



Relaxation is not Induced but Stress Perceptual Response is Deconfigured – Wonderfeelz Model of Stress Reduction

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ABSTRACT

In this paper current author reviewed the relaxation techniques used by others and found that the techniques are varied in nature. Based on this he proposed that usual relaxation techniques are not inducing relaxation but help recover already pre-existing natural relaxation by deconfiguring Stress Perceptual Response. For this he also developed a technique and found effective. Based on all these, the current author has proposed a new Stress Model – Wonderfeelz Stress Model. This model is also useful to understand gaps reported in relaxation responses by others.

Keywords: Stress Response Deconfigure, Stress Perceptual Response, Wonderfeelz Relaxation, Wonderfeelz Stress Model, Relaxation technique

Stress

Stress is a ‘demand – supply’ problem in simple terms. When the body and mind are not able to supply tolerance ‘equal or more than the demand’, then the deficiency in required tolerance leads to a state of ‘stress’. This is seen in the domains of finance, social, emotional, business and in nut shell every walk of life. Stress is a multidimensional destroyer of human function and effective living including business.

Stress is largely interpersonal rather than cognitive and impairs cognitive flexibility, working memory and verbal fluency Fabio, R.A., Picciotto, G. & Capri, T (2022). Cognitive flexibility has its role in depression, resilience and effective coping (Soltani, Esmail, Shareh, Hossein., Bahrainian, S A and Farmani, Azam 2013). Hence, sustained stress could affect the natural human response systems that determine anti-depressive tendencies and resilience. Stress through cognitive biases, emotions, and social influences affects economic decision-making (Mudasir Ahmad Sofi, Irshad Ahmad Reshi, & Dr. T. Sudha. 2023). Stress and relaxation also play an important contributing role in increased risk of COPD symptoms (Kham-ai P., Heaton K., and Li P 2023).

Stress response is intricate too (every depth analysis indicates need for the new branch of ‘Intricacy Psychology’). For example, Time Perspectives could predict how an individual would respond in stress of cognitive tasks and that Present Fatalism was a positive predictor of post-task distress as well as worry, when controlling for the baseline levels of these stress states (Witowska, Joanna and Zajenkowski, Marcin 2021).

Practice of relaxation significantly correlates with reduction in stress (Gondo D., Bernardeau-Moreau D., and Campillo P 2023) the first choice for stress is relaxation technique of some sort. Relaxation is also a way of coping with anxiety and especially in chronic diseases (Herschbacha, Peter., Berga, Petra., Dankertb, Andrea., Durana, Gabriele., Engst-Hastreiterc, Ursula., Waadta, Sabine., Kellerd, Monika., Ukate, Robert ., and Henricha, Gerhard, 2005).

Relaxation is better than cognitive techniques that were used to reduce dental pain and anxiety among patients (Berggren], U., Hakeberg, M., and Carlsson, S.G. 2000). Relaxation techniques have moderate impact on both psychological well-being and respiratory function (Volpato, Eleonora., Banfi, Paolo., Rogers, Sheena Michelle., and Pagnini, Francesco 2015) while others found in meta-analysis that highly effective in treating anxiety, moderately effective in reducing distress and had only a weak effect on improving depression in young people (Hamdani et al.2022),

Relaxation Effect Is Not Homogenous:

Pfeifer, Eric., Fiedlera, Henrike., and Wittmann, Marc (2020) used mere blend of silence but interfered with some background sounds that occur naturally in the environment. They found the participants had a natural tendency to close eyes too on their own. Though their procedure was neither a perfect music therapy nor a perfect silence session, but relative silence for about six and half minutes.

A ten minutes worry focusing, ten minutes breathe focusing and slowing down breathe have convinced that the mere breathe focusing and mere slowing of breath combination is also leading to relaxation (Renna, Megan E., Hoyt, Michael A., Ottaviani, Cristina, Mennin, Douglas S, 2020). Of course, in this study it is not differentiated whether the focus gave the relaxation or the slowing down breathe benefitted or what specific blend of these two helped.

Individual differences in such a blend are of course kept in dark. However, this simple relaxation was good enough to show improvements in Inflammatory cytokines that were assessed via serum-derived IL-6, , and IFN- γ , HRV and Cortisol, but not in TNF- α .

