

Jungian Advanced Motor Processing™ (JAMP™) the Future of Mental Health Treatment: 38 Cases on Its Efficacy & Validation to Induce Measurable Positive Change

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How to cite this paper: Al-Samarrai, L., Al-Sammarraie, Y., Tomlinson, E., Edwards, A., Apple, K., Alcalde, V., Hong, L., Clark, E., Barnett, T., Turner, M. and Cotton, L. (2023) Jungian Advanced Motor Processing™ (JAMP™) the Future of Mental Health Treatment: 38 Cases on Its Efficacy & Validation to Induce Measurable Positive Change. *Journal of Behavioral and Brain Science*, 13, 157-183.

<https://doi.org/10.4236/jbbs.2023.139011>

Received: June 29, 2023

Accepted: September 25, 2023

Published: September 28, 2023

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Abstract

This paper is about an advanced treatment method known as Jungian Advanced Motor Processing (JAMP™) and its effects on healing trauma using three scales: Post-Traumatic Cognitive Inventory (PTCI) [1], Adverse Childhood Experiences Questionnaire (ACE) [2] and Somatic Symptom Scale (SSS or PHQ15) [3]. JAMP™ is a new treatment that addresses issues such as complex trauma, illnesses, and mental health disorders. During a 90-minute session with a JAMP™ therapist, the client will listen to a heartbeat sound while viewing a calming image where a positive affirmation appears on the screen. The combination of image and sound, as well as the bilateral stimulation, accesses the triggered defensive mechanism of the traumatic part of the person (the Complex). This traumatized person begins to associate points in their life where a pattern of behavior was learned in order to cope with the event that originally caused disassociation. The JAMP™ Transformational Coach will lead the client safely through this journey using verbal affirmations such as, "I am not afraid," to disperse the fear. By the end of the session, threads are strung together to paint a picture of pain that forms an image which becomes a symbol that can be transformed into healing.

Keywords

Trauma, Jungian Psychology, JAMP™

1. Introduction

JAMP™ is an advanced treatment that helps release and integrate splinter images and emotional shards of past conflicts from the Complexes. These images are stored by the Psyche after they have been dissociated by our natural defense mechanisms. In a 90-minute treatment using advanced hypnotic techniques and bilateral audible beats, the emotional fragments that are held in the complexes are able to be released.

Once these fragmented images and emotional shards are released, they are understood by the Psyche as a complete symbol of the event and can be integrated without being triggering or fragmented. The process in which we interact and receive information with our environment is thus: it starts as a stimulus that elicits an emotion/reaction that is then transformed into a feeling. The feeling then becomes a thought that is transformed into a symbol. The symbol is then integrated into the Psyche. Thus, trauma follows a path where an emotion, such as fear or rage, or any stimulus (for example, a sound or image that is caused by the traumatic event) is dissociated in the Complexes, because the traumatic event is so chaotic and terrifying to our Psyche it must dissociate.

JAMP™ helps reintegrate what was once raw, unintegrated, emotionally triggering and disturbing material. The integration process starts a deep change in the individual's Psyche, a process of profound integration, what Jung would call "Individuation". Thus, the person will feel safe in their bodies and not dissociate. This new feeling allows the client to finally experience inner harmony and begin to heal [4] [5].

1.1. Research Methods

This study focuses on the three measures that all clients enrolled in the JAMP™ treatment fill-out before the first session. These measures are the PTCI, SSS and the ACEs. The PTCI and SSS continue to be administered before the beginning of each subsequent session whereas the ACE questioner only filled out at the beginning of treatment once. This research study focused on 38 JAMP™ clients for the purpose of obtaining the percentage of change by using mean, median, mode, and values for clients after their first JAMP™ sessions, their fourth or fifth JAMP™ sessions, and their sixth or more JAMP™ sessions. The mean refers to the average scores, the median refers to the scores occurring most frequently (which is important for determining the "middle of the class" scores and this score is also less sensitive to extreme or outlying scores), and the mode refers to the middle score (helpful for determining the central tendency of a group).

This research began with the application of JAMP™ treatment on persons who suffered from trauma and intense psychological conflict. This study especially focuses on people who have suffered the trauma of sexual abuse, physical abuse, intense emotional and psychological abuse and typically, a combination of some or all the above. The primary goal of this research is to measure the reduction of somatic symptoms and the emotional and intellectual trauma symp-

toms post treatment sessions utilizing the three measuring tools explained above [1] [2] [3].

1.2. JAMP™ and the Complexes

Understanding the Complexes, also what Jung called archetypes, will help illuminate where splinters of trauma embed themselves. Traumatic events force the internal defenses to split and disassociate the trauma into fragments so they can be internalized in the Psyche. Traumatic fragments are absorbed into the Complexes, which by their very nature have evolved to defend us against complete psychic fragmentation/collapse. The Complexes are autonomous in nature meaning they act independent of the Ego control. When a traumatic event or conflict is triggered due to an emotion, thought, image, smell, sound or a touch, the Complex takes over the Ego's function. Thus, the Ego becomes a watcher that is helpless to intervene, somewhat like a theater goer who is strapped in their chair watching themselves on the screen like a movie.

As children, adolescents, and adults, many of us have had conflictual and traumatic experiences that have remained with us. These conflicts and traumas are usually unique to every individual, but as individuals we all have Complexes. For example, a Father Complex and a Mother Complex are structures in the Psyche that are there in part to protect and defend us, but these complexes are autonomous in nature. Thus, the Complex can wreak havoc on us.

Why is Psychotherapy limited when it comes to the treatment of trauma due to the Complexes, their defense mechanisms, and their autonomous nature? JAMP™ treatment addresses the Complexes and their resistance to transformation [6] [7].

1.3. Who JAMP™ Helps

In this study the JAMP™ treatment is measured by the PTCI, SSS and ACEs. JAMP™ is proven to reduce the detrimental effects of dysregulated emotional states and psychiatric disorders:

Anxiety, Minimization, Denial, Pain, Revulsion, Guilt, Shame, Betrayal, Withdrawal, Embarrassment, Jealousy, Despair, Self-Blame, Doubt, Revenge, Dissociation, Shame, Trauma, Complex Trauma, PTSD, Anxiety, Body Image, Stress, Negative Thinking Patterns, Negative Self Talk, Self-Hate, Panic attacks, Panic Disorder, Sexual Trauma, Physical Trauma, Childhood Abuse, Childhood Sexual Abuse, Phobias, Body Dysmorphic Disorder, Eating Disorders, Disturbing Thoughts & Memories, Flashbacks, Dissociative Disorders, Psychosomatic Disorders, Transitioning off of Psychotropic Medications, Sleep Disturbances, Self-Esteem and Self Defeating Behaviors.

