlafaxine ($n$ = 242), found that the most commonly experienced psychoactive effects were sedation, activation, emotional blunting, impaired cognition and emotional instability. However, as the authors note, patients may attribute cognitive and emotional problems to medication that may in fact arise from the underlying psychiatric problem (Goldsmith & Moncrieff, 2011).

The aim of this study was to analyze the association between subjective emotional awareness and serotonergic antidepressant use. To measure emotional awareness, we used the subscale "difficulty identifying feelings" (DIF), which is part of the Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994). Alexithymia is a personality construct, the core features of which include difficulty identifying feelings (DIF), difficulty describing feelings (DDF), and an externally oriented thinking style (EOT; Sifneos, 1973). The TAS-20; (Bagby et al., 1994) is the most common and validated measure of alexithymia. Alexithymia and its individual factors are considered relatively stable personality traits, but especially DIF scores have been shown to change depending on current depressive symptomatology (Luminet, Bagby, & Taylor, 2001; Saarijärvi, Salminen, & Toikka, 2006). In this respect, it is no different from, for example, the personality trait neuroticism, which may also be modulated both by changes in depressive symptomatology (Renner et al., 2013) as well as SSRI treatment (Tang et al., 2009). The DIF subscale has been associated with impaired emotion recognition (Lane et al., 1996), emotional intelligence (Parker, Taylor, & Bagby, 2001) and interoceptive awareness (Herbert, Herbert, & Pollatos, 2011). Based on anecdotal reports on the emotional adverse effects of SSRI's, we expected that DIF may be higher in individuals with current serotonergic antidepressant use.

## Method

### Study Details and Participants

This study is based on the FinnBrain Birth Cohort Study (www.finnbrain.fi), a prospective cohort established to study the effects of prenatal and early life stress exposure on child brain development and health. Subjects were recruited between December 2011 and April 2015 from maternal welfare clinics in the South-Western Hospital District and the Åland Islands in Finland. The study population (cohort, $n$ = 3,808 families) comprises of consecutive women attending the free-of-charge ultrasound (coverage close to 100% in the population; see www.thl.fi) at Gestational Week 12, their children-to-be-born and fathers of the children/partners of the mothers. After recruitment, the participants filled in a set of self-report questionnaires three times during pregnancy, at Gestational Weeks 14, 24, and 34. After birth, the families are followed up at 3- to 6-month intervals (the first 30 months) or 12- to 36-month intervals (from 36 months onward) and the study is planned to continue for decades.

Of the 2,876 individuals who filled in the alexithymia questionnaire, we selected individuals who (a) were currently on any serotonergic antidepressant medication, (b) reported having a history of any psychiatric illness, or (c) had a current Edinburgh Postnatal Depression Scale (EPDS) score of over 10 (Cox, Holden, & Sagovsky, 1987; Gibson, McKenzie-McHarg, Shakespeare, Price, & Gray, 2009; Matthey, Henshaw, Elliott, & Barnett, 2006). We excluded individuals on any other psychiatric medication. The final study population consisted of 498 individuals, of which 57 were on antidepressant medication. The control group is intentionally larger than the antidepressant group to increase statistical power.

### Questionnaire Data

Questionnaire data included a variety of background information on the subjects. For this study we included sex, age, and education (divided into three classes: (a) high school or lower, or not reported; (b) vocational degree or completed upper secondary school, and (c) polytechnic or academic degree).

TAS-20 (Bagby et al., 1994; Taylor, Bagby, & Parker, 2003; Joukamaa et al., 2001) is one of the most commonly used self-report scales used to measure alexithymic features. It consists of 20 items divided into three subscales: DIF, DDF, and OT). The total score ranges from 20 to 100.

The EPDS (Cox et al., 1987; Gibson et al., 2009) is the most widely used questionnaire for screening postnatal depression. It is a 10-item self-report scale that asks respondents to rate their mood and other symptoms in the previous 7 days. Questions are scored from 0 to 3, the total score thus ranges from 0 to 30 points.

The Symptom Checklist-90 (SCL-90; Derogatis, Lipman, & Covi, 1973; Holi, Sammallahti, & Aalberg, 1998) is a self-report questionnaire to assess intensity of symptoms on many subscales. In this study, only the anxiety subscale, that asks the respondent to report anxiety symptoms experienced in the previous month, was used. The items are rated on a 5-point scale of distress, from 0 (*not*

*at all*) to 4 (*extremely*). The total score of the subscale ranges from 0 to 40 points.

TAS-20 and EPDS were measured at the same time point, when the participants' baby was 6 months old. Prescription drug use was also assessed at this time point. Background information (sex, education, and age) was assessed earlier at Gestational Week 12.

## Statistical Methods

All statistical analyses were conducted using the IBM SPSS (version 22.0). Normality of distribution within variables was tested with the Shapiro-Wilk test. In the information presented in Table 1, Mann–Whitney *U* test was used to compare groups in terms of continuous variables, and Chi Square test was used for categorical variables. Significance level was set at $p < .05$.

