

Review

Physical Activity, Natural Environment, Present Moment Awareness and Its Consideration: A Qualitative Review

Ivan Uher ^{1,*}, Alena Buková ¹, Milena Švedová ², Tatiana Kimáková ³, Zuzana Küchelová ¹, Mária Jusková ² and Jaroslaw Cholewa ⁴

¹ Institute of Physical Education and Sport, P J Šafárik University, 040 11 Košice, Slovakia; alena.bukova@upjs.sk (A.B.); zuzana.kuchelova@upjs.sk (Z.K.)

² Faculty of Management, Prešov University in Prešov, 080 01 Prešov, Slovakia; milena.svedova@unipo.sk (M.Š.); maria.juskova@unipo.sk (M.J.)

³ Department of Public Health and Hygiene, Pavol Jozef Šafárik University, 041 80 Košice, Slovakia; tatiana.kimakova@upjs.sk

⁴ Department of Physical Education, J. Kukuczka Academy of Physical Education, 40-065 Katowice, Poland; j.cholewa@awf.katowice.pl

* Correspondence: ivan.uher@upjs.sk or ivan.uher57@gmail.com; Tel.: +421-915316532

Abstract: Longstanding research suggests a plausible relation between physical activity, the natural environment, and overall health. However, when investigating this relationship, most studies focused on the absence of disease or frailty as health indicators. The relation between physical activity (PA), subjective well-being (SWB), natural environment, and present moment awareness (PMA) remains unexplored. The presented qualitative review offers a perspective model of the relationship between physical activity, natural environment, and awareness of the present moment that helps us explore its underlying, relating pathways. Our review concludes that present moment awareness can be worthy of attention to detect the impact of physical activity, subjective well-being and staying in a natural environment on selected samples, as well as its influence on maximizing related benefits for health and well-being. The challenge after that is to consider how to monitor the complex interactions that will occur within the multiple levels of influence. Essentially, a unified model of research and practice which incorporates physiological and psychological theories is undoubtedly needed. If that happens, we can understand the role of the diverse regulators upon behavior and proceed to convey this evidence into future health-promoting interventions.

Keywords: physical activity; well-being; nature; health; awareness

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1. Introduction

The significance of engaging in moderate or vigorous PA and exercise is well documented. Understanding obstacles to PA and creating conditions and strategies to overcome them can make PA an indispensable part of everyday life. In that regard, we experience various personal, social, cultural, economic, and environmental barriers, etc., to engaging in regular PA. Personal obstacles to PA include fixation on insufficient time, inconvenience, lack of self-motivation, lack enjoyment, boredom with exercise, lack of early experiences, low self-efficacy, fear of being injured, etc. Furthermore, the investigation has shown that the “feeling better” impact of PA is far more moderate than the broader conclusion [1]. Presumably, this indicates that numerous additional variables are influencing that same relationship.

In addition to inconsistencies between PA and SWB, there is a lack of adequate theoretical analyses. Physiological explanatory approaches focus mainly on affective changes in SWB, whereas psychological methods include cognitive changes.

Still, environmental variables specify the treatment, more specifically its intensity and duration. In that respect, when observing a psychological outcome of PA, we need to enhance our understanding of the underlying mechanisms: more specifically, which personal characteristics and environmental influence determine and enhance PA and SWB effects. Numerous previous studies enthusiastically praise the psychological benefits of PA [2,3], and just as many fail to find a strong association [4] even though some further analysis reveals more reliable estimates of the actual relationship. Particularly, there is a stronger association for women than men, more convincing results in older than younger cohorts, more reliable results for aerobic than anaerobic exercise, and environmental influences are strong. [5,6]. We can conclude that the heterogeneity of the findings in related studies and the inconsistencies in meta-analysis hardly allowed any clear statements regarding how PA promotes SWB. A more robust theoretical consideration of PA and SWB incorporating additional measurement tools is required to overcome these constraints of research would be a. Specific personal characteristics, especially openness and awareness (appreciation for various experiences), and detailed environmental aspects, can mediate and moderate this relationship. Finally, a deficit of understanding and unawareness of the underlying causes could consequently inhibit the optimization of our capability.