There is a great deal of psychic pain that affects the majority of people around the world. Many reach a point in their lives where they feel the need to transform their lives and those of people around them. JAMP™ is critical in helping individuals who have suffered from trauma. Working with a JAMP™ Transfor-

mational Coach can help most people put their past, including all their traumas, pain, perceived failures and losses, to rest. This treatment can help them move forward with their whole self to a better life.

Below is a **Table 1** explaining how a client was affected by JAMP™ after the first three sessions. This information was found by calculating the mean, median and mode. The mean scores were calculated by adding the individual scores in each session's column and then dividing that score by the total number of questions. The median scores were calculated by locating the most frequently recorded score from each session's column of scores. The mode scores were calculated by locating the middle score of each session's column of scores if the totaled group's session number ends with an odd number of client scores or an average of the two middle scores from each session's column of scores if the totaled group's session number of scores ends with an even number of client scores.

The data that has been collected reflect clients who have actively engaged and continued treatment.

- Analysis of positive and negative signs:

For both PTCI and SSS, a positive change/an improvement in the client is shown by a negative number.

- For ACE, a number above 4 is considered significant and a number less than 4 is considered dramatic.
- 1 - 3 indicate lower trauma levels.
- 4 and above indicate higher trauma levels.

The following percentage changes are calculated for all clients from the first to the third session:

Table 1 above shows the percentage change in PTCI and SSS from the first session to the third session for all clients in this study.

SSS: The mean percentage decrease in SSS after 3 sessions is almost –40%, indicating that on average clients improve by around 40%. Given that the standard deviation is 36.79, the percentage improvement in SSS can range from 1 to around 75%. With the median being –37.74, half of the sample has improved by at least that amount, with a quarter of them improved by 60% by the third session. The majority of clients have had a negative percentage change in SSS, which indicates that by the third session it is likely that one would improve upon taking the treatment.

Table 1. Percentage change after the first three sessions.

Client number	SSS (percentage change to 2 d.p.)	PTCI (percentage change to 2 d.p.)	ACE (out of 10)
1 (black1)	–33.33	–18.27	5.00
2 (black2)	–36.17	–43.48	3.00
3 (black3)	–78.79	–47.17	2.00
4 (black4)	–66.67	–14.89	1.00

Continued

5 (black13)	-59.70	-64.22	1.00
6 (black18)	-82.19	-22.60	3.00
7 (black19)	-100.00	-17.30	4.00
8 (black 21)	-35.00	-31.25	7.00
9 (black 23)	-76.47	-38.89	5.00
10 (black 38)	-62.26	-9.09	9.00
11 (black 39)	-7.00	-43.86	8.00
12 (green 1)	-23.33	-18.44	5.00
13 (green 5)	-43.01	-21.13	5.00
14 (green 6)	-100.00	-48.67	4.00
15 (green 9)	0.00	-44.59	4.00
16 (green 12)	-100.00	-8.11	5.00
17 (green 13)	0.00	-64.22	4.00
18 (green 24)	-40.00	-49.40	5.00
19 (green 26)	-31.03	-18.60	4.00
20 (green 28)	-60.61	-40.48	4.00
21 (green 31)	+100.00	-21.43	4.00
22 (green 36)	-35.29	-5.52	3.00
23 (green 37)	-13.04	-48.28	1.00
24 (red 7)	0.00	-13.78	6.00
25 (red 8)	-67.50	-52.78	6.00
26 (red 10)	-37.74	+4.10	7.00
27 (red 11)	-38.37	-8.28	4.00
28 (red 15)	+12.77	-25.79	8.00
29 (red 16)	-53.00	-28.92	4.00
30 (red 17)	-5.83	-19.30	5.00
31 (red 20)	0.00	+3.33	3.00
32 (red 22)	-53.85	+8.70	3.00
33 (red 25)	-18.18	+1.68	3.00
34 (red 27)	-30.43	-17.86	5.00
35 (red 29)	-51.85	-33.33	3.00
36 (red 33)	-37.74	+39.13	8.00
37 (red 34)	-28.57	-43.48	0.00
38 (red 35)	-38.46	-30.84	7.00
Mean	-37.70	-25.19	4.42
Standard deviation	36.79	21.39	2.07
Variance	1353.85	457.63	4.30
Lower quartile	-60.61	-43.48	3.00
Median	-37.74	-22.02	4.00
Upper quartile	-18.18	-13.78	5.00

PTCI: The mean improvement was 25%, and with a standard deviation of 21, the improvement can range from 4% to 46% by the third session. Having a median of -22 means that half of the clients had a 22% improvement. A quarter of them had a 43% improvement by the third session.

ACE: Since the above table contains the whole group of clients sampled, a mean of 4.42 means that on average clients ranked in the “higher trauma levels” on the scale of ACE. Having a quarter of them at 5 and above indicates serious trauma levels.

Seeing that half of the clients have higher trauma levels and that the majority of the clients have had a negative percentage change in both SSS and PTCI (meaning a positive psychological change) by the third session, the JAMP™ treatment can be seen as a breakthrough in comparison to current therapy treatments.

It is important to note that clients who have higher ACE scores tend to have a pattern of increase then decrease on both SSS and PTCI. This is because of JAMP™’s role in depleting the power from the Complex’s defenses. If this was to be graphed, then it would likely be a bell-shaped curve.

Table 2 shows the percentage change from the first session in SSS and PTCI of clients in the green group; 4 or 5 sessions in done in total.

SSS: The mean of -37 shows 37% improvement in SSS by the final session on average. Considering the standard deviation, the improvement can reach up to

Table 2. Percentage change from 1st to 4th or 5th session.

Client number	SSS (percentage change to 2 d.p.)	PTCI (percentage change to 2 d.p.)	ACE (out of 10)
1 (green 5)	-57.14	-22.54	5.00
2 (green 6)	-100.00	-66.37	4.00
3 (green 9)	0.00	-33.78	4.00
4 (green 12)	-100.00	-10.81	5.00
5 (green 13)	-60.00	-5.50	4.00
6 (green 36)	-23.53	-17.24	3.00
7 (green 31)	+50.00	-14.00	4.00
8 (green 26)	-30.77	-33.80	4.00
9 (green 24)	-13.33	-21.69	5.00
10 (green 28)	-39.39	-40.00	4.00
Mean	-37.42	-26.57	4.20
Standard deviation	43.12	16.87	0.60
Variance	1859.51	284.61	0.36
Lower quartile	-60.00	-33.80	4.00
Median	-35.08	-22.12	4.00
Upper quartile	-13.33	-14.00	5.00

80% by the final session. A quarter of the clients have a 60% improvement and half of them have 35% improvement. All of the clients had no negative results (no positive percentage change), which shows that a client who requires 4 or 5 sessions, would be fully healed by the end of treatment.

PTCI: On average there was a 26% improvement, and with a standard deviation of 16, it can reach up to 42% by the final session, with one of the clients having a 60% improvement at the end. A quarter of the clients had improved by almost 34% and half of them have had a 22% improvement. All of the clients had a negative percentage change, and so by their last session they all had improved.

