

THE BRAIN NEUROMODULATION (BWM) TECHNIQUE FOR THE REMOTELY REDUCTION OF STRESS AND ANXIETY OF SUPPORT TEACHERS AND STUDENT.

TECNICA DELLA NEUROMODULAZIONE CEREBRALE (BWM) PER LA RIDUZIONE A DISTANZA DELLO STRESS E DELL'ANSIA DEGLI INSEGNANTI DI SUPPORTO E DEGLI STUDENTI.

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Abstract

The research presented stems from the need to develop a model of intervention aimed at reducing stress and anxiety that is flexible, effective and easy to learn. In the course of the Pandemic, countless actions have been implemented by different countries to offer support to people with the aim of reducing or preventing distress. The approach used here is neuromodulation, an innovative technique reflecting the latest scientific advances. It allows to reduce anxiety, stress and distress through brainwave modulation (BWM) (Cozzolino and Celia, 2016; Cozzolino, 2018; Celia, 2020; Cozzolino and Celia, 2021). The study was carried out in the school setting since research shows, that this is the area where the pandemic has created the most damage. It has had repercussions both on working methods and processes and on the well-being of the school population - greatly increasing the risk of burnout in teachers and the risk of discomfort and school drop-out in students. Such damage is also becoming one of the main causes of the decline in global human development in recent years (Corlateo, 2020). Therefore, testing these techniques within the school means trying to make its actors aware, active and responsible for their own well-being on all levels (cognitive, relational, emotional, physical), promoting the well-being of society as a whole.

La ricerca presentata nasce dalla necessità di sviluppare un modello di intervento volto a ridurre lo stress e l'ansia che sia flessibile, efficace e di facile apprendimento. Nel corso della Pandemia, innumerevoli sono state le azioni attuate da diversi Paesi per offrire supporto alle persone con l'obiettivo di ridurre o prevenire il disagio. L'approccio qui utilizzato è la neuromodulazione, una tecnica innovativa che riflette gli ultimi progressi scientifici. Consente di ridurre ansia, stress e angoscia attraverso la modulazione delle onde cerebrali (BWM) (Cozzolino e Celia, 2016; Cozzolino, 2018; Celia, 2020; Cozzolino e Celia, 2021). Lo studio è stato condotto in ambito scolastico poiché la ricerca mostra che questa è l'area in cui la pandemia ha creato più danni. Ha avuto ripercussioni sia sui metodi e processi di lavoro che sul benessere della popolazione scolastica, aumentando notevolmente il rischio di esaurimento negli insegnanti e il rischio di disagio e abbandono scolastico negli studenti. Tali danni stanno diventando anche una delle principali cause del declino dello sviluppo umano globale negli ultimi anni (Corlateo, 2020). Testare queste tecniche all'interno della scuola significa quindi cercare di rendere i propri attori consapevoli, attivi e responsabili del proprio benessere a tutti i livelli (cognitivo, relazionale, emotivo, fisico), favorendo il benessere della società nel suo insieme.

Keywords

Pandemic; stress; anxiety; burnout; teachers and students; neuromodulation.

Pandemia; stress; ansia; esaurimento; insegnanti e docenti; neuromodulazione.

Introduction

The Pandemic has had a major impact on people's psychosocial lives.

The sudden, unknown and unpredictable event in its harmful spread also led to living in a constant state of uncertainty and alarm, favoring the onset of anxiety and stress.

The causes are not only linked to the fear of contagion, but also and above all to the loss of one's daily references linked to the organization of time and space.

The spread of Covid-19 has had a notable impact on all work sectors; becoming a multidimensional challenge - health, economic but above all human (Kniffin, 2021).

The UNDP (United Nations Development Program) underlines that the most damaging effects of the pandemic occur in the education sector, becoming one of the main causes of the decline of global human development in recent years (Corlateo, 2020).

In fact, the quality of the education system is an expression of the well-being of a country. This index derives from both learning indicators and elements of organizational and individual well-being of the school system and those who belong to it (Guglielmi and Fraccaroli; 2016); these factors are separate from each other but are established in a relationship of mutual influence (OECD; 2019, 2020).