As both DIF and depressive symptoms were non-normally distributed, general linear model (univariate) was conducted to examine differences between the antidepressant group ($N = 57$) and the control group ($N = 441$). The effects of sex, age, education, and current depressive symptomatology (EPDS) were controlled for.

## Results

The basic information, current depressive symptomatology, self-reported history of MDD, as well as alexithymic features between groups are compared in Table 1.

In the antidepressant group, the specific drugs used were fluoxetine ($N = 1$), sertraline ($N = 9$), escitalopram ($N = 23$), venlafaxine ($N = 5$), paroxetine ($N = 3$), citalopram ($N = 12$), amitriptyline ($N = 1$), clomipramine ($N = 1$) and mirtazapine ($N = 2$).

General linear model showed that after controlling for sex, age, education, and current depressive symptomatology, there was a significant difference in the mean DIF scores between the antidepressant group and the control group ($p = .043$, Adjusted means by Group 14.2 vs. 15.5, CI (95%) for mean difference between Groups 0.04–2.5, partial eta squared 0.008). No significant differences were observed in DDF ($p = .592$), EOT ($p = .233$) or TAS-20 total scores ($p = .816$) between groups, after controlling for confounders. Anxiety (SCL-90) scores were left out of the statistical model because of multicollinearity with EPDS scores (intercorrelation $r = .658$). Anxiety scores did not differ between the SSRI group and the control group ($p = .238$).

## Discussion

To our knowledge, this is the first empirical study evaluating the relationship between antidepressant use and subjective emotional awareness. We conclude that serotonergic antidepressant use may be associated with subjective difficulty in identifying feelings. The most significant limitation of this study is the cross-sectional design, which makes it unsuitable for examining causality. However, considering the paucity of research in this subject, we consider this an important preliminary finding. The strength of this study, compared to previous research, is that the subjects were not explicitly asked about side effects of antidepressant use, possibly reducing response bias. The second limitation is that in order to increase statistical power, we included other serotonergic antidepressants in addition to SSRIs (i.e., tricyclics, SNRIs, and noradrenergic and specific serotonergic antidepressant). We acknowledge that the side effect profile for these drugs is slightly different (Ferguson, 2001). However, a study by Goldsmith and Moncrieff (2011) suggests that the experience of emotional blunting is as common with venlafaxine (SNRI) than with fluoxetine (SSRI).

One explanation for our finding is that serotonergic antidepressants negatively affect emotional awareness. This is consistent with anecdotal reports from patient populations (Price et al., 2009). However, there are alternative plausible explanations: Individuals with difficulty identifying feelings may receive pharmacological treatment more frequently than others. Some studies have suggested that although alexithymic individuals may not differ from controls in treatment preference (Ogrodniczuk, Piper, Joyce, & Abbass, 2009), they may still receive more pharmacological and less psychotherapeutic treatment (Speranza, Loas, Guilbaud, & Corcos, 2011). However, there were no significant differences in overall alexithymia scores between groups. Another possible explanation is that the higher DIF represents current depression in the antidepressant group, and that medication has successfully reduced depressive symptoms, but not DIF. It is a well-known fact that for many patients, even after MDD remission, some residual symptoms, such as loss of interest or insomnia may remain (Israel,

Table 1
*Basic Information and Differences Between Groups*

| Variable | Antidepressant group ($n = 57$) | Control group ($n = 441$) | *p* |
|---|---|---|---|
| Sex (female/male) | 75.4%/24.6% | 78.0%/22.0% | .736[b] |
| Education (low/mid/high) | 4.5%/33.3%/62.1% | 10.5%/29.8%/59.6% | .357[a] |
| Mean age (*SD*) | 32.0 (4.8) | 31.8 (4.8) | .382[a] |
| EPDS, *M* (*SD*) | 9.1 (6.9) | 8.2 (5.4) | .692[a] |
| MDD diagnosis, *n* (%) | 36 (63.2%) | 233 (50.8%) | .092[b] |
| TAS-20 total score, *M* (*SD*) | 45.9 (11.9) | 44.3 (11.4) | .421[a] |
| DIF, *M* (*SD*) | 16.0 (5.9) | 14.2 (5.4) | .031[a] |
| DDF, *M* (*SD*) | 11.6 (4.2) | 11.4 (4.3) | .734[a] |
| EOT, *M* (*SD*) | 18.3 (4.2) | 18.6 (4.6) | .525[a] |

*Note*. EPDS = current depressive symptoms; MDD = major depressive disorder; TAS-20 = Toronto Alexithymia Scale; DIF = difficulty identifying feelings; DDF = difficulty describing feelings; EOT = externally oriented thinking style.
[a] Mann-Whitney U-test. [b] Chi-square test.

2010). Future studies with a longitudinal setting and more objective outcome measures are needed to clarify the possible association between serotonergic antidepressants and reduced emotional awareness, as we could not rule out the possibility that the association is due to differences in baseline depression or alexithymia levels before antidepressant treatment. If, however, reduced positive affect and emotional awareness are real side effects of antidepressant use for some patients, this has important implications for treatment adherence and outcome. Further, the better identification of these patients may help in subject stratification for new intervention trials.

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Received August 5, 2017
Revision received October 7, 2017
Accepted October 16, 2017 ■