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To cite this article: Anne-Julie Lafrenaye-Dugas, Martine Hébert & Natacha Godbout (2020): Sexual satisfaction improvement in patients seeking sex therapy: evaluative study of the influence of traumas, attachment and therapeutic alliance, Sexual and Relationship Therapy, DOI: [10.1080/14681994.2020.1726314](https://doi.org/10.1080/14681994.2020.1726314)

To link to this article: <https://doi.org/10.1080/14681994.2020.1726314>



Published online: 12 Feb 2020.



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# Sexual satisfaction improvement in patients seeking sex therapy: evaluative study of the influence of traumas, attachment and therapeutic alliance

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## ABSTRACT

Sex therapy patients report high rates of childhood interpersonal trauma (CIT) and insecure attachment, which may negatively influence the quality of their alliance with the therapist. Poor therapeutic alliance is associated with weaker progress during treatment. However, the effect of CIT, attachment and alliance on progress in therapy has not yet been documented in patients consulting for sexual difficulties. With a pre and post-test design, a total of 74 adults (39 women; 35 men) seeking sex therapy completed questionnaires assessing CIT, attachment representations, and therapeutic alliance. The main outcome measure was evolution of sexual satisfaction over the course of therapy. Results showed that, on average, patients experienced an improvement in their sexual satisfaction. Patients showing the largest improvement reported less attachment anxiety and higher levels of therapeutic alliance at pre-test. Furthermore, although participants reporting four or more types of CIT showed lower sexual satisfaction at pre-test, they reached a level similar to patients with less CIT at post-test, and thus, they demonstrated the greatest level of improvement. These findings support the beneficial effect of sex therapy for patients with a CIT history, and that, with a strong therapeutic relationship and attachment, all patients can develop a more positive and enjoyable sexuality.

## ARTICLE HISTORY

Received 1 May 2019

Accepted 1 February 2020

## KEYWORDS

Attachment; childhood interpersonal traumas; sex therapy; sexual satisfaction; therapeutic alliance

Although sexuality is a source of pleasure for many people, it can also be associated with difficulties. Individuals with sexual difficulties can engage in sex therapy to improve their sexual satisfaction, but several variables may influence their ability to progress through their treatment. Hence, the purpose of this article is to explore the effect on sex therapy success of three central correlates: interpersonal traumas, attachment representations, and therapeutic alliance. Indeed, it is documented that a low

level of sexual satisfaction is linked with childhood interpersonal trauma (CIT) (Bigras, Godbout, Hébert, & Sabourin, 2017; Staples, Rellini, & Roberts, 2012; Stefanou & McCabe, 2012), as well as with low couple satisfaction, sexual health and psychological well-being (Butzer & Campbell, 2008; Davison, Bell, LaChina, Holden, & Davis, 2009; Higgins, Mullinax, Trussell, Davidson, & Moore, 2011). Sexual satisfaction refers to the individuals' subjective assessment of the positive and negative aspects of their sexuality, and to their emotional response to this assessment (Lawrance & Byers, 1995). Sex therapy is recognized as an effective management of sexual dissatisfaction (Soleimani et al., 2015). Similarly, it is documented that patients seeking sex therapy tend to report low level of sexual satisfaction (Bigras, Godbout, et al., 2017; Lafrenaye-Dugas, Godbout, & Hébert, 2018). Although some studies have examined the effectiveness of sex therapy to improve the level of sexual satisfaction (e.g., Jones & McCabe, 2011; Soleimani et al., 2015), few studies have explored the possible role of key psychosocial correlates associated with this progress.

As for the first key potential correlate, current literature indicates higher rates of CIT (e.g., sexual, psychological or physical abuse and neglect before the age of 18) in adults seeking sex therapy (e.g., psychotherapy targeting the treatment of sexual difficulties) than in individuals from community samples (Berthelot et al., 2014; Bigras, Godbout, et al., 2017). Studies have documented that a child who has experienced a form of CIT has a high risk of experiencing multiple types of interpersonal violence (Hodges et al., 2013). In turn, the cumulative effect of multiple forms of traumas (i.e., cumulative childhood trauma) is connected to a more acute and complex symptomatology such as severe relational and psychological symptoms (Berthelot et al., 2014; Bigras, Daspe, Godbout, Briere, & Sabourin, 2017), as well as sexual difficulties and low sexual satisfaction (Bigras, Godbout, et al., 2017; Staples et al., 2012). Other findings show that patients who suffered from maltreatment are likely to need more intensive treatment in order to experience progress in therapy (Harkness, Bagby, & Kennedy, 2012). In sum, sex therapy patients show high rates of CIT, and these adverse experiences might influence their progress in treatment regarding main outcomes such as sexual satisfaction.