2. Materials and Methods

We employed grounded theory methodology to construct assumptions from the data obtained and analyzed using comparative variation-finding analysis. The review was performed on five databases (EMBASE, PubMed, Google, FreeFullPDF, OpenGrey). We performed a keyword search, using words/phrases that described our topic. Supplemental forward/backward tracking was made, and authors' and experts' electronic databases were searched to identify relevant articles. Research of additional stored-up journal articles, reports, thesis, and books of acclaimed authors reporting studies (physical activity, environmental influences on the physical activity, subjective well-being, and living, awareness, of the present moment), in diverse subgroups were included. Data were reviewed, extracted, and assessed by three researchers. The presented qualitative analysis examined PA, SWB, environmental influence, and its association with an awareness of the present moment.

2.1. Physical Activity and Subjective Well-Being

The positive effect of PA on physical and mental health is well documented. However, the connection between PA and PMA construct remains not widely investigated. To gain a broader perspective on the above relationship, it seems relevant besides external factors to also consider internal influences. Most previous meta-analyses and PA reviews on psychological benefits targeted a specific subgroup, type, or moderator of PA [7], where inconsistencies in the measurements, publication bias, or heterogeneity of the sample barely permitted recognizable conclusions about which PA module can promote psychological benefits, well-being, and the extent of its benefits. We have scientific evidence that PA can contribute to and enhance SWB. Variables such as the process of acquiring knowledge about PA, understanding through thought, experience, and the sensual experiences, habits, a momentary state of mind can considerably influence PA outcome. Earlier research suggests an overall plausible connection between PA and SWB [8,9].

Nevertheless, there is discussion about whether this positive association goes beyond statistical correlation due to the orientation on variable aspects of SWB, the different assessment of PA characteristics, or the reliance on variable sample models in individual meta-analyses studies. Therefore, to comprehend possible moderators of this correlation is in question [10]. As a result, it is uncertain how powerful and comprehensively positive associations exist across characteristics of the examination between PA, SWB, and other psychological variables.

2.2. *Physical Activity in the Natural Environment*

There is scientific evidence that PA in a natural environment enhances psychological and affective characteristics in comparison to indoors or urban settings [11]. Information gathered from scientific research demonstrates that exposure to green space, even within the urban environment, enhances our physical and mental well-being. At the same time, love of nature (i.e., biophilia), which focuses on our innate attraction to nature and natural processes, has been linked with better health [12]. However, the impact and mechanism of this practice on our health is still unclear. Moreover, [13–15] assert in their systematic reviews that the visualization of the natural environment, whether through windows or images, is sufficient to produce a sensation of comfort and reduce physiological indicators of stress. Other studies [11,14] indicate superior benefits of exercising in green spaces on emotional aspects in comparison to in an indoor or urban environment. Study [16] provides evidence that autonomic control of the heart is altered by the simple act of just viewing natural scenes, with an increase in vagal activity. We can include those points above and their benefits related to mood depending on age, type of environment (green, blue), length of exposure to PA, and our mental state. However, the elucidation and understanding of this phenomenon tended to center on empirical evidence rather than developing a sound theoretical foundation to apprehend green or blue environments. Until now, the categorical relationships between the diverse environments and well-being and health, level of engagement, the magnitude of PA, environmental constraints, motor skills effects, and sampling of diverse segments of the population was the focus of attention. We have scientific evidence that negative air ions may influence our mental outlook in beneficial ways. We observe relatively higher levels of negative air ions in forested areas and near bodies of water. However, [17] in his literature review and quantitative meta-analysis that examined the potential effects of high and low exposure to negative and positive air ions on psychological indicators of mood and human emotional states, and showed that there is inconsistent evidence of its benefits. Where heterogeneity of experimental protocol uses various methods to measure psychological outcomes, technological advancements in environmental therapies (e.g., air ionization systems) have likely influenced these study findings. However, one more recent systematic review recorded an alleged relationship between well-being and so-called “forest bathing” on human beings [18]. Moreover, long-term exposure to air ions on the responsiveness of hippocampal neurons to serotonin that, besides other physiological functions, modulate mood, cognition, and gastrointestinal functions have been reported [19]. Additionally, there is a possibility that we could encounter a complex and still unexplored area of subtle energies that impacts our health in the natural environment. Considering how the universal energy known as “Prana,” which we draw in through the breathing process, interact with the biosystem, has been the subject of study in Ayurveda and Yoga practice and may play a significant role in our overall health outcomes [20]. At last, [21] claims that the interaction of the human body with the electrical charge of the earth is a factor for normal physiology, but its mechanisms are not fully understood.

