University of Messina

ISSN 2612-4033

Journal of Clinical & Developmental Psychology

Journal homepage: http://cab.unime.it/journals/index.php/JCDP/index

# The Effects of Integrated Psychotherapy in Patients who have experienced Trauma: a Pre-Post Design during the Covid-19 Health Emergency

Tirinnanzi P.[1]*, Bianchi A.[2]

[1] *Clinical Psychologist SPPA, Study of Psychology and Psychotherapy Arezzo, Italy*
[2] *Psychotherapist SPPA, Study of Psychology and Psychotherapy Arezzo, Italy*

ABSTRACT

*Background*: A pandemic from a bio-psycho-social perspective represents for many people both a traumatic event and a risk factor for the onset of traumatic responses. These light up in the present but in reality, they represent the activation of peritraumatic networks dating back to the past to which the person can react both by the appearance of symptomatic pictures and the disintegration of the self into dissociated parts. Starting from this reading of trauma, Integrative Psychotherapy sets itself the challenge of accompanying people in an integrative work of the parts of the self by combining the emotional, somatic, and cognitive levels.
*Methods:* The subjects were 31 patients, 15 of the control group and 16 of the experimental group. An online survey collected information on demographic data. Furthermore, anxiety, depression, and insomnia symptoms were assessed in pre and post-tests. The experimental group continued Integrative Psychotherapy during the health emergency. To analyze data, descriptive statistics, paired and independent two-sample t-tests were used.
*Results:* The results indicated that there was a significant difference between the experimental group (patients that continued Integrative Psychotherapy sessions during the health emergency) and control group (patients that stopped therapy).
*Conclusions:* The best performance of the experimental group shows the impact that Integrative Psychotherapy sessions have had in dealing with, managing, and overcoming the crises that patients were experiencing during the health emergency.

Keywords: *Integrative Psychotherapy; Self Integration; Trauma; Dissociation; COVID-19 pandemic*

* *Corresponding author*: Paolo Tirinnanzi, SPPA Studio di Psicologia e Psicoterapia Arezzo, Località Olmo, 21, 52100 – Arezzo (Italy).
*E-mail address*: dr.tirinnanzi@studio-psicologia-arezzo.it

https://doi.org/10.6092/2612-4033/0110-2606

Accepted: Online first, 2020

## Introduction

A new highly infectious severe acute respiratory syndrome associated with a novel coronavirus (SARS-CoV-2; COVID-19) (Gorbalenya *et al.*, 2020) as of December 2019 has been reported in several countries around the world (Lippi *et al.*, 2020) resulting in a rapid spread that prompted the Organization World Health Organization (WHO) to declare it a global pandemic (World Health Organization, 2020).

The COVID-19 outbreak has had a direct effect on the population as social distancing, imprisonment and quarantine which have been adopted by many countries to contain the spread of the infection (Brooks *et al.*, 2020), but, at the same time have had an indirect effect on the traumatic experience characterized by feelings of instability, psychological distress, sleep disturbances, psychiatric and mood disorders and general psychopathological symptoms (Casagrande *et al.*, 2020). Other studies state that other pandemics, like SARS, have had similar indirect effects (Hawryluck *et al.*, 2004), and especially the symptoms of anxiety, depression, and insomnia seem to be the most involved during the pandemic and the consequent lockdown (Huang & Zhao, 2020; Tirinnanzi & Bianchi, 2020; Morin & Carrier, 2020).

Daily life has abruptly changed for many people and the lifestyles they had before the spread of the virus in some countries have been indefinitely suspended, and, as a result, restrictions of social activities have globally caused serious disruption for individuals, families, communities, and countries. (Usher *et al.*, 2020). Also, dubious or even false information about factors related to virus transmission, the incubation period, its geographic reach, the number of infected, and the actual mortality rate has led the population to fear uncertainty, insecurity, instability for the present and future, financial worries, reduced autonomy and self-directedness (Ornell *et al.*, 2020).

On the psychological side, quarantine or physical isolation has aroused emotions, anxiety, anguish, and sadness in people, and, above all, it has led human beings to experience loneliness meant as a reduction in the sharing of experiences (Tirinnanzi & Bianchi, 2020).

Isolation is a cause of psychosocial problems, all human beings are at risk of psychological harm when they experience isolation (Cava *et al.*, 2005), and these situations concern children, adult and young adult patients with pre-existing mental health problems. (Perrin *et al.*, 2009). Isolation presents serious problems for people with an existing mental health problem (Goodman *et al.*, 2001) and can intensify feelings of anger and anxiety (Jeong *et al.*, 2016). Decreased and discontinued social support can threaten an individual's sense of being connected and can have a considerable impact on mental health (Hawryluck *et al.*, 2004), even in people who previously had a good mental health. The longer a person is confined to quarantine the poorer the mental health outcomes, in fact the need for social support is greater in times of adverse situations and events such as the current

pandemic (Brooks *et al.*, 2020). Long periods in quarantine are particularly associated with an increase in post-traumatic stress disorder (PTSD) symptoms, which may indicate that quarantine itself can be perceived and experienced as a traumatic event (Usher *et al.*, 2020; Hawryluck *et al.*, 2004).

Overwhelming experiences affect our intimate feelings and relationships with our physical reality. Trauma is not only an event that happened once in the past but also refers to the imprinting left by that experience on mind, brain, and body. This imprinting has continuous consequences on the way the human organism manages survival in the present (van der Kolk, 2014).

Trauma brings about a fundamental transformation in the way the mind and brain organize perceptions; it changes not only the way we think and what we think but also our actual ability to think (Fisher, 2017). In fact, helping trauma victims through the description of what happened is not enough for a real change to occur, but the body also needs to learn that the danger has passed while living in the present reality (van der Kolk, 2014).

Often the legacy left by the trauma takes forms that do not adapt to traditional diagnostic or therapeutic models. Neuroscientific research into the consequences of trauma and on traumatic memory has shown that exposure to "threat" (both immediate danger and trauma-related stimuli) leads to a sequence of events in the brain (LeDoux, 2002; Ogden, Minton & Pain, 2006; van der Kolk, 2014), including mobilization of the sympathetic nervous system and inhibition of the prefrontal cortex (LeDoux, 2002).