A second key correlate that may influence patients' outcomes following treatment is their attachment representations, attachment insecurities being associated with lower sexual satisfaction and cumulative childhood trauma (Butzer & Campbell, 2008; Godbout, Daspe, Runtz, Cyr, & Briere, 2019; Riggs, 2010). Greater levels of attachment insecurities are also associated with higher levels of sexual difficulties and psychological distress (Butzer & Campbell, 2008; Shallcross, Frazier, & Ander, 2014; Stefanou & McCabe, 2012). Furthermore, attachment insecurity is linked to difficulties in committing to and progressing during psychotherapy treatment (Mikulincer, Shaver, & Berant, 2013). Adult attachment is optimally measured through romantic attachment and includes two interrelated dimensions (Godbout, Bigras, & Sabourin, 2017; Mikulincer & Goodman, 2006). *Attachment anxiety* denotes a negative perception of self and is characterized by fear of abandonment and rejection combined with a lack of sense of self-worth, as well as the propensity to validate oneself through others. It implies a hyperactivation of the attachment system. In this case, the patient is sensitive to signs of endangered relationship and needs to be reassured through

demonstrations of love. *Attachment avoidance* refers to negative representation of others as not trustworthy and is characterized by emotional continence, self-sufficiency, and discomfort with closeness and interdependence because of anticipation that the partner will inevitably become unavailable. It involves a strategic deactivation of the attachment system to decrease negative and distressful emotional states and a vulnerability to neediness. Patients are considered to have a secure attachment when they display neither avoidance nor anxiety (Griffin & Bartholomew, 1994; Mikulincer, Shaver, & Pereg, 2003).

A third key correlate that may relate to progress in sex therapy is therapeutic alliance. Indeed, a strong alliance, built quickly in a therapeutic relationship, is one of the best predictors of positive treatment outcomes (Horvath, Del Re, Flückiger, & Symonds, 2011). The fundamental role of the therapeutic alliance is increasingly documented in the field of sex therapy and psychotherapy research. Moreover, the concept of alliance has repeatedly been highlighted as a central component to treatment efficacy, in both psychological and biomedical therapy (Bennett, Fuertes, Keitel, & Phillips, 2011; Ferreira et al., 2013; Horvath et al., 2011). For example, patients with a weaker therapeutic alliance appear more likely to drop out of their treatments (Sharf, Primavera, & Diener, 2010). Bordin's theory (1979) postulates that therapeutic alliance contains three dimensions: 1) the bond between the patient and the therapist, as well as their agreement on the treatment 2) goals and 3) tasks. The bond dimension refers to the relational, affective and emotional facets of the therapeutic alliance, while the other two dimensions, the agreement about goals and tasks, are more cognitive (Baillargeon, Pinsof, & Leduc, 2005; Hietanen & Punamäki, 2006).

In sum, although previous studies revealed a negative association between attachment and therapeutic alliance (e.g., Diener & Monroe, 2011) and between trauma and therapeutic alliance (e.g., Holowaty & Paivio, 2012), the influence of these correlates on the improvement in sex therapy patients between the beginning and the end of their treatments have not been explored. Evaluation of the effectiveness of sex therapy and of the correlates' influence on this effectiveness would fill this gap in scientific literature.

Similarly, although different treatment protocols have been shown to be effective in improving sexual satisfaction (e.g., Jones & McCabe, 2011; Soleimani et al., 2015), they did not directly take into account key correlates such as CIT, attachment representations, and therapeutic alliance. However, clinical practice highlight that some patients show greater progress than others. Identification of the key factors impeding therapeutic progress could offer important cues for clinicians.

## Objectives and hypothesis

The current group pre-test and post-test designed study aimed to explore the characteristics that differentiate the patients who showed the highest improvement on sexual satisfaction from those who showed the lowest improvement, on the identified key correlates (i.e., cumulative CIT, attachment representations, and therapeutic alliance before sex therapy). A second objective was to describe and compare the evolution of sexual satisfaction in sex therapy patients between the beginning and the end of their

treatment. Our hypothesis was that patients' average level of sexual satisfaction would be higher at the end of therapy as compared to before treatment, and that patients reporting more CIT, attachment insecurities and difficulty creating a therapeutic alliance will display a lower level progress over the course of therapy.

## Methodology

### *Participants and data collection*

This study used a pre-test and post-test methodology. Patients seeking sex therapy in diverse facilities (general hospitals, family medicine units, community and private clinics, etc.) were invited via their sex therapy interns in clinical sexology to complete self-report questionnaires within the first weeks ( $M = 6.0$  weeks;  $SD = 5.3$ ) of their treatment. Participants were in treatments for an average of 25.3 weeks ( $SD = 7.1$ ).

A total of 74 patients, 39 women and 35 men, were included in this study. They were aged between 19 and 70 years old ( $M = 37.9$ ;  $SD = 13.9$ ). The majority, 58 (78.4%) defined their sexual orientation as heterosexual, while 8 (10.8%) identified as homosexuals, 7 (9.5%) as bisexuals, and 1 (1.4%) as pansexual. Regarding relational status, 32 patients (43.2%) were single, 5 (6.8%) were in a dating relationship, 19 (25.7%) were in a common-law relationship, and 18 (24.3%) were married. The majority earned less than 40,000 CAN\$ per year (71.8%), were workers (48.7%) or students (27.6%), had at least a college education degree (86.5%), spoke French as their first language (90.5%), and were born in Canada (86.5%).

Regarding the patients' reasons for consultation, they mentioned consulting for lack of sexual desire (41.0% of women, 28.6% of men), erection problems (31.4% of men), orgasm disorder (28.2% of women), premature (28.6% of men) or delayed (20.0% of men) ejaculation, pain during sexual intercourse (28.2% of women, 2.9% of men), or impossibility to have vaginal penetration (i.e., vaginismus) (10.3%). Other motives were also reported by 33.3% of women and 8.6% of men (i.e., relational and seduction difficulties, excessive sexuality behavior, interrogation about their sexual orientation or gender identity, etc.). Slightly more than half of the patients (54.1%) indicated more than one reason for their consultation.