Attention to Slow breathing is found to reduce pain independent of endogenous opioids (Wells, Rebecca E.a; Collier, Jasonb; and Posey, Graceb et.al 2020). Breathing activity in relaxation research also has the limitation. For example, it is not easy to quantify the work of breathe and there is no golden standard too (Cross, Troy J. Gideon, Elizabeth A., Morris, Sarah J., Coriell, Catherine L., Hubbard, Colin D., and Duke, Joseph W 2021). Humming Walking technique was also found to give positive changes.

Even before birth of the current author itself, it has been proved that even partial techniques give results There are claimants of results even if only a part of the complete Autogenic Training was used without mentioning of any breathing work (Kahn, Michael., Baker, Bruce L. and Weiss, Jay M. 1968) and we need to analyze the intricacies of psychological factors that really produce the results (Ramesh Kumar G S 2022).

Muscle relaxation combined with other techniques in addition to breathing technique (Jalal, Baland., Moruzzi, Ludovico., Zangrandi, Andrea., Filardi, Marco., Franceschini, Christian., Pizza, Fabio., and Plazzi, Giuseppe., (2020) making a 'salad' intervention also helped people who suffer from sleep paralysis.

Appreciably, Toussaint, Loren., Nguyen, Quang Anh., Roettger, Claire., Dixon, Kiara., Offenb'acher, Martin., Kohls, Niko., Hirsch, Jameson., and Sirois, Fuschia (2021), took the efforts to study deep breathing, muscular relaxation and guided imagery relaxation separately and understand their contribution for relaxation. Their results indicate that deep breathing has no significant contribution when compared to control group who engaged in reading activity, as far as post relaxation electrodermal indicators are concerned. That is, while control group did so insignificant improvement in electrodermal indicators, deep breathing helped only to return to pre-intervention level after a curvilinear effect.

Much earlier (Weinstein, M., and Smith, J.C., 1992) it was demonstrated that relaxation could be attained without focusing on breath, muscle stretching and imagery. Thus, deep breathing is doubtful whether has any significant impact physiologically based relaxation as in the case of muscular relaxation. Probably, the reduction in the electrodermal activity after initial rising (thereby the curvilinear effect) should alter recency effect on mood and thereby helping to feel relaxation 'perceptually'. This is also supported from their findings that among muscular relaxation, guided imagery and deep breathing, Guided imagery gave comparatively better results than even other two and progressive relaxation gave lesser effect than deep breathing and guided imagery.

Hence, it is clear that 'cognitive elements' are more important for relaxation than even physiological aspects. But both cognitive as well as physical components contribute separately for stress reduction / relaxation.

Atila Szabo & Ágnes Kocsis (2016) attempted in similar way to differentiate the effect of deep breathing and expectancy effect, but their procedure was not purely differentiated one. Their study could be considered to infer only that 'priming instructions' have additional benefits than partial priming instructions. This suggests us that instructions do play a role in addition to deep breathing exercise as such.

Lone deep breathing was also found to reduce state anxiety in test-like situations, a mental state possibly by enhancing the regulation of adaptive-maladaptive thoughts during the test, allowing for better performance (Kiat Hui Khng ,2017). He also suggests this as a simple and immediately benefitting one that can be taught to most children. Tavoian Dallin, Craighead Daniel H (2023) went further step to recommend deep breathing as a lone technique as a low-cost blood pressure and stress reduction therapy to a substantial portion of the adult population; effective improvement in mood and stress both in terms of self-reported evaluations and of objective parameters, such as heart rate and salivary cortisol levels (Perciavalle, V., Blandini, M., Fecarotta, P. et al 2017). Deep breathing is also used in 'quick response relaxation' strategy named 'Applied Relaxation', along with core relaxation technique (Hayes, Sarah A., Roemer, Lizabeth., Orsillo, Susan M., and Borkover, Thomas D, 2013)

Zlokazova, T; Kuznetsova, A; Titova, M (2022) went to the extent of proving merely viewing relaxation slide-films itself ensured lowered blood pressure, increased subjective comfort, decreased fatigue and acute anxiety, and negative emotion scores, as well as higher productivity in performing the cognitive test. In a study comparing mindfulness relaxation with muscular relaxation, researchers found mindfulness and non-reactivity mediated changes in mood for Present Awareness Mindfulness more than for Progressive Muscular Relaxation; that non-muscular but cognitive technique has relatively better impact (Gao, Liya., Curtiss, Joshua., Liu, Xinghua., and Hofmann, Stefan G. 2017).