The school represents a specific space-time frame (Kanizsa and Zaninelli; 2020) within which students but also teachers live their lives, grow and evolve in a multidimensional relationship of reciprocity.

In an emergency like the current one, the school organization is destabilized and the usual organizational functioning is radically affected (Ferritti, 2020), causing social and psycho-emotional consequences that affect all the actors who are part of this context (OECD, 2020).

Stress, anxiety and burnout in teachers.

The support teacher and not, spilt their work on 2 dimensions: the knowledge that they try to transmit and the relationships they establish, creating a connection with the inner world of children.

The goal becomes twofold: didactic and educational.

The teacher-educator is a "navigator" who, starting from the student and their specific position and way of being, guides them in understanding their experience through a personalized path. The student must feel the motivation to learn through the respect and interest they receive as a unique person and an integral part of the context.

Students are helped to acquire tools to feel "free" to be and express themselves, to grow and take care of themselves and the society they live in (educational perspective); without being crushed in an attempt to homologate to pre-established models (educating perspective) (Lewin, 1939; Kanizsa and Zaninelli, 2020).

It is clear that teaching is not a purely cognitive activity of "transmission of knowledge", as it was thought in the past, but has a psycho-emotional connotation that is counterbalanced with the objectives related to the performance (Zembylas, 2003).

It has also been noted that the emotions experienced by support teachers in terms of self-efficacy, balancing of resources in possession and environmental demands, perception of support and a solid relational network within the school organization, play a fundamental role in the feeling of satisfaction, in the work performance and in the quality of the relationships it will create with the children (Skaalvik, 2015; Baluyos, 2019). This will cause a domino effect on the quality of the school experience as a whole (emotional and cognitive) even for students (Balboni, 2013).

The advent of the pandemic has led to a total disruption of school life and everything related to it, giving rise to the need for a sudden change of perspective and organization; causing repercussions both on working methods and processes (introduction of online remote learning and increase in workload), as well as on the personal well-being of the actors involved

(inevitable share of stress, discomfort, considerable anxiety, greatly increasing the risk of burnout in teachers and the risk of discomfort and school dropout) (Kniffin; 2021).

In this scenario all teachers, especially support teachers, face several challenges:

- Reorganization of the educational and training planning: required revision and adaptation to a new reality, paying attention to both the result and the learning process, with particular attention to the new relationships with the students. This has had an even greater impact on support teachers who are already working with situations of fragility, causing stress and anxiety related to the new working style.
- Engaging in the digital world by acquiring knowledge and skills in a short time in order to guarantee the right to education (enshrined in Article 26 of the Universal Declaration of Human Rights), often with little technical support (Pagani and Passalacqua 2020; Corlateo, 2020). We refer in particular to the acquisition of technological skills.
- This has created what is called "technostress" (Salanova; 2003, 2004) - "a negative psychological state linked to the prolonged, massive and unsupported use of digital media or the threat of their use. This state derives from the perception that there is no correspondence between resources and requests relating to the use of these means, leading to a negative psycho-physical state of activation ". Research shows that in the modern era, this type of stress can become a facilitator of burnout, as it leads to the exhaustion of the person who is unable to balance their resources and energies with environmental demands. This means that it is necessary not only to teach how to use it but to pursue a knowledge of the psychological, relational and social dynamics that such use entails. This will be useful to the teacher and the student accordingly.
- No longer just trainers and educators, teachers become emotional "containers" and organizers for students in difficulty and promoters of good practices related to the protection of health towards themselves and others.

Despite these changes, there is very little attention to what the teacher's experience is, leaving them at the mercy of their emotions, anxieties, fears and turmoil, thus favoring malaise and stress (Shlenska, 2020; Collie, 2021).

From January 2022 Burnout will appear in the ICD-11 (International Classification of Disease) as a factor that influences the bio-psycho-social health of the individual. It literally indicates that you are "burning", underlining an excessive amount of stress, characterized by negative emotions, which burns all the resources of the subject.

The teaching profession is part of the "helping professions" and is one of the activities most subject to burnout (Maslach, 1982).

In this regard, different researches have highlighted that during the pandemic a high rate of teachers made it clear that they perceived a large discrepancy between the resources available and the requests from the working context. As highlighted above, the challenges faced were innumerable and in a very short time this has favored high levels of stress, fatigue and in extreme cases, burnout.