### *Measures*

*Sexual Satisfaction.* Sexual satisfaction was measured with the Global Measure of Sexual Satisfaction (GMSS) (Lawrance & Byers, 1995), which assesses the level of satisfaction patients feel toward their sexuality using five items on a seven-point bipolar scales (e.g., "My sexuality is: good-bad, pleasant-unpleasant, positive-negative, satisfying-unsatisfying, and valuable-worthless"). The total score varies from 5 to 35, with higher scores reflecting higher sexual satisfaction. The Cronbach's alpha was high ( $\alpha = .89$ ).

*Childhood Trauma.* Experiences of interpersonal trauma before the age of 18 was assessed with the Childhood Cumulative Trauma Questionnaire (CCTQ; Godbout, Bigras, et al., 2017). This questionnaire measures eight forms of traumas experienced before majority (i.e., 18 years): physical and psychological abuse by parental figures; psychological and physical neglect; exposure to psychological and physical violence

between parental figures; peer bullying; and sexual abuse. Childhood sexual abuse was assessed based on the Canadian Criminal Code (1985), with one item assessing whether the patient had experienced undesired sexual contact; or any sexual contact with an adult or someone 5 years older before the age of 18; or someone from whom the child depended. The other types of trauma were indicated on a scale ranging 0 “Never” to 6 “Every day, or almost every day” in reference to “a typical year of my childhood” (e.g., “Did one of your parents, or both, ever punched or kicked you?”; “Did one of your parents, or both, ever confine you alone in a room for a long period of time?”). Each type of trauma was coded as experienced (1) or not experienced (0), and summed to obtain a total trauma score ranging from 0 to 8, with higher scores representing greater exposure to different forms of trauma. Then, to optimally screen and define the incidence of cumulative trauma, Finkelhor, Ormrod, and Turner (2007) recommend considering the report of at least four or more types of interpersonal trauma. In the sample, patients reported a rounded average of four types of CIT. Consequently, participants reporting four forms of CIT or more were coded as having cumulative CIT (cumulative CIT = 1), while those reporting three forms of CIT or less were coded as not reporting cumulative CIT (cumulative CIT = 0) ( for other studies using this operationalization and coding of cumulative trauma, see Bigras, Godbout, et al., 2017; Dugal, Godbout, Bélanger, Hébert, & Goulet, 2018; Lafrenaye-Dugas et al., 2018 ). Past studies established satisfactory psychometric qualities with this questionnaire (e.g., Bigras, Godbout, et al., 2017; Lafrenaye-Dugas et al., 2018), and in this study, Cronbach’s alpha shows satisfying internal consistency ( $\alpha = .70$ ).

*Attachment representations.* Past studies documented that attachment in adulthood is optimally comprehended through romantic relationships (Hazan & Shaver, 1987; Mikulincer & Goodman, 2006). Romantic attachment was therefore assessed via a French version of the Experience in Close Relationship Scale-12 (ECR-12; Brennan, Clark, & Shaver, 1998; Lafontaine et al., 2016). This questionnaire contains two subscales measuring the two dimensions of attachment, avoidance (e.g., negative view of others) and anxiety (e.g., negative view of self). With a Likert scale ranging from 1 “Strongly disagree” to 7 “Strongly agree”, patients answered questions such as “I worry about being abandoned” or “I usually discuss my problems and concerns with my partner”. Higher scores on these subscales reveal higher levels of avoidance or anxiety, and clinical cut-off has been proposed for both (a score higher than 2.5 for avoidance, and 3.5 for anxiety) (Brassard et al., 2012). The internal consistency indicates a Cronbach’s alpha of .88 for the avoidance subscale, and of .91 for the anxiety subscale.

*Therapeutic Alliance.* Therapeutic alliance was evaluated using a French translation of the client short-form version of the Working Alliance Inventory (WAI; Tracey & Kokotovic, 1989). This questionnaire comprises three subscales measuring the three elements of Bordin’s (1979) theory, which can be summed to derive a total score. Twelve questions (e.g., “My therapist and I are working towards mutually agreed upon goals”, “I feel that my therapist appreciates me”), are answered with a scale from 1 (“Never”) to 7 (“Always”). The total score varies between 12 and 84, while the scores on each subscale fluctuates between 4 and 28. Higher score indicates stronger therapeutic alliance, but there is no clinical cut-off. Since prior research supported the relevance to assess alliance in the early stages of treatment (e.g., Horvath et al., 2011; Lafrenaye-Dugas

et al., 2018), only the pre-test WAI scores were considered in the analyses. Cronbach's alpha indicates a high internal consistency in previous (Taber, Leibert, & Agaskar, 2011) and in the current study, with .87 for the total score (agreement on goals  $\alpha = .70$ ; agreement of task  $\alpha = .62$ ; bond  $\alpha = .85$ ).

### **Data analyses**

Using the IBM SPSS software, first, we conducted descriptive analyses to portray the characteristics of the sample in terms of sexual satisfaction, cumulative CIT, attachment representations and therapeutic alliance. Second, we executed a paired  $t$  test to evaluate potential changes in patients' sexual satisfaction levels before and after sex therapy. Third, for the pre-test and post-test analyses, we assessed the changes in the patients' sexual satisfaction by performing a subtraction of the post-test GMSS score by the pre-test score and obtained a change score (e.g., Bonate, 2000; Dimitrov & Rumrill, 2003):

$$\text{Change score} = \text{GMSS post-test} - \text{GMSS pre-test}$$

Based on the literature in the field of education and intervention programs evaluation relying on pre/post-test designs (e.g., Case-Smith, Holland, Lane, & White, 2012; Nolte, Elsworth, Sinclair, & Osborne, 2007), we used the change score to divide the sample into distinct groups. We computed three groups differing in their level of improvement regarding sexual satisfaction (below average, in average, and above average change score). Thereby, the dependent variable is the change score in sexual satisfaction while attachment representations, CIT, and therapeutic alliance level act as independent variables.

