

## Environment for Scholarship and Journal Impact Factor in Thailand

Shaké Ketefian, Somchit Hanucharurnkul

**Abstract:** An increasing number of institutions, internationally, are requiring their faculties publish in journals with high impact factors (IF), and providing various types of rewards to motivate scholars to do so. The literature describes appropriate and inappropriate uses of such policies. Thus, this study, as part of a five country study, aimed to explore, in Thailand: (a) the extent to which institutions are requiring faculty to publish in high impact journals, and (b) how the pressure of publishing in high impact journals influences a nurse scientist's choice of topic for investigation, and the development of nursing science. The design was qualitative, using a questionnaire designed to obtain respondent views. One senior faculty member, from each of the seven nursing doctoral programs in the country, was invited to participate; five did so. Objective responses were summarized and descriptively presented. Content analysis was used for narrative responses.

Results indicate that faculties were expected to publish in high IF journals. The faculties stated this led to: competition instead of cooperation; and, authors wanting to publish in journals of other countries, so as to bring prestige to their institutions. However, they felt this does not contribute to resolving health problems of the country, and further enumerated the hurdles and positive outcomes of the policy. They said Thai scholars study health problems of the country, and frame the practical applications of their work, in terms that might be of interest to their country, as well as to other countries. Results were discussed and interpreted in view of current realities in Thailand.

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### Background Information

Institutions of higher learning, throughout the world, are seeking to improve their offerings, research, and standing nationally and internationally. This has led to competition and search for objective measures to assess quality of various aspects of their educational programs, especially as it relates to the output of faculty, in the form of their publications. The development of bibliometric measures, such as the impact factor (IF), which is

intended as a measure of a journal's impact; and citation analysis, which is the number of times a scientific article is cited by others,<sup>1</sup> have spurred the interest of academicians, and are being used for a variety of purposes.

*Correspondence to: Shaké ketefian, EdD, RN, FAAN Professor and Director of International Affairs University of Michigan, School of Nursing, 400 North Ingalls, Ann Arbor, MI 48109, USA. E-mail: ketefian@umich.edu*

*Somchit Hanucharurnkul, PhD, RN, Professor, Department of Nursing, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand.*

Some universities are requiring faculty members to publish in high IF journals; using rewards, such as cash bonuses, to spur faculty members in this regard; and are using bibliometric measures in faculty hiring and promotion decisions.<sup>2</sup> Despite caution having been expressed about unintended uses of such measures, institutions of higher learning are using them in making individual faculty decisions, such as in: hiring and promotion; institutional rankings; determination of research funding to individuals and/or institutions/departments; and, national priority setting.<sup>3</sup> Some authors have decried this tendency.<sup>2, 3</sup>

Professionals often have complained that the peer review process does not take into account the social utility of published papers, while those who practice, and provide services to the public, recognize that social relevance is a major concern.<sup>4</sup> In addition, the way a journal's IF is used, as a measure of the quality of an individual's article, or of a scholar's body of work, has raised concern among some scholars. For example, an investigation of the predictive validity of journals' IF scores, in the hiring and promotion decisions of social work faculty, was found to have a low effect, and led the researchers to conclude their findings did not justify using journal IF scores in hiring and promotion decisions.<sup>5</sup>

The relationship between the quality elements of journal articles, and the frequency of citations of articles in four psychiatric journals, was found to have an IF of 0.88 – 11.2, over a 9-year period.<sup>6</sup> Quality features, such as: statistical errors; reporting of sample size; poorly reported research questions; and, the primary outcome of the study, were found not to be related to the citation counts. However, some of the quality features were related to the visibility and prestige of the journal (in this case, two of the four journals with high IF scores). The investigators concluded the latter findings were due to detailed author guidelines and rigorous peer

reviews, which are characteristic of high IF journals.<sup>6</sup>

The Thai Journal Citation Index Centre created a national system for evaluating journals published within the country.<sup>7</sup> This evaluation is conducted yearly, with national and international journals being ranked according to established criteria. The Thai Commission of Higher Education provides funding for journals which are highly ranked, as well as national journals which are determined to have the potential to improve their quality to meet the criteria to become international journals. In order for a journal, published in Thailand, to be classified as an international journal, it must: be published in English; be listed in an international data base; have at least 25% of its editorial board comprised of scholars from other countries; have at least 25% of the authors of papers published in the journal be from outside Thailand; and, have 25% of its reviewers for each issue be experts from outside Thailand. On the other hand, in order to be classified as a national journal: 25% of a journal's editorial board members must have the academic rank of professor or have a doctoral degree; 25% of the published papers, in each issue of the journal, must be from outside the institution that publishes the journal; and, 50% of the reviewers for each issue must be from outside the institution that publishes the journal. At present one Thai nursing journal is classified, based on the established criteria, as an international journal.<sup>7</sup>

Thailand was selected as one of the countries for this study, due to the emphasis it places, as a result of governmental and institutional policies, on academicians having articles published in a high IF journal. It is important to study the effects such policies have on the work of scholars who conduct research, as well as to address the broader question of how such policies influence the production and direction of nursing science.