Whenever trauma-related neural networks are stimulated, these individuals experience a sudden escalation of sympathetic arousal, a subjective sense of threat to life, and defensive, flight, or fight responses, as if the danger has recurred over time present (Ogden & Fisher, 2015).

In traumatogenic environments, where the threat of danger is continually present, the fact that the body is conditioned to keep ready for potential danger is more adaptive for both children and adults. As difficult as it may be voluntarily remembering traumatic experiences as past events, the brain "negative bias" (Hanson, 2014), its tendency to perceive faster and prioritize negative stimuli over positive ones, gives rise to a long-term awareness of all stimuli associated with a previous danger. Without the ability to discriminate between stimuli, which is impossible when the activity of the prefrontal cortex is inhibited, the body responds as if individuals were facing a threat to their lives in the present moment.

Traumatic memories are fragmented and not integrated, to a lesser or greater extent, people "remember" through procedural or conditioned learning (Grigsby & Stevens, 2000). "Habitual modes" of survival are coded as a procedurally learned behavior, such as a tendency to automatically disconnect from strong emotions or feel overwhelmed by them, difficulty in keeping

eye contact, need for physical proximity or distance from others, withdrawal or isolation, difficulty in asking for help or revealing personal feelings and information, a tendency to say "too much" or "too little", a phobia of emotions or emotional expressions, a habit of freezing, to attack or flee in the face of stress or activating stimuli (Fisher, 2017).

***Reading of Trauma in Integrative terms***

Trauma, dissociation, and functions of the attachment system appear as three aspects of human mental functioning in the face of life events, so interconnected that studying one in conceptual isolation from the other two leads to inevitable contradictions and confusion (Liotti, 2004). Hence, to understand integrative work with the parts of the self, it is necessary to address the concepts of trauma, attachment, and dissociation. The term trauma is commonly used to identify all the events that constitute "wounds of the soul" for an individual, which have such a violent and negative impact as to create a gap between what was "before" the traumatic event and what occurred "after" (Zaccagnino, 2018).

According to van der Kolk (1996), the traumatic event must be understood as a stressful event from which the individual cannot escape and which exceeds his or her resistance. Psychological trauma, therefore, can be defined as an emotionally overwhelming and unsustainable event for those who suffer from it, accompanied by an experience of total powerlessness. Being able to react effectively in the face of a threat allows us to distinguish an extreme and serious but non-pathogenic event from psychological trauma (Liotti & Farina, 2011).

According to the DSM-5 (APA, 2013), psychological trauma means all events that lead to death or threaten the physical integrity of oneself or loved ones and that causes feelings of helplessness, vulnerability, and insecurity in the individual. This type of trauma can be defined with a capital "T" and can include, for example, accidents, serious injuries, torture, sexual violence, sudden deaths, and natural disasters. However, there are also other traumas, defined with a lowercase "t" concerning relational events that do not represent a threat to physical integrity, but rather a threat to the representation of the individual's Self. “Relational traumas” fall into this category. By complex trauma, on the other hand, we mean all those cumulative interpersonal traumas experienced during development, which are repeated for prolonged periods and which arouse in the individual a sense of overwhelming threat and from which it is impossible to escape (Liotti & Farina, 2011).

This definition may include multiple traumatic events within the primary care system, which may include experiences of mistreatment, emotional abuse, neglect, witnessed violence.

In this regard, attachment theory can be defined as a theory of affective and relational development, which recognizes the role of providing the child with representational models of the self and the others that are relatively stable, based on safety and self-esteem, useful for making predictions

about the world and for relating to it (Holmes, 1993). The better the quality of our early attachment experiences, the greater our ability to tolerate negative affects during development towards adulthood. These early experiences of building emotional bonds will then be remembered in the form not of verbal or visual narratives, but of "implicit" or "emotional" memories and of neurovegetative, motor, visceral and behavioral responses learned at a procedural level. The ability to tolerate affections, to console oneself and to gain an integrated sense of oneself in the course of life depends on the self-regulation and self-consolation abilities acquired during the first two years of life (Schore, 2003). In adulthood, the tolerance of affects appears to be directly linked to the acceleration, braking, and deceleration of the autonomic nervous system (Ogden, Minton, Pain, 2006).

If the traumas are not processed they can be reactivated in the parent's own care system, leading to the development of a MOI of the child's attachment containing memory traces of such traumatic events (Cerniglia *et al.*, 2016; Su *et al.*, 2016). It is starting from these first wounds, therefore, that dissociated parts of the Self can be created, precisely in order to keep incompatible aspects separate and to be able, in this way, to face them (Forgash & Copeley, 2014; van der Hart, Neijenhius, & Steele, 2011).

Dissociation, therefore, represents a protective strategy put in place not to feel pain. Dissociation and trauma, therefore, are two strongly correlated concepts in psychopathology, especially concerning childhood relational trauma: the traumatic event leads to the activation of defense mechanisms against environmental threats, which involve detachment from the usually experienced self and the outside world and consequent dissociative symptoms (Carlson *et al.*, 2009; Herman, 1992; Liotti, Farina, 2011; van der Kolk, 2005; van der Kolk *et al.*, 2005).

According to the Ego State Therapy approach (Forgash & Copeley, 2014), the personality is made up of different parts or states of the ego; in individuals whose history has not been studded with traumatic events that have remained unresolved, the boundaries between the different parts of the ego are fluid and the different parts are cohesive and integrated.

Victims of abuse and neglect must disavow the trauma child as "not me" by using the brain's ability to split. The price to pay is that once traumatic events are over, individuals continue to rely on dissociation, disavowing the injured parts (Fisher, 2017). Specifically, the good part develops by completing the main objectives, the other part carries the emotional and physical signs of the past. By the nature of traumatic memories, what can be remembered manifests itself with images, emotions, sensations, and symptoms without a frame that identifies them as memories (van der Kolk, 2006, 2014).

