Quality is in the eye of the beholder? An evaluation of impact factors and perception of journal prestige in the UK

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A number of proxy measures have been used as indicators of journal quality. The most recent and commonly employed are journal impact factors. These measures are somewhat controversial, although they are frequently referred to in establishing the impact of published journal articles. Within psychology, little is known about the relationship between the 'objective' impact factors of journals and the 'subjective' ratings of prestige and perceived publishing difficulty amongst academics. In order to address this, a cross-sectional web-based survey was conducted in the UK to investigate research activity and academics' views of journals within three fields of psychology; cognitive, health and social. Impact factors for each journal were correlated with individual academic's perceptions of prestige and publishing difficulty for each journal. A number of variables pertaining to the individual academic and their place of work were assessed as predictors of these correlation values, including age, gender, institution type, and a measure of departmental research activity. The implications of these findings are discussed in relation to perceptions of journal prestige and publishing difficulty, higher education in general and the assessment of research activity within academic institutions.

Introduction

According to one electronic journal provider there are over 400 current psychology journals in publication – from *Acta Psychologia* to Working Memory and Education, although the true figure is likely to be considerably higher depending on the definition and scope of psychology employed. Indeed, estimates can rise into the thousands. Of course these cover the complete scope of the psychology discipline but even within discrete sub-disciplines there may be several hundred journals world-wide.

With this apparent abundance of available journals, it has become an increasingly difficult task to select which journals an individual academic should be reading, monitoring and submitting papers to. Of course each researcher wants to read and be read in the journals that have a high 'quality' or 'prestige' associated with them. Furthermore, such judgements may have career implications; publishing in "better" journals may equate with a more rapid progression up the career ladder, which has been

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Address for correspondence: JONATHAN C. CATLING E-mail: J.Catling@worc.ac.uk reported in a number of studies [e.g., FRANK, 2003]. However, these judgements are subjective, abstract concepts, and are therefore difficult to quantify. One way of overcoming these problems has been to use the rather more concrete indicator of the impact factor.

The impact factor measure of a journal was first developed in the early 1960s by Eugene Garfield [GARFIELD & SHER, 1963] and has gained a limited acceptance over time as a quantitative measure of a journal's quality [GARFIELD, 1999]. Impact factors are published by the Institute of Scientific Information (ISI) and reflect the frequency with which the articles within the journal are cited in the scientific literature. It is derived by dividing the number of citations in year 3 by the number of items published in that journal in years 1 and 2 [GARFIELD, 1999] (although not all document types are citable for example, editorials would not citable). It is seen by many, therefore, as a proxy measure of the value or quality of research in the eyes of academic peers.

However, the ability of impact factors to act as a robust and reliable measure of the quality of a journal is a contentious issue. COLE [1989] set about assessing the concept of quality in relation to number of citations within different academic disciplines, including biochemistry, chemistry, physics, psychology and sociology. This was achieved by calculating the correlation between contribution to academia/quality of work and citations. For the five disciplines assessed, he found differing levels of correlation between mean quality score and total citations; between 0.53 for the field of physics to 0.70 for the field of biochemistry. Importantly, this study showed a positive correlation of 0.55 between 'quality' and number of citations in the field of psychology. However, the assessment was of the quality of individuals' work and not an assessment of individual journals or indeed articles. Although the study by COLE [1989] was an impressive endeavour and produced some interesting and comparable findings, its impact within the psychological literature is a bit more difficult to define, not least because of its focus on psychology as a single discipline. Psychology is a broad subject, encompassing the social, cognitive, theoretical and the applied. Obviously the Cole study was not set up to explore the intricacies of psychology and its sub-specialities, but a homogeneous view of psychology may obscure some interesting complexities in the myriad of its specialities.