## Research Questions

Many countries face similar situations as Thailand, yet there have been no studies in nursing that address how the behavior of scholars is affected, or more importantly, how constraints imposed by national or institutional policies affect the development of nursing science. This investigation, as part of a five country study, aimed to address this vacuum in our understanding. Thus, the research questions investigated were:

1. To what extent are selected institutions in Thailand requiring their faculties to publish in high impact factor journals?
2. How do the pressures to publish in high impact factor journals, influence the behavior of individual nurse scientists, choice of topic for investigation and development of nursing science?

## Method

A descriptive inquiry, using a qualitative survey design, was conducted regarding: the extent to which journals' impact factors are used in Thailand as the venue for faculty publications; the purposes for which such information is used; how selected nurse scholars perceive the consequences of prevailing practices; and, how their perceptions regarding the consequences of prevailing practices influence various decisions.

**Study subjects.** Five senior academic nurses, one from five of the seven institutions of higher learning which offer doctoral degrees in nursing in Thailand, participated. A key informant provided country-specific information regarding the institutional ratings, or rankings, as well as identified senior faculty to be solicited to participate. The key informant was a senior academic, holding the rank of professor in a major university, who has held offices in professional organizations over many

years, and had overall familiarity with nursing programs in the country, as well as being familiar with nurse leaders. The respondents held the rank of professor or associate professor and, due to their faculty rank, were familiar with their respective institution's policies and the state of nursing science in Thailand, had taught in doctoral programs, and had published in international journals. To obtain the respondents, one potential participant, who met the selection criteria, from each of the seven nursing doctoral programs, in Thailand, was invited to participate.

**Procedure.** Institutional Review Board (IRB) approval was obtained from the institution of the first author. Due to the low risk posed by the study, the IRB required that a letter, with the elements of informed consent, for information only, instead of a signed consent form, be provided to all potential respondents. Seven identified individuals, one from each doctoral program, were invited to participate through an approved letter, which provided relevant information about the study and included all elements of informed consent. Once individuals agreed to participate, they received the questionnaire and were asked to return it within three weeks. All communication occurred electronically. Several reminder letters were sent over an eight week period, which resulted in five responses being received.

**Study instrument.** A survey questionnaire, containing 21 items, was developed by the investigators, based on review of the literature, for use in the collection of data regarding the extent and purposes for which institutions and systems in Thailand make use of the impact factor of journals in which faculty members have published. The questionnaire further sought to explore the ramifications and effects the use of the impact factor of journals have on individual scholars and the development of nursing science.

A draft of the questionnaire was reviewed

by four individuals from five countries, for clarity and relevance of the items to the study questions. These individuals were senior faculty in research universities, who also served as journal editors in their countries. Revisions of items were made, based upon the reviewers' comments; thus, the questionnaire had content validity. Eleven questions presented a list of statements as options, five asked for yes/no responses to be checked, followed by a request for comments. The "comments" section was provided to enable respondents to explain and shed light on their choices. Five questions required narrative responses. It was estimated that it would take 30–40 minutes to complete the questionnaire.

**Data Analysis.** Data were analyzed via content analysis and descriptive statistics, through the use of frequencies. The participants' objective responses were summarized and described. For comments and narrative responses, content analysis, established by Wilson,<sup>8</sup> was used to elicit meaning from the text and identify categories that emerged.

Wilson<sup>8</sup> established three basic elements of content analysis: (1) deciding on the unit of analysis; (2) borrowing or developing the set of categories; and, (3) developing rationale and illustrations to guide coding of data into categories. *Deciding on the unit of analysis* means a decision needs to be made whether the whole response, or a breakdown of responses into separate words, phrases, or sentences, will be used. *Borrowing the set of categories* means a set of categories can be developed before data collection, if the concepts are borrowed from existing theory; data can be coded using the pre-identified categories. In this study, the set of categories, for the content analysis, were "borrowed," as they were primarily derived from the questions asked in the questionnaire. *Developing rationale and illustrations to guide coding of data into categories* means in order to code data into categories, the investigator has to "make a judgment on the right category for every response or unit of

analysis."<sup>8(p470)</sup>

The analysis process was done manually. Many respondents provided the same answers to questions pertaining to citation counts as they did for impact factor. To avoid redundancy, the authors have not focused on citation counts.

## **Results**

Results were described and organized around categories relevant to the study's questions. The bracketed numbers refer to the number of respondents who checked each respective statement.