Guided imagery given before commencing of surgery could render different effects in children and adults. For example, it relieves preoperative state anxiety in children but trait anxiety in adults' preoperative condition, and reduces postoperative pain in adults. Guided imagery does not help much to reduce Postoperative pain in children and preoperative state anxiety in adults (Álvarez-García, Cristina., and Yaban, Züleyha Şimşek 2020).

Coughlan, Amanda., Ross, Ella and Nikles, Daniel et.al (2022) recommends that guided imagery of nature has better effect over imagery of urban, in improving connectedness with nature. This can be understood that, guided imagery gives only a 'direct' result unlike 'transformed' results as in slow breathing or focusing on breathing.

Active (guided imagery group) did not differ from passive (music group, resting group) mental-based interventions significantly but all the three yielded relaxation. In other words, quite sitting in some circumstances could be as effective as guided imagery (Bauer I, Hartkopf J, and Wikström AK. et.al 2021). But current author views that guided imagery just shares a level at the plane of passive activities and the imagination done by the individual is more important than the instructor's activity. In other words, an individual could feel a personal touch when being instructed actively by an instructor, contributing only for rapport and readiness to do, without having demonstrable influence on 'relaxation effect per se'. Hence, minus this, the imagery is alone instrumental in inducing relaxation and such imagery is also a passive technique only.

In a study, 53.5% of the participants got relaxation by 'watching movies/television', 25.7% by 'reading/internet browsing' while only 4.9% , 'yoga' and 4.5% by 'meditation/breathing exercises'. The participants also relaxed by other less frequent and 'non-specific relaxing activity', such as 'gaming', 'listening to music/podcasts', 'napping', 'bath', 'painting', and 'prayer' (Parker, Stacey., Sonnentag, Sabine., Jimmieson, Nerina and Newton, Cameron. 2019). It could be noted here that usually celebrated yoga and meditation was used by less number of participants and that even non-specific relaxation methods also yields relaxation. Again, the work related contributed for less relaxation but work-related goal attainment did not increase relaxation.

Allowing plenty of time for relaxation is part of positive schema of realistic expectation (Louis, John Philip., Wood, Alex Mathew., Lockwood, George., and Ringo Ho, Moon-Ho, 2017). The psychological orientation to relax is thus, a parallel concept that determines motivation for relaxation and could interfere with relaxation exercise outcome or other efforts to relax. In other words, the relaxation orientation is also to be treated separately from the relaxation (exercise) effectiveness.



Figure 1 Showing Varieties of Physical and Psychological Techniques Yielding relaxation

All these discussions lead to infer that:

- Relaxation response is individualistic at micro level
- Breathing should be considered as not inherent part of relaxation technique rather as an independent entity
- Researchers should mention specifically if breathing is added as a technique in the experimental procedure or not and should not be in disguise.
- Every activity used for relaxation such as breathing, imagery, etc should be treated as separate homogenous variable in relaxation / stress research
- Instructions should also be treated as potential interfering variable and be clarified in researches with possible impacts on relaxation effect

2. Arriving at a New Model To Stress:

It is clear from the fact that multiple variations of techniques leading to relaxation that 'relaxation is not an induced state but a state of reduced stimulation'. Response Continuum is to be understood for this model. Response continuum is traditionally known to qualified psychologists (D'Amato M R 1979; Guilford J P (1954 / 2008; Carroll J D., and Rosenberg S 1976; Brauer K., Ranger J., and Ziegler M 2023). It is hereby proposed that stress is processed on a psychological Perceptual response continuum and multiple stimuli with shared features are associated and strengthen this Stress Perception. For example, if you see number 5, your thought will not stop with that and many things related to number 5 will be associated such as 'numbers', '5 table', 5th Standard or House of door number 5, your vehicle number bearing a digit or two of 5 etc, and responses also become multiple in you.

This strengthening occurs since the human system has a 'progressive tendency' (Ramesh Kumar G S 1999) and therefore an instrumental tendency to actively strengthening the current Stress Perceptual - Response continuum at any given point of time. Stimuli with shared features are associated or bundled and configured for Stress Perceptual - Response continuum strengthening. This overpowers the already pre-existing natural relaxation. So, relaxation is not to be induced but to be recovered, according to this model.