CALLAHAM & AL. [2002] also found that the impact factor of the original publishing journal was more important than any other variable in predicting the frequency of citations or the importance of citing journals. Although this highlights the awareness amongst the academic community of articles worthy of citation, it can also be self-perpetuating both for the individual academic, research group or journal. Although research by OPTHOF [1997] supports impact factors being used as a valid tool for the quality assessment of scientific journals, it does not see them as a valid assessment of either individual articles or individual scientists, which presents a problem when evaluating their work at this level of analysis. SEGLEN [1997] also argues strongly

against using impact factors to evaluate the worth of research and lists numerous problems with reliance on journal level evaluation of scientific worth. For example, the most frequently cited articles from a journal skew the impact factor because they are cited around 10 times as often as those articles from the journal that are infrequently cited. Consequently, an infrequently cited paper will be given credit for being in a high impact journal despite the fact that it is rarely cited and thus arguably has made less of a contribution to the field. Seglen also highlights the variability between academic fields where if key work is published in books rather than journals, this has no impact factor at all [Andersen, 1996].

Despite Opthof's support for the use of impact factor assessment for journals themselves, it is not without its detractors [see e.g. Boor, 1982; Seglen, 1989; 1997]. In fact, Seglen [1989] boldly states that "the citation-based evaluation methods are clearly founded on erroneous assumptions, and should be discontinued immediately" p. 327. A further criticism is the considered problem of self-citation [Adair & Vohra, 2003; Ansel & Al., 2004] and citation within research groups, which may give rise to a self-perpetuation of high impact scores. Furthermore, Chew & Al. [2007] found that not only have impact factors of medical journals risen over the 12-year period that they investigated, but that there was evidence of deliberate manipulation by journal editors highlighting the importance of other factors in determining impact or quality. It is also worth noting that journal articles are read more times than they are cited [Frank, 2003] and this may be particularly true in the applied sciences. Concurring with Seglen [1989], Frank [2003] states categorically that impact factors should not be used as a way of measuring the quality of journals or authors, pointing to the need to adopt a more critical approach to impact factors.

The broad debate around the use and reliance on impact factors has played out over the last 3 decades and the use of impact factors as a marker of quality has been enthusiastically debated. Moreover, it is recognised that if we are to accept that impact factors provide some measure of journal quality, they say little about individual articles or authors themselves [OPTHOF, 1997; SEGLEN, 1989]. Despite these problems, many would associate publishing in high impact journals with enhanced career progression [see FRANK, 2003 for discussion]. Despite the challenges to the impact factor as a measure of quality, the focus here is not to question the concept *per se* as this has been done adequately elsewhere, but to empirically examine the perceptions of academics toward impact factors.

More broadly, most countries have some formal measure of research activity, which aims to evaluate the contribution that individual academic departments make to the discipline of psychology, although the criteria and methods may vary [VON TUNZELMANN & MBULA, 2003]. The current system in the UK is the Research Assessment Exercise (RAE); a model that has generated considerable interest worldwide [VON TUNZELMANN & MBULA, 2003]. This assessment is primarily based

upon objective measures such as journal impact factors, which is consistent with the methods used by other assessment measures internationally. With this in mind, one question that has not been fully considered is how the so-called objective measure of the impact factor fits with an academic's impression of a journal; specifically does an impact factor truly reflect an academic's view of journal prestige? This relationship has been examined in the medical literature, for example, in a study investigating the validity of impact factors as a measure of quality, SAHA & AL. [2003] explored the relationship between physicians' perceptions of medical journal quality and impact factors. Although they concluded that impact factors provide some indication of quality, they found that researchers' ratings were more closely associated with impact factors than those of the practitioners. Although we are not aware of any such study being conducted amongst psychologists, the place of the impact factor in the field of crime-psychology has been examined through construction of an alternative measure based on citations per article [WALTERS, 2006] which is a more individualised measure than the impact factor.

GARFIELD [2003] suggests that "quality, like beauty, is often in the eyes of the beholder" and that studies have shown that scientists' perceptions of which journals are believed to be high quality assessed by interviews or questionnaires are also those with the highest impact factors. Although this suggests that there may be consensus amongst the academic community, one could legitimately ask about the direction or nature of this relationship. For example, do the views of academics underpin the objective status of the journal (as measured by impact factors) or do impact factors alert academics to the supposed quality of the journal? Regardless, an academic working in a competitive environment is likely to be acutely aware of the impact factor as a measure of prestige if this is what the quality of their work is judged against. Irrespective of whether they believe it to be a true measure of quality or believe that it is an unreliable measure. Indeed, they may adopt the pragmatic view that it will create prestige.

The aim of this study was to investigate peer perceptions of journals within 3 distinct areas of psychology; namely, health, social and cognitive psychology. These were selected because they represent relatively distinct areas of psychological enquiry and because they cover a broad range of psychology as a discipline. However, it is acknowledged that there is likely to be some overlap regarding type of journal these groups publish in. The present study also assesses personal characteristics of the individual undertaking the rating, including characteristics relating to the institution where they are employed, and how these characteristics effect their perception of journal prestige.

Another question to be addressed within the present study relates to the relationship between perceived prestige, impact factor and perceived difficulty of an article being accepted in a journal. GARFIELD [2003] asks "does the impact factor make it more difficult to get an article accepted in a journal?" and goes on to say that generally, high

impact factor journals receive more manuscripts than they can publish suggesting that, statistically, rejection levels in high impact journals will be much higher than a lower impact factor journal. However, this raises the question of whether an academic's perception of difficulty actually concurs with the real impact factor of a journal.

Given the importance of evaluating the research output and performance of academic departments, one might expect academics in departments with high ratings to be more aware of the impact factors of particular journals because of the importance of their contribution. Consequently, we thought it valuable to also include a measure of research activity within the analysis. Our specific hypotheses are as follows: The more competitive the academic environment (i.e. those from highly ranked institutions), the higher the agreement between the perception of prestige and the impact factor of journals within their respective fields. Similarly, we would expect a higher agreement between perceived difficulty of publishing in a journal and that journal's impact factor in the higher ranked institutions. Our aim was also to explore the relationship between the different strands of psychology, gender and career length, and one's ability to predict journal prestige and difficulty of publishing.

Method

Design

A cross-sectional web-based survey was conducted to investigate research activity and academic views of journals within three fields of psychology; cognitive, health and social.

Participants

Academic staff working in University departments in the UK participated in this study.

Survey

Colleagues were invited to identify and produce a list of widely recognised journals from cognitive, health and social psychology. Following several rounds of discussion amongst the research team, consensus was reached through an iterative process from which a list of 10 widely read journals from each of these fields was derived. Following this, a web-based survey was constructed; the 'Attitude to Research Publications Survey' (http://ihsc.worc.ac.uk/surveys/publications.php). Participating academics were asked to select one of the three areas that reflected their expertise and answer questions relating to the 10 selected journals. Questions asked about whether participants had encountered each of ten journals. If a journal was unknown to them, the screen would move to the next journal. If it was known to them, it would ask for views about prestige

(9-point Likert scale: poor to good), perceptions of how difficult it was to publish (9-point Likert scale: easy to difficult), whether they had submitted any articles to that journal and number of articles accepted by this journal. In addition, academic staff were asked to give the name of their Institution, age, gender, number of years in academia and number of peer reviewed publications since 2001. Data on impact factors was obtained from the 2006 Journal Citation Reports. We also collected information on University type; whether they were 'established' universities (prior to 1992) or 'new' Universities (those who had been awarded university status after 1992), and a measure of research activity pertaining to the individual's department; in this case the RAE rating.

Procedure

Academic staff were contacted through all heads of departments in the UK through the Association of Heads of Psychology Departments. Heads of Psychology were asked to cascade the web-link to the survey to academic staff within their department. Participating academics clicked on the link, answered the questions and submitted their responses. The survey took around 5–10 minutes to complete and participants were assured that their responses would be anonymised and be confidential. All data was downloaded into an Excel spreadsheet and exported to SPSS for analysis.

Results

Prestige

Two hundred and twenty six academics working in University departments in the UK participated in this study. Of these, 118 (52.2%) were male and 108 (47.8%) female. Mean age was 39.5 (SD 10.5) years. Eighty-five were from pre 1992 institutions and 141 from post. Forty-three were health psychologists, 64 were social psychologists, and 119 were cognitive psychologists.

Correlations were calculated for each individual between their perceptions of prestige for each journal and its actual impact factor. This correlation between perception and impact factor from now on will be referred to as prestige accuracy (PACC) and denotes a subjective rating in contrast to the impact factor rating itself which, notwithstanding the criticisms above, is taken to be an objective rating in this context.

A Regression analysis was performed for all participants with PACC as the dependent variable and length of career, number of peer-reviewed publications and RAE rating of the institution to which the participant was affiliated as predictor variables. Overall the regression equation was significant (p<0.001) and accounted for

18% of the variance. However, only number of peer-reviewed publications and RAE rating were individually significant predictors (p<0.005).

Due to the fact that some of the variables assessed were not continuous variables, an ANOVA was used to assess which of these factors had a significant effect on the PACC level. Within the analysis, PACC was the dependent variable and gender, type of psychologist and type of institution (pre/post 1992) were the independent variables. Both the effects of gender and type of institution were significant (F(1,207) = 6.466, p<0.05; F(1,207) = 15.724, p<0.001 respectively). With males having higher PACC scores than females and pre 1992 institutions scoring higher PACC scores than post 1992 institutions.

Of particular interest was the significant interaction between gender and Psychologist type (F(2,207) = 3.242, p<0.05). Post hoc tests demonstrated that males had higher PACC scores in cognitive and social psychology, but there was no significant difference between male and female scores for health psychologists.

Discussion: The results for the total group suggest that the number of peer-reviewed publications that an academic has and the RAE rating of their department are important predictors of perceptions of journal prestige (measured by the correlation between prestige rating and impact factor). Furthermore, our expectations that pre 1992 institutions would rate more accurately were confirmed and this is likely to be due to the research culture within such institutions. These findings provide support for our hypothesis that academics from more competitive environments would show higher agreement between perceptions of prestige and impact factors. That length of career was not found to be as important as number of articles published and RAE is unsurprising given that these focus the mind on impact factors. Perhaps more surprising was the gender difference observed between male and female social and cognitive psychologists, although this was not found amongst the health psychology group. However, this does not necessarily show that health psychologists are in someway different as the sample size of this group is modest (n=43).

This form of analysis was repeated separately for the 3 groups of psychologists to assess if they differed in their pattern of results.

Social psychology. The regression analysis was the same as that used with all the data previously, with PACC as the dependent variable and career length, number of publications and RAE as predictor variables. For the social psychology group, only RAE was a significant predictor (p<0.005).

In the ANOVA analysis PACC was the dependent variable and gender and pre/post 1992 were the independent variables. Gender had a significant effect (F(1,60) = 6.328, p<0.05), with males scoring significantly higher than females. Pre/post 1992 approached significance (F(1,60) = 3.749, p=0.058), with pre 1992 scoring higher than post 1992.

Cognitive psychology. In the regression analysis both career length and number of publications were significant predictors (p<0.05 & p<0.005 respectively) of prestige accuracy amongst cognitive psychologists. In the ANOVA, both gender (F(1,111) = 10.685, p<0.005) and pre/post 1992 (F(1,111) = 4.810, p<0.05) had a significant effect but no interaction was observed. These results were consistent with those found for social psychologists.

Health psychology. In the regression analysis both the overall model and the individual predictors were not significant (all p>0.05). The regression model accounted for only 7% of the total variance.

Within the ANOVA analysis, only pre/post 1992 (F(1,36) = 5.869, p<0.05) was significant, with pre 1992 being significantly higher than post 1992. There was no significant difference between male and female health psychologists.

Discussion: Exploratory sub-group analysis, revealed some interesting differences. For the social psychologists, only RAE was a significant predictor of prestige accuracy confirming our general hypothesis relating to competitiveness and accuracy of prestige rating based on impact factors. In contrast, career length and number of peer-reviewed publications were significant for cognitive psychologists suggesting that individual rather than contextual factors (i.e. competitive environment) might explain this. For the health psychologists, these factors were only weak predictors of prestige accuracy suggesting that other factors are important in understanding ratings of prestige amongst this group. For both social and cognitive psychologists, gender differences were found, where males were significantly more accurate in their rating of prestige than females. Such a difference was not observed for the health psychologists. Participants from pre 1992 institutions from the cognitive and health groups were significantly more accurate than those from post 1992 institutions confirming our expectations; however, amongst the social group, this only approached significance.

Difficulty

A second variable was calculated from the data. This was the correlation between perceived difficulty of publishing in a journal and the journals impact factor. In this instance the impact factor of a journal was used as a proxy measure of difficulty, based on the assumption that the higher the impact factor, the more difficult it is to publish an article in this journal. This new variable was viewed as indicating how accurate an individual's gauge of difficulty was, and will be referred to as DIFFACC. DIFFACC for all the data underwent the same analysis as all the data for PACC above.

The regression analysis showed an overall significant model (p<0.01), but only RAE was a significant individual predictor (p<0.005).

Within the ANOVA pre/post 1992 had a significant effect on DIFFACC (F(1,204) = 11.427, p<0.005), where pre 1992 was higher than post 1992. Of interest, type of psychologist also had a significant effect (F(2,204) = 3.468, p<0.05), with health psychologists scoring significantly lower than the other two groups. In this analysis, gender did not have a significant main effect.

There was a significant interaction observed between gender and pre/post 1992 (F(1,204) = 7.107, p<0.01) with males scoring equally well in both pre and post 1992 establishments. Interestingly, females scored higher in pre rather than post.

Discussion: For ratings of perceived difficulty in relation to impact factors as a proxy for this, only RAE was a significant predictor, supporting our hypothesis that academics from more competitive environments would show a higher agreement between perceptions of difficulty and impact factors. This suggests that those from higher rated institutions were more accurate at determining difficulty. Additionally, those from pre 1992 institutions had greater accuracy in determining levels of difficulty than post 1992 institutions. Health psychologists had significantly lower scores than the other two groups suggesting that they were less accurate at determining difficulty. Although there were no gender differences overall, males from pre and post 1992 institutions had comparable scores, whilst females had higher scores in pre 1992 institutions indicating that this group were more accurate at determining difficulty.

Given the extent of the significant results, the data was analysed further by type of psychologist.

Social psychology. In the regression analysis, overall the model was significant (p<0.05) and RAE was a significant predictor (p<0.05).

Within the ANOVA, only gender approached significance (F(1,59) = 3.130, p=.082) with males tending to score higher than females.

Cognitive psychology. The regression was not significant, with only 3% of the variance accounted for.

Within the ANOVA, there was a significant main effect of both gender (F(1,109) = 3.909, p=0.05) and pre/post 1992 (F(1,109) = 10.927, p<0.005) with males and pre 1992 institutions scoring higher. Also of interest was a significant interaction between gender and pre/post 1992 (F(1,109) = 14.718, p<0.001). In pre 1992 institutions, females scored higher than males, whilst in post 1992 the opposite was true.

Health psychology. No effects in the regression analysis or the ANOVA (all p values greater than 0.05)

Discussion: The exploratory sub-group analysis, revealed some interesting differences. For example, on inspection of the analysis by group, clear differences emerged. For social psychologists, the strongest predictor of difficulty accuracy was

RAE rating; higher RAE ratings were associated with more accurate rating of difficulty supporting our hypothesis that academics from more competitive environments would show a higher agreement between perceptions of difficulty and impact factors. In contrast, none of the factors were significant predictors for cognitive or health psychologists. Amongst cognitive psychologists, males were more accurate than females but no differences were found for social or health psychologists. Also for cognitive psychologists, significant differences emerged for pre/post 1992 institutions, where accuracy scores were higher for pre 1992. However, females were more accurate in pre 1992 and males in post 1992. Findings from the health psychology group could be explained by the relatively small sample size (n=43); however, this is worthy of further investigation.

General discussion

This study investigated perceptions of journal prestige and difficulty in relation to impact factors amongst cognitive, health and social psychologists working in academic institutions in the UK. Across groups, number of peer-reviewed publications, and the research contribution of the department (RAE rating) were predictive of perceptions of prestige, whilst only RAE rating was predictive of accuracy in determining perceived difficulty in publishing (based on the assumption that is it more difficult to publish in highly ranked journals). These findings confirmed our expectations that academics from more competitive environments would be more accurate in determining prestige and difficulty. Interesting differences were observed between older, more established universities (pre 1992) and newer universities (post 1992) and for males and females. Across groups, it appears that male judgements of the prestige of journals is more closely linked with its impact factor than females, proxy measurement of which was based on the correlation between an individual's subjective perception of prestige and the impact factor of each journal. In contrast males and females did not differ significantly in their ratings of the difficulty in publishing in these journals. In accounting for gender differences in prestige ratings, where females tend to underestimate prestige and males appear to rate prestige more closely in line with the impact factor, a number of possible explanations could be proffered. For example, it might be that males pay more attention to, and therefore are more familiar with impact factor ratings, perhaps because of greater competitiveness amongst peers or because of possible differences in career aspirations. Competitiveness in the workplace and the extrinsic rewards associated with publishing in high impact journals may also explain the gender differences observed. Within higher education institutions, promotion is somewhat dependant on publishing in good journals [e.g. FRANK, 2003], thus some awareness of impact factors within ones own field would be essential.

Whilst we expected that the research contribution of the department would contribute to explaining accuracy of perceptions of prestige and difficulty, how can this be explained? It is possible that this is a consequence of the increased salience of these issues for academics working in highly rated departments in the UK. Indeed, this is evidenced by the need to produce a list of their 4 strongest publications for the RAE despite the fact that impact factor is not a criterion in the current RAE.

Although discrepancies in 'objective' impact factor ratings and 'subjective' views of prestige raise questions about journal value and quality, value and prestige might represent different dimensions. For example, when considering value, the actual impact of a journal is not based merely on citations but on its importance to those who are going to use and apply the findings, in particular, practitioners in the applied fields [SAHA & AL., 2003].

In line with our predictions about those from more competitive environments, differences in institution type were observed. On the whole, those from older more established institutions (including the research-led Russell group) were more accurate in their perceptions of prestige and difficulty. However, male cognitive psychologists in newer (post 1992) institutions appeared to be more accurate in their perceptions of difficulty than those in pre 1992 institutions. On explaining this finding, it is possible that increased confidence could lead to underestimation of difficulty by academics working in more established institutions. A somewhat different pattern emerged for the health psychologists. Whilst this might, in part, be explained by the modest sample size of this group, it might also be that there are differences for this group because health psychologists are more likely to be working as applied psychologists which might dilute the focus on impact factors as an indicator of prestige. Indeed, these findings echo those of [SAHA & AL., 2003] who found that medical researchers' perceptions of quality were more closely associated with impact factor ratings than those of medical practitioners. Despite differences between old and new universities, research suggests that, somewhat controversially, the newer universities may be more effective academically than the more established institutions if effectiveness also measures student factors such as attrition rates [PURSGLOVE & SIMPSON, 2007]. Clearly, estimating the contribution that an academic makes to his or her field is more multidimensional than the impact factors of the journals that they publish in.

There are a number of salient issues emerging from this investigation. First, where prestige or difficulty is over-estimated, raising awareness of this might be a way of increasing confidence amongst those reluctant to submit papers to the highest ranking journals, particularly academics in new institutions. Second, promoting a more active research culture in newer institutions may increase awareness of 'academic capital' currently rated, albeit somewhat controversially, by the impact factor. Third, although knowledge of impact factors might be widespread, discrepancies in prestige and impact factor suggest that other factors influence an individual's rating of the work of their

peers and this warrants some attention; indeed no account is taken of the perceived value of different research designs. For example, PATSOPOULOS & AL. [2005] examined the relative citation of different study designs within the Health Sciences and found that meta-analyses were the most frequently cited and that citation tended to be associated with commonly agreed upon hierarchies of evidence. This adds a further dimension to the question of prestige, namely the relationship between perceptions of quality and methodology adopted, which operates at the level or individual article rather than journal – this was not explored in the present study. Fourth, females and males from similar institutions appear to evaluate the prestige of journals in a quantitatively different manner; further work using alternative methodology might shed light on and help to explain these differences. Furthermore, these findings have a broader application given that most countries have criteria and a method of evaluating the research contribution of departments; the methodology employed here could be applied to other systems and to other fields of psychology.

As with all cross-sectional surveys, this study represents a snapshot of the views of academics in the UK and it is not possible to conclude anything about the direction of the relationships between the variables investigated. Although a good sample size was obtained, the sampling methodology does not allow us to determine the response rate as participants were self-selected, nor does it allow us to explore differences between responders and non-responders; for example, it is possible that participants may have been more interested in and experienced at publishing. Although it is possible that individual participants could have checked the impact factors of these journals whilst completing the survey, we believe that this is unlikely given the variation in the results. It is also possible that other factors contribute to explaining ratings of prestige and difficulty and these were not assessed in this study, for example, position within institution (junior or senior staff) or nature of employment (part-time/full-time, fixedterm/permanent contract). The carefully selected list of journals, whist somewhat arbitrary, reflected a range of widely read journals with a range of impact factors. Overall, this study provides a snapshot at a time when this is a salient issue for academics.

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References

- ADAIR, J. G., VOHRA, N. (2003), The explosion of knowledge, references, and citations: Psychology's unique response to a crisis. *American Psychologist*, 58: 15–23.
- ANDERSEN H. (1996), ACTA Sociologica på den internationale arena-hvad kan SSCI fortælle? *Dansk Sociologi*, 2:72–8.
- ANSEL, F., DUYCK, W., DE BAENE, W., BRYSBAERT, M. (2004), Journal impact factors and self-citations: implications for psychological journals, *American Psychologist*, 59:49–51.
- BOOR, M. (1982), The citation impact factor: Another dubious index of journal quality, *American Psychologist*, 37: 975–977.
- CALLAHAM, M., WEARS, R. L., WEBER, E. (2002), Journal prestige, publication bias, and other characteristics associated with citation of published studies in peer-reviewed journals, *JAMA* 5, 287 (21): 2847–50.
- CHEW, M., VILLANUEVA, E. V., VAN DER WEYDEN, M. B. (2007), Life and times of the impact factor: retrospective analysis of trends for seven medical journals (1994-2005) and their Editors' views, J R Soc Med., 100: 142–150.
- COLE, S. (1989), Citations and the evaluation of individual scientists, *Trends in Biochemical Science*, 14:9-13.
- FRANK, M. (2003), Impact factors: Arbiter of excellence? J Med Libr Assoc, 91 (1): 4-6.
- GARFIELD, E. (1999), Journal impact factor: A brief review, CMAJ, 16: 979-980.
- GARFIELD, E. (2003), The meaning of the impact factor. *International Journal of Clinical and Health Psychology*, 3:363–369.
- GARFIELD E., SHER I. H. (1963), Genetics Citation Index. Philadelphia, Pa: Institute for Scientific Information; July 1963. Available at: http://www.garfield.library.upenn.edu/essays/v7p515y1984.pdf. Accessibility verified November 29, 2005.
- HEFCE (2007, November), Research Excellence Framework. Retrieved January 30, 2008 from http://www.hefce.ac.uk/pubs/hefce/2007/07 34/
- OPTHOF, T. (1997), Sense and nonsense about the impact factor. Cardiovascular Research, 33: 1-7.
- PATSOPOULOS, N. A., ANALATOS, A. A., IOANNIDIS, J. P. A. (2005), Relative citation impact of various study designs in the health sciences, *JAMA*, 293 (19): 2362–2366.
- PURSGLOVE, J., SIMPSON, M. (2007), Benchmarking the performance of English universities, *Benchmarking:* An International Journal, 14 (1): 102–122.
- SAHA, S., SAINT, S., CHRISTAKIS, D. A. (2003), Impact factor: a valid measure of journal quality? *J Med Libr Assoc.*, 91 (1): 42–46.
- SEGLEN, P. O. (1989), From bad to worse: evaluation by journal impact factor, *Trends in Biochemical Sciences*, 14:326–327.
- SEGLEN, P. O. (1997), Why the impact factor of journals should not be used for evaluating research, *BMJ*, 314:498–02.
- VON TUNZELMANN, N., MBULA, E. KRAEMER (28 February 2003), Changes in Research Assessment Practices in Other Countries Since 1999. Final report. Retrieved February 20, 2008 from www.rareview.ac.uk/reports/Prac/ChangingPractices.doc
- WALTERS, G. D. (2006), Measuring the utility of journals in the crime-psychology field: Beyond the impact factor, *Journal of