

Research Controversy and Publication Success

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Abstract

In addition to the large volumes of published research in journals, there are numerous articles that go unpublished. These articles may never get published for a variety of reasons. A researcher may provide a well-developed hypothesis, and a scrutinised method may be used, but results must be accepted by the research community. To merit publication, the research should also provide something that is significant to the field of knowledge. To be accepted and disseminated to the community, the results must be accepted by the existing research paradigm that is held by reviewers. Without support or with contradictory support of the existing paradigm, a researcher lacks evidential support for the theory or model, and consequently lacks a valid reason to submit the research for publication. This article provides illustrations of what takes place in research, with the aim to provide constructive criticism of the publication process.

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1. Introduction

When a researcher begins research a topic is narrowed down into a research question. Whether the researcher is a pioneer in their field, a researcher with numerous published papers behind them, or a student beginning research, each of their outputs essentially demonstrates a textbook process of research.

There are many research methods books that explain the research process from the choice of the topic through to writing up the report. An example is *Research Methods for Postgraduate Students* (Greenfield, 2002). Research method books will often describe the important literature review. The review aims to establish credibility and illustrates why the research question has not been answered.

These reasons give rise to the importance of the research to add to the body of knowledge.

Other points of concern in a research methods book are methodology, data, data analysis, discussion, and concluding remarks. What is often assumed in the research books is that if the methodology is sound, the data is unbiased, and the theory development is logical, then the results will support or illustrate the predictions of the theory. The researcher's hard work will be rewarded with a meaningful result and a significant article destined for publication.

To merit publication, the research should also provide something that is significant to the field of knowledge, and in empirical studies, this means that the results of the tests must be significant to be considered significant in terms of the research community. The American Psychological

Association Publication Manual (2001) has a list of criteria that dictates whether research is of published quality. The following criteria have been selected from the publication manual and listed here:

Is the research question significant, original and important?

Do the instruments have satisfactory reliability and validity?

The research design must test the hypothesis fully and unambiguously.

Participants must represent the population from which the generalisations are made.

Research must be far enough advanced to make results meaningful.

If one of these criteria is not met, then publication success is unlikely. The question arises as to how to measure each of the criteria for an article. The criteria can be subjective as the assessment of acceptance is decided by reviewers. The views of reviewers are important, and it is equally important to understand what those views may be.

This paper outlines the scientific approach of researchers in section two, along with Kuhn's theory development as a reminder of how research is a process that bases fact and truth on support of a particular paradigm. Section three explores falsification. The final section concludes. This article provides illustrations of what takes place in research, with the aim to provide constructive criticism of the publication process so other researchers continue with their projects and to continue resubmission of their articles with the aim of achieving publication.

2. Scientific Method

Invariably there are differing epistemological approaches to research. Though researchers purport to the scientific method as opposed to a laymen's approach to gain support and persuasion. The scientific method provides the greatest credibility of providing support of a theory.

The scientific method is a process that can be classified into consecutive steps. The initial step would entail observation of phenomena and the environment. The observer provides questions and constructs theory. From the theory, predictions and expectation results can be formed. The theory and the consequential predictions can then be put to the test. Once the theory is tested, the last step makes conclusions and identifies implications resulting from the research.

Not all of the steps are necessarily done by one researcher or one research paper. Rather, the field of research provides the scientific method and researchers may fill each step. At times, individual researchers attempt all four steps with a single paper, and at other times, a paper may seek to purely observe, and construct or develop a theory.

The third step in the scientific method that requires testing was emphasised by writings from Carl Popper. Carl Popper followed the scientific approach to believe that all theory required testing. To be theory, it required testing. The intention of the testing was to check if the theory could be rejected. This was referred to as falsification. Theory required the test of falsification.

The act of falsification or confirmation has the objective to solve a research question. If a hypothesis does not stand up to a falsification test, then it is often thought that the researcher conducting the test, rather than the theory or paradigm that the researcher acknowledges to be criticised. "Failure to achieve a solution discredits only the scientist and not the theory" (Kuhn, 1996).

Though Popper and Kuhn have been viewed as standing at either end of the continuum debate of theory development, this paper recognises each writer contributing their conjecture about knowledge development. Neither Popper nor Kuhn actively debated one another nor directed their writing towards the other, apart from a single seminar series that they both presented at. The writing of both authors has extended behind their original field and their contributions are both important for a discussion of theory development.