Hence, if dismantle this strengthened stress Perceptual - response continuum which is progressive in nature, a relaxation can be recovered but only through 'dissociating such bundled stimuli (perceptual) with shared features'. Any alternative stimulus if maintained stereotypically can help this dissociating of bundled Perceptual stimuli with shared features and therefore, the stress response is weakened, thereby leading to reduced arousal that was previously maintained by the bundled and configured stimuli and related strengthened stress response. The effect of deconfiguring bundled stress Perceptual - response depends on the power of alternative stereotypic stimulus. This reduced arousal is called relaxation. In simplest layman terms, relaxation is result of dismantling the actively strengthening stress Perceptual - response. Thus, it is not 'relax' but deconfigure bundled stress Perceptual - response.

Stress characterized by two streams – approach thoughts and avoidance thoughts. Approach thoughts lead to urgency stress and Avoidance thoughts lead to strengthening unresolved stress. Continued sessions of deconfiguring bundled stress Perceptual - response causes the memory trace of the 'state (of mind) and feeling of being relaxed', and this memory trace becomes the norm or reference point (state of mind) to set the personal goal as well as focus point (state of mind). Every time the individual gets a bundled stress Perception and cued to get them deconfigured, he uses this memory of 'reference

state of mind' as goal and becomes motivationally instrumental. When his past memory of the reference state of mind is not adequately powerful to get him focused, then he attempts to form new learning and memory of the state of mind to focus. Maintenance of relaxed state of mind therefore depends on retrieving past memory of such Reference state of mind or forming a new learning and maintaining the same memory. Thus, the registry, retrieval and maintenance are monitored in this current model.

The Memory is already indicated for its susceptibility in cases of high levels of neuroticism and perceived stress (Franks, K.H., Rowsthorn, E., Bransby, L. et al, 2023). The conflict of taking a decision to choose Approach thoughts (urgency pressure) and Avoidance thoughts (self-submission to strengthening of unresolved stress on one side and attempt to decide the way to learn newly the required of state of mind, make one enter the stage of 'effective stress decision'. Decision-making difficulties are experienced under stress in depression, mania, personality disorders, obsessive compulsive disorder, and other anxiety disorders contributed from executive functions and analytical intelligence problems (Yilmaz S, Kafadar H. 2022). This effective stress decision – the state characterized by conflicts, is explaining already accepted 'Resistance Stage' of GAS proposed by Selye (Selye, H. 1951).



Figure 2 Response Continuum Consisting Of Approach Thoughts & Avoidance Thoughts

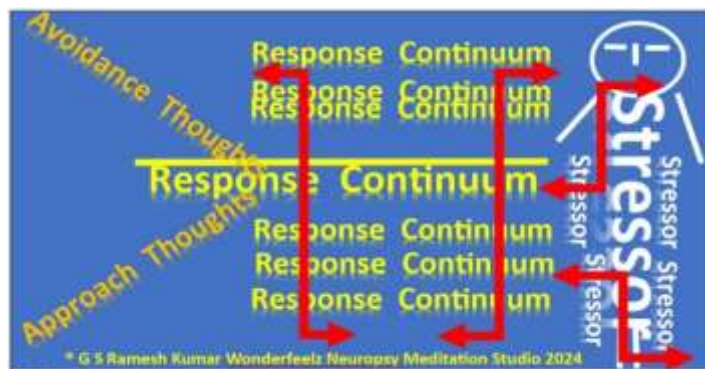


Figure 3 Bundled / Configured Stress Response Strengthened and Corresponding Response Continuum



Figure 4 Flow Chart Of Wonderfeelz Relaxation Recovery / Stress Deconfiguring Process

Wonderfeelz Relaxation Technique

In line with the current Wonderfeelz Stress Model, current author gave a session to two businessmen who are in post graduate level and in the business for past 7 years. They are 37 years old. They were selected as their feedback would be frank and they neither hide nor appease to the current author.

The author used the following technique he formed for the current study:

Step 1: Asked the participants to sit on the chair and loosen the muscles if tightened.

Step 2: Asked the participants to attend to the space between feet and above the ground.

Step 3: Asked the participants to guess the air molecules and instructed not to imagine air molecules

Step 4: Asked the participants guess (not feel) the touch of air molecules on the skin and according to science the sensation (though they don't feel) is processed neuronally and conveyed to brain)

Step 5: Asked them to guess the weightless touch sensation of air molecules are there in the each part like ankle region, calf muscle region, knee, thighs, trunk, palm, fore arm, upper arm, face and finally brain

Step 6: Once they guessed the weightless touch sensation message in the brain (belonging to air molecules) they were asked to open eyes.

