

Factors in Salt and Pepper Passage: A Further Critical Report on the State of the Art

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Review Article

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Abstract

From Pencil's (1976) and Pacanowsky's (1978) [1,2] subtle reviews on the rather trite-sounding issue of what causes salt to be passed, a number of internal and external factors seem to be important. Although they recommended further research, it was only recently that three studies were published [3]. This paper summarizes that research, reviews three newer studies, and offers critical comments on this intriguing literature.

Keywords: Salt passage; Pepper passage

Introduction

In the 1970s, two review papers [1,2] discussed what seems like a rather trite topic ("What causes salt to be passed?"), but which nevertheless was reported as being a concern of literature and philosophy. The two writers also offered evidence that the question had been considered scientifically, and identified a number of important determinants and correlates that demonstrated the power of positivistic psychology.

Despite their call for more research, it was not until recently that further papers appeared [4,5,9] which, in the spirit of Pencil's and Pacanowski's [1,2] analysis, have also been reviewed [3]. The present paper takes this matter further, summarizing the three studies and including three new ones [6-8].

McKelvie's (2016) Review

The three papers examined whether attractiveness would play a role in salt passing. Minér et al. (2015) [4] predicted... an opposite-sex effect: salt passing would be quicker with a male asking a female and with a female asks a male

(compared to same-sex pairs). Introducing a new variable, the same effect was predicted for pepper passing, which was expected to be slower than salt passing because it is less usual to put pepper on snack food and because sneezing might slow response time. Moreover, all predictions were presented in precise numerical terms.

Minér et al. (2016) and Patrick et al. (2016a) [5,9] presented another proposal and expected quantitative results to test the attractiveness hypothesis. By manipulating nose length, which has been negatively associated with attractiveness [10], it was predicted that both salt passage and pepper passage would be delayed if the requester had a long nose compared to a short nose. Furthermore, the greatest delay would occur with the long nose and pepper.

McKelvie (2016) [3] Commented that these papers, together with the much-appreciated and parodistic work of Pencil and Pacanowski [1,2], highlighted the methodological paradigm in experimental psychology, showing both its strengths and weaknesses. Most

importantly, it was shown that it may be possible to minimize error, but not to eliminate it. This point was made most forcibly by the fact that, in two of the papers [5,9], there were two unusual disagreements between what the text said and what the numbers actually showed.

Three New Studies

Three additional studies [6-8] have extended the existing research on salt and pepper passage, introducing yet more factors into the equation,

Firstly, reflecting Minér et al.'s [5] nose length proposal, Patrick et al. [7] present a second quantitative set of expected results. Again, the passage of paper was shown to be slower than the passage of salt. Most importantly for the attractiveness hypothesis, response time was presented as longer when the requester had a long nose. However, like Patrick et al. [9], there was a discrepancy between text and numerical data: the times were shorter for pepper and for the long nose. This is puzzling.

Secondly, Patil and Patrick (2016) [8] explore age. However, rather than testing attractiveness theory, they composed a proposal to examine similarity theory, according to which people will respond faster to people like themselves. As a replication of past research, they expected pepper to be passed more slowly than salt. However, for age, they expected that both salt and pepper would be passed more quickly if participants were similar in age (younger or older). As before, specific numerical predictions were presented in a table to back up the verbal statements.

Puzzling as the discrepancies of Patrick et al. [7,9] may be, there are even stranger contradictions here. First, if data were indeed entered according to expectation, as the authors indicate, why were numerical times faster for pepper? Secondly, if data are entered according to expectation, why were numerical times only faster for the older participants and not the younger ones (where the opposite pattern occurred)? Moreover, and thirdly, the verbal statement of the results does not match these differences because the blanket statement is made that the main effect of age occurs because passing is generally longer when people are the same age. Fourthly, and perhaps most anomalously, the study was to be conducted with a younger group of "infants" and an older group of "eledry". Ignoring the spelling mistake, can it seriously be proposed to test children who are so young?

The final, and most complex, research proposal by

Berylisconi et al. (2016) [6] takes up Pacanowsky's and Pencil's [1,2] suggestion for more research on variables such as race. In this case, Berylisconi, et al. [6] included culture as a subject variable and as an associated substance variable. More specifically, they proposed to examine the speed with which salt and parmesan cheese would be passed when Scots or Italians asked Scots or Italians for their use on fish and chips and spaghetti. Assuming an own-culture effect and associations among salt, fish and chips and Scots on the one hand and parmesan cheese, spaghetti and Italians on the other, they expected the fastest times when there was a match. Their predictions were expressed in terms of a quantitative rank-order model and, following the other recent authors, with accompanying mean scores for each condition. They also included standardized effect sizes for the important comparisons. In this case, all variables had an additive effect, and there was a perfect symmetry in the predictions, with the lowest times when variables matched and the longest times when they did not.

General Commentary

The original papers by Pacanowsky and Pencil [1,2] were read with wry interest by the psychology research community, and were savored for the interesting manner in which they characterized the research paradigm that held sway at the time. As the six recent papers indicate, that approach is still important today, but together with the two seminal ones they show how it can be employed in creative ways to raise questions about the "way of thinking" [11] that is the scientific method. For example, can it be error free [12]?

How should we interpret the anomalies identified above? Perhaps the extreme proposals to compare salt and pepper passage for infants and the elderly and for two cultures with their stereotypical foods raise questions about the limits of the scientific method. Perhaps the internal contradictions can be seen as ironic errors [13] that point to the need for vigilance by writers, reviewers and editors in what may nevertheless be an imperfect process [14].

Of course, although it is desirable to eliminate error in research, it is actually only possible to minimize it. For example, randomization is the most powerful tool we have to equate groups, but it does not guarantee that they are equivalent. And inferential statistics permit us to draw conclusions about patterns in the data, but only within the limits of Type I error.

McKelvie [3] Noted that James Deese [15] discussed

psychology as both science and art. In the case of salt passage research, it seems that interweaving these two ways of thinking is a powerful way to expose cracks that may appear in the stages of research procedure from the dawning of the original creative idea to its instantiation in a formal study and, finally, to its fruition and public appearance as an article in a scientific journal.

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