It is worth noting that clients who required 4 or 5 sessions had a mean and median ACE of around 4, meaning that they fall into the border of what separates high and low trauma levels on the ACE scale (**Table 3**).

Table 3. Percentage change from 1st to 6th/last session.

Client number	SSS (percentage change to 2 d.p.)	PTCI (percentage change to 2 d.p.)	ACE (out of 10)
1 (red/black 1)	−55.56	−41.75	5.00
2 (red/black2)	−28.57	−43.48	3.00
3 (red 7)	−33.33	−39.29	6.00
4 (red 8)	−66.67	−69.44	6.00
5 (red 10)	−75.00	−45.08	7.00
6 (red 15)	−71.43	−67.92	8.00
7 red 25)	−9.09	−28.57	3.00
8 (red 16)	−80.00	−54.22	4.00
9 (red 17)	−44.44	−21.64	5.00
10 (red 4)	−36.36	+48.72	6.00
11 (red 20)	−33.33	−12.00	3.00
12 (red 22)	0.00	−11.76	3.00
13 (red 35)	−7.69	−19.63	7.00
14 (red 27)	+14.13	−56.38	5.00
15 (red 29)	−25.00	−47.00	3.00
Mean	−38.43	−33.69	4.88
Standard deviation	27.67	27.40	1.62
Variance	765.76	750.86	2.61
Lower quartile	−64.61	−50.61	3.00
Median	−34.85	−40.52	5.00
Upper quartile	−17.05	−20.64	6.00

Note: some clients put in the black group (up to 3 sessions) in fact have 4/5/6+ sessions—they have been grouped in the tables above.

SSS: On average, clients who required 6 or more sessions, had an improvement of almost 40% by the end of the treatment. Taking into account the standard deviation, the improvement can reach 66%, with some clients improving by above 70% and even reach 80%. A quarter of the clients had a 65% improvement and half of them had a 35% improvement.

PTCI: A mean of 34% improvement which can reach up to an improvement of 60% (or more for some clients). A quarter of the clients have 50% improvement and half of them have felt better by 40% by the end of the treatment.

For both SSS and PTCI: The majority of the clients have negative percentage values which mean an improvement in the levels. This reflects that JAMP™ is able to create huge improvements by the end of the treatment for those who require it for 6 sessions or more.

ACE: It would be helpful to note that the mean of clients who needed 6+ sessions is almost 5, with some clients reaching 7 and 8. This indicated a very high level of trauma, hence why more sessions were needed to treat these individuals.

2. Tools Used for Measuring Data

The following measurements tools were utilized for this data are:

(1) The APA DSM-V Somatic Symptom Scale—Adult (SSS) [3]—This tool was developed by Dr. Robert Spitzer *et al.* and Pfizer Inc. Somatic symptom traits are core features of a number of medical disorders and are therefore important in the assessment of the severity of those disorders. This tool assesses somatic symptom burdens or effects. Its internal consistency (or reliability) across studies shows high reliability scores and moderate to high validity ratings as well. It was developed from the PHQ-15. This tool has shown to be a more efficient alternative to the PHQ-15 especially in clinical settings.

It has shown to be valid when assessing cardiopulmonary, gastrointestinal, musculoskeletal, and general somatic symptoms. These categories respectively contain (but are not limited to) shortness of breath, heart palpitations, and chest pain; vomiting, abdominal pain, difficulty swallowing, nausea, bloating, and diarrhea; and back pain, joint pain, leg pain and arm pain. General somatic symptoms include (but are not limited to) stomach pain, tiredness and low energy, trouble sleeping, headaches, dizziness, and bowel problems. It is especially suited for indicating issues such as stress related depression and anxiety. The APA is known for having stated that somatic symptom traits can be either very distressing or results in the disruption of functioning, excessive, and disproportionate thoughts, feelings, and behaviors [8]. Perceived stress has differentiated itself from life event stress in a prominent number of somatic symptoms. This indicates why PTSD symptomology typically has higher rating scores found due to the persistent effect of continued traumatic stress as the perceived stress factors become heightened in severity and all-encompassing in thought and life interactions. It has been shown in a variety of writings that the somatic symptom traits

of Somatic Symptom Disorder have a significant comorbidity with depression, IBS, chronic pain, PTSD, Anti-Social Personality, and physical and sexual abuse.

Its rating includes a 1-point Likert scale of 15 questions rated from 0 to 2 that should be administered for the previous seven days. Zero represents “not bothered at all”, one (1) represents “bothered a little” to two (2) represents “bothered a lot.”

(2) The Post Traumatic Cognitions Inventory [1]—It measures three (a) negative view of self, (b) negative view of the world, and (c) self-blame. It is comprised of a 7-point Likert scale of 33 questions rated from 1 (totally disagree) to 7 (totally agree). The lowest score is 33 and the highest score is 231. Individuals with no PTSD, 45.5 is the typical median score. Individuals with PTSD, 133 is the typical median score thus representing the “middle of the class” scores for each category.

The Journal of Psychological Assessment 1999, Vol. II, No. 3, Foa *et al.* demonstrates that this tool has a moderate to high correlation with other measures of PTSD severity, depression, and general anxiety as found in other reputable tools of measurement such as the Post Traumatic Stress Diagnostic Scale (PDS), the State-Trait Anxiety Inventory Form (STAI), and the Personal Beliefs and Reactions Scale (PBRS). In relation to reliability, the PTCI coefficient values related to Problems with Self, Problems with the World, and Self-Blame were 0.98, 0.99, and 0.99 respectively. The internal consistency for the aforementioned resulted in Cronbach’s alpha as 0.97, 0.88, and 0.86 respectively, significantly higher than the PBRS. Significant correlation was found with the PDS, STAI, and the PBRS related to PTSD severity, depression, and general anxiety. The PTCI in addition, demonstrated superior ability to discriminate between traumatized individuals with and without PTSD [1].

The following concepts are targeted in the PTCI:

- Negative view of Self (27 times);
- Perceived permanent Change (23);
- Alienation from Self and Others (4);
- Hopelessness (7);
- Negative Interpretation of Symptoms (7);
- Self-Trust (5);
- Self-Blame (17);
- Trust in Others (10);
- Unsafe World (10).

This has Positive Diagnostic agreement with the Structured Clinical Interview for the DSM-IV. The Spearman Correlations show that convergent validity for the PTCI was higher than the PBRS and the World Assumptions Scale (WAS). Construct validity was moderate to high in correlation to the PBRS (Convergent validity measures the degree that two measures that should be related are in fact related and Construct validity measures the degree to which a test measures what it claims). The PTCI has also shown a high correlation with PTSD severity, especially with victims of sexual abuse with discriminant and concurrent validity

(Discriminant validity tests whether concepts of measurements that are not supposed to be related are actually unrelated, and Concurrent validity determines if a use of a test will predict other outcomes).