The procedure took about 15 minutes and no breathing, no imagery, no instruction to relax were given. Instead, half way through the current author asked them even to think about stressful or angry situations / events if they have any to remember. They were asked to rate their extent of relaxation difference when compare to before the session. Their rating on a 10-point scale was 8 and 7 respectively. Their perceived self-report of the experience was that they "felt fresh" and as if "woke up after a brief nap".

This also indicates that relaxation can be obtained by a stereotypic stimulus presented to attend constantly for a period of about 15 minutes.

Discussion

Importantly, the paper strongly advocates for each technique of homogeneity in stress research that even breathing and other techniques should not be combined for that dismantles the homogeneity of independent variable.

The author arrived at a model for stress (Wonderfeelz Stress Model) which focuses on the Bundled Response Continuum of Approach and Avoidance thoughts, arguing that relaxation is not the one induced but already pre-existing which is overcome by bundled responses. Hence, deconfiguring the bundled stress response leads to recovery of naturally existing relaxation. This has demonstrated that relaxation is not newly induced response state but deconfigured state of stress response strengthening. This paper demonstrated that even a neutral activity can relax; such an activity need not involve slow breathing, positive visualization or relaxation instructions and thoughts.

A new model to approach stress is developed and which adequately explains existing contradictory findings of other researchers too. Parker, Stacey., Sonntag, Sabine., Jimmieson, Nerina and Newton, Cameron (2019) finding that goal frustration leads to less relaxation but goal attainment does not increase relaxation can well be explained in line with our Wonderfeelz Stress Model.

This could be explained that relaxation did not increase by work related goal attainment as the same factor would induce more thoughts to be bundled (thoughts related to more goals and further tasks that may be mixed with easiness and difficulty nature in any individual). Goal-frustration on the other hand would yield bundled thoughts of Approach and Avoidance. A new neutral relaxation technique based on 'guessing' – instead of breathing, visualizing, imagery and positive instructions, is developed (Wonderfeelz Relaxation Technique).

Utility of this paper

Stress research in future should treat every activity as homogenous variable and not to be mixed. The future research on relaxation should take a different turn of focusing on deconfiguring the stress perceptual response. Relaxation is seen as recovery process of naturally pre-existing one instead of newly 'induced' one. It is established that any neutral stimulus stereotypically presented for being attended constantly for few minutes can help recover relaxation but depending on the power of such alternative stimuli.

Limitations of the paper

This paper focused on reviewing the available literatures for arriving at a model. The technique suggested in this paper need to be further studied extensively.

The model proposed is an early attempt and needs to be researched more.

References

Álvarez-García, Cristina., and Yaban, Züleyha Şimşek (2020): The effects of preoperative guided imagery interventions on preoperative anxiety and postoperative pain: A meta-analysis. *Complementary Therapies in Clinical Practice*, Vol. 38. <https://doi.org/10.1016/j.ctcp.2019.101077>.

Atila Szabo & Ágnes Kocsis (2016): Psychological effects of deep-breathing: the impact of expectancy-priming, *Psychology Health & Medicine*, <http://dx.doi.org/10.1080/13548506.2016.1191656>