**Context:** All respondents agreed that the concept of journal metrics, in the form of expectation that faculty publish in high impact factor (IF) journals and achieve high citation counts for their publications (citation counts are the basis for computation of IF), was in use in Thailand. Further, the respondents indicated these practices were promulgated and used by the Ministry of Education and university administrators. Other government agencies also were mentioned as using such information, especially those concerned with research funding and quality assurance of universities. However, respondents did not indicate nursing schools required their faculties to publish in high IF journals. The five respondents indicated several uses of information on publication in high IF journals, including: assurance of the institution's high ranking in national/international surveys [5]; measurement of individual faculty productivity [5]; measurement of collective faculty productivity [4]; measurement of a journal's quality [4]; and, measurement of overall quality of a department or school [3]. In addition, faculty publication in journals with a high IF served as the basis for obtaining funding for a faculty member's doctoral students.

**How scholars' behavior is influenced by the existing policy:** Respondents were queried on their views regarding the extent to which the policy, on

requiring publication in high IF journals, influenced the behavior and decisions of scholars. The respondents stated there was strong competition, among colleges, to be published in high IF journals [4]. Such pressure leads most scholars to publish in journals from other countries, rather than their own [4], and to publish in high quality journals, regardless of a journal's IF [2].

The respondents were queried further on their perspective of publishing in national versus international journals. They indicated that those who publish: nationally are addressing domestic health problems [4]; internationally add prestige to their institutions and country [4]; internationally are not providing the country the benefit of the researchers' findings [3]; and, in high IF journals focus on problems of interest to those journals, rather than on the interest of the country [3].

**The effects of the existing policy and perceived hurdles:** Respondents were asked to provide their views on the effects of the existing policy to publish in high IF journals, and seemed to agree: graduate schools have improved research training overall [5]; there is greater methodological rigor seen in research [4]; and, published works have become stronger in their theoretical grounding [3]. Hurdles mentioned were: insufficient English language skills [5]; topics that interest scientists are not of interest to some journals [5]; and, those who attended graduate school overseas are more successful in publishing internationally [5]. Also mentioned were that: English-speaking authors and English language journals, as well as authors from disciplines outside of nursing, do not cite Thai nursing authors' work; computation of IF does not take into account various forms of scientific publications; the emphasis on the IF can have the effect of suppressing the pursuit of innovative research directions that could be culturally relevant; and, there are too many ways to raise a journal's IF, making it an artificial measure.

#### **Perceptions of nursing science in Thailand:**

Respondents were asked to assess the current published works in Thailand. They stated that they: are responsive to health needs of the country [5]; frame the practical application of their work in terms of the health problems of the country [5]; involve replication of work done elsewhere to determine the relevance and applicability to local needs [5]; present research that is of interest to the investigators, but not of value to the local population [4]; and, frame the practical application of their work, in terms of health problems of interest, to other regions of the world [3].

#### **Efforts to internationalize Thai journals:**

Respondents provided information that Thailand has clear criteria that must be met prior to a journal being considered to be national or international. They stated: international members have been appointed to Thai journal manuscript review panels [5]; scholars in Thailand have accepted positions as assistant/associate editors, or members of review panels, for journals in other countries [4]; and, these steps have changed the profile of Thai journals, by strengthening their quality.

## **Discussion and Recommendations**

Respondents generally had a good understanding of what was being asked. They were able to describe advantages and disadvantages regarding the use of IF. However, they identified more disadvantages regarding the use of IF to them, and to nursing, than they did advantages. All indicated that no Thai journals currently were listed in the *Web of Science (WoS)*, or had an IF assigned. At present only one Thai journal, the *Thai Journal of Nursing Research*, is considered "international" by the criteria established by the Thai Journal Citation Index Centre.

The respondents stated IF computations are biased heavily toward English language journals.

This criticism appears justified when one reads the publications of various disciplines in the country.

All agreed Thai university administrators place a high degree of emphasis on faculty publications for academic rank, prestige and funding decisions. However, it is puzzling that they did not feel that nursing schools placed the same degree of emphasis on faculty publications, compared to government and university administrators. While faculty members, from the basic sciences and medicine, have international publications, the respondents stated that Thai nursing faculty do not have international publications and are unfamiliar with the requirements of international journals. These statements are puzzling since many Thai nurse scientists have studied, at the graduate level, in English-speaking countries, and have been socialized in the matter of publishing internationally. Given the availability of electronic websites, where author guidelines are available for the various journals, it is a puzzle as to why nurse faculty would not familiarize themselves with manuscript requirements of international journals.

The constraints faculty members face, in their efforts to conduct research and achieve publication, need to be recognized. The first constraint is the fact that faculty do not have support systems to facilitate their scholarship, and must do their own secretarial work. The second constraint is the nursing shortage, in Thailand, has led to the enrollment of larger numbers of students, which has increased the faculty workload. Finally, the teaching of some master's level specialties are offered only on weekends, leaving faculty little time for scholarly activities.

