

Does Clapping of Hands have Positive Effects? A Critique



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Abstract

A recent paper claiming benefits of clapping is critically examined. The argument cannot be sustained because no scientific evidence is cited, contrary to journal policy. This raises questions about peer-review and editorial decision-making.

Keywords: clapping, health, brain, cognition

Introduction

Does engaging in hand clapping have any positive effects? According to a recent paper, "*Clapping has incredible benefits*" [1], clapping may be a way of showing appreciation for a performance, but "there are a number of hidden benefits that clapping has been proven to have" [1]. It is stated that people gather in parks to clap, presumably to experience at least some of these benefits.

The paper in question was published as a "mini review" in the present journal (*Psychology and Behavioral Science International Journal*). According to the website [2], such reviews should include an introduction that "outlines the state of current research and the context of the research presented. Often it will cover work previously carried out by the same research team and how the new results relate to that. Because the introduction states a lot of background material and little to no original research, it usual contains the bulk of the citations - often to larger "review" papers." Furthermore, "Throughout the paper, any statement will be backed up with notes to additional literature. These are stated in a reference section in numbered order of citation in the text towards the end of the paper. References do not necessarily come at the end, but may appear as footnotes at the bottom of the page so can be read without flicking to the back page of the paper each time." Clearly, for a mini review, claims require documented evidence.

Moreover, one of the roles and responsibilities for editors reads as follows: "Reputation of our group is enhanced by the

presence of eminent editors. They also must endeavor to set higher standards for the journal whenever possible." In the present case, the minimum standard would be to meet the requirements for a mini review.

Critique

In the mini review referred to above [1], it is stated that clapping activates acupressure points in the palms of the hands and that these points are connected to various parts of the body. The consequence is that clapping has positive effects on heart health, blood pressure, blood circulation, asthma, brain function, handwriting, spelling, concentration, immunity, bone health, back pain, insomnia, hair health, depression, anxiety and gout. Additionally, benefits increase with the use of oil on the hands.

This is indeed an impressive array of claims, perhaps befitting the term "incredible" in the title of the paper. However, *none these claims is accompanied by any scientific or even anecdotal evidence, and not a single reference is cited.* In other words, the paper consists of claims without research or attribution. This contradicts journal policy for a mini review (see above), which shows that the paper fails to meet minimal editorial standards (see above).

Research on Clapping

To explore if there is any scientific evidence for the benefits of clapping, I employed the standard academic search engines, entering "hand clapping", "benefits" and then the effects claimed

in the mini review. This yielded only *one paper* [3]. These authors claim that *if* there are benefits from clapping, it is interesting to examine how the brain responds. They do not provide any evidence of benefits. However, using functional MRI (fMRI), they found that clapping had a greater activation effect than two other hand movements in the primary sensori-motor cortex and in the supplementary motor cortex.

Having failed to find evidence of the “benefits” of clapping with the standard search engines, I repeated the exercise using Google, and located various websites [4-7]. They contain claims that are extremely similar to those in the mini review [1], raising the possibility that it was based on these sources. For example, in parallel to the claim that there are connections between the hand and the body, one source showed a map illustrating which sections of the hand are linked to various body parts and organs [5]. Furthermore, like the mini review, the websites do not cite scientific evidence or references to back up the claims. One exception was a secondary report that cited and summarized a study of children who were trained with hand clapping songs [8].

It is stated that there were cognitive gains and that “children who spontaneously perform hand-clapping songs in the yard during recess have neater handwriting, write better and make fewer spelling errors.» Perhaps this is the source for the claims about handwriting and spelling [1,4,6,7]. These two findings are suggestive, but the design of the study seems to be non experimental, which prohibits drawing conclusions about causal effects. Moreover, the study examined clapping that accompanied singing, not clapping alone. The key element in any associations could be clapping or singing or other factors such as rhythm.

Reflexology

During this investigation, I encountered the term “reflexology”, a practice in which the feet (but also sometimes hands and ears) are massaged in a particular manner to produce effects on glands, organs and body parts [9,10] Although massaging specific areas of the hand is not the same as clapping, evidence favouring reflexology might provide pointers for research on clapping. Entering “reflexology” into the search engines produced many results, including research studies and literature reviews. There were hand-body organ maps [11] like the one mentioned above [5], but I could not find any studies of their validity. Perhaps these proposed linkages are like those of the discredited science of phrenology, in which bumps in the head were associated with specific mental faculties, and could serve a diagnostic function [12,13]. Although there is evidence that hand reflexology treatment can reduce anxiety and pain [11,14], systematic reviews of the literature on hand reflexology do not support any clinical application [11].

For foot reflexology there is mixed evidence for the validity of the foot-body organ maps [shown in 9]. For example, in one blinded investigation [15], reflexologists attempted to identify

patient conditions by examining their feet. There was no reliable agreement among the judges and their accuracy was very poor. At the same time, in a controlled experiment, foot reflexology treatment increased the pain threshold and pain tolerance in the ice-bucket test [16], and a systematic review showed positive effects of reflexology treatment compared to control conditions for cardiac index, salivary amylase and blood pressure [17]. In contrast, two other reviews did not identify any health benefits beyond placebo effects [10,18], leading the authors to state that “the notion that reflexology is an effective treatment option is currently not based on the evidence from independently replicated, high-quality, clinical trials” [18, p. 119]. There is little here to provide guidance or optimism for research on the effects of clapping.

Conclusion

Does clapping have “incredible benefits” [1]? Future research may reveal positive effects of clapping, but at present there is a lack of scientific support. Most importantly for this critique, the claims made in the mini review are wide-ranging, but are *not accompanied by the scholarly evidence and citations required by the journal* [2]. Secondly, my own literature search did not uncover credible scientific evidence, or any reliable pointers from research on reflexology. These two evidential problems raise serious questions about the peer review process and editorial standards that were applied to this paper [1]. They also add to current concerns about publication practices [19], which, ironically, have been expressed in the present journal [20]. Following Marcellus [21], I ask: Is something rotten in the state of Denmark?

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