- Bauer I, Hartkopf J, and Wikström AK. et.al (2021): Acute relaxation during pregnancy leads to a reduction in maternal electrodermal activity and self-reported stress levels. *BMC Pregnancy Childbirth*. Sep 17;21(1):628. DOI: 10.1186/s12884-021-04099-4
- Berggren], U., Hakeberg, M., and Carlsson, S.G. (2000): Relaxation vs. Cognitively Oriented Therapies for Dental Fear, *J Dent Res* 79(9):1645-1651, DOI: 10.1177/00220345000790090201
- Brauer K., Ranger J., and Ziegler M (2023): Confirmatory Factor Analyses in Psychological test Adaptation and Development, *Psychological Test Adaptation and development*, 4:1, 4 – 12
- Carroll J D., and Rosenberg S 1976): Learning on a response continuum: Comparison of a linear change and a functional learning model, *Journal of Mathematical Psychology*, Vol 13, issue 1, pp 101 – 118
- Coughlan, Amanda., Ross, Ella and Nikles, Daniel et.al (2022). Nature guided imagery: An intervention to increase connectedness to nature. *Journal of Environmental Psychology*, 80 (4): 101759. DOI: 10.1016/j.jenvp.2022.101759
- Cross,Troy J. Gideon,Elizabeth A., Morris, Sarah J., Coriell, Catherine L., Hubbard, Colin D., and Duke, Joseph W (2021): A comparison of methods used to quantify the work of breathing during exercise, *J Appl Physiol* 131:1123–1133, doi:10.1152/jappphysiol.00411.2021
- D'Amato M R (1979 / 2004): *Experimental Psychology: Methodology, Psychophysics, and Learning*. Edition 1979 12th reprint in 2004, New Delhi: Tata- McGraw Hill, page 119
- Fabio, R.A., Picciotto, G. & Capri, T (2022).. The effects of psychosocial and cognitive stress On executive functions and automatic processes in healthy subjects: A pilot study. *Curr Psychol* 41, 7555–7564. <https://doi.org/10.1007/s12144-020-01302-1>
- Franks, K.H., Rowsthorn, E., Bransby, L. et al (2023) : Association of Self-Reported Psychological Stress with Cognitive Decline: A Systematic Review. *Neuropsychol Rev* 33, 856–870. <https://doi.org/10.1007/s11065-022-09567-y>
- Gao, Liya., Curtiss, Joshua., Liu, Xinghua., and Hofmann, Stefan G. (2018): Differential Treatment Mechanisms in Mindfulness Meditation and Progressive Muscle Relaxation, *Mindfulness*, 9:1268–1279. <https://doi.org/10.1007/s12671-017-0869-9>
- Gondo D., Bernardeau-Moreau D., and Campillo P (2023): Student Stress and the Effects of Relaxation: A Study Conducted at the University of Lille in North France, *Social Sciences*, 12(6):318. <https://doi.org/10.3390/socsci12060318>
- Guilford J P (1954/2008): *Psychometric Methods*. Tata Mc – Graw Hill (First Publ) 2nd Indian Reprint, Delhi: Surjeet Publications, page.21.
- Hamdani et al(2022): Effectiveness of relaxation techniques ‘as an active ingredient of Psychological interventions’ to reduce distress, anxiety and depression in adolescents: a systematic review and meta-analysis, *International Journal of Mental Health Systems*, 16:31 <https://doi.org/10.1186/s13033-022-00541-y>
- Hayes, Sarah A., Roemer, Lizabeth., Orsillo, Susan M., and Borkover, Thomas D, 2013): A Contemporary view of Applied relaxation for generalized Anxiety Disorder, *Cog. Beh. Ther*, DOI: 10.1080/16506073.2013.777106
- Herschbacha,Peter., Berga,Petra., and Dankertb, Andrea.et.al (2005): Fear of progression in chronic diseases Psychometric properties of the Fear of Progression Questionnaire, *Journal of Psychosomatic Research* 58 505–511. DOI: 10.1016/j.jpsychores.2005.02.007
- Jalal, Baland. , Moruzzi, Ludovico ., and Zangrandi, Andrea.et.al (2020): Meditation-Relaxation (Mr Therapy) For Sleep Paralysis: A Pilot Study In Patients With Narcolepsy, *Front. Neurol.* 11:922. doi: 10.3389/fneur.2020.00922
- Kham-ai P., Heaton K., and Li P (2023): Association between COPD Symptoms and Psychological Distress Among Farmers, *Workplace Health & Safety*, 71 (2):89-95. DOI: 10.1177/21650799221113057
- Kahn, Michael., Baker, Bruce L. and Weiss, Jay M. (1968): Treatment Of Insomnia By Relaxation Training, *Journal of Abnormal Psychology* Vol. 73, No. 6, 556-558, <https://www.researchgate.net/publication/17469424>
- Kiat Hui Khng (2017): A better state-of-mind: deep breathing reduces state anxiety and enhances test performance through regulating test cognitions in children, *Cognition and Emotion*, 31:7, 1502-1510, DOI: <https://doi.org/10.1080/02699931.2016.1233095>
- Louis, John Philip., Wood, Alex Mathew., Lockwood, George., and Ringo Ho, Moon-Ho (2017): Positive Clinical Psychology and Schema Therapy (ST): The Development of the Young Positive Schema Questionnaire (YPSQ) to Complement the Young Schema Questionnaire 3 Short Form (YSQ-S3), *Psychological Assessment*, DOI: 10.1037/pas0000567
- Mudasir Ahmad Sofi, Irshad Ahmad Reshi, & Dr. T. Sudha. (2023). How Psychological Factors Influence Economic Decision-Making, And The Implications For Policy. *Journal of Accounting Research, Utility Finance and Digital Assets*, 1(4), 370–375. <https://doi.org/10.54443/jaruda.v1i4.57>
- Paolo., Rogers, Sheena Michelle., and Pagnini, Francesco (2015): Relaxation Techniques for People with Chronic Obstructive Pulmonary Disease: A Systematic