In the *Journal of Psychological Assessment* 2004, Beck *et al.*, it was shown that the PTCI has sound psychometric properties. It has also shown significant correlations with the Clinically Administered PTSD Scale (CAPS), the Impact of Event Scale [(IES) the intrusion and avoidance subscales], and the Perceived Social Support (PSS-SR) measure.

The negative appraisal of the trauma and the sense of threat both were shown to perpetuate PTSD symptomology and to heighten anxiety [9]. Many of the signs of significant trauma traits and/or PTSD are listed below and of course in some cases would require a differential diagnosis especially in order to rule out anything organically based:

Cardiac

Shortness of breath;
Heart Palpitations;
Chest Pain.

GI

Vomiting;
Abdominal pain;
Difficulty swallowing;
Nausea;
Bloating;
Diarrhea.

Musculoskeletal

Back Pain;
Joint Pain;
Leg Pain;
Arm Pain.

Neuro

Headaches;
Dizziness;
Amnesia;
Vision Changes;
Muscle Weakness.

Urogenital

Pain during urination;
Low Libido;
Impotence;
Pain during Coitus.

JAMP™ and Information on Scores

We see again that the SSS score is now by session 4 to 5 nearly one half of the

beginning score compared with about a one-third reduction as compared to Group 1 sessions. While the percentage of change for the SSS group is a few points lower than in Group 1, it must be noted that the beginning scores for session 1 are both higher for this group of 4 or 5 sessions as compared to Group 1. This indicates that somatic symptoms are more ingrained with individuals that start off treatment with higher beginning scores. Also indicated here is that the somatic symptom scores are decreasing due to the main thrust of symptom reduction that had already taken place during the first three sessions. This was also expected by JAMP™ evaluators.

As JAMP™ sessions continue, the PTCI scores are increasingly reduced per session. Once again this was predicted by JAMP™ coaches as ingrained trauma cognitions take more internal brain rewiring than do somatic symptoms. Complexes and defenses are much more intricate and complicated with cognitive damage than with somatic symptoms typically. Even so, we still see by session 4 or 5, an almost doubled PTCI percentage of positive change with increased JAMP™ sessions (see **Figure 1**).

Also, to be noted is the significant increase in ACE scores for those with 4 or 5 JAMP™ sessions as compared to those subjects with only three JAMP™ sessions. The higher the ACE score, the greater seriousness of trauma effects. While this indicates that it will in fact take more JAMP™ sessions to treat more serious trauma effects, the dramatic increase in symptom reduction for this group signifies the power of the treatment especially with those who demonstrate a greater level of traumatic effects.

It can be seen in these scores that with significant trauma effects, the first few sessions or so up to the 6th session, the treatment effects are improving. This indicates that JAMP™ treatment (as it is presently applied) begins to have dramatic improvement by session 6 as the low scores have up to 47.5% reduction in symptoms by session 6. This is yet again another indicator of JAMP™ dramatic

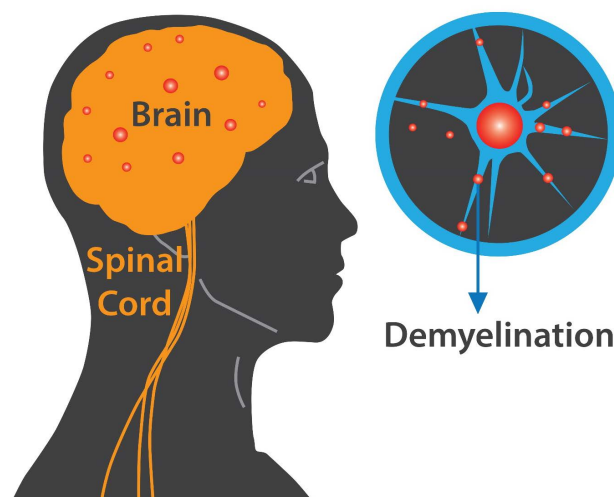


Figure 1. *Childhood Emotional Trauma Linked to Increased Multiple Sclerosis Risk* 2022 [1].

effects by session 6. As plans are now being made to add other elements of treatment to the JAMP™ protocol to address the five senses, JAMP™ Coaches are expecting these reductions in symptoms to not only increase, but also to begin their dramatic effects even sooner than session 6. Again, especially noted is another significant increase in the ACE scores for this grouping as the ACE score indicates this group with an even higher level of seriousness for their childhood trauma effects. This group still demonstrated an almost 55.1% reduction in trauma effects after six sessions. This is unparalleled success when compared to any traditional psychotherapy and mental health treatments.

The measurement tools and diagnostic tools utilized for this data are as follows:

(3) The APA DSM-V Somatic Symptom Scale—Adult (SSS)—This tool was developed by Dr. Robert Spitzer *et al.* and Pfizer Inc. Somatic symptom traits are core features of a number of medical disorders and are therefore important in the assessment of the severity of those disorders. This tool assesses somatic symptom burdens or effects. It's internal consistency (or reliability) across studies shows high reliability scores and moderate to high validity ratings as well. It was developed from the PHQ-15. This tool has shown to be a more efficient alternative to the PHQ-15 especially in clinical settings [3].

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- Unsafe World (10).

This has Positive Diagnostic agreement with the Structured Clinical Interview for the DSM-IV. The Spearman Correlations show that convergent validity for the PTCI was higher than the PBRs and the World Assumptions Scale (WAS). Construct validity was moderate to high in correlation to the PBRs (Convergent validity measures the degree that two measures that should be related are in fact related and Construct validity measures the degree to which a test measures what it claims). The PTCI has also shown a high correlation with PTSD severity, especially with victims of sexual abuse with discriminant and concurrent validity (Discriminant validity tests whether concepts of measurements that are not supposed to be related are actually unrelated, and Concurrent validity determines if a use of a test will predict other outcomes) [1].

With Beck, Coffey, Palyo, Gudmundsdottir, Miller, and Colder (2004) [10] it was shown that the PTCI has sound psychometric properties. It also shown significant correlations with the Clinically Administered PTSD Scale (CAPS), the Impact of Event Scale [(IES) the intrusion and avoidance subscales], and the Perceived Social Support (PSS-SR) measure.

The negative appraisal of the trauma and the sense of threat both were shown

to perpetuate PTSD symptomology and to heighten anxiety. Many of the signs of significant trauma traits and/or PTSD are listed below and of course in some cases would require a differential diagnosis especially in order to rule out anything organically based:

Cardiac

Shortness of breath;
Heart Palpitations;
Chest Pain.

GI

Vomiting;
Abdominal pain;
Difficulty swallowing;
Nausea;
Bloating;
Diarrhea.

Musculoskeletal

Back Pain;
Joint Pain;
Leg Pain;
Arm Pain.

Neuro

Headaches;
Dizziness;
Amnesia;
Vision Changes;
Muscle Weakness.