Finally, we performed analyses of variance (ANOVAs) and post-hoc analyses (Least Significant Difference method; LSD method) to test significant differences between these three groups regarding potential key correlates of improvement over the course of therapy namely the patients' CCT, attachment representations and capacity to build therapeutic alliance. The LSD post-hoc method has the advantage of maintaining a good control over error rates when three groups are studied, even when the F-test significance is weak (Howell, 2012; Levin, Serlin, & Seaman, 1994). As the sample size brings restriction in terms of statistical power, effect sizes were used to overcome this difficulty. Indeed, some authors argue that in clinical research, practical significance, represented by effect sizes, is as important as statistical significance (e.g., Lakens, 2013). The  $\eta^2$  were used to assess effect sizes, and is considered small at .01, medium at .06, and large at .14 (Fritz, Morris, & Richler, 2012). However, these comparison analyses should still be considered exploratory.

## **Results**

### **Descriptive data**

Patients reported an average sexual satisfaction of 20.9 ( $SD = 7.4$ ) at the pre-test assessment, and of 23.0 ( $SD = 7.0$ ) at the post-test assessment. In comparison, a study



**Table 1.** Rates of reported interpersonal trauma.

	Total sample %
Emotional abuse	62.2
Physical abuse	45.9
Psychological neglect	75.7
Physical neglect	24.3
Exposure to psychological violence	59.5
Exposure to physical violence	12.2
Bullying	66.2
Sexual abuse	44.6

using the same questionnaire, but with a sample of adults from a community sample, reported a mean of 27.3 ( $SD = 6.6$ ) (Bigras, Daspe, et al., 2017).

As for CIT, as exposed in Table 1, results shown that 86.5% of the sample reported experiencing at least two types of trauma, and 55.4% reported four or more experiences. Patients presented on average 3.9 types of trauma ( $SD = 2.0$ ). In addition, patients with cumulative CIT (4 or more types;  $n = 42$ ) showed a lower level of sexual satisfaction than average at pre-test ( $M = 19.0$ ;  $SD = 7.5$ ), but progressed to a level similar to average at post-test ( $M = 22.5$ ;  $SD = 7.6$ ). They are therefore those showing the greatest improvement.

The sample also demonstrated high rates of insecure attachment, with 54.1% of the patients presenting scores above clinical cut-off score for attachment avoidance, 64.9% for attachment anxiety, and 41.9% were above the threshold on both scales, which suggest a fearful attachment. Only 20.3% of patients demonstrated a secure attachment.

For therapeutic alliance, the mean for the total score was of 72.9 ( $SD = 8.5$ ), 24.2 for the agreements on goals subscale ( $SD = 2.7$ ), 24.4 for the agreement on tasks subscale ( $SD = 3.1$ ), and 24.3 for the bond between the patient and the therapist ( $SD = 3.5$ ). These results are coherent with other studies using the WAI in similar populations (Lafrenaye-Dugas et al., 2018; Taber et al., 2011). Although this variable cannot be derived with a clinical cut-off, these scores appear similar or superior to results obtained by other studies using the same questionnaire (e.g., Applebaum et al., 2012).

**Paired samples t test**

In order to evaluate the level of improvement in patients’ sexual satisfaction between the pre-test and post-test, we performed a paired samples *t test*. The results indicate a significant difference ( $t(73) = -2.7$ ;  $p = .009$ ;  $\eta^2 = .04$ ) between the levels of sexual satisfaction at the beginning and at the end of treatment, with the average score improving by two points ( $M = -2.1$ ;  $SD = 6.6$ ).

**Pre-test and post-test analyses**

To measure the sexual satisfaction level evolution experienced by the participants between the pretest and post-test, we subtracted the post-test GMSS score by the pre-test score, resulting in a range of change scores ranging from -22 to 21 ( $M = 2.1$ ;