To be an integrated person, as Dan Siegel (2010) argues, "differentiation and connection" are necessary, that is the ability to distinguish between the different parts of the self to identify them as such but also to connect them to the other parts and to the whole. Furthermore, from an experiential point of view, therapeutic work actively prevents the subjective "window of tolerance" from being lost since the latter is closely connected with personal resilience (Menoni & Iannelli, 2011).

The idea of seeing the "part that goes on with normal life" and the "parts connected to trauma" as a way to survive dangerous conditions, each representing a different mode of self-protection, gives meaning and dignity to the fragmentation. The parts are seen as the vehicles of our instinctive survival responses, they continue to keep themselves ready for the next threat or stimulus-related to trauma (Fisher, 2017).

In treatment, the priority must be given to counteract the subjective perception of clients who guess their symptoms are due to imminent danger, whether they are an evidence of their defects or "an inevitable aspect of themselves" (Fisher, 2017).

The intent and aim of this research are to contain the effects of sudden and unexpected events for the mind-body system, such as the ones caused by the COVID-19 pandemic.

## Method

### *Participants*

Participants were selected on a non-random basis. All study participants were both male and female and lived in the city and province of Arezzo, in Tuscany, and, until the beginning of the pandemic, they had ongoing therapeutic paths at the SPPA Study of Psychology and Psychotherapy Arezzo, which uses the integrated approach. A total of 34 patients visited the online survey and the final sample was collected through a sampling adopting the following inclusion criteria: (a) agree to participate after reading the research information and procedure; (b) complete the entire online survey form, both pre-test and post-test; and (c) being older than 18. Participants who did not meet one or more inclusion criteria were removed. Regarding the control group, initially the participating subjects were 18, but 3, have had not responded to the post-test so were not included in the research, bringing the number of the group to 15. The final sample consisted of 31 patients (mean age = 37.48; SD = 9.56).

The research patients were recruited at the base of their needs: the experimental group (n = 16) that wanted to continue the Integrative Psychotherapy sessions during the Italian Phase 1 and Phase 2, and the control group (n = 15) that preferred not to continue the path during the health emergency Phases.

***Procedure***

This research aims to investigate the efficacy of the Integrative approach in patients that during Phase 1 and Phase 2 of the health emergency continued the Integrative Psychotherapy sessions, to understand if they may have provided the patients with the necessary resources to face a period of a global pandemic. Therapeutic sessions were carried out during the 3 months between pre-test and post-test with the frequency of 1 session of 1 hour per week, and all 16 patients completed at least 10 one-hour sessions of integrative psychotherapy in the SPPA private practice.

A pre-test and a post-test were used in both the experimental and control groups, and the scores were evaluated. A convenience sampling was used. Patients of the experimental group received Integrative Psychotherapy sessions, while patients of the control group received none. Before the therapeutic path, the experimental group and the control group performed a pre-test questionnaire. Three months later a post-test was applied to the experimental and control groups, applying the same questionnaire used to conduct the pre-test.

***Data collection***

The pre-test research data was obtained from an online survey conducted from 1 to 10 April 2020 during the quarantine lockdown in Italy, the Phase 1, imposed by the Italian Prime Minister that occurred on 11 March. Researchers, through email or chat (WhatsApp), sent to patients a link that directed the participants to an online survey form. On the first page of the online survey the research was described, and it was emphasized that participation in the study was anonymous, voluntary, and that all participants could withdraw at any moment. The participants, both the experimental and control group, answered their questionnaire form on the Internet. The post-test research data was obtained with the same procedure, from an online survey, conducted from 1 to 10 July 2020 during Phase 2. The inclusion criteria were the age of the participants over 18 and the completion of all the proposed survey modules. It took about 15 minutes on average to complete the questionnaire.

The 31 participants then reported their age, demographics, and completed three standardized questionnaires that assessed their anxiety status (Trait Anxiety Inventory, Module X2), depressive symptoms (The Questionnaire for Depression, QD), and quality of sleep (Insomnia Severity Index, ISI). In Table 1 are reported the demographic characteristics of the sample.

***Measures***

*General Information Form.* A general information form was used to collect data on age, gender, and demographics.

*State-Trait Anxiety Inventory-Form Y Trait Scale.* The State-Trait Anxiety Inventory (Spielberger *et al.*, 1983) is a two-part instrument designed to measure via self-report the presence and severity of current symptoms of anxiety and a generalized propensity to be anxious. Within this measure, there

are 2 subscales of 20 items each: the State Anxiety Scale (S-Anxiety) that evaluates the current severity of anxiety the person is experiencing, and the Trait Anxiety Scale (T-Anxiety) that evaluates relatively stable aspects of "anxiety proneness," including general states of calmness, confidence, and security. In this research, we used T-Anxiety subscale and the responses, based on a 4-point Likert scale, assessed the frequency of feelings "in general": 1) almost never, 2) sometimes, 3) often, and 4) almost always. The range of scores for each subtest is from 20 to 80, with higher scores indicating greater anxiety.

*The Depression Questionnaire.* The instrument designed and used to explore and quantify via self-report the presence of depressive symptoms has been the Depression Questionnaire (QD) (Bertolotti *et al.*, 2000). The QD has 24 items, each item provides a statement and each response option is dichotomous (Yes or No). The total score is within a 0–24 range, higher scores indicate worse mood while the lower ones a better mood. In QD the person has to respond, referring to his/her current state, to statements like: loss of interest in sex, other pleasant things, own appearance, depressed mood, crying, difficulty concentrating, ideational and motor slowness, pessimistic ideas, sense of boredom, tiredness and tension, appetite loss, somatic complaints, sleep disturbances, thoughts of the uselessness of life and suicide.