2.3. *Present Moment Awareness*

The benefits of living in the PMA are praised highly by many philosophical and religious traditions, yet there has been inconsistent scientific evidence to support that suggestion. PMA is the basis of mindfulness (i.e., the mental state achieved by focusing our awareness on the present moment while undisturbed acknowledging and accepting our feelings, thoughts, and bodily sensations). We can employ awareness to identify with our physical and emotional states by perceiving the sensation and movement that we encounter at any given point in time or feeling and thinking. The main point is not to evaluate our experience but merely to observe it. Equally, we can employ PMA to “Get out of our heads” and connect with the current environment. That represents an efficient method to

manage compelling stress and anxiety [22,23]. Recognizing where we are and what is occurring around us can separate us from patterns (conditioning) that tranquilize our neural system/mental state. The study by [24] shows that PMA can inhibit physical illness and support faster healing. PMA has the potential to shift from overactivation of sympathetic to the parasympathetic mood so the body can center on recovering and curative tendency [16]. To the other significant gains of PMA practice, we can reduce hypothalamic-pituitary-adrenal (HPA) response. That is the central endocrine stress axis of the human organism that affects metabolic, cardiovascular, and central nervous systems under exposure to reactive and anticipatory stressors [25]. To the physical benefits of the mindfulness practice, we can also add treatment of some aspects of sleep disturbance [26]. Furthermore, the recognized psychological benefits comprise improved concentration and memory, reduced stress and anxiety, and enhanced executive control, enabling us to control our emotions better. It is not shocking that PMA has an apparent effect on our relationships, ability to build and maintain healthy partnerships and the enhancement of functional fitness [27,28].

Present moment awareness (PMA) is a particular attitude toward an experience that alienates us to our moment-to-moment experience and gives us direct insight into how our minds create unnecessary distress, helping us to understand and accept the innate order. PMA helps us observe how we create our own distress and let go of our mental habits, attitudes, and positions. To see the person as a part of nature is to look at oneself and the environment from a “particular perspective” that is quite different from reciting detailed information through acquired knowledge. What we refer to is perspective, awareness, experience, not detailed information, knowledge. We can respond quite differently when we move to a broader perspective. Hence, to fail to appreciate one’s place in nature is not merely to lack knowledge or breadth of perspective as protection and performing outside initial processing through discernment and reasoning (i.e., subconscious actuation), not an awareness of the present moment experience. In order to understand and elucidate the source of information, we should listen to our instincts and learn from them. More specifically, through discernment and reason, we can progress to the awareness that changes our behavior. Everything that we have explored theoretically and experienced practically transforms into an undertaking. We are attempting to proceed from habitual thinking to recognized experience that provides us with knowledge on the extent of our unawareness.

3. Results and Discussion

Inherently, it is assumed that a single bout of PA with effects over a short period conveys the state of SWB, while multiple, prolong period, chronic PA tend to affect the stable part of SWB [1]. However, there is a demand to identify how the relationship between the state (at the moment way of being) and trait (a more stable and enduring characteristic or pattern of behavior) aspects of SWB can be explained in theory. Paper [1] proposes the so-called affective reaction (i.e., physical, and emotional reaction that person has to a situation). The author reported that “daily uplifts” can enhance current SWB, despite the fact that existing research findings do not support that accumulation effect. If such is the case, a possible explanation would be a higher measure of well-being effects for routine exercisers than for those who only participate in single bouts of PA [29]. Though this appears to dismiss the hypothesis of a simple cumulation of impacts, it does not automatically support a maintenance interpretation. In certain conditions, a crucial periodicity of PA is required to be demonstrated before the exertion of its effects on habitual SWB. Despite several potential explanations and presumptions [30], we conclude that more prospective studies are needed to acquire more knowledge and understanding of the interactions between acute and chronic PA responses and our mental states.