Kuhn (1996) discusses the emergence of anomalies and even an eventual crisis occurrence for the revolution in theories. Anomalies and crises by themselves will not lead to novel theories. There must also exist an opposing or alternative theory. A theory may be rejected by the evidence, but it is not declared invalid until an alternative theory exists to replace the existing theory. Without an alternative, anomalies and crises may exist for prolonged periods of time. Researchers may lose faith in a theory and this leads them to consider alternatives.

Therefore, the falsification and testing step of the scientific method is not just testing of a theory against the environment and finding what the results can conclude. Comparisons also occur against competing theories. In the words of Kuhn (1996), the decision to reject a paradigm is always simultaneously the decision to accept another and the decision involves a comparison of the paradigm with the alternative paradigm.

Until a new paradigm shift has occurred, existing theories may be modified to eliminate

conflict between the theory and the apparent results. The objective may be to eliminate the anomaly and also to create a new theory. In comparison, the modification has the result of limiting the ability to be compared to the environment and alternative theories. It therefore has a limitation of not being able to be falsified. Perhaps even to the point when the theory appears as a tautology. There appears to be no practical use of a tautology and in terms of Popper, it is a non scientific approach.

When discussing a paradigm shift, a single anomaly does not cause a crisis. Kuhn explains that there are always anomalies between the results and fit of theory. These can take long periods of time to be resolved, and they can also be resolved unexpectedly and from other areas of research. These anomalies do not provide for rejection of the theory, and by all means, a researcher should not dwell on every anomaly otherwise little significant work will be accomplished. The anomalies may eventually be resolved.

So what causes an anomaly to become a crisis? It may be that the anomaly questions the fundamentals of a paradigm. It is this situation that the anomaly is important to be resolved so that explicit discrepancies do not question the validity of the theory. It may also be that the existence or emergence of other anomalies shows difference and the burden of truth against the theory.

3. Falsification

Kuhn's description of an anomaly is a situation when the expectations of a theory are violated. While this meaning includes situations that provide a lack of support for the theory, it also includes situations when the results oppose the expectations. Kuhn, while typically discussing anomalies, also mentions the term counter instances. It is worth mentioning the definition differences between anomalies and counter instances as viewed by the author of this paper.

The tests and results that appear to provide no support for a theory are considered anomalies and are considered to be different to a counter instance. Results of research may contradict the theory and provide for counter instances. A counter instance is an occurrence that appears to contradict what the theory proposed. Once the theory has made its predictions, then these are tested, results that indicate an opposite view or alternative view would be counter instances. Counter instances may be used by researchers to support an alternative paradigm. The use of counter instances is intentional in these situations. A counter instance

would undermine the efforts of the researcher. These instances may be reported as a case of rejecting the current theory. The more counter instances, the more support there is for rejection of the theory and a movement towards a crisis.

An anomaly may be the lack of evidence or lack of results of a test that were predicted from a theory. When a theory predicts an outcome, and that outcome does not result, then there is inconsistency. The problem of inconsistency is uncertain without further research. The problem may be with the theory, at which point, further research may modify the theory. The problem may be with the data, at which point new data may be gathered or used for further research. Or the problem may exist with the method. With the latter problem, the method may be modified, or a new method may be substituted. Any of these occurrences constitute an anomaly. Results that do not support the theory are a contradiction of the theory, and therefore an anomaly.

The counter instance is an alternative and much more extreme instance in contrast to an anomaly. While an anomaly may not support the theory, a counter instance is a cause for rejecting the theory. An anomaly may be due to poor data choice or ignoring important distinctions of a method or statistical test, or non existence of that theory. Though a counter instance may be due to data bias, this would be unusual as the researcher is often seeking to provide support for the theory. A counter instance is difficult to ignore as it may be due to a consequence of something that was not proposed in the theory.

While an anomaly may require the modification of the research, a counter instance requires careful analysis and consideration of future direction. In both instances, whether the research receives publication or not will depend on the historical development of the theory. As a new theory begins early development, it is weighted against existing, current, and commonly accepted theories. There is little chance on receiving publication unless the hypothesis is supported with a highly notable and valid study.