Urogenital

Pain during urination;
Low Libido;
Impotence;
Pain during Coitus;
Muscle Weakness.

In reference to **Figure 2**: “Model of Elasticity. Drawings at the top show a normal brain (A) and the likely deformation in an injured brain. (B) Black arrows along the white matter in the injured brain illustrate an expected biomechanical response due to the cortical impact [48]”.

This image describes how a traumatized brain is changed through the destruction of the white matter. The healing of the trauma increases the growth of white matter.

“The other graphics, showing a white matter fiber, elucidate the apparent processes involved after open skull injury to the brain. (B) (i) shows the structure of an axon representing normal myelination along with water diffusion parallel (AxD-axial diffusivity) and perpendicular (RD-radial diffusion) to the direction of fibers. (B) (ii) shows a swollen axon within hours post-injury, and the

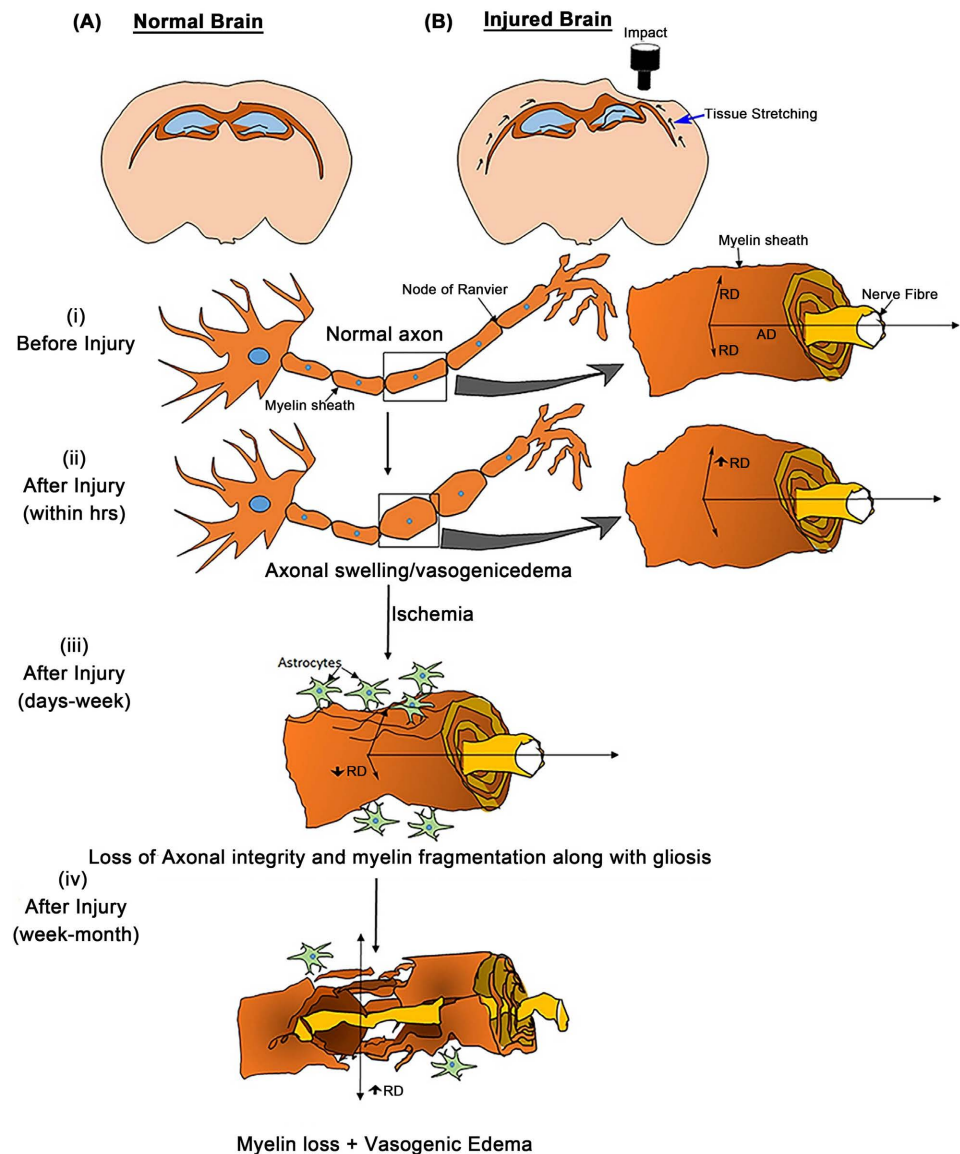


Figure 2. Soni, Neha, *et al.* “Combined Diffusion Tensor Imaging and Quantitative Susceptibility Mapping Discern Discrete Facets of White Matter Pathology Post-Injury in the Rodent Brain” [48].

increased diffusivity (no change in frequency shift and QSM) may be explained by a stretching of the myelin sheath. (B) (iii) represents the condition of an axon within days to weeks after injury. Tissue damage causes changes that can lead to ischemia followed by inflammation, an acute immune response to clear cell debris. During this period the axons start to lose structural integrity and myelin sheath fragmentation and gliosis initiate, observed as a reduction in RD and AxD (increase in frequency shift and QSM) that may lead to myelin loss. (B) (iv), resulting in an eventual increase in RD (increase in QSM)” [48].

“Inflammation in fear- and anxiety-based disorders: mechanisms and consequences. Exposure to trauma and acute stressors in individuals with fear- and anxiety-based may facilitate increased immune activity in both the periphery

and the central nervous system (CNS) via stress and trauma effects on neuroendocrine systems and the sympathetic nervous system (SNS). The overactivity of the SNS and decreased activity of the parasympathetic nervous system in fear- and anxiety-based disorders increases the release of pro-inflammatory cytokines. Suppressed ability of glucocorticoids to inhibit inflammatory processes in these chronic stress states also contributes to a pro-inflammatory state that can influence neurotransmitter systems, neurocircuitry, and finally, affective behavior. Cytokines may contribute to the maintenance of fear- and anxiety-based symptoms by affecting the activity and connections of regions of the brain implicated in the etiology of these disorders, including the amygdala, hippocampus, insula, medial prefrontal cortex (mPFC), and the anterior cingulate (ACC) (see **Figure 3**)”.

3. ACE and Trauma

In the above graph we see how the brain reacts to the fight, flight, follow and freeze responses of the brain during traumatic stress. We now discuss the ACE questionnaire and how it is shown over a 17-year period in 70+ publications links between childhood traumas and chronic diseases and disorders.