It might be argued that dual model paradigms, which exhibit more complex character, similar to, for instance, self-determination theory [31], have more explanatory compe-

tence than simple descriptive approaches such as the distraction hypothesis (i.e., that exercise enhances psychological well-being by acting as a distraction from stressful life events and it is this distraction, rather than the PA itself, that reduces anxiety) [32]. Regardless, any ruling in support of one of the presented or existing interpretations is in all respects misleading as ab assertions declaring the common (but not more closely indicated) effects of a multitude of explanations. Potential explanations or reason, why PA potentially affecting SWB are prone to act synergistically include the fact that: one may feel better; experience an enhanced sensation of control; observe less tension in one's muscles; sleep better; perform the activities of daily living more vigorously, etc. Perhaps the "gestalt principle" provides the effect rather than one mechanism explaining the outcome [33].

Although it can be said that utilizing multiple approaches will increment the explanatory power, this has limited or no practical significance if they fail, ignore to define in which subjects under which frame of reference a particular constituent of well-being will be influenced. Broader conclusion is that the mechanisms contributing to transition are inconsistent and will be conditioned by one's personal experience of the activity and the setting or context in which the undertaking occurs. All this again indicates the significance of a more effective and better understanding of individual experience.

Another study finds that the admonition to PMA is more significant and critical for our well-being than we believe [34]. The investigation found that we spend approximately 50 percent of our waking hours ruminating, thinking about something other than what we are doing. That habitual drifting makes us unhappy; in fact, research by Killingsworth [35] suggests that the wandering of our minds is generally the cause, not the consequence of our unhappiness. Humans are the only creatures that spend an abundance of time thinking, contemplating not what is not going around us but reflecting on past, future or even imaginary occurrences. These issues occurred in the past, will come about in the future, or could indeed not even happen. We tend to search for, interpret, favor, and recall information in a way that confirms or supports our position and experience. What we assume diminishes our attention. The knowledge that agree with what we accept, having faith, takes precedence in the interconnection of our attention. Even though we have much research claiming benefits of PMA practice, this construct was initiated in the East and has only a short history in Western psychological science. Predictably, there is substantial opposition in detailed explanation, turning this concept into measurable observation and quantification. Despite several self-report inventories that have been introduced to evaluate PMA, they differ substantially in complacent and constituent arrangement, and in showing conformity on the meaning and scope of PMA. Considering that some researchers view PMA as a one-dimensional construct implying particularly that one is paying attention to the awareness of the present moment [35], others dispute that attribute in particular, arguing that curiosity, acceptance, and compassion are an integral part of PMA [36], which provokes further research on the consensus of the innate definition and interpretation of PMA. The presented investigations demonstrate that PMA, a major attribute of mindfulness, increases stress resilience and well-being. PMA implies observing and attending to present occurrences rather than foreseeing future events or dwelling on the past.

We point to the conclusion that chronic and accumulative effects of daily stress can be detrimental to our health and well-being. We suggest that being in PMA during one's daily pursuits enhances stress adaptability, optimizes assigned work and human potential and, ultimately, aids us to alleviate the adverse effects of repeated stressors. We are advised to put aside regrets from the past and worries about the future and make the most of the present, and it is not simple. As humans, we rely on learning and planning. Therefore, we cannot learn without living in the past and cannot plan without living in the future. However, if we can discard thoughts about the past and the future (the mind is not dominating), we generally feel more content. There is a question: can our evolutionary disposition (cognition, fear, responsibility, etc.) to overly focus on the past and future be

overridden, giving the PMA more space and making it endure? We believe it can. We are the sum of memories, desires, thoughts, and feelings constantly changing over time. We are not who we were 10–20 years ago, and this is encouraging because it suggests that we should care less about regrets and future fears. Even though they are part of us, they should not dominate our present experience.

Suppose we interpolate physical activity, natural environment experience, and subjective well-being. In that case, we are coming to one denominator that profoundly influences the above categories that we refer to as the PMA experience. For instance, to optimize our physical predispositions, we must fully concentrate on the task at hand (i.e., a so-called zone or subzone experience), which pertains to living in the moment, an experience that ultimately augments both psychological and physiological variables [37]. Likewise, staying in a natural environment and experiencing its benefits are far more pronounced when, at the given time, PMA experience is dominant [38]. The research, as mentioned above, mainly deals with the magnitude and association between health and well-being. The obtained were primarily data related to time spent in that setting (exposure–response relationships). Variables such as immersion in PMA and its benefits were scarcely ever studied.