While a crisis is developing, an existing theory regularly receives lack of support and an increasing frequency of counter instances. In this era, studies providing anomalies and counter instances are willingly accepted as the occurrences become common. Once a paradigm shift occurs, then anomalies and counter instances are expected and researchers would be expected to provide significant research from seeking solutions for new research questions and topics.

During the development of the new theory, until the paradigm shift, results of anomalies and counter instances receive greater and greater acceptance. Therefore they receive greater and greater chance of report and publication. The lack of publication of an opposing study may provide indications of the stage of a theories' development as acknowledged in the research community. If the different research and writing abilities of researchers and acceptance levels of the varying publications could be controlled for, then the number of published articles that provide anomalies or counter instances could indicate to the research community the level of acceptance of the existing theory.

Research transpires through what Wright and Tippet (2005) refer to as research cycles. Seers publish a seminal paper followed by further proliferation and development of previous research. Research cycles consist of a writer that publishes a seminal work. The writer is a seer, or becomes a seer because of the seminal paper. Producing the original seminal work requires knowledge, experience, and novel insights, skills most suited to the apt researcher. The seminal work is then followed by prolific work of other researchers who develop the work. Lastly, the seers provide more impetus by publishing further research based on the seminal work.

The seminal work is accepted as there has been a period of anomalies or counter balances. The second stage of the research cycles of proliferation occurs as the paradigm shifts and the counter balances of original theory becomes acceptable.

4. Conclusion

Research typically goes through four phases of development. There is a review of current thinking in the field or observations made about a particular topic or field. Then these observations and review lead to the development of a hypothesis or theory. The third stage of research is the choosing of a relevant method to test the theory or hypothesis. Once a test is conducted, the research process requires reflection and integration of the results into the body of existing knowledge and thought.

Within the research process, a theoretically valid method of inquiry may be chosen, and viable, unbiased data may be chosen. A research inquiry may still be unsuccessful at supporting the theory. At that point, a researcher lacks support for the theory or model, and consequently lacks a valid reason to submit the research for publication. This

should not be the end of research, or the end of that particular inquiry.

It is important for the researcher to realize where the field of knowledge is in the evolution of knowledge. A theory is unlikely to be refuted while it is generally accepted. If there is the initiation of a paradigm shift, and refutation of the existing paradigm, then research that provides lack of support for the existing theory has more credibility, and likelihood of publication. If there has been a paradigm shift, then there is no desire within the research field to publish results that refute the old paradigm as there is an abundance of new areas of research within the new paradigm.

At the point of a new paradigm shift research that provides lack of support in a new area of research is useful for other researchers. The results provide an example where new data should be chosen, the method should be refined, or an area of investigation that perhaps should not be chosen. The area of inquiry could be chosen at a later stage using a different approach, in both method and methodology. Repetitive studies that lack supporting results contribute to the dissemination of information and may hasten and provide a direction for researchers to focus elsewhere.

Lack of support for a hypothesis is detrimental to the chances of publication, but along with this outcome, the study can still be useful for integration into the body of knowledge, and also to develop the study further, or apply it to different data. A single study that results in lack of support is not a reason to abolish the study. The point researchers make a decision to give up on attempts to confirm a hypothesis is still unclear and subjective.

Numerous attempts that provide a lack of support for a hypothesis are effort and resources exerted in an unfulfilling direction. The balance between attempting to confirm a hypothesis and giving up on confirming a hypothesis remains a point that should be defined by the researcher, yet the point is chosen by publication chances and the current thinking in the field.

Support should be given to researchers to publish their work, whether their results support their priors or not. The additional information provided from any study can contribute to the academic discourse of research.

Whether a single research attempt or a series of research attempts fail to provide evidence for a hypothesis, this failure is useful information for other potential researchers. "the publication of... a 'failed' empirical study is to be applauded-we can learn much from studies that 'do not work' and publication in 'failed' form reduces the temptation to try and produce results at all costs (Abdel-Khalick, 1986).

Studies that lack supporting results contribute to knowledge and they should be disseminated so other researchers are aware of the unsuccessful research. Collegial support should be given to researchers to publish their work, whether the research supports the current paradigm or not. The additional information provided from any study can contribute to the academic discourse of research.

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