(5) The Adverse Childhood Experience Questionnaire (ACE)—This questionnaire was first developed in 1985 by Feletti (Feletti, V.J., Anda, R.F., Norderberg, D., Williamson, D.F., Spitz, A.M., Edwards, V.K. *et al.* 1998) [2]. It is comprised of 10 questions with five questions being personally related: physical abuse,

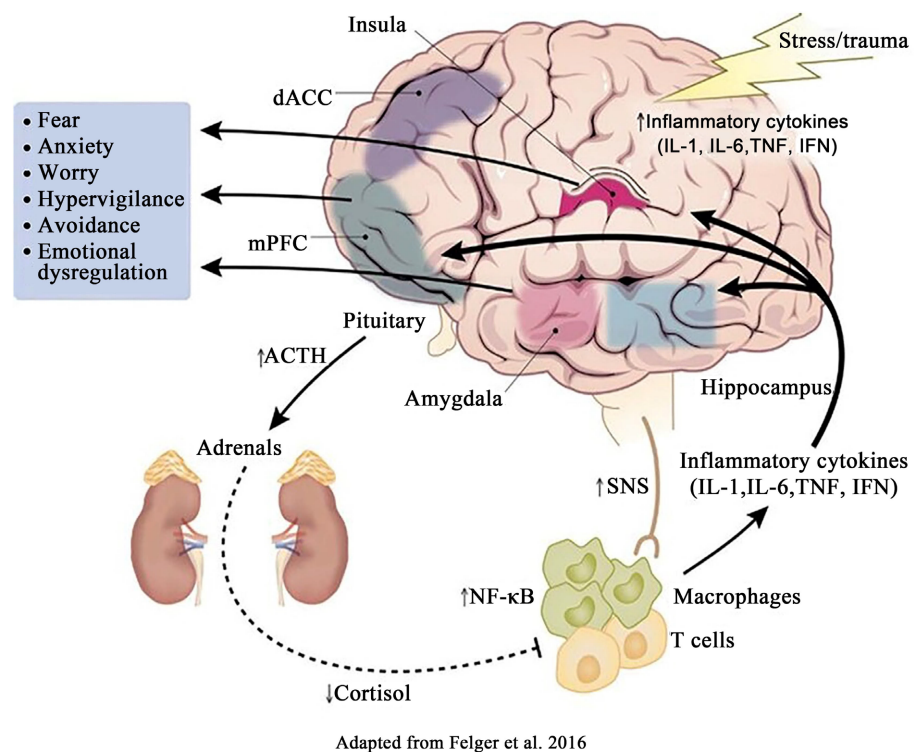


Figure 3. Figure adapted from Felger *et al.* (2016) and reproduced by permission of Oxford University Press (<http://global.oup.com/?cc=us>) [49].

verbal abuse, sexual abuse, physical neglect, emotional neglect and five questions being other related to members of one's own family members: alcoholic parent, mother as victim of domestic violence, incarceration, mental illness, and divorce. In a 17-year period demonstrated in more than 70 publications and 17,000 individuals scored, this questionnaire has shown a clear and positive link between trauma as a child and chronic disorders and diseases. Badour (2014) discusses in the Journal of Anxiety Disorders that disgust as a unique affective predictor of mental contamination following sexual trauma [10]. In various studies by Dr. Bruce Perry and the Child Trauma Academy [11], links have been shown between toxic stress damage and the developing structure and function of a child's brain.

An ACE score of four is considered to be "serious". Our own list of subjects had a mean score 4.4, a median score of 4 and a mode score of 4. The low score was a one and the high score an eight.

The ACE Pyramid (Figure 4) represents the conceptual framework for the ACE Study. The ACE study has uncovered how ACEs are strongly related to development of risk factors for disease, and well-being throughout the life course.

"Adverse childhood experiences (ACEs) are categorized into three groups: abuse, neglect, and household challenges. Each category is further divided into multiple subcategories. Participant demographic information is available by gender, race, age, and education. The prevalence of ACEs is organized by category" (n.d.) [51].

ACEs Definitions

All ACE questions refer to the respondent's first 18 years of life.

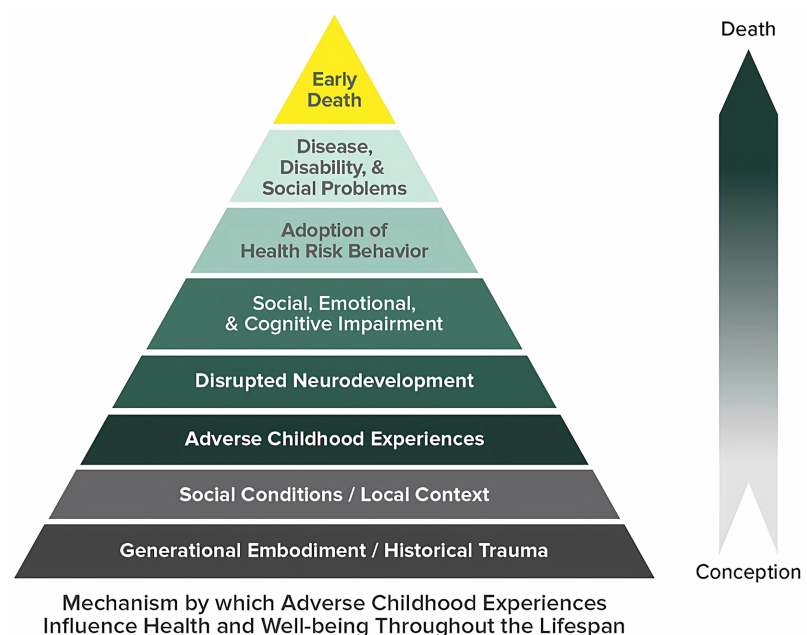


Figure 4. Centers for disease control and prevention. (n.d.-a). *Aces infographic*. Centers for Disease Control and Prevention. [50]

- Abuse
 - **Emotional abuse:** A parent, stepparent, or adult living in your home swore at you, insulted you, put you down, or acted in a way that made you afraid that you might be physically hurt.
 - **Physical abuse:** A parent, stepparent, or adult living in your home pushed, grabbed, slapped, threw something at you, or hit you so hard that you had marks or were injured.
 - **Sexual abuse:** An adult, relative, family friend, or stranger who was at least 5 years older than you ever touched or fondled your body in a sexual way, made you touch his/her body in a sexual way, attempted to have any type of sexual intercourse with you.
- Household Challenges
 - **Mother treated violently:** Your mother or stepmother was pushed, grabbed, slapped, had something thrown at her, kicked, bitten, hit with a fist, hit with something hard, repeatedly hit for over at least a few minutes, or ever threatened or hurt by a knife or gun by your father (or stepfather) or mother's boyfriend.
 - **Substance abuse in the household:** A household member was a problem drinker or alcoholic or a household member used street drugs.
 - **Mental illness in the household:** A household member was depressed or mentally ill or a household member attempted suicide.
 - **Parental separation or divorce:** Your parents were ever separated or divorced.
 - **Incarcerated household member:** A household member went to prison.
- Neglect¹
 - **Emotional neglect:** Someone in your family never or rarely helped you feel important or special, you never or rarely felt loved, people in your family never or rarely looked out for each other and felt close to each other, or your family was never or rarely a source of strength and support.²
 - **Physical neglect:** There was never or rarely someone to take care of you, protect you, or take you to the doctor if you needed it², you didn't have enough to eat, your parents were too drunk or too high to take care of you, or you had to wear dirty clothes.