The Job Demands-Resource model (Demerouti, Bakker, Nachreiner and Schaufeli; 2001) was used to analyze burnout among teachers (Hakanen, Bakker and Schaufeli; 2006) and it emerged that the requests they received were excessively greater than the bio-psycho-social-organizational resources available; causing an emotional wear of the person.

The consequences of this syndrome affect the personal bio-psycho-social area (such as motivation, the sense of self-efficacy, etc.) as well as the professional level (both in terms of performance and results achieved).

Furthermore, different studies correlate the burnout syndrome to different constructs, including: satisfaction, emotional intelligence, perceived stress, quality of life, identification with the organization, etc. They can act as protective factors or risk factors, depending on the negative or positive meaning in the person's life.

There is a clear need to provide teachers with a space in which their emotions are legitimized and in which they can acquire skills that promote empowerment in the management of stressful situations.

Anxiety, academic discomfort and risk of dropout in students.

As for students, they have experienced significant amounts of stress and emotional exhaustion due to the limitations and changes imposed by the pandemic.

As Fenichel (1951) argues, speaking of relationships during catastrophes, we live in a "closed future", that is, devoid of those aspects of exchange and intersubjectivity that are necessary for personal and human evolution as a whole.

Relationships, physical contact, sharing time, ways and spaces are necessary elements for the development of the personal self and the social self. The pandemic has not affected social growth in adults, it has only slowed it down. However, in children, adolescents and young adults there was an obstacle to social, emotional and cognitive development.

Observing the emotional state of students, it is noted on one hand the need to be emotionally "incurred", that is the need to be able to express one's emotions avoiding overthinking and closure. On the other hand, the need to be guided in their growth in this difficult era (Romeo, 2021).

In fact, with the advent of Covid-19 development processes have not stopped, however the pandemic and the limitations have influenced its development in a negative way.

For this reason, it is necessary to provide children with tools to feel and experience their emotions and satisfy their growth needs in an alternative way.

Also in this case, there are high levels of stress and negative emotions that need to be "seen" before they exhaust the person, favoring a re-composition of identity.

What emerged also has a strong impact on learning processes.

This is possible because learning is not only characterized by cognitive components, but also by emotional and relational aspects.

According to the socio-cognitive theory developed by Bandura (1996), people are not simple organisms shaped by events or moved only by innate dispositions but are active subjects, capable of self-regulation, self-organization and self-reflection. In recent years, various sectors in the field of research on school learning have expanded and consolidated: a very salient and complex issue concerns the effects of affective components in the process of processing and consolidating information; another concerns the importance of the socio-cultural context on mental processes.

From this point of view, learning is an active process in which the person is at the center of the restructuring and transformation of their experience (Tramma, 2011). These individual and contextual learning dimensions condition school success and the enhancement of study skills.

It is clear that these aspects assume a relevant centrality when it comes to pandemic "chaos", discomfort and school stress.

Let's proceed with a brief excursus of what the **Individual Learning Variables** are:

- **Motivation** - understood as a push (from the Latin to move) towards action aimed at a purpose, encompassing cognitive and emotional processes (Ford, 1992).

- **Learning objectives** - Wentzel (1991) defines objectives as mental representations of what the individual wants to achieve or avoid incurring. They orient and direct behavior towards the achievement of a result.

- **Beliefs about oneself** - The following variable is based on the theory of intelligence, which explains that each individual has convictions about their own intelligence of an innatistic or environmentalist type. The first considers intelligence as a fixed entity, inscribed in the genetic heritage and therefore immutable and limited; the second, on the other hand, sees this construct as a set of skills and knowledge that grows through experience. If we take up the previous variable, that is how the subjects set their own goals, they are influenced by the type of belief that the student has about his or her own intelligence. Expectations regarding your performance will differ.

- **Causal attributions** (Weiner; 1972, 1974).

- **The system of the self** (Harter; 1983).

- **Self-efficacy.**

Let's now look at the **Contextual Variables**.

With contextual variables we mean the socio-relational aspects that characterize the school environment in which the child is inserted.

