

Creativity and chiropractic: A broad and slippery concept

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Abstract: To report a semi-formal 'in-clinic' inquiry as to whether a patient noted changes in their level of creativity following chiropractic spinal adjustment. We interviewed 27 subjects and found a subjective trend suggestive of improved creativity and work-flows. We recommend this matter be formally investigated as it points to a huge potential for chiropractors to contribute to enhancing the output of creative communities/

Indexing Terms: Chiropractic; creativity; adjustment; subjective assessment.

Introduction

Pre-human hominids undoubtedly used round stones to break open nuts and seeds. In fact, apes do that today. (Goodall, 1971) One day, one of them must have contemplated a stone that was round, but only on one side. The other side was somewhat wedged. The thought dawned on him or her that their nut-and-seed stone could also be used for other uses. This capacity of considering alternate uses for an ordinary object is a key aspect of our cognition.

A bit later in our prehistory, someone figured out that if a stone, round on one side and wedge-like on the other, is useful, then shaping the wedged side to become sharper would make the object even more useful. This was now a chopping tool, which *Homo habilis* could use to chop branches off of trees, butcher animals more efficiently, and many other uses. (MacGregor, 2011: see illustration)

There is evidence that similar tools may have been in the hands of *Australopithecus afarensis*, hominids that predate the rise of our own genus *Homo*. (McPherron et al, 2010) The mental capacity to find something useful and alter it to be even more useful has driven much of the development of modern society: the chopping tool gave rise to the axe, the digging stick gave rise to the shovel, and today the variety of tools available to the modern human fills

“... Does creativity improve following an adjustment? Our early findings suggest it may and in turn this raises questions of how we can better understand such a phenomenon”



many rows of the largest 'big box' hardware store.

When *Homo sapiens* finally arrived, an even more awesome mental ability arose. 70,000 years ago or more, prehistoric humans began to decorate their tools and supplies. (Henshilwood et al, 2009) 30,000 years ago or earlier they decorated their caves with paintings. (Gross 2020) Investing a home or a tool with beauty and/or symbolic significance adds a depth to the human experience that was not present before. This capacity to beautify and symbolise continues today in a myriad of arts.

All of these human mental powers: the discovery of alternate uses, improving useful items to make them more useful, imbuing objects with meaning by augmenting their beauty and adding symbols ... all of this and more constitute what we mean when we speak of '*creativity*'. We know creativity when we see it, but it is difficult to pin down this broad and slippery concept for scientific study.

Chiropractic interest in creativity goes back to the days of the profession's developers. (Palmer, 1949) More than a decade ago, my practice partner, Dr Marion Todres-Masarsky, and I decided to see whether or not the chiropractic adjustment has a beneficial effect on creativity.

Pilot Study: Creative output after an adjustment

We asked a series of patients to identify projects that they felt had a creative component/ (Masarsky and Todres-Masarsky, 2010 and 2011) We interviewed each subject 2-8 days after a chiropractic adjustment, asking if they experienced any changes while working on their creative project.

In addition to this narrative data, we also wanted some sort of measurement plausibly related to creativity. We settled on the task of suggesting alternate uses for a common object within a set time frame. This '*alternate uses test*' has appeared in the research literature since at least the 1960's. (Wallach and Kogan, 1965) This test is intended to capture a cognitive ability called '*divergent thinking*', an important mode of thinking during the creative process. Coming up with a variety of uses for a spice, a fabric, a tool, or a drug is the same sort of thing that our unknown ancestor was doing when he or she contemplated the potential utility of the wedged stone.

The alternate uses test yields two scores: '*fluency*', which is the total number of alternate uses generated by the subject, and '*originality*', which is the number of unique or infrequent responses generated by the subject in comparison to the responses of the test group as a whole.

Analysis of 27 subjects revealed mean scores for both fluency and originality improved when comparing scores before and after a single chiropractic adjustment using a combination of diversified and Applied Kinesiology techniques. However, this change was not statistically significant.

On interview, three subjects reported no change, while the remainder reported an increase in creativity, an increase in energy level when working on the creative task, or both. This change was statistically significant.

In some of the interviews, subjects mentioned changes that clearly point to an improvement in the type of divergent thinking that the alternate uses test is designed to measure. For example, a 33-year-old economics professor was working on several film projects. On follow-up phone interview, he noted no major breakthroughs, but did feel more productive. He then related his experience working on his alternate uses task after the adjustment. He was asked to write down as many possible uses for a newspaper in 10 minutes. At first, he could think of very few alternate uses. However, a few minutes into the test, he '*felt a kind of rush*,' and felt '*liberated*' to consider alternate uses for this common object.

A 41-year-old home caregiver was trying to design a piece of jewellery for a difficult customer, write a poem, and re-arrange her workspace. When called for her post-adjustment interview, she had not returned to the poetry or workspace projects, but in terms of the jewellery, she felt 'unstuck'. She also mentioned developing an alternate use for a bread tie. She used it to fix a problem toilet.

Other subjects experienced improvement in various aspects of creativity. A 53-year-old customer service representative was trying to write speculative fiction, redecorate her home, and spruce up her resume. During her post-adjustment interview, she denied any change in her writing or decorating. However, at a career roundtable discussion, she found herself voicing many ideas, and noted this was unusual for her.

A fascinating experience was related by a 10-year-old student whose project was drawing imaginary characters. At his post-adjustment interview, he stated he had drawn an imaginary character in such a way that it appeared happy on one side and sad on the other. He stated '*I don't usually draw like that.*'

Taken together, the data from the interviews and the alternate use testing suggest the chiropractic adjustment improves the capacity for a person to do creative work.

Where to go from here

Hopefully, a larger study of this sort can be done, perhaps by a chiropractic college or other academic setting. Ideally, the research team would include investigators deeply familiar with the psychology of creativity as well as chiropractic clinical scientists.

The difference between the statistical significance of the alternate uses test data and the interview data in the above-described pilot study may indicate a latency period is necessary before the effects of the chiropractic adjustment improves creative output. Perhaps several cycles of sleep and dreaming are required to process the adjustment's influence on the relevant neurophysiology. Future investigators may wish to structure their studies to capture the possible influence of latency and sleep physiology.

In our 2001 textbook, we raised the following question:

'Does an electrophysiological signature of creativity exist, and if so, does it appear with more frequency when subluxation is corrected?' (Masarsky and Todres-Masarsky, 2001).

Approaching this question will certainly require a multidisciplinary group of researchers.

Why study this?

The human world is complex and tends to become more so with each passing year. Innovation in science and technology can make a tremendous difference in how we live our lives. There will be a demand for new ways of doing business. Those who work on public policy will be asked to think outside the box. New novels, plays, dances, paintings, sculptures, and music may play a crucial role in helping us make sense of our complex world. Of course, the ordinary challenges of personal, family, and community life will call for nimble and creative thinking, as they always have.

Any contribution our profession can make to the nurture of human creativity should be eagerly sought and deeply appreciated.

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