*The Insomnia Severity Index.* The Insomnia Severity Index (ISI) is an instrument designed to measure and quantify, via a self-report reliable and valid questionnaire, the presence, and severity of perceived insomnia (Bastien *et al.*, 2001). The ISI has 7 items, based on a 5-point Likert scale, with a range of scores from 0 to 28; the suggested guidelines for score interpretation are from 0 to 7 for no clinically significant insomnia, from 8 to 14 for subthreshold insomnia, from 15 to 21 for clinical insomnia, moderate severity, and from 22 to 28 for clinical insomnia, severe. ISI is indicated as a reliable assessment tool for a broad target population, both for adolescents and the elderly (Chung *et al.*, 2011; Sierra *et al.*, 2008) and for people with psychiatric or other illnesses clinical diseases (Omachi, 2011; Tang *et al.*, 2007).

***Statistical analysis***

Microsoft EXCEL 2007 (Microsoft Inc.) software (Verma, 2019) analyzed the data to decide percentages, means, and standard deviations (SD). A paired t-test was applied to examine the differences in each group before and after the test. An independent t-test was applied to examine the differences between the two groups before and after the test. Also, correlations between the measured variables in each group were analyzed using Pearson's correlation method. The data are presented as mean±SD values, number and %, and all statistical tests were performed at a significance level ($\alpha$) of 0.05.

## Results

The average age of the experimental group was 36.6 (SD = 9.3) years. The mean age of the control groups was 38.5 (SD = 10.02) years. Among the experimental group in this research (Table 1), 62.5% were female and 37.5% were male. 25.0% was in the range 18-29 years old, 62.5% in 30-49 years old and 12.5% over 50 years old. 68.7% were living in the city of Arezzo, while 31.3% in the province. Among the control group in this research, 46.7% were female and 53.3% were male. 26.7% was in the range 18-29 years old, 53.3% in 30-49 years old and 20.0% over 50 years old. 60.0% were living in the city of Arezzo, while 40.0% in the province (Table 1).

| **Variables** | **Total** ($n$ = 31) | **Experimental Group** ($n$ = 16) | **Control Group** ($n$ = 15) |
|---|---|---|---|
| **Age** (*M; SD*) | 37.48; 9.56 | 36.56; 9.35 | 38.47; 10.02 |
| | ***n (n%)*** | ***n (n%)*** | ***n (n%)*** |
| **Age** | | | |
| 18-29 years old | 8 (25.8) | 4 (25.0) | 4 (26.7) |
| 30-49 years old | 18 (58.1) | 10 (62.5) | 8 (53.3) |
| >50 years old | 5 (16.1) | 2 (12.5) | 3 (20.0) |
| **Gender** | | | |
| Males | 14 (45.2) | 6 (37.5) | 8 (53.3) |
| Females | 17(54.8) | 10 (62.5) | 7 (46.7) |
| **Location** | | | |
| City | 20 (64.5) | 11 (68.7) | 9 (60.0) |
| Province | 11 (35.5) | 5 (31.3) | 6 (40.0) |

**Table 1**. Descriptive statistics of demographic characteristics of study ($N$ = 31).

### *Comparison of pre-test and post-test STAI, QD and ISI scores between experimental and control group*

The mean STAI scores (pre and post) of the experimental group participants were 46.0 (SD=12.14) and 39.19 (SD=10.03), respectively, and the mean STAI scores (pre and post) of the control group participants were 45.13 (SD=13.67) and 44.2 (SD=11.94), respectively (table 2).

The mean QD scores (pre and post) of the experimental group participants were 6.94 (SD=4.52) and 4.13 (SD=3.05), respectively, and the mean QD scores (pre and post) of the control group participants were 5.53 (SD=5.04) and 5.47 (SD=5.33), respectively (table 2).

The mean ISI scores (pre and post) of the experimental group participants were 9.69 (SD=3.42) and 6.63 (SD=3.91), respectively, and the mean ISI scores (pre and post) of the control group participants were 8.47 (SD=4.22) and 9.73 (SD=3.53), respectively (table 2).

An independent t-test was applied to examine the differences in the pre-test and post-test scores among the two groups. The t-test results showed that the average pre-test STAI, pre-test QD, and pre-test ISI scores did not differ significantly between the two groups (see table 2). Also, the average post-test STAI and QD scores did not differ significantly between the two groups, while the

average post-test ISI scores differed significantly between the two groups (see table 2). The quality of sleep is improved in the experimental group better than in the control group suggesting the Integrative Psychotherapy sessions significantly lowered insomnia when compared to the control group (table 2).

| Variables | Experimental Group ($n$ = 16) | | Control Group ($n$ = 15) | | $t$ | $p$-value |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | | |
| STAI (Pre-test) | 46.00 | 12.14 | 45.13 | 13.67 | -0.10 | .92 |
| STAI (Post-test) | 39.19 | 10.03 | 44.20 | 11.94 | 1.55 | .13 |
| QD (Pre-test) | 6.94 | 4.52 | 5.53 | 5.04 | -0.78 | .44 |
| QD (Post-test) | 4.13 | 3.05 | 5.47 | 5.33 | 0.89 | .39 |
| ISI (Pre-test) | 9.69 | 3.42 | 8.47 | 4.22 | -0.84 | .41 |
| ISI (Post-test) | 6.63 | 3.91 | 9.73 | 3.53 | 2.17 | .04 |

**Table 2**. Two Groups Pre-test and Post-test (N=31).

***The comparison between pre-test and post-test STAI, QD, and ISI indices in the experimental group and control group using paired sample t-test***

Further, paired sample t-test was used to understand the differences between STAI, QD, and ISI indices pre-test and post-test within the same patient group, revealing that the total average scores of the control group patients on the STAI score, QD score, and ISI score did not differ significantly (see table 3). These results showed that without Integrative Psychotherapy sessions, the anxiety, depression, and insomnia symptoms of patients were not relieved.

| Variables | Experimental Group ($n$ = 16) | | | | Control Group ($n$ = 15) | | | |
|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *t* | *p* | *M* | *SD* | *t* | *p* |
| STAI | | | | | | | | |
| Pre-test | 46.00 | 12.14 | 1.89 | 0.03 | 45.13 | 13.67 | 0.19 | 0.84 |
| Post-test | 39.19 | 10.03 | | | 44.20 | 11.94 | | |
| QD | | | | | | | | |
| Pre-test | 6.94 | 4.52 | 2.06 | 0.05 | 5.53 | 5.04 | 0.03 | 0.97 |
| Post-test | 4.13 | 3.05 | | | 5.47 | 5.33 | | |
| ISI | | | | | | | | |
| Pre-test | 9.69 | 3.42 | 2.36 | 0.02 | 8.47 | 4.22 | -0.89 | 0.38 |
| Post-test | 6.63 | 3.91 | | | 9.73 | 3.53 | | |

**Table 3**. Each Group Pre-test and Post-test (N=31). *Note*. Table 3 shows the mean and SD score of each group before and after the Integrative Psychotherapy sessions. As shown in the table, there is a statistically significant difference between the participants' mean (SD) scores on pre‑ and post‑test in the experimental group ($p>0.05$), but in the control group, no difference is seen.