- **The pupil-teacher relationship.**

It is characterized by interchange and mutual recognition, it is an asymmetrical relationship (Blandino and Garnieri; 1995). Through the interest that the teacher shows towards the child, a different effect will be formed: the teacher can in fact favor the understanding of the learning process or damage the student's sense of effectiveness by predisposing them to demotivation. Style adopted, communication and relational skills of the teacher are key to predicting the relationship between them and the student and the probability of success / failure of the latter (Wentzel, Battle, Russell and Looney; 2010). The teacher must be able to foster a positive class climate from all points of view.

A positive and safe environment allows the student to carry out a cognitive process and a serene experimentation (Bandura, 1986). A climate of mutual appreciation affects motivation and self-construction (Decy and Ryan, 2000). In addition to this, it is important that the teacher, through teaching, is able to make the student grasp the link between what they study and the reality they live.

- **The relationship between classmates.**

In childhood, the peer group acts as a "mirror" and a place for sharing; in the adolescent period, however, the teenager begins to separate from their parents to find other points of reference outside the family. The peer group becomes a privileged place for experimentation, comparison and construction of social and gender identity (Petters, 1990). Inside, the subject can feel part of something and at the same time bring out their own individuality and specificity (Chrmert, 2000).

The presence of Covid-19 has significantly changed these aspects, which is why it is necessary to promote an evolution that takes these key elements into account.

In addition, it has favored the onset of discomfort due to the exhausting condition of stress and emotional exhaustion to which children and young people are subjected.

Often for students, scholastic discomfort is equivalent to a progressive spiral, which leads them from a psychological malaise towards school to failure to achieve educational objectives, up to dispersion (Pombeni, 2000).

Petrucelli (2000) argues that school discomfort is an emotional state not significantly correlated to psychopathological, linguistic or cognitive disorders but which manifests itself through a series of behaviors of refusal of school activities, such as to prevent the use of one's cognitive abilities. In fact, many students have a good academic performance and yet live in a condition of malaise. The most obvious expression of school discomfort is characterized by relational difficulties, emotional difficulties (such as restlessness, fatigue, poor motivation and apathy), concentration and learning difficulties. In a pandemic era, these considerations take on significant weight.

Stress, anxiety and malaise are intertwined with cause-consequences deriving from Covid-19 and with "other" cause-consequences (personal or environmental or relational).

It is necessary to promote techniques that reduce discomfort, emotional stress and promote a mind-body rebalancing as well as emotion-cognition.

It is clear that this requires particular attention when it comes to disabilities, special educational needs (BES) and specific learning disorders.

In addition to personalized teaching plans, it is highlighted that true inclusive teaching is where the teacher becomes an *emotional leader*, making their emotions available to students and helping them understand each other's (Cottini, 2017). This becomes an essential requirement in the pandemic era (Romeo, 2020). In addition, inclusive teaching is able to recognize and enhance the unique being of the individual, creating the best conditions for everyone to learn in a peaceful and effective way.

Another important aspect is the involvement of the entire teaching staff, including the support teacher.

There are different techniques that the teacher can implement to favor the processes of emotional processing, resilience and self-discovery that really represent an inclusive teaching; including: the diary, the creation of moments of emotional sharing (Rome, 2021).

One of the greatest risks in school settings in this regard, which has significantly increased following the pandemic, is the risk of student drop-out.

School dropout derives from often latent discomforts and maladjustments and can be traced back to a variety of factors external and internal to the individual. The elements involved weigh on the subject in different ways according to age, gender and personality (Colombo, 2010).

The pandemic, by affecting all fields of existence, has greatly favored this phenomenon by affecting the emotional, cognitive and relational sphere; also disadvantaging the fluidity of the school experience and the developmental processes it deals with.

In fact, research indicates that the pandemic has aggravated an already critical socio-cultural situation, causing: an increase in the loss of schooling, between 0.3 and 0.9 years (Azevedo; 2020); a global academic slowdown of students by 80%, in turn eliciting disruptions at work and favoring the decrease in income rates and development in different sectors (Wilkerson, 2020; Corlateo 2020).