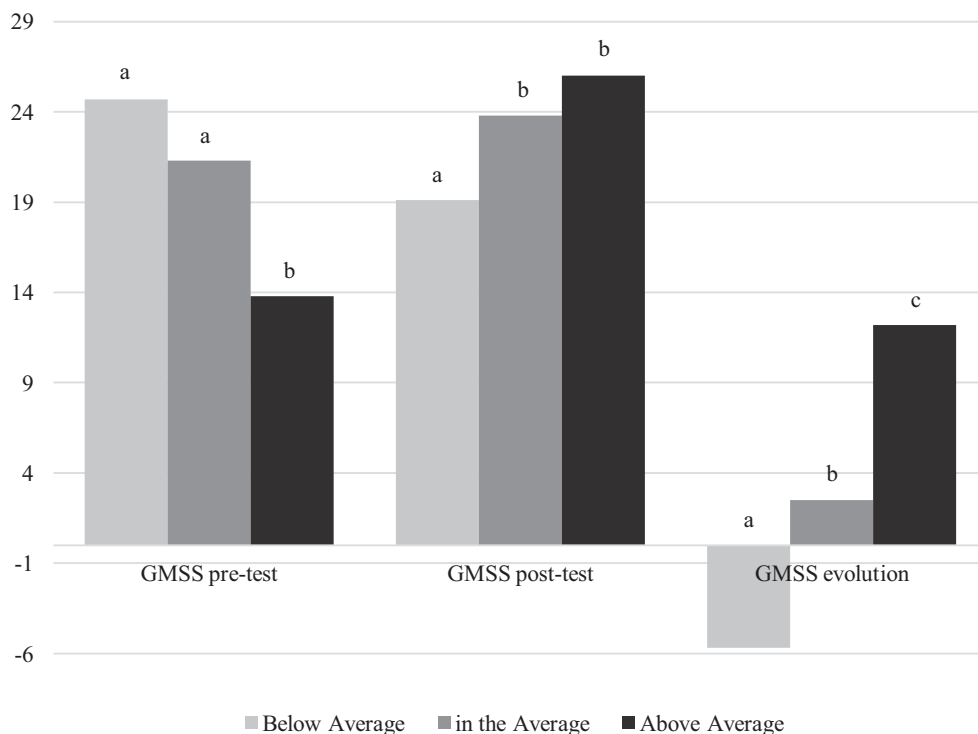


**Table 2.** Groups of sexual satisfaction levels and evolution differentiated through ANOVA and post hoc analyses.

	Group #1: Below Average <i>M(SD)</i>	Group #2: in the Average <i>M(SD)</i>	Group #3: Above Average <i>M(SD)</i>	<i>F(df)</i>	$\eta^2$
GMSS pre-test	24.7 (5.5) <sup>a</sup>	21.3 (7.1) <sup>a</sup>	13.8 (6.8) <sup>b</sup>	9.6 (2,71) <sup>***</sup>	.21
GMSS post-test	19.1 (5.9) <sup>a</sup>	23.8 (7.5) <sup>b</sup>	26.0 (4.7) <sup>b</sup>	4.6 (2,71) <sup>*</sup>	.11
GMSS evolution	-5.7 (4.8) <sup>a</sup>	2.5 (2.4) <sup>b</sup>	12.2 (4.6) <sup>c</sup>	93.2 (2,71) <sup>***</sup>	.72

Note: Means on the same row with different superscript letters differ at  $p < .05$ .

<sup>\*</sup> $p \leq .05$ , <sup>\*\*</sup> $p \leq .01$ , <sup>\*\*\*</sup> $p \leq .001$ .

**Figure 1.** Histogram representation of the ANOVA and post hoc analyses on groups sexual satisfaction levels and evolution.

Note: Means on the same row with different superscript letters differ at  $p < .05$ .

$SD = 6.6$ ). This score led to dividing the patients into three groups, according to their change score. A mid-range group was first created and comprised patients whose change score ranged between half a rounded standard deviation (i.e., 6.6 being rounded to 7) below and above the mean. This process resulted in a central group situated within the equivalent of the rounded average standard deviation. The other two groups are at the lower and upper poles of the sexual satisfaction change scores (see Table 2 for  $M$  and  $SD$ ). The differences between these three groups in terms of sexual satisfaction levels and evolution are described in Table 2 and Figure 1.

Then, we compared the groups on the correlates variables (i.e., CCT, attachment representations and therapeutic alliance), using ANOVAs and post hoc analyses. However, the ANOVAs revealed non-significant  $F$ -tests for the therapeutic alliance

**Table 3.** Groups correlates differentiated through ANOVA and post hoc analyses.

	Group #1: below average <i>M</i> ( <i>SD</i> )	Group #2: in the average <i>M</i> ( <i>SD</i> )	Group #3: above average <i>M</i> ( <i>SD</i> )	$\eta^2$
CCTQ (dichotomized)	.4 (.5) <sup>a</sup>	.6 (.5) <sup>ab</sup>	.75 (.5) <sup>b</sup>	.06
ECR: anxiety	4.9 (1.4) <sup>a</sup>	4.1 (1.9) <sup>ab</sup>	3.7 (1.2) <sup>b</sup>	.06
ECR: avoidance	3.1 (1.5)	3.0 (1.5)	3.1 (1.4)	.00
WAI: total	71.2 (7.1) <sup>a</sup>	72.3 (9.3) <sup>a</sup>	79.1 (3.1) <sup>b</sup>	.09
WAI: goals	23.6 (2.2) <sup>a</sup>	24.0 (2.9) <sup>ab</sup>	26.1 (2.2) <sup>b</sup>	.08
WAI: tasks	23.9 (3.1) <sup>a</sup>	24.2 (3.3) <sup>a</sup>	26.7 (1.3) <sup>b</sup>	.08
WAI: bond	23.7 (3.2)	24.1 (3.3)	26.1 (1.7)	.04

Note: Means on the same row with different superscript letters differ at  $p < .05$ .