Based on the above, we can draw three key points. Firstly, PA, SWB, and the natural environment are plausibly related. The heterogeneity of the reviewed studies inserts uncertainty about how robust and comprehensive a positive association exists across variable characteristics being examined, between PA, mental state, and the natural environment in the selected samples. We have scientific evidence that PA in a natural environment enhances psychological and affective characteristics compared to in indoors or urban settings. Even though some studies claim weaker association, some investigations conclude that visualization of the natural environment is sufficient to produce a sensation of comfort and reduce physiological indicators of stress. PMA as a basis of mindfulness asserts a powerful effect on our overall health outcomes (it has preventative, restorative, and curative tendencies). The main point of PMA is not to evaluate experience but to observe it. PMA has the potential to integrate, harmonize and optimize our health. The absence of the PMA variable in corresponding studies could, in a certain way, explain the variability of its effects. Consequently, we hypothesize a general participatory action model (Figure 1). According to this model, related behavior outcomes in physical activity, subjective well-being, and staying in a natural environment may also be directly influenced by present moment awareness.

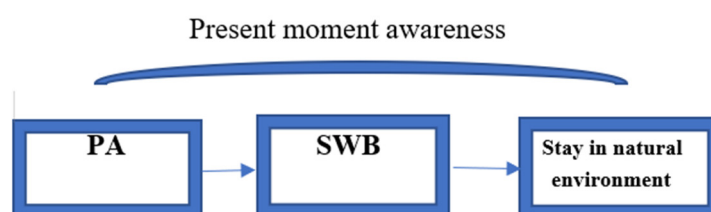


Figure 1. General participatory action model. Source: the authors.

4. Conclusions

We have in hand limited scientific knowledge of the complexity of the processes that underly the interplay between PA, SWB, and PMA and that lead to benefits for human health and well-being [9]. We are unaware to what extent the forces at work within the human body are the same as those which regulate living beings. Indeed, we have limited understanding, but at the least, we can explore in order to have a broader and better perspective on the principal integrands that relate to our quality of life and optimum health. Through PA, staying in nature and PMA, where indifference to our mental state is still in

most occurrences an indicator that we fail to recognize our inherent potential to govern our thoughts, feelings, emotion, decision making, etc., we propose defining, operationalizing, and quantifying prospective studies that will relate to the optimization of our potential. Our ultimate objective is not to suggest that those who do not explore their mental states are wrong. However, we wish to indicate that there is much more than participation in physical activity or staying in a natural environment that enhances and optimizes our health and homeostatic processes. Where interacting limitations of present knowledge call for a new and broader perspective of the task that needs to be taken care of accordingly. A prospective investigation of PMA variables is a critical next step in developing a sound theoretical base for the future comprehension of the role of PA, SWB, and natural environment on optimal performance and overall health.