In this perspective, it is emphasized that teachers (understood their behavior and the relationships they establish with students) can become a safety net around children, preventing them from falling into the abyss of discomfort and dropout, favoring instead the evolution and resilience processes (Pagani and Passalacqua, 2020).

However, this is possible if the health and well-being of the teachers themselves are protected.

School is an intersubjective context in which teachers and students enter into a relationship with each other and with their peers; this leads to sharing and negotiation of meanings with circular effects on the whole system.

What has been said means that there is a reciprocal influence on which it is possible to leverage only if all the elements involved are taken into consideration.

Within this scenario of renewal and evolution, there emerges the need for tools to process one's own experiences, the need to feel active agents of one's well-being and considered in one's own needs; only in this way will it be possible to reduce the risk of a disintegration of the person and the systems to which they belong.

It is therefore essential to implement both technical and emotional support for students and teachers in which the psychological and pedagogical perspective are intertwined to favor the evolution of life and general well-being.

It is therefore essential to implement both technical and emotional support for students and teachers.

RESEARCH

Introduction

In line with what exposed so far, the research presented here stems from the need to develop an educational intervention model aimed at reducing stress and anxiety, that is flexible, effective and above all easy to learn. It must also be able to involve many subjects simultaneously online.

The study is also intended to be a testimony of how the conscious use of technology can be a valid tool for promoting well-being in every area of the person's life.

The research was carried out in the school context. As previously explained, the research points out that this is the sector where the pandemic has created the greatest damage and it is therefore necessary to strengthen studies in order to find effective techniques to reduce anxiety, stress and discomfort in the school population.

During the epidemic, countless online interventions were implemented by different countries in order to offer support to people with the aim of reducing anxiety, stress and discomfort; preventing a deeper malaise.

The modality used in this research is “neuromodulation”, an innovative technique that reflects the most recent scientific advances. It was designed to reduce stress through brain wave modulation (BWM) (Cozzolino and Celia, 2016; Cozzolino, 2018; Celia, 2020; Cozzolino and Celia, 2021).

This technique falls within the range of mind-body interventions (Rossi, 2013; Cozzolino and Celia, 2016; Cozzolino, 2017) and derives from the interaction of oriental disciplines and a rigorous scientific study of the dialogue between the body and the psyche.

The first to carry out experimental research, which then led to the development of BWM, dates back to the 1970s by the Japanese psychiatrist Tomio Hirai (Hirai, 1968 and 1969; Kasamatsu and Hirai, 1973; Hirai, 1975). He pointed out that Zen meditation induces the slowing of EEGs at the same time as mental states and specific changes in consciousness.

Psychosocial genomics has taken up these studies by deepening them and providing new information on the phenomenon of stress and the physiological impact that derives from it, developing new mind-body treatments including BWM (Rossi 2006, 2008, 2007; Atkinson, 2010; Cozzolino, 2014, 2015, 2021; Niles, 2014).

The BWM-T has countless advantages:

- first of all, it exploits a normal brain wave pattern present in each human being, in order to slow it down, which is why it has a powerful effect in promoting general homeostasis;
- it is an intervention that does not require a lot of preparation and is easy to learn, allowing anyone to be able to enjoy it;
- can be performed in a few minutes and without the need for special equipment or rooms, giving the person the opportunity to implement it if necessary;
- can be administered simultaneously to a single person or to a large group and requires the presence of only one therapist.

Moreover, precisely because of the advantages it possesses, it can be used both in clinical contexts but also taught to the person who can put it into practice whenever he feels the need.

Testing these techniques within the school context means trying to make the school and its actors aware, active and builders of their own well-being on all levels (cognitive, relational, emotional, physical).

The high and unstable contagion rate and the research studying it underline that the pandemic will accompany our life for some more time and that its effects on people's existence will persist even longer than the virus itself (Araújo, 2020; Li, 2020; Lima 2020; Waller, 2020; Xiang, 2020). In fact, there is talk of "coexistence with the virus", "new reality" and no longer "altered reality". This consideration does not only involve changes in physical health but also in mental health, in daily management, in social, cultural, administrative as well as legal policies.