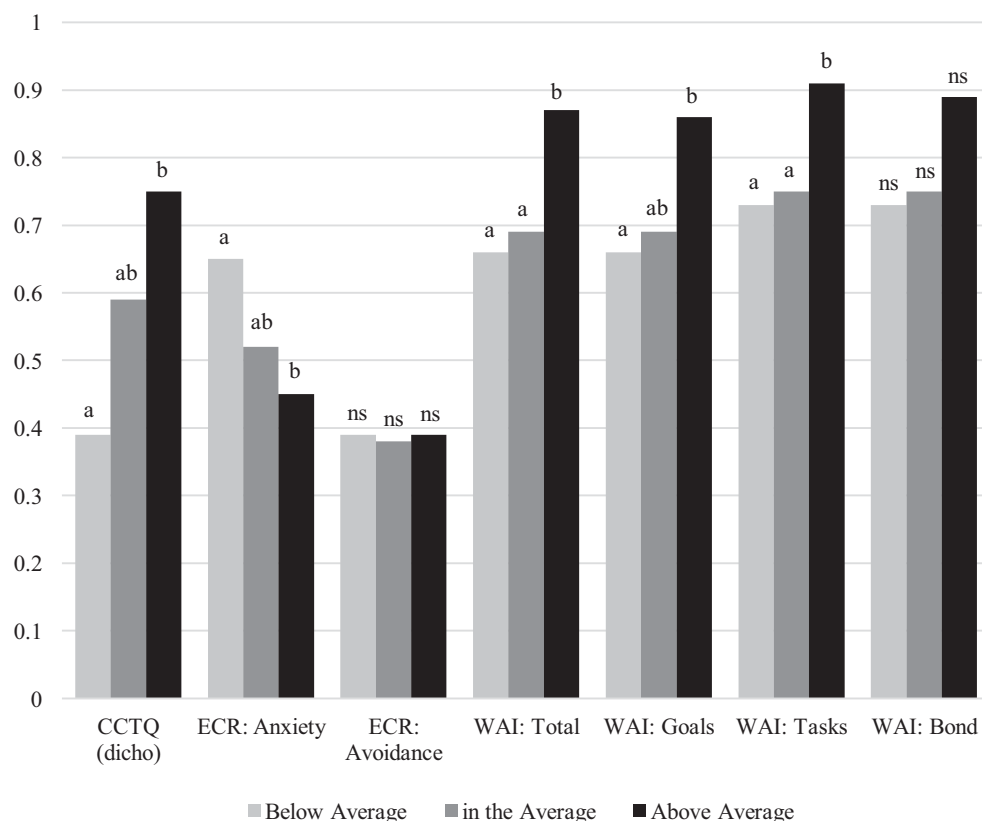
bond subscale and the attachment avoidance subscale, as well as marginally significant F-tests for the other correlates. Nonetheless, the results obtained through post-hoc analyses are presented in the following section, considering that: 1) our analyses revealed significant post-hoc results; 2) the correlates with a marginally significant F-tests all show effect sizes considered as medium to large (Fritz et al., 2012); 3) LSD post-hoc method shows a good error control for analyzes including three-group (Howell, 2012; Levin et al., 1994); and 4) the purpose of this article is to document in an exploratory way the inherent sex therapy patients characteristics likely to influence their improvement. The results are also shown in Table 3 and Figure 2, where it can be observed that the goals and tasks WAI subscales, as well as the total score, are the correlates with the largest effect sizes. They respectively explain 8%, 8%, and 9% of the variance between the three groups.

### **Group #1: progress below average**

The first group included 18 patients (24.3% of the sample), all showing a decrease in their level of sexual satisfaction from pre-treatment to post-treatment assessments ( $M = -5.7$ ;  $SD = 4.8$ ). Their GMSS change scores varied between -22 and -2. They reported an average of 3.4 ( $SD = 1.9$ ) different forms of CIT, and 38.9% of the patients in this subgroup reported at least four forms of CIT. Only 5.9% of patients reported a secure attachment. Similarly, they indicated a high level of attachment insecurities; 88.2% scoring above the cut-off (Brassard et al., 2012) on attachment anxiety, 52.9% displayed a score above the cut-off on attachment avoidance, and 47.1% simultaneously exhibited scores above cut-off on both attachment anxiety and avoidance. Patients in this group reported levels of therapeutic alliance below the sample mean for all of the WAI subscales.

### **Group #2: average level of progress**

The second group contains 59.5% of the sample ( $n = 44$ ) and report an average level of improvement regarding sexual satisfaction, with a change of 2.5 points ( $SD = 2.4$ ) from pre-test to post-test. Their GMSS change scores ranged from -1 to 6. They reported an average of 4.0 ( $SD = 2.1$ ) types of CIT, and 59.1% declared experiencing at least four traumas. Regarding their attachment representations, 27.9% reported a secure attachment, which is marginally more than the first group ( $p = .061$ ;  $F(2,69) = 1.9$ ). Regarding the attachment anxiety dimension, 60.5% indicated a score above the cut-off, while 53.4% scored above the cut-off for attachment avoidance,



**Figure 2.** Histogram representation of the ANOVA and post hoc analyses on groups correlates.

Note: Means on the same row with different superscript letters differ at  $p < .05$ .

<sup>ns</sup>Not significant

Values were standardized and centered to obtain a common scale ranging from 0 to 1

and 41.9% simultaneously showed significant levels of attachment anxiety and avoidance. Their therapeutic alliance level did not significantly differ from the first group.

### **Group #3: progress above average**

The last group includes 12 patients (16.2% of the sample) and reported an average increase of 12.2 ( $SD = 4.6$ ) in sexual satisfaction from pre-test to post-test. Their GMSS change scores varied between 7 and 21. They reported the lowest level of sexual satisfaction at the pre-test but the highest at the post-test. These patients reported an average of 4.3 ( $SD = 1.7$ ) different types of CIT, and 75.0% reported at least four CIT. This rate of CIT was significantly higher than the first group, but similar to the second group. Concerning attachment scores, 16.7% of patients presented a secure attachment, which does not significantly differ from the two other groups. Similarly, 58.3% of patients showed a level of attachment anxiety above the cut-off, which is a greater portion compared to the first group, but not to the second group. Moreover, in the third group, 66.7% reported attachment avoidance above the cut-off, and 41.6% simultaneously displayed both attachment anxiety and avoidance, which is statistically similar to the other groups. This group revealed a stronger therapeutic alliance compared to the first and the second group.