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References

- Lehnert, K.; Sudeck, G.; Conzelmann, A. Subjective well-being, and exercise in the second half of life: A critical review of theoretical approaches. *Eur. Rev. Aging Phys. Act.* **2012**, *9*, 87–102, doi:10.1007/s11556-012-0095-3.
- Spirduso, W.W.; Francis, K.L.; MacRae, G. *Physical Dimensions of Aging*; Human Kinetics: Champaign, IL, USA, 2005; pp. 158–230.
- Sallis, J.F.; Owen, N. *Physical Activity and Behavioral Medicine*; Sage: London, UK, 1998; pp. 41–52.
- Ohrnberger, J.; Fichera, E.; Sutton, M. The relationship between physical and mental health: A mediation analysis. *J. Soc. Sci. Med.* **2017**, *195*, 42–49, doi:10.1016/j.socscimed.2017.11.008.
- Callow, D.D.; Nedimala, A.N.; Jordan, L.S.; Pena, G.S.; Won, J.; Woodard, J.L.; Smith, J.C. The Mental Health Benefits of Physical Activity in Older Adults Survive the COVID-19 Pandemic. *Am. J. Geriatr. Psychiatry* **2020**, *28*, 1046–1057, doi:10.1016/j.jagp.2020.06.024.
- DiPietro, L.; Al-Ansari, S.S.; Biddle, S.J.H.; Borodulin, K.; Bull, F.C.; Buman, M.P.; Cardon, G.; Carty, C.; Chaput, J.-P.; Chastin, S.F.M.; et al. Advancing the global physical activity agenda: Recommendations for future research by the 2020 WHO physical activity and sedentary behavior guidelines development group. *Int. J. Behav. Nutr. Phys. Act.* **2020**, *17*, 143, doi:10.1186/s12966-020-01042-2.
- White, L.R.; Babic, M.J.; Parker, P.D.; Lubans, D.R.; Astell-Burt, T.; Lonsdale, C. Domain-Specific Physical Activity and Mental Health: A Meta-analysis. *Am. J. Prev. Med.* **2017**, *52*, 653–666, doi:10.1016/j.amepre.2016.12.008.
- Wiese, C.H.W.; Kuykendall, L.; Tay, L. Get active A meta-analysis of leisure-time physical activity and subjective well-being. *J. Posit. Psych.* **2018**, *13*, 57–66, doi:10.1080/17439760.2017.1374436.
- Buecker, S.; Simacer, B.I.; Terwiel, S.; Simmsmeier, A.B. Physical activity and subjective well-being in healthy individuals: a meta-analytic review. *Health Psych. Rev.* **2020**, doi:10.1080/17437199.2020.1760728.
- Wicker, P.; Frick, B. Intensity of physical activity and subjective well-being: an empirical analysis of the WHO recommendations. *J. Pub. Health* **2017**, *39*, 19–26, doi:10.1093/pubmed/fdw062.
- Thompson, C.J.; Boddy, K.; Whear, R.; Barton, J.; Depledge, M.H. Does participating in physical activity in outdoor natural environment have a greater effect on physical and mental well-being than physical activity indoors? A systematic review. *Environ. Sci. Technol.* **2011**, *45*, 1761–1772.
- Mollazadeh, M.; Zhu, Y. Application of Virtual Environments for Biophilic Design: A Critical Review. Virtual Reality and Mixed Reality in Architecture, Engineering, Construction, and Operation and Maintenance. *Buildings* **2021**, *11*, 148, doi:10.3390/building11040148.
- Rogerson, M.; Brown, D.K.; Sandercock, G.; Wooller, J.J.; Barton, J. A comparison of four typical green exercise environments and prediction of psychological health outcomes. *Perspect. Public Health* **2016**, *136*, 171–180.
- Bowler, D.E.; Buyung, A.; Knight, T.M.; Pullin, A.S. A systematic review of evidence for added benefits to health of exposure to natural environment. *BMC Public Health* **2010**, *10*, 456.
- McSweeney, J.; Rainham, D.; Johnson, S.; Sherry, S.; Singleton, J. Indoor nature exposure: A health-promotion framework. *Health Promot. Int.* **2014**, *30*, 126–139.