For the total average scores of the experimental group patients on the STAI score differ statistically. Moreover, the pre-test and post-test QD and ISI testing demonstrated a marked statistical difference (see table 3).

These results indicate that Integrative Psychotherapy sessions significantly reduced the experimental patients' anxiety, depression, and insomnia levels, because, as shown in Table 3, there is a statistically significant difference between the patients' mean (SD) scores on pre‑ and post‑test in the experimental group ($p>0.05$), but in the control group, no difference is seen.

### *Correlations between STAI, QD, and ISI scores*

We found that in the control group the patients' STAI scores were highly positively correlated between pre-test and post-test, as well as in QD and ISI scores (range 0.75 to 0.81, Table 4 in bold). Furthermore, the STAI, QD, and ISI scores correlated positively with each other in both the pre-test and post-test (Table 4).

| **Psychological Variables** | STAI Post-test | QD Pre-test | QD Post-test | ISI Pre-test | ISI Post-test |
|---|---|---|---|---|---|
| STAI - Pre-test | **0.82** | 0.77 | | 0.71 | |
| STAI - Post-test | - | | 0.83 | | 0.64 |
| QD - Pre-test | | - | **0.74** | 0.37 | |
| QD - Post-test | | | - | | 0.76 |
| ISI - Pre-test | | | | - | **0.75** |

**Table 4**. Bivariate correlations of STAI, QD, and ISI in pre-test and post-test of the control group. *Note*. STAI = State-Trait Anxiety Inventory (T-Anxiety subscale); QD = Depression Questionnaire; ISI = Insomnia Severity Index.

In the experimental group the patients' STAI, QD, and ISI scores were not highly positively correlated between pre- and post-test as in the control group (range -0.10 to 0.13, Table 5 in bold).

| **Psychological Variables** | STAI Post-test | QD Pre-test | QD Post-test | ISI Pre-test | ISI Post-test |
|---|---|---|---|---|---|
| STAI - Pre-test | **-0.10** | 0.57 | | 0.39 | |
| STAI - Post-test | - | | 0.05 | | -0.24 |
| QD - Pre-test | | - | **0.13** | 0.27 | |
| QD - Post-test | | | - | | 0.22 |
| ISI - Pre-test | | | | - | **-0.04** |

**Table 5.** Bivariate correlations of STAI, QD, and ISI in pre-test and post-test of the experimental group. *Note*. STAI = State-Trait Anxiety Inventory (T-Anxiety subscale); QD = Depression Questionnaire; ISI = Insomnia Severity Index.

Besides, the correlation also decreased between the STAI, QD, and ISI scores in both the pre-test and post-test (Table 5). This analysis further supports the hypothesis that the Integrated

Psychotherapy sessions lowered the symptomatic level of anxiety, depression, and insomnia in patients who continued a therapeutic path during the health emergency.

An independent t-test was therefore first applied in our research to examine the differences between the two groups pre-test and post-test. The STAI, QD, and ISI scores did not differ statistically, indicating that the 2 groups were similar before doing Integrative Psychotherapy sessions. Only post-test ISI scores differed statistically between the experimental and control groups. Secondly, we applied a paired t-test to examine the differences in pre-test and post-test scores within each group (Figures 1 and 2).

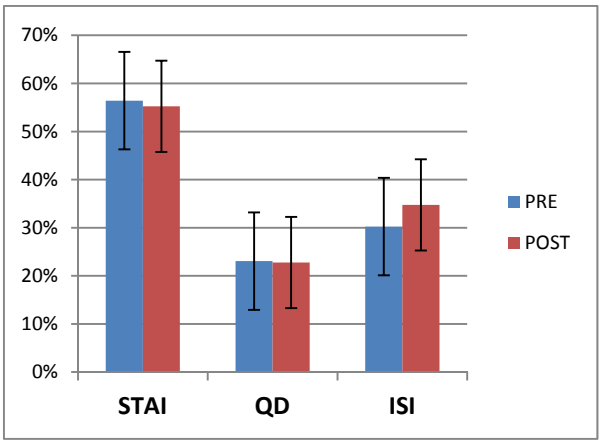


**Figure 1**. Percentage test scores between pre-test and post-test in the control group.

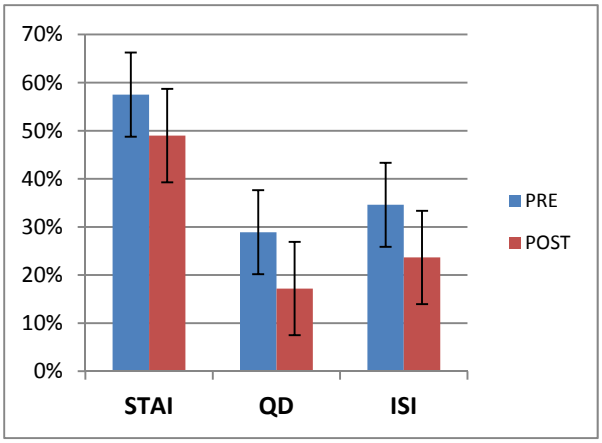


**Figure 2**. Percentage test scores between pre-test and post-test in the experimental group.

## Discussion

Following the health crisis of severe acute respiratory syndrome (SARS), a range of avoidance behaviors such as reduced direct contact with other people and crowds, fewer social contacts, avoiding closed and public places, not returning to work (Marjanovic, Greenglass & Coffey, 2007) and long-term behavioral changes, such as excessive hand washing, have been reported after quarantine (Reynolds *et al.*, 2008).