A number of other findings were similar to those found in the literature.<sup>4, 9, 10</sup> For example, respondents indicated there are important disciplinary variations that are not accounted for in the computation of IF. They felt these computations needed to be standardized, so that meaningful

comparisons can be made. Respondents also pointed out that the IF does not measure the quality of individual articles, but simply indicates journal status. Therefore, to make a generalization about an individual article from the overall journal status, is a misuse of the IF score, and can lead to erroneous conclusions about a specific article. The respondents also noted that the IF does not address the value of the research for patient care and application to real world problem solutions, a critical consideration in nursing.

Respondents noted the trend toward publication in high IF journals can lead to research that is more responsive to models, paradigms and themes valued in other countries. Such a research focus may or may not contribute to solutions of local health care problems; whereas those who publish locally contribute to solving health problems of the country. However, we do not know to what extent this is the case, as no examples were provided.

Thailand currently does not have any journals listed in the WoS, nor with an IF assignment. All of the respondents were in favor of international efforts, now under way, to increase the listing of Thai journals in the WoS, but it is not clear whether the respective editors of the journals are submitting applications to have their journal so listed. The respondents felt such listing would bring about a wider dissemination of Thai research to those in other countries, as well as to members of other disciplines.

Anecdotally obtained information revealed that many schools of nursing, in Thailand, publish their own journals, typically with local or national circulation. Some of them do not meet the criteria to be considered a national journal, and none meet the established criteria for international journals. However, there are eight journals, in Thailand, that meet national standards, and one that meets international standards, although it is not listed in the WoS, nor has an IF assignment.

From the reported data, it can be concluded a great deal of nursing research is being carried out, but only is published locally. Local publications do not have international visibility, and, thus, have limited impact beyond the country. Respondents mentioned that nurse and non-nurse scholars in other countries do not cite Thai nurses' published works. One of the reasons for this is that scholars outside of Thailand often do not have access to local or national Thai publications. It is suggested, therefore, that schools of nursing, in Thailand, consolidate their energies and resources, and jointly publish fewer journals of high quality, with a view to establishing international reputations for the journals.

Thai universities have, for a long time, emphasized the importance of having graduate students, especially those enrolled in doctoral programs, attain competence in the English language, regardless of whether the students are studying within the country or overseas. The reason is that much of the advanced literature students need to access, for their work, is published in English. The fact that some researchers' lack of sufficient English language skills, gets in the way of publishing in international journals, remains unclear. This factor requires future examination.

### **Limitations**

This study has several limitations. The first is that the questionnaire presented options to check, and, thus, was a "recognition" task, rather than a "generation" task, with ideas derived from the literature. It is possible the respondents' task was made easier, in that they could check an item if it appealed to them, whether or not they knew it to be true. In addition, it is not clear whether the same ideas would have emerged had the participants been asked to generate the ideas, rather than recognize them.

Two other limitations were the qualitative/descriptive design and the small sample size. Neither of these factors enabled the use of statistical procedures or provided a basis for generalizations. Therefore, if deans and faculties wish to better understand the phenomenon examined in this study, it will be necessary to design a study that has a national scope.

### **References**

1. Meho LI. The rise and rise of citation analysis. *Physics World*. 2007; 20: 32-6.
2. Monastersky R. The number that's devouring science. *Chron High Educ*. 2005; 52(8): A12.
3. Campanario JM, Gonzales L, Rodriguez C. Structure of impact factor of academic journals in the field of education and educational psychology: Citations from editorial board members. *Scientometrics*. 2006; 69(1): 37-56.
4. Freshwater D. Impact factors and relevance of research outputs: One step forward, two back? *J Psychiat Ment Health Nurs*. 2006; 13: 473-4.
5. Holden G, Rosenberg G, Barker K, Onghena P. An assessment of the predictive validity of impact factor scores: Implications for academic employment decisions in social work. *Res Soc Work Pract*. 2006; 16(6): 613-24.
6. Nieminen P, Carpenter J, Rucker G, Schumacher M. The relationship between quality of research and citation frequency. *BMC Med Res Methodol*. 2006; 6: 42-9.
7. Thai Journal Citation Index Centre [updated 2008 November 10; cited 2009 April 28]. Available from: <http://www.kmutt.ac.th/jif/publiclightcriteria.htm>. (in Thai).
8. Wilson HS. *Research in nursing*. 2<sup>nd</sup> ed. New York (NY): Addison-Wesley Publishing Co.; 1989.
9. Smith, R. Measuring the social impact of research; difficult but necessary. *BMJ*. 2001, 323: 328.
10. Smith, R. Commentary: The power of the unrelenting impact factor – is it a force for good or harm? *Int J Epidemiol*. 2006, 35: 1129-30.