16. Gladwell, V.F.; Brown, D.K.; Barton, J.L.; Tarvainen, M.P.; Kuoppa, P.; Pretty, J.; Suddaby, G.; Sandcock, R.H. The effects of views of nature on autonomic control. *Eur. J. Appl. Physiol.* **2012**, *112*, 3379–3386.
17. Perez, V.; Dominik, D.A.; Bailey, W.H. Air ions and mood outcomes: A review and meta-analysis. *BMC Psychiatry* **2013**, *13*, doi:10.1186/1471-244X-13-29.
18. Wen, Y.; Yan, Qi.; Pan, Y.L.; Qu, X.R.; Liu, Y.Q. Medical empirical research on forest bathing (Shinrin-yoku): A systematic review. *Environ. Health Prev. Med.* **2019**, *24*, doi:10.1186/s12199-019-0822-8.
19. Dowdall, M.; De Montigny, C. Effect of atmospheric inos on hippocampal pyramidal neuron responsiveness to serotonin. *Brain Res.* **1985**, *342*, 103–109, doi:10.1016/0006-8993(85)91357-5.
20. Srinivasan, T.M. Prana and electrons in health and beyond. *Int. J. Yoga.* **2014**, *7*, 1–3, doi:10.4103/0973-6131.123469.
21. Oschman, J.L. Chronic disease: Are we missing something? *J. Altern. Complement Med.* **2011**, *17*, doi:10.1089/acm.2011.0101.
22. Davidson, R.J. Mindfulness and More: Toward a Science of Human Flourishing. *Psychosom. Med.* **2021**, *83*, 665–668.
23. Wielgosz, J.; Goldberg, S.B.; Kral, T.R.A.; Dunne, J.D.; Davidson, R.J. Mindfulness Meditation and Psychopathology. *Annu. Rev. Clin. Psychol.* **2019**, *7*, 285–316, doi:10.1146/annurev-clinpsych-021815-093423.
24. McKim, R.D. Rumination as a mediator of the effects of mindfulness: Mindfulness-based stress reduction (MBSR) with a heterogeneous community sample experiencing anxiety, depression, and/or chronic pain. *APA Psych. Net.* **2008**, *68*, 7673.
25. Klimes-Dougan, B.; Chong, L.S.; Samikoglu, A.; Thai, M.; Amatya, P.; Cullen, K.R.; Lim, O.K. Transcendental meditation and hypothalamic-pituitary adrenal axis functioning: A pilot, randomized controlled trial with young adults. *Int. J. Biolog. Stress* **2020**, *23*, 105–115, doi:10.1080/10253890.2019.1656714.
26. Rusch, H.L.; Rosari, M.; Levison, L.; Olivera, A.; Livingston, W.; Wu, T.X.; Gill, J.M. The effect of mindfulness meditation on sleep quality: a systemic review and meta-analysis of randomized controlled trials. *Ann. N. Y. Acad. Sci.* **2019**, *1445*, 5–16, doi:10.1111/nyas.13998.
27. Siegel, R.D. *The Mindfulness Solution*; Pub. The Guilford press: New York, NY, USA, 2010; ISBN 978/1/60623/294/1.
28. Uher, I.; Pilis, A.; Litavcova, E. Functional Fitness, Quality of Life and Living in the Moment, Senior Population Study. *Prace Naukowe Akademii im. Jana Długosza w Częstochowie Kultura Fizyczna* **2014**, *13*, 157–166.
29. Reed, J.; Ones, D.S. The effect of acute aerobic exercise on positive activated affect: A meta-analysis. *J. Psych. Sport Exerc.* **2006**, *7*, 477–514.
30. Reed, J.; Buck, S. The effect of regular aerobic exercise on positive activated affect. *J. Psych. Sport Exerc.* **2009**, *10*, 581–594.
31. Deci, E.L.; Ryan, R.M. Self-Determination Theory. In *Handbook of Theories of Social Psychology*; Sage: Thousand Oaks, CA, USA, 2012; pp. 416–436, doi:10.4135/9781446249215.n21.
32. Dill, E. The Effect of Distraction During Exercise on Feeling States. Master's Thesis, Ohio State University, Columbus, USA, 2005. Available online: <http://hdl.handle.net/1811/552> (accessed on 15 May 2021).
33. MacNamara, W. Evaluating the Effectiveness of the Gestalt Principles of Perceptual Observation for Virtual Reality User Interface Design. Master's Thesis, Dublin Technological University, Dublin, Ireland, 2016. Available online: arrow.tudublin.ie/scschcomdis (accessed on 20 June 2021).
34. Keng, S.L.; Smoski, M.J.; Robins, C.J. Effects of mindfulness on psychological health: A review of empirical studies. *Clin. Psych. Rev.* **2011**, *31*, 1041–1056, doi:10.1016/j.cpr.2011.04.006.
35. Killingsworth, M.A.; Gilbert, D.T. A Wandering Mind is an Unhappy Mind. *Science* **2010**, *330*, 932, doi:10.1126/science.1192439.
36. Brown, K.W.; Ryan, R.M.; Creswell, J.D. Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychol. Inq.* **2007**, *18*, 211–237, doi:10.1080/10478400701598298.
37. Pivovarník, J.; Goju-Ryu, K. *Open Heands Kaishu*; Pub. Prešov printing company: Presov, Slovakia, 2015; p. 253. ISBN 978/80/970862/5/1.
38. Bruncko, M. *Life without Food*; Ultra-print: North Battleford, SK, Canada, 2015; p. 169. ISBN 978/80/971845/1.