- Review and a Meta-Analysis, Evidence-Based Complementary and Alternative Medicine, Volume 2015. <http://dx.doi.org/10.1155/2015/628365>
- Parker, Stacey., Sonnentag, Sabine., Jimmieson, Nerina and Newton, Cameron. (2019): Relaxation During the Evening and Next-Morning Energy: The Role of Hassles, Uplifts, and Heart Rate Variability During Work. *Journal of Occupational Health Psychology*. 25(2) DOI: 10.1037/ocp0000155.
- Perciavalle, V., Blandini, M., Fecarotta, P. et al (2017): The role of deep breathing on stress. *Neuro Sci* 38, 451–458 <https://doi.org/10.1007/s10072-016-2790-8>.
- Pfeifer, Eric., Fiedlera, Henrike., and Wittmann, Marc (2020): Increased relaxation and present orientation after a period of silence in a natural surrounding, *Nordic Journal Of Music Therapy*, 2020, VOL. 29, NO. 1, 75–92. <https://doi.org/10.1080/08098131.2019.1642374>
- Ramesh Kumar., G S (1999): Conceptualizations On Human Behaviour: Another Angle Attempted. 86th session of Indian Science Congress Association, 3rd – 7th Jan, 1999. Chennai
- Ramesh Kumar G S (2022): Wonderfeelz Humming Walking And Cognitive Walking – Multiple Task Walking Concept And Case Report Of Engineering Employee, *Intern. Res Jour of Modernization in Engineering Technology and Science*, Volume:04/Issue:05/May. Pp 5772 – 5781. DOI: DOI: 10.5281/zenodo.6613710.
- Renna, Megan E., Hoyt, Michael A., Ottaviani, Cristina, Mennin, Douglas S (2020): An experimental examination of worry and relaxation on cardiovascular, endocrine, and inflammatory processes, *Psychoneuroendocrinology*, 122 (2020) 104870
- Selye, H. (1951). The general-adaptation-syndrome. *Annual review of medicine*, 2, 327- 42.
- Soltani, Esmail., Shareh, Hossein., Bahrainian, S A and Farmani, Azam (2013): The mediating role of cognitive flexibility in correlation of coping styles and resilience with depression . *pajoohande* 2013; 18 (2) :88-96. <http://pajoohande.sbmu.ac.ir/article-1-1518-en.html>.
- Tavoian Dallin, Craighead Daniel H (2023): Deep breathing exercise at work: Potential applications and impact, *Frontiers in Physiology*, Vol.14, <https://www.frontiersin.org/articles/10.3389/fphys.2023.1040091>
- Toussaint, L., Nguyen, Q. A., Roetger, C., Dixon, K., Offenbacher, M., Kohls, N., Hirsch, J., & Sirois, F. (2021). Effectiveness of Progressive Muscle Relaxation, *Deep Breathing, and Guided Imagery in Promoting Psychological and Physiological States of Relaxation. Evidence-based complementary and alternative medicine : eCAM*, 2021, 5924040. <https://doi.org/10.1155/2021/5924040>
- Weinstein, M., Smith, J.C., (1992): Isometric squeeze relaxation (progressive relaxation) vs meditation: absorption and focusing as predictors of state effects. *Perceptual and Motor Skills* 75, 1263–1271. (18)
- Wells, Rebecca E.a; Collier, Jasonb; and Posey, Graceb et.al (2020): Attention to breath sensations does not engage endogenous opioids to reduce pain. *PAIN* 161(8):p 1884-1893, August. DOI: 10.1097/j.pain.0000000000001865
- Yilmaz S, Kafadar H. (2022): Decision-making under stress: Executive functions, analytical intelligence, somatic markers, and personality traits in young adults. *Appl Neuropsychol Adult*. Sep 15:1-15. doi: 10.1080/23279095.2022.2122829
- Zlokazova, T; Kuznetsova, A; Titova, M (2022): Effects of relaxation slide-films on the functional state of psychology students, *European Psychiatry*, Vol, 65 Issue, S1, S695-S695. DOI:10.1192/j.eurpsy.2022.1790