This study aimed to evaluate and investigate the severity of the symptoms of anxiety, depression, and insomnia associated with the current COVID-19 pandemic and emergency health measures imposed because a pandemic can represent a traumatic event, as previously analyzed.

Trauma is not an event external to the individual, but it is rather the subjective experience of a person. When integrative capacity is overwhelmed, this constitutes trauma, whether it involves actual abuse, the absence of experience (neglect), or an event that many others might experience as a merely stressful situation (Mosquera & Steele, 2017). Precisely on this, the hypothesis of a link

between the COVID-19 pandemic and trauma could be founded, that is, the pandemic could in itself represent both a traumatic event and an event that activates traumatic memories.

Traumatic memories do not usually emerge in a planned or controlled manner. They are often triggered by reactivating stimuli, so-called triggers, i.e., conditioned stimuli that are saliently associated with the original traumatic experience (van der Hart, Steele, Boon, & Brown, 1993).

In this context, the role of the psychologist-psychotherapist to support those who are unable to speak or be heard has never been more important, and now more than ever it is crucial that we continue to work collaboratively, with determination to ensure that all people are kept as safe as possible within the constraints of the current situation.

Our patients, customers, and the communities that we serve depend on us.

Parts work can help decrease reactivity to triggers and begin to help the client regulate even before traumatic memories are directly accessed (Mosquera & Gonzalez, 2014).

The result of the therapeutic work with Integrative Psychotherapy intended as an integration of the parts of the self that have dissociated as a result of a traumatic event and that bear the sign of their presence through the body, has effectively overcome the developmental crises, the pain, and trauma, promoting awareness of essential inner resources and activating appropriate ego states (Wade & Wade, 2001; Sugiyama, 2018).

Because the experimental group scores for all tests, STAI, QD, and ISI, were statistically different, and these results are confirmed also by correlation analysis, we can conclude that the patients of the experimental group seem to have activated an integration of the parts of the self (Schwartz, 2001; Schwartz & Sweezy, 2020) that effectively overcame the potentially traumatic health emergency, improved awareness of essential inner resources and ego states.

Therefore, the knowledge of the functioning of the trauma can help us read the symptoms like survival responses that at the same time make us lose or deny aspects of ourselves. In the clinical field, this translates into the role that the therapist must play in helping the patient to establish differences between normal emotional responses and traumatic reactions, and messages from the parts of the self. For this purpose, it is necessary that the therapist helps the patient to make friends with the reactions that are activated rather than reacting to them, developing a different relationship with the implicit memories triggered by the stimuli.

In this research, it emerged that the application of Integrative Psychotherapy in reference to the concepts of trauma and parts of the self was found to be functional to regulate the emotional states that came out of the window of affective tolerance due to the COVID-19 pandemic.

Therefore, we can argue that the theoretical and practical evolution of these therapeutic concepts has great potential in managing the various triggers that are activated in the present relating to traumatic memories.

## Conclusion

The best performance of the experimental group shows the impact that Integrative Psychotherapy sessions have had in dealing with, managing, and overcoming the crisis situations that patients were experiencing at that time. The possibility of working therapeutically with parts of the self that have dissociated as a result of a traumatic experience seems to have provided patients with the necessary resources to face internal (dysregulated emotional states) and external (unexpected life events) challenges and to report the self at a sufficient integrative level of the various parts in order to make them collaborate for the satisfaction of the emotional needs of the person.

The total mean scores of the experimental group on the STAI, QD, and ISI questionnaires differ clearly and statistically (the pre-test and post-test differences). These results are expected to provide a reference for Integrative Psychotherapy on the intervention and prevention of people's mental health.

There are some limitations to this study. The aim of the study is limited to the city of Arezzo only, and hence, the findings of this research cannot be generalized to the Italian context safely so it would be advisable it to be done within a wider context including all the provinces of Italy. The age range of the sample is very wide and includes both genders, male and female. It could be interesting in the future to deepen the research with a more homogeneous and specific sample, and to evaluate gender differences.

Besides, the possibility of selection bias should be considered as the sampling of patients who completed the tests was based on those people who had started and were continuing their Integrated Psychotherapy path during the period of the health emergency cause of the COVID-19 outbreak.

Finally, the patients referred to in the present study were followed with the Integrative Psychotherapy approach, so it is not possible to know the benefits or advantages of other therapeutic approaches that have treated many other patients during the pandemic. In this regard, the challenge is to carry out, both at the research and bibliographic level, the study of all those therapeutic processes involved in Integrated Psychotherapy in order to enrich clinical practice.

***Compliance with ethical guidelines:*** All ethical principles were considered in this article. The participants were informed about the purpose of the research; they were also assured about the confidentiality of their information and advised that, if desired, the results of the research would be available to them.

***Acknowledgments, Grants, and Funding:*** The authors would like to thank the patients for participating in the research. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

***Declaration of Interest statement:*** none. The authors declare no conflict of interest.

***Authors' contribution***: Paolo Tirinnanzi participated in designing the study, in the literature review, in the acquisition, interpreting and analyzing the data, and in writing the manuscript. Alice Bianchi participated in designing the study, in clinical evaluation, in performing the sessions, in the literature review, and in writing the manuscript. All authors contributed to and have approved the final manuscript.