This means that in addition to having to gradually normalize and balance those working and daily practices that had been implemented as an "emergency", it is necessary to strengthen the search for techniques, models and styles of action to better reflect the everyday life, that can be easily applied to all those who need it and that reduce the excessive impact of "stressors" (Zhou, 2020).

This modality also opens the way to a new perspective of health protection: a perspective that knows neither spatial nor temporal boundaries but not even disciplinary ones. That is, an attention to well-being, understood as the promotion of the person as a whole, considered in all areas of life (school, work, relational, legal, etc.).

Sample

The sample is made up of university students. (Participants: N = 310; of which 77.7% women, av. age 28.73 years).

Several studies published in the literature have demonstrated the efficacy of mind-body interventions for stress reduction in college students (Finkelstein-Fox, Park, & Riley, 2018; Gallego, Aguilar-Parra, Cangas, Rosado, & Langer, 2016; Meier, & Welch, 2016; Running, & Hildreth, 2016; Saoji, Mohanty, Vinchurkar, 2016).

It emerged that during their university career, students are exposed to severe stress due to various academic, family, relationship, economic or health problems.

Increase in substance use, anxiety, depression and even suicides are observed in this population.

Objective and technique

The intent was to investigate the effectiveness of a brain wave modulation technique (BWM-T) intervention administered online through a web-based platform, on stress, anxiety, affectivity and well-being in a non-clinical population.

The intervention began in the fourth week of the first quarantine in Italy (week starting March 30, 2020), for a duration of 4 weeks and ended before the release of the lockdown.

Procedure:

- During the study, participants in the experimental group received a 15-minute online session of BWM-T, while the control group was exposed to 15-minute psycho-education videos on topics related to stress reduction.
- In each session, all participants joined the same online meeting.
- The experimenters remained in the main meeting with the conductor to receive the method session, while the controls entered another meeting in a separate room, where another experimenter showed them the videos.
- In each experimental session, participants were asked to place their computer or smartphone in a quiet place in their home and sit in a comfortable chair, with their feet flat on the floor and their backs straight, hands on their legs and eyes closed.
- The leader then showed the participants how to position the fingers and told them to maintain the position for three minutes, until the clinical psychologist instructed to move on to the next position. Of the 310 participants, 266 (85.8%) completed the intervention.

The procedure is easy and involves 4 phases: in each phase the positions of the fingers are changed. These movements are able to gradually induce an activation of the parasympathetic system (Carlson, 2003) and a change in hemispheric dominance from left to right, which, in turn, produces a reduction in heart rate, a slowing of the respiratory rate and muscle relaxation. Here are the effects in the 4 phases:

1. During daily activities, the brain normally releases BETA waves, which can increase due to specific behaviors or discomforts.
2. In the succession of stages, the brain is stimulated to release slower and larger alpha waves (Sarang, 2017), typical of relaxation, in order to reduce the activation deriving from stress which instead stimulates the production of fast and intense waves (Desai, 2015; Cozzolino and Celia, 2016; Rocco, 2018; Cozzolino and Celia, 2021).
3. In this step, the technique produces typical sleep waves such as Theta waves.
4. In the last phase, the brain begins to produce Delta waves, the deepest level of sleep and mental relaxation.

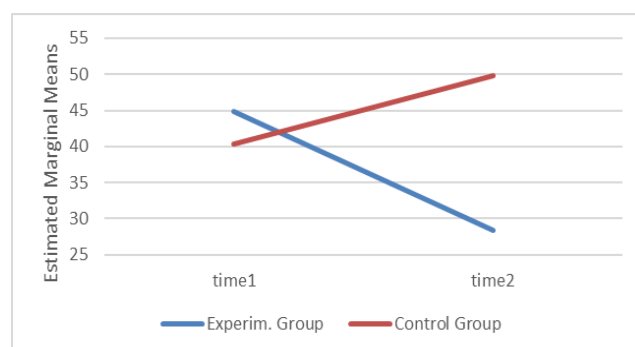
It has been noted that already in the first phase, BWM naturally helps our brain to release slower ALPHA waves, characterized by a relaxed wakeful state, which become even slower during the phases.

In summary, we can observe an active transition from fast and intense waves to slower and wider waves, typical of relaxation and deep sleep.

Results

The results were compared with a BWM session carried out in person to investigate if its effectiveness also remains online and these are the results.

• **In person intervention carried out earlier:** the mixed Anova performed on the Stress dimension, for the group of participating subjects, shows the presence of a statistically significant effect in the interaction between the group factor (experimental and control) and the time factor (before and after), ($F(1.304) = 66.96$; $p < .001$; $\eta^2 = .18$).



• **Online intervention:** The results of the mixed 2x2 Anova indicate a statistically significant effect in the expected direction of the interaction between time and condition with respect to distress and perceived stress, measured one with the DT ($F(1,264) = 36.37$; $p < .001$; $\eta^2 = .12$) and the other with the PSS ($F(1,261) = 15.93$; $p < .001$; $\eta^2 = .05$); trait anxiety ($F(1,256) = 7.47$; $p < .01$; $\eta^2 = .03$), state anxiety ($F(1,255) = 22.01$; $p < .001$; $\eta^2 = .08$), global distress ($F(1,260) = 17.07$; $p < .001$; $\eta^2 = .06$), negative affect ($F(1,260) = 30.59$; $p < .001$; $\eta^2 = .10$) and positive affect ($F(1,260) = 7.793$; $p < .01$; $\eta^2 = .02$).

The table below shows the means and standard deviations of the study variables in the two conditions (experimental and control) before and after the intervention.

Table 1

Means (standard deviations) of the key variables of the study for both conditions (Experimental vs. Control) and time (Pre vs. Post-Intervention).

Constructs	Intervention		Control	
	Pre	Post	Pre	Post
Distress (DT)	6.87 (2.0)	4.90 (2.25)	6.61 (1.98)	6.27 (2.23)
Perceived stress (PSS)	23.27 (6.12)	19.51 (6.40)	22.65 (6.49)	21.40 (6.58)
Anxiety (state)	49.76 (12.83)	42.97 (12.11)	47.23 (12.26)	47.65 (12.80)
Anxiety (trait)	47.34 (11.31)	45.06 (10.63)	45.74 (10.43)	45.55 (11.41)
Global distress	17.50 (6.23)	14.17 (6.63)	17.31 (6.08)	16.93 (6.53)
Negative affect	30.44 (7.13)	24.99 (7.04)	29.71 (6.91)	28.30 (7.20)
Positive affect	28.86 (6.66)	31.72 (6.61)	29.41 (6.78)	30.67 (6.96)

Therefore, consistent with the hypothesis, what emerges is a reduction in the indices of stress, anxiety, global discomfort and negative affect in the experimental group, compared to the control group. Furthermore, the experimental group showed higher levels of positive affect than the control group after the intervention.

Crucially, this study becomes part of the current literature suggesting that BWM-T reduces stress not only during a face-to-face session, but also online. In particular, there is a reduction in the perception of stress, trait and state anxiety, global anxiety, as well as an increase in positivity (Cozzolino and Celia, Girelli, Limone; 2021).

Discussion

This technique is of great scientific importance because it confirms the interaction between the different levels of the human being (bio-psycho-social) and how the subject can activate self-healing processes thanks to natural processes already there, on which it is possible to leverage to promote well-being, evolution and general homeostasis. Once again, the evolutionary nature of the human brain and mind is emphasized. It is also emphasized that the subject is an active agent in their life.

The recent study is configured as an important achievement also from a psycho-social point of view: first of all because we live in a world that is becoming increasingly digitalized and the possibility of understanding how the brain and the mind act and react to this evolution allows to understand even more the human phenomenon and its functioning. Secondly, in a context where distances are almost canceled thanks to the online medium, discovering that these techniques are highly effective even in this mode, allows not to sacrifice effectiveness but to promote mental health as a whole in the face of technological progress.

More studies are needed to support these positive results; however, it is fair to underline this experience that has produced interesting experimental evidence on a population of university students. It stimulates us to believe that this technique is an effective and useful way to work towards support teachers as well.

The objectives of future research will be to investigate whether this technique gives positive results also on this specific category of teachers, particularly important for children with difficulties, and if there are any differences between students and teachers depending on the school grade. Differences in positive results between students and support teachers could also be investigated qualitatively and quantitatively.

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