## Discussion

For patients presenting sexual difficulties or low sexual satisfaction, sex therapy is a frequently used and effective treatment option (Jones & McCabe, 2011; Soleimani et al., 2015), but several factors can influence its effectiveness. The first objective of this study was to explore how variables of interest (e.g., cumulative CIT, attachment representations and ability to form a therapeutic alliance) might influence how, over the course of therapy, some patients progress more easily than others regarding levels of sexual satisfaction. The hypothesis was that patients presenting less CIT, attachment insecurity and difficulties in forming a therapeutic alliance would show the strongest progress. This hypothesis is partially confirmed. Indeed, after dividing patients in three groups according to their progress level (Below Average; in the Average; and Above Average), results highlighted that those demonstrating the strongest alliance and the least attachment anxiety before treatment showed the greatest progress following therapy. Interestingly, the group above the GMSS change average reported high rates of cumulative CIT. These patients indeed indicated a sexual satisfaction level below the sample average at pre-test, but higher than the average at post-test, leading them to demonstrate the greatest progression.

A second objective of this exploratory study was to document the overall sexual satisfaction evolution of sex therapy patients through the course of treatment. Our hypothesis was that sex therapy would increase the patients' overall level of sexual satisfaction. The results show that between the pre-test and the post-test, on average, patients report an improvement in their level of sexual satisfaction. Therefore, the sex therapy treatment they received appears as an efficient solution to improve their level of sexual satisfaction.

## *Key results and implication for sex therapy research*

Despite the recognized use of these strategies in different areas of evaluative research, the use of a change score to divide the sample into distinct groups is innovative in sex therapy research (e.g., Bonate, 2000; Case-Smith et al., 2012; Dimitrov & Rumrill, 2003; Nolte et al., 2007). The compelling results obtained with this method are encouraging for researchers wishing to replicate it.

The group located on the average differed little from the two other groups and included including the greater number of patients – a little more than half. Indeed, the two groups showing the highest distinction in correlates were the groups below the average, and above the average, which included respectively less than one-fifth and about one quarter of the patients. For the group below average, compared with the group above the average, patients reported a greater level of anxious attachment, and a lower level of therapeutic alliance. Patients in the below average group significantly demonstrated a lower therapeutic alliance for the total score, and for the dimensions of agreement on goals and tasks. These results appear consistent with previous literature underlying the central role of the therapeutic alliance and of secure attachment with therapy outcomes (Horvath et al., 2011; Strauss et al., 2006). They also raise the importance of training therapists about these variables and their influence on therapeutic success.

In the above average group, when compared to the below average group, patients reported lower attachment anxiety levels and higher levels of therapeutic alliance. These results are coherent with previous studies highlighting a relation between sexual satisfaction, progress in therapy, attachment representation and therapeutic alliance (Butzer & Campbell, 2008; Horvath et al., 2011; Riggs, 2010). However, they also indicated higher cumulative CIT rates. Indeed, although patients reporting more than three different types of CIT showed a lower sexual satisfaction at pre-test, at post-test, they had progressed to a level similar to those indicating three types of CIT or less. While cumulative CIT might be harmful to therapeutic outcomes, the present results raise a lot of hope for the CIT survivors, and are discussed in the next section.

Effect sizes for CIT accumulation, attachment anxiety, and total therapeutic alliance score were found to be medium to wide, suggesting a good influence of these correlates on change throughout therapy. This supports the growing interest in the use of effect sizes, in addition to statistical significance thresholds, in interpreting data in clinical research (e.g., Lakens, 2013).

### ***Implications for clinical practice and training***

Our findings raise the importance of patients' characteristics in their progress in sex therapy, and the way those characteristics can influence their level of sexual satisfaction. First, although patients experienced an improvement in their sexual satisfaction after therapy, the score they obtained at the end of treatment remained lower than that found in the general population (Bigras, Godbout, et al., 2017). This finding underlines the importance for sexual health professionals to assess their patients' sexual satisfaction level, since the majority of them report sexual dissatisfaction (Bigras, Godbout, et al., 2017), and since a low level of sexual satisfaction is related with low sexual health, psychological well-being, and couple satisfaction (Butzer & Campbell, 2008; Davison et al., 2009; Higgins et al., 2011).

Second, therapeutic alliance, formed in the early stages of treatment, has repeatedly been documented as a key component for therapeutic success in diverse clinical settings, but its role in improving sexual satisfaction through sex therapy had not yet been empirically evaluated (Bennett et al., 2011; Ferreira et al., 2013; Horvath et al., 2011; Sharf et al., 2010). The results of the present study indicate that patients with the greatest ability to quickly build a therapeutic alliance with their therapist were also those whose sexual satisfaction change scores were higher at the end of treatment. The difference in therapeutic alliance measure total score was found significant, as well as differences for the subscales of the agreement on tasks and goals. These results are clinically compelling, since they offer sex therapists a clear and direct way to measure their patients' commitment to therapy (e.g., do patients engage in their goals? their tasks and homeworks?). Thus, to optimize treatment, clinicians would benefit from assessing during the first weeks of therapy the therapeutic alliance level in patients with low sexual satisfaction. In this way, as suggested by authors working on therapeutic alliance (Ackerman & Hilsenroth, 2003; Bertakis & Azari, 2011), therapists may tailor interventions to improve the level of alliance, and potentially, the evolution in therapy.

Third, the results underlined a high prevalence of insecure attachment among sex therapy patients. The group with the highest secure attachment rate was the one

with the average progress, with slightly more than a quarter reporting a secure attachment. Nevertheless, this rate remains lower than what is found in the general population where almost half of people present a secure attachment (Pistole, Roberts, & Chapman, 2010). Another element revealed by this study is that patients that displayed the least progress also showed the highest attachment anxiety, and that patients with the greatest progress are those with the least anxiety. This is consistent with the results obtained by Levy, Ellison, Scott, and Bernecker (2011), stipulating that patients with higher attachment anxiety showed poorer psychotherapy outcomes, while attachment avoidance was not significantly associated to outcomes. These results also emphasize the fundamental role of self-esteem and positive perception of self for sexual fulfillment and satisfaction (Brassard, Dupuy, Bergeron, & Shaver, 2015), whereas people with anxious attachment tend to lack sensation of self-worth (Godbout, Bigras, et al., 2017;; Mikulincer & Goodman, 2006). Similarly, to explain the worsening of some patients throughout treatment, it should be kept in mind that individuals with attachment anxiety are very sensitive to rejection and abandonment, and that the end of a therapeutic journey could be experienced as a form of abandonment (Marmarosh & Tasca, 2013). Thus, it has been pointed out that these patients tend to worsen when the end of the therapy is approaching (Zilberstein, 2008). In terms of avoidant attachment, further studies are needed to explain its weak influence on progression in sex therapy. For example, recent studies revealed that avoidance significantly influences sex therapy adherence only in interaction with CIT (e.g., Lafrenaye-Dugas et al., 2018). To sum up, especially with anxious patients, targeting attachment patterns in both the early and late phases of intervention may be crucial.

Finally, with more than half of the sample reporting four or more types of CIT, patients showed a higher level of traumas compared to the general population (Berthelot et al., 2014; Bigras, Daspe, et al., 2017), but also to other clinical populations (Brodsky et al., 2001). The data also indicated that patients reporting more CIT are also those who displayed the greatest increase in their sexual satisfaction, starting treatment with a level distinctly below the sample average, but finishing treatment with an average level. These results are very encouraging for trauma survivors and their therapists, and highlight the interpersonal nature of the wounds caused by CIT, which tends to alter victims' ability to perceive their environment and people as trustworthy (Cloitre, Cohen, & Scarvalone, 2002). Consequently, their healing might be promoted through a therapeutic relationship. For example, through therapy, patients may learn how to feel safe and secure in an interpersonal relationship (Geller & Porges, 2014), which supports the importance for therapists to assess and invest the quality of their relationship with victimized patients. In sum, all these data also raise the importance to be sensitized and extensively trained about CIT, adult attachment representations, and therapeutic alliance for all clinicians working with patients with sexual difficulties.

### ***Research limitations and avenues for future studies***

Notwithstanding its innovative nature and the fact that this study is among the first to explore the effect of CIT, attachment and therapeutic alliance on the improvement of sexual satisfaction through sex therapy, its conclusions should be moderated in

consideration of its limitations. First, self-report questionnaires can be subject to a recall bias. Second, despite strong effect sizes, correlates ANOVAs' F-tests were marginally significant due to the small sample size reducing the statistical power. Thus, it should be noted that this study is exploratory, and that results need to be replicated within a larger clinical sample. Finally, one of our hypotheses turned out to be unfounded, as CIT increased sexual satisfaction evolution rather than lower it, as we first projected. Indeed, results underlined that survivors started their treatment with a lower than average level of sexual satisfaction, and finished it with an average level. While this result is very encouraging for patients who experienced CIT and their therapists, it should be considered that the clinicians who treated the participants in our sample were all interns, and were studying in a university department that is very sensitive to trauma and its long-term impact on sexuality.

Nevertheless, these results open the door to further research. Indeed, future studies would benefit from exploring the evolution of the patients' sexual function, in association with their level of sexual satisfaction. Also, more research is needed to further document the links between sexual satisfaction and relational variables such as attachment, therapeutic alliance and interpersonal trauma in different clinical settings (e.g., couple therapy). Likewise, it appears relevant to examine associations between these relational variables and sexual and couple functioning. It would also be interesting to explore the evolution of symptoms documented through other studies as being strongly associated with low sexual satisfaction (e.g., depressive, dissociative, and anxious symptoms) (Bigras, Godbout, et al., 2017;; Bolduc, Bigras, Daspe, Hébert, & Godbout, 2018; Déziel, Godbout, & Hébert, 2018).

## Conclusion

This study highlighted the presence of different levels of sexual satisfaction progression in patients consulting in sex therapy. Some patients tended to progress while others showed a lower sexual satisfaction at the end of treatment. The role of cumulative CIT, adult attachment and therapeutic alliance on this progression have also been documented. Thus, patients demonstrating the greatest improvement also reported the most secure attachment, the strongest therapeutic alliance, but also the highest rates of CIT. Indeed, survivors' pre-test sexual satisfaction levels are knowingly lower than average but are average for the post-test. This raises the particularly beneficial role of sex therapy among CIT survivors. In short, through a strong therapeutic relationship and security of attachment, the improvement in sexual satisfaction and traumatic repercussions seem optimized.

## Acknowledgment

The authors would like to thank the sexology interns, their internship settings, and the patients who participated in the study. Our thanks are extended to the research team, collaborating researchers, coordinators, and all research assistants involved.

## Disclosure statement

No potential conflict of interest was reported by the author(s).



## Funding

This study was partially funded through grants from the Quebec Research Fund – Health [Fonds de Recherche du Québec – Santé].

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