## References

American Psychiatric Association (2013). Diagnostic and statistical manual of mental disorders (5th. Ed.). Washington, DC: APA. https://doi.org/10.1176/appi.books.9780890425596

Bastien, C. H., Vallières, A., & Morin, C. M. (2001). Validation of the Insomnia Severity Index as an outcome measure for insomnia research. *Sleep medicine*, *2*(4), 297–307. https://doi.org/10.1016/s1389-9457(00)00065-4

Bertolotti, G., Michielin, P., Vidotto, G., Zotti, A. M., & Sanavio, E. (2000). Depression questionnaire (QD). In: Nezu AM, Ronan GF, Meadows EA, McKlure KS, editors. *Practitioner's guide to empirical based measures of depression*. Norwell, Massachusetts: Kluwer Academic; Plenum Publishers, 45–47.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, *395*(10227), 912-920. https://doi.org/10.1016/S0140-6736(20)30460-8

Carlson, E. A., Yates, T. M., & Sroufe, L. A. (2009). Dissociation and development of the self. In Dell, P. F., O'Neill, J., Somer, E. (Eds.), *Dissociation and the dissociative disorders: DSM-V and beyond* (pp. 39–52). New York, NY: Routledge.

Casagrande, M., Favieri, F., Tambelli, R., & Forte, G. (2020). The enemy who sealed the world: effects quarantine due to the COVID-19 on sleep quality, anxiety, and psychological distress in the Italian population. *Sleep Medicine*, *75*, 12–20. https://doi.org/10.1016/j.sleep.2020.05.011

Cava, M. A., Fay, K. E., Beanlands, H. J., McCay, E. A., & Wignall, R. (2005). The experience of quarantine for individuals affected by SARS in Toronto. *Public health nursing (Boston, Mass.)*, *22*(5), 398-406. https://doi.org/10.1111/j.0737-1209.2005.220504.x

Cerniglia, L., Cimino, S., Ballarotto, G., & Tambelli, R. (2016). Do parental traumatic experiences have a role in the psychological functioning of early adolescents with binge eating disorder? *Eating and Weight Disorders, 21*(4), 635-644. https://doi.org/10.1007/s40519-016-0303-7

Chung, K. F., Kan, K. K., & Yeung, W. F. (2011). Assessing insomnia in adolescents: comparison of Insomnia Severity Index, Athens Insomnia Scale and Sleep Quality Index. *Sleep Medicine*, *12*(5), 463-470. https://doi.org/10.1016/j.sleep.2010.09.019

Fisher, J. (2017). *Healing the Fragmented Selves of Trauma Survivors. Overcoming internal self-alienation*, New York, Routledge.

Forgash, C., & Copeley, M. (2014). *EMDR e ego state therapy. Il trattamento del trauma e della dissociazione.* Milano: Ferrari Sinibaldi.

Goodman, L. A., Salyers, M. P., Mueser, K. T., Rosenberg, S. D., Swartz, M., Essock, S. M., Osher, F. C., Butterfield, M. I., Swanson, J., & 5 Site Health and Risk Study Research Committee (2001). Recent

victimization in women and men with severe mental illness: prevalence and correlates. *Journal of traumatic stress*, *14*(4), 615-632. https://doi.org/10.1023/A:1013026318450

Gorbalenya, A. E., Baker, S. C., Baric, R. S., de Groot, R. J., Drosten, C., Gulyaeva, A. A., Haagmans, B. L., Lauber, C., Leontovich, A. M., Neuman, B. W., Penzar, D., Perlman, S., Poon, L. L. M., Samborskiy, D. V., Sidorov, I. A., Sola, I., & Ziebuhr, J. (2020). The species Severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2. *Nature microbiology 5*(4), 536-544. https://doi.org/10.1038/s41564-020-0695-z

Grigsby, J., & Stevens, D. (2000). *Neurodynamics of Personality*. Guilford Press, New York.

Hanson, R. (2014). *Hardwiring Happiness: The New Brain Science of Contentment, Calm, and Confidence.* Harmony Publications, New York.

Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., & Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Disease*, *10*(7), 1206-1212.

Herman, J. L. (1992). Complex PTSD: a Syndrome in Survivors of Prolonged and Repeated Trauma, *Journal of Traumatic Stress, 5*(3), 377-391. https://doi.org/10.1002/jts.2490050305

Holmes, J. (1993). *John Bowlby and Attachment Theory.* London: Routledge.

Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry research*, *288*, 112954. https://doi.org/10.1016/j.psychres.2020.112954

Jeong, H., Yim, H. W., Song, Y. J., Ki, M., Min, J. A., Cho, J., & Chae, J. H. (2016). Mental health status of people isolated due to Middle East Respiratory Syndrome. *Epidemiology and health*, *38*, e2016048. https://doi.org/10.4178/epih.e2016048

LeDoux, J. E. (2002). *Synaptic self: How our brains become who we are.* New York: Viking Press.

Liotti, G. (2004). Trauma, dissociation, and disorganized attachment: Three strands of a single braid. *Psychotherapy: Theory, Research, Practice, Training, 41*(4), 472-486. https://doi.org/10.1037/0033-3204.41.4.472

Liotti, G., & Farina, B. (2011). *Sviluppi traumatici: Eziopatogenesi, clinica e terapia della dimensione dissociativa.* Milano: Raffaello Cortina.

Lippi, G., Sanchis-Gomar, F., & Henry, B. M. (2020). Coronavirus disease 2019 (COVID-19): the portrait of a perfect storm. *Annals of translational medicine*, *8*(7), 497. https://doi.org/10.21037/atm.2020.03.157

Marjanovic, Z., Greenglass, E. R., & Coffey, S. (2007). The relevance of psychosocial variables and working conditions in predicting nurses' coping strategies during the SARS crisis: an online questionnaire survey. *International journal of nursing studies*, *44*(6), 991–998. https://doi.org/10.1016/j.ijnurstu.2006.02.012

Menoni, E., & Iannelli, K. (2011). Modelli psicoterapeutici integrative e neuroscienze. In P. Petrini & A. Zucconi (Eds), *Psicoterapie e neuroscienze* (pp. 171-208). Alpes, Roma.

Morin, C. M., & Carrier, J. (2020). The acute effects of the COVID-19 pandemic on insomnia and psychological symptoms. *Sleep medicine*, S1389-9457(20)30261-6. Advance online publication. https://doi.org/10.1016/j.sleep.2020.06.005

Mosquera, D., & Gonzalez, A. (2014). *Borderline Personality Disorder and EMDR Therapy* [English edition] Charleston, SC: Amazon Imprint.

