NAC may exert a therapeutic effect in several psychiatric disorders, namely schizophrenia and affective disorders,[1] as well as symptoms and syndromes of the obsessive-impulsive spectrum (e.g., trichotillomania and other grooming disorders, pathological gambling, and substance misuse[2]).

There is only one published case report of treatment of skin-picking disorder with NAC.[3] No controlled studies or case series of this treatment have been reported. Below, we report three cases treated at our Impulse Control Disorder clinic of patients who, among other disorders, presented with skin picking.

Case 1. A 45-year-old woman was diagnosed with depressive episode, trichotillomania, and skin picking (history of hair-pulling since she was 4 years old). She was started on sertraline up to 100 mg/day, with no improvement in mood or grooming disorder, then switched to venlafaxine 75 mg/day. At that time, she was also given NAC 1,200 mg/day. Her mood and trichotillomania improved partially and the skin picking resolved completely. Following this improvement, she decided to discontinue her medications unilaterally, with subsequent worsening of all symptoms. In December 2011, she was restarted on venlafaxine 75 mg/day and NAC 1,800 mg/day, with improvement of depressive symptoms and trichotillomania and complete recovery from skin picking.

Case 2. A 40-year-old woman complained of excessive buying coupled with irritability, pressured speech, inflated self-esteem, and inadequate behavior. At the time of presentation, she was on haloperidol 2.5 mg/day, biperiden 2 mg/day, imipramine 25 mg/day, and diazepam 10 mg/day. There was no history of alcohol or illicit drug use. All medications were discontinued and she was started on lithium 600 mg/day (up to 1,200 mg/day) and quetiapine 50 mg/day (up to 500 mg/day). One month later, she developed skin picking, despite good mood control. NAC 1,200 mg/day was initiated. Skin picking stopped until 10 months later, when she discontinued NAC by herself. NAC was subsequently reintroduced with great improvement in skin picking.

Case 3. A 31-year-old woman sought treatment for a moderate depressive episode, pathological jealousy, internet addiction, and severe skin picking. She was prescribed sertraline up to 250 mg/day, but did not respond. She was then switched to fluoxetine 20 mg/day and started on NAC 1,200 mg/day, with substantial improvement in skin picking and partial improvement of affective symptoms. Medication had no effect on her pathological jealousy or internet addiction. The patient was later referred elsewhere for psychotherapy.

The patients described in this report experienced major improvement of skin-picking behaviors resistant to other treatments following use of NAC. We also observed that discontinuation of NAC treatment led to worsening of symptoms, with remission of symptoms achieved again after rechallenge with NAC, suggesting a direct relation between NAC therapy and remission of skin-picking behavior. Taking into account that skin picking is a highly prevalent and insufficiently studied condition,[4] randomized controlled studies are warranted to ascertain the potential benefits of NAC for patients with this disorder.

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Multidimensional Students' Life Satisfaction Scale: translation into Brazilian Portuguese and cross-cultural adaptation

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Life satisfaction measures are distinct from measures of psychopathology and from objective quality of life (QoL) measures.[1,2] Proponents of the subjective QoL indicators perspective focus on measures that incorporate individuals' subjective perceptions and evaluations of key indicators of QoL, such as life satisfaction.[3]

Life satisfaction studies focus on how and why people experience their lives in positive ways.[4] Both unidimensional and multidimensional ratings of life satisfaction have been examined in the literature. However, multidimensional measures provide the most distinctive information about a person's life satisfaction.[3]

In 1994, Huebner developed the Multidimensional Students' Life Satisfaction Scale[4] (MSLSS), a 40-item self-report questionnaire designed to assess life satisfaction in adolescent students. Information regarding test development, usage, and psychometric properties is available elsewhere.[2] The MSLSS has demonstrated

Table 1 Cronbach's alpha coefficients in Canadian, Korean, Chinese, and Croatian samples as compared with our study

Study	Family	School	Friends	Self	Environment	Global
Gilman & Huebner, 2008[6] (China sample)	0.87	0.78	0.74	0.69	0.67	0.89
Huebner & Gilman, 2002[7]	0.79-0.85	0.83-0.85	0.81-0.85	0.72-0.84	0.79-0.83	0.90-0.92
Park et al., 2004[8]	0.76-0.87	0.81-0.87	0.82-0.87	0.67-0.80	0.78-0.81	0.90-0.92
Gilman et al., 2005[9]	0.87	0.82	0.88	0.70	0.72	0.87
Present study, 2008	0.73	0.73	0.75	0.76	0.76	0.76

favorable psychometric properties, including acceptable internal consistency, test-retest reliability, and factorial validity.[3,4]

The objective of this study was to report the process of cross-cultural adaptation of the MSLSS for Brazilian adolescents. The translation and adaptation of the scale to Brazilian Portuguese followed the methodology proposed by Guillemin et al.[5]

The scale was subjected to a translation process involving a two-person English-Portuguese translation team, a two-person back-translation team privy to the original version, and a discussion group (composed of two psychiatrists, a psychologist familiar with QoL questionnaires and their applications, and a native English teacher) responsible for reaching full consensus regarding lexical and cultural equivalence. A cognitive debriefing analysis was performed with 15 adolescents, which represent the focus group in terms of age and school year, and no items were considered to be problematic by these subjects.

The original author's approval of the resulting merged version (back-translation) shows that the methodology employed was adequate. We submitted the Brazilian version to a pilot study whereby 49 students (aged 12 to 18 years) were selected at random and recruited from two secondary schools (one public and one private) in the same district of the city of Recife, state of Pernambuco, Brazil. Students of both genders (63% female) and different educational levels were included. After consent had been provided by the schools and parents, the MSLSS was administered in classrooms.

To determine internal consistency, Cronbach's alpha coefficients were calculated (Table 1), and were found to be consistent for the overall score in both schools. All domains had an alpha coefficient of > 0.71, which is considered adequate for research purposes.

These coefficients were similar in magnitude to those reported in other reliability analyses of the MSLSS in Canadian, Korean, Chinese, and Croatian samples (Table 1). The internal consistency of the MSLSS General scale was sufficiently high and fairly similar for the two schools (0.88 and 0.79, respectively). Comparative analysis of Cronbach's coefficient for the domains included and the schools surveyed revealed that the test had a high level of reliability.

The MSLSS adapted to Brazilian culture, available online[10] and from the authors upon request, has produced results that indicate satisfactory equivalence to the U.S. version and suggest that it is a reliable, user-friendly option for evaluation of life satisfaction among Brazilian adolescents.

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