Adverse childhood experiences, or ACEs, are potentially traumatic events that occur in childhood (0 - 17 years). For example:

- experiencing violence, abuse, or neglect;
- witnessing violence in the home or community;
- having a family member attempt or die by suicide.

Also included are aspects of the child's environment that can undermine their sense of safety, stability, and bonding, such as growing up in a household with:

- substance use problems;
- mental health problems;
- instability due to parental separation or household members being in jail or

prison.

Please note the examples above are not a complete list of adverse experiences. Many other traumatic experiences could impact health and wellbeing.

ACEs are linked to chronic health problems, mental illness, and substance use problems in adolescence and adulthood. ACEs can also negatively impact education, job opportunities, and earning potential. However, ACEs can be prevented.

ACEs are common. About 61% of adults surveyed across 25 states reported they had experienced at least one type of ACE before age 18, and nearly 1 in 6 reported they had experienced four or more types of ACEs.

Preventing ACEs could potentially reduce many health conditions. For example, by preventing ACEs, up to 1.9 million heart disease cases and 21 million depression cases could have been potentially avoided.

Some children are at greater risk than others. Women and several racial/ethnic minority groups were at greater risk for experiencing four or more types of ACEs.

ACEs are costly, the economic and social costs to families, communities, and society totals hundreds of billions of dollars each year. A 10% reduction in ACEs in North America could equate to an annual savings of \$56 billion.

ACEs can have lasting, negative effects on health, well-being, as well as life opportunities such as education and job potential. These experiences can increase the risks of injury, sexually transmitted infections, maternal and child health problems (including teen pregnancy, pregnancy complications, and fetal death), involvement in sex trafficking, and a wide range of chronic diseases and leading causes of death such as cancer, diabetes, heart disease, and suicide.

ACEs and associated social determinants of health, such as living in under-resourced or racially segregated neighborhoods, frequently moving, and experiencing food insecurity, can cause toxic stress (extended or prolonged stress). Toxic stress from ACEs can negatively affect children's brain development, immune systems, and stress-response systems. These changes can affect children's attention, decision-making, and learning.

Children growing up with toxic stress may have difficulty forming healthy and stable relationships. They may also have unstable work histories as adults and struggle with finances, jobs, and depression throughout life. These effects can also be passed on to their own children. Some children may face further exposure to toxic stress from historical and ongoing traumas due to systemic racism or the impacts of poverty resulting from limited educational and economic opportunities.

The prevalence of ACEs from the BRFSS data was similar to that of the original ACE Study. Almost two-thirds of surveyed adults reported at least one ACE and more than one in four reported three or more ACEs.

ACEs are common across all populations. Some populations are more vulnerable to experiencing ACEs because of the social and economic conditions in which they live, learn, work and play.

The ACE score is the total sum of the different categories of ACEs reported by participants. Study findings show a graded dose-response relationship between ACEs and negative health and well-being outcomes. In other words, as the number of ACEs increases so does the risk for negative health outcomes. For an exhaustive list of outcomes, see selected journal publications.”

“Toxic stress can disrupt organ, tissue and brain development. Over time this can limit a person’s ability to process information, make decisions, interact with others, and regulate emotions. These consequences may follow a person into adulthood.”

“Toxic Stress happens when the brain endures repeated stress or danger, then releases Fight-Or-Flight Hormones like Cortisol.”

“The effects of ACEs can add up over time and affect a person throughout their life. Children who repeatedly and chronically experience adversity can suffer from Toxic Stress” (see **Figures 5-7**).

4. How the JAMP™ Treatment Effects the Brain

- 1) Intro to brain functioning: [12] [13] [14] [15]
 - a) Brain oscillation & energy;
 - b) Neural Maps—100 million;
 - c) Right Hemisphere—the “where” of sensory perception...creativity, abstract thought, symbols, emotional expression, attention, music, facial imagery (genius plus emotional volatility)—Journal of Medicine;
 - d) Left Hemisphere—linear thought & processing in frontal, happiness, joy, laughter (if damaged, can’t talk but can shout curse words...language;
 - e) Processing of Memory—many locations that integrate;

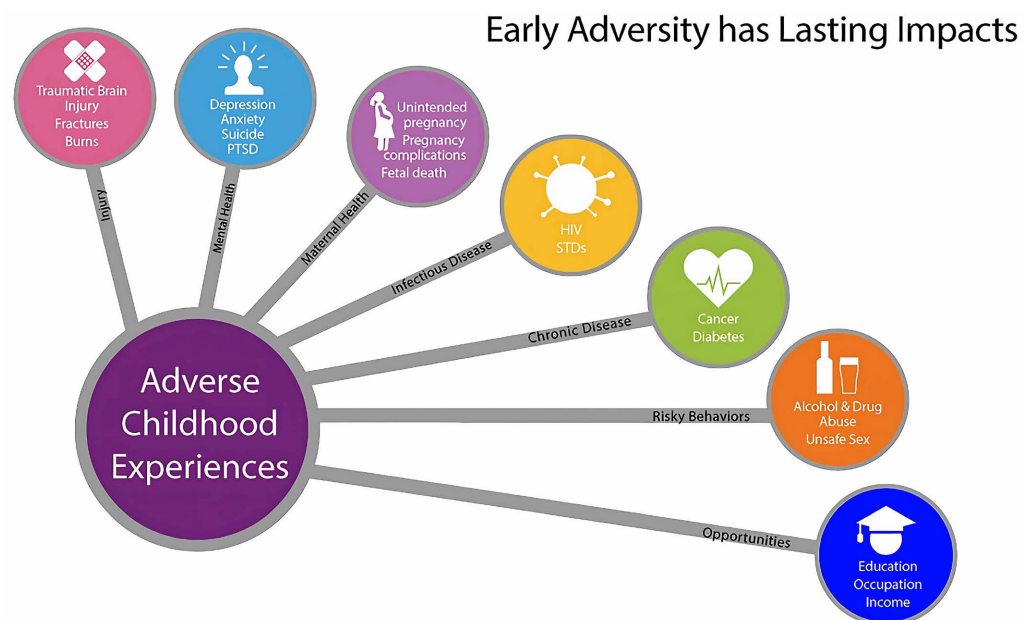


Figure 5. Centers for disease control and prevention. (2021, April 6). *About the CDC-Kaiser Ace Study* | *Violence prevention/injury Center*|CDC. Centers for Disease Control and Prevention [51].



Figure 6. Centers for disease control and prevention. (n.d.-a). *Aces infographic*. Centers for Disease Control and Prevention [50].

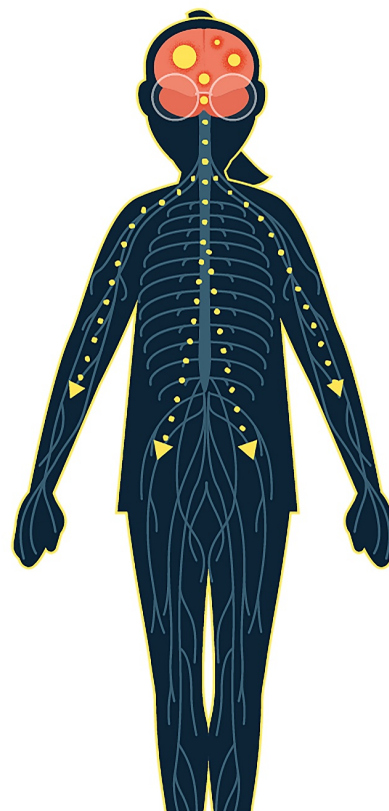


Figure 7. Centers for disease control and prevention. (n.d.). *Aces infographic*. Centers for Disease Control and Prevention [50].

- f) Genetic Predispositions—variable gauge (e.g. violin player);
- g) Epigenetic effects—feedback loop that alters genetic structure;
- h) Neurogenesis—formation of new nerve cells (e.g. memory);
- i) Neuroplasticity—adaptation of structure and function (axonal sprouting);
- j) Dendritic Branching—injury, deprivation;
- k) Consciousness—thalamus 40 Hz oscillation;

- l) Amygdala—Emotion, learning, memory;
- m) Hippocampus—master regulator of memory & learning (stem cells);
- n) Thalamus—relay station for all sensory input for brain arousal (except olfactory).
- 2) How PTSD/Trauma Damage effects to brain functioning—Reorganizes brain circuitry:
 - a) PTSD oppositional effects: [16]
 - i) Right hemisphere—decreases synchro of both hemisphere [17];
 - ii) Left hemisphere—decreased processing of emotional content [17];
 - iii) Emotional over-modulation [17];
 - iv) Increase in Dissociative symptoms [18];
 - v) Traumatic memories [19];
 - vi) Decrease in memory functioning [20];
 - vii) Decrease in conceptual organization in basal ganglia (similar to dementia) [21];
 - viii) Decrease in motor speed and visual organization (similar to dementia) [22];
 - ix) Limbic system and prefrontal cortex work in opposition leading to emotional over-modulation [23];
 - x) Traumatic memories—more stable over time than others, especially pain and sensory memory fragments [24];
 - Hippocampus atrophies, emotional regulation distorts, glucose levels disrupt
 - Increase in right frontal lobe activity
 - Increase in right brain asymmetry
 - xi) Amygdala blocks input upward to cortex which then signals to memory (hippo) to relive trauma memories without the help of cognitive aspects of memory [25];
 - xii) Thalamic activity decreases (perception, somatosensory, frontal cog. Processing) [26].
- 3) JAMP™ treatment is not simply a psychological and emotional tool to aid in moving past traumatic events. The Prolonged Bilateral Stimulation literally changes brain circuitry flow and restructuring effects—It clears up what researchers and behavioral scientist call “Mental Contamination”: “Mental contamination is theorized to emerge predominantly in response to mental events (e.g., thoughts, memories, images), or experiences involving negative human interactions such as violations of morality (e.g., sexual victimization or other violation), betrayal, or humiliation” [27].
 - a) JAMP™ re-aligns both brain hemispheres synchronization [28];
 - b) Increased relaxation [29];
 - c) Increased accessibility to brain activity [30];
 - d) Increased recall [25];
 - e) Increase in emotional and cognitive integrative processing (realignment) [31];
 - f) Decrease in false memories [32];
 - g) Increase in processing of associative memories [33];

- h) Increased hemispheric changes in right hemisphere [34];
- i) Thalamus reintegration of memory, cognition, emotions, somatosensory [35];
- j) Deactivates emotional portion of cortex border (ACG) [36];
- k) Emotion and Cognitive Control [37];
- l) Increase in positive insight [38];
- m) Increase in Attentional Flexibility [24];
- n) Amygdala—key is turning volume down and increasing cog. Processing of trauma (the amygdala rules in sociopaths) [39];
 - Increase in fear extinction
 - Increase in memory consolidation
 - Reduction in avoidance behavior
- o) Speed of memory recall [40];
- p) Decrease in Gamma frequencies (fastest in the brain 25 to 140 Hz) [41];
- q) Increase in Intense focus and problem solving (Zombie effect);
- r) Auditory BLS—closes gap in cortico-limbic inhibition *i.e.* increases cognitive and emotional thought integration [42];
- s) Visual, Auditory, and Somatic (Tapping)—reduces imagination inflation (judging events as though they have already happened [43];
- t) Semantic Memory—integrates dreams into semantic memory (LTM related to language use and understanding [44];
- u) Decreases the limbic systems integration of Dysfunctional thinking in cortical functioning-lowering—Traumatology [44];
- v) Freeing up the Left Hemisphere for right hemispheric processing—Traumatology [45];
- w) Trends in Cognitive Sciences—can elicit stronger emotions that are related as “more real” [46];
- x) Promotes and Normalizes Sleep Patterns thus restoring cognitive emotional control [47].

5. Conclusions

This research began with the application of JAMP™ treatment on clients who have trauma and intense psychological conflict. This study especially focuses on clients who have suffered sexual abuse trauma, physical abuse trauma, and intense emotional and psychological trauma and typically a combination of some or all of the above. The primary goal of this research was to measure the reduction of somatic symptoms and the emotional, behavioral and psychological trauma symptoms post JAMP™ treatment sessions utilizing the two measuring tools and a diagnostic one explained above. The limitation of this current study is that a small sample size, which the researchers are continuing the study which will be republished after doubling the original sample size.

This study indicates that JAMP™ treatment begins to have dramatic improvement by session 6. For example, in the PTCI, a mean of 34% improvement which can reach up to an improvement of 60% was calculated. A quarter of the

clients have 50% improvement and half of them have felt better by 40% by the end of the treatment. On average, the Somatic Symptoms Scale clients who required 6 or more sessions, had an improvement of almost 40% by the end of the treatment. Taking into account the standard deviation, the improvement can reach 66%, with some clients improving by above 70% and even reach 80%. A quarter of the clients had a 65% improvement and half of them had a 35% improvement. As plans are now being made to add other elements of treatment to the JAMP™ protocols by addressing all five senses in the treatment, JAMP™ evaluators have already witnessed these improvements in symptoms to not only increase. The higher the ACE score, the greater seriousness of trauma effects. While this indicates that it will in fact take more JAMP™ sessions to treat more serious trauma effects, the dramatic increase in symptom reduction for this group signifies the power of the treatment especially with those who demonstrate a greater level of traumatic effects.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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