Mosquera, D, & Steele, K. (2017). Complex trauma, dissociation and borderline personality disorder: Working with integrative failures. *European Journal of Trauma and Dissociation, 1*(1), *63-71.* https://doi.org/10.1016/j.ejtd.2017.01.010

Ogden, P., Minton, K., & Pain, C. (2006). *Norton series on interpersonal neurobiology.Trauma and the body: A sensorimotor approach to psychotherapy.* W. W. Norton & Company.

Ogden, P., & Fisher, J. (2015). *Sensorimotor psychotherapy: Interventions for trauma and attachment.* W. W. Norton & Company.

Omachi T. A. (2011). Measures of sleep in rheumatologic diseases: Epworth Sleepiness Scale (ESS), Functional Outcome of Sleep Questionnaire (FOSQ), Insomnia Severity Index (ISI), and Pittsburgh Sleep Quality Index (PSQI). *Arthritis care & research*, *63 Suppl 11*(0 11), S287-S296. https://doi.org/10.1002/acr.20544

Ornell, F., Schuch, J. B., Sordi, A. O., & Kessler, F. H. P. (2020). "Pandemic fear" and COVID-19: mental health burden and strategies. *Brazilian Journal of Psychiatry, 42*(3), 232-235. http://dx.doi.org/10.1590/1516-4446-2020-0008

Perrin, P. C., McCabe, O. L., Everly, G. S., Jr, & Links, J. M. (2009). Preparing for an influenza pandemic: mental health considerations. *Prehospital and disaster medicine*, *24*(3), 223-230. https://doi.org/10.1017/s1049023x00006853

Reynolds, D. L., Garay, J. R., Deamond, S. L., Moran, M. K., Gold, W., & Styra, R. (2008). Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiology and infection*, *136*(7), 997-1007. https://doi.org/10.1017/S0950268807009156

Schore, A. (2003). *Affect dysregulation and disorders of the self.* W. W. Norton & Company.

Schwartz, R. (2001). *Introduction to the Internal Family Systems Model*. Trail-Head Publications, Oak Park, IL.

Schwartz, R. C., & Sweezy, M. (2020). *Internal family systems therapy* (2nd ed.). The Guilford Press.

Siegel, D.J. (2010). *The neurobiology of "We".* Keynote address, Psychotherapy Networker Symposium, Washington, D.C.

Sierra, J. C., Guillén-Serrano, V., & Santos-Iglesias, P. (2008). Insomnia Severity Index: algunos indicadores acerca de su fiabilidad y validez en una muestra de personas mayores [Insomnia Severity Index: some indicators about its reliability and validity on an older adults sample]. *Revista de neurologia*, *47*(11), 566-570.

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.

Su, X., Liang, H., Yuan, W., Olsen, J., Cnattingius, S., & Li, J. (2016). Prenatal and Early Life Stress and Risk of Eating Disorders in Adolescent Girls and Young Woman, *European Child and Adolescent Psychiatry, 25*(11), 1245-1253. https://doi.org/10.1007/s00787-016-0848-z

Sugiyama T. (2018). Ego-state Therapy: Psychotherapy for Multiple Personality Disorders. *Japanese journal of hygiene*, *73*(1), 62-66. https://doi.org/10.1265/jjh.73.62

Tang, N. K., Wright, K. J., & Salkovskis, P. M. (2007). Prevalence and correlates of clinical insomnia co-occurring with chronic back pain. *Journal of sleep research*, *16*(1), 85-95. https://doi.org/10.1111/j.1365-2869.2007.00571.x

Tirinnanzi, P., & Bianchi, A. (2020). The Application of Integrative Psychotherapy during Covid-19 Pandemic. *Journal of Psychology and Psychotherapy Research, 7*(8), 85-97. https://doi.org/10.12974/2313-1047.2020.07.8

Usher, K., Bhullar, N., & Jackson, D. (2020). Life in the pandemic: Social isolation and mental health. *Journal of clinical nursing*, *29*(15-16), 2756–2757. https://doi.org/10.1111/jocn.15290

van der Hart, O., Steele, K., Boon, S., & Brown, P. (1993). The treatment of traumatic memories: Synthesis, realization, and integration. *Dissociation: Progress in the Dissociative Disorders, 6*(2-3), 162-180.

van der Hart, O., Nijenhuis, E. R. S., & Steele, K. (2006). *The haunted self: Structural dissociation and the treatment of chronic traumatization.* W. W. Norton & Company.

van der Kolk, B. A. (1996). The complexity of adaptation to trauma: Self-regulation, stimulus discrimination, and characterological development. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds), *Traumatic Stress: the Effects of Overwhelming Experience on Mind, Body and Society* (pp. 182-213). New York: Guilford.

van der Kolk, B. A. (2005). Developmental Trauma Disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals, 35*(5), 401-408.

van der Kolk, B. A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of traumatic stress*, *18*(5), 389–399. https://doi.org/10.1002/jts.20047

van der Kolk B. A. (2006). Clinical implications of neuroscience research in PTSD. *Annals of the New York Academy of Sciences*, *1071*, 277–293. https://doi.org/10.1196/annals.1364.022

van der Kolk, B.A. (2014). *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma,* New York, Penguin Books.

Verma, J. P. (2019). Application of Factor Analysis in Psychological Data. In: *Statistics and Research Methods in Psychology with Excel*. Springer. URL

Wade, T. C., & Wade, D. K. (2001). Integrative psychotherapy: combining ego-state therapy, clinical hypnosis, and eye movement desensitization and reprocessing (EMDR) in a psychosocial developmental context. *The American journal of clinical hypnosis*, *43*(3-4), 233–245. https://doi.org/10.1080/00029157.2001.10404279

World Health Organization. Coronavirus Disease (COVID-2019) Situation Reports. Available online: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/ (accessed on 1 April 2020).

Zaccagnino, M. (2018). *EMDR e dissociazione: il lavoro con le parti del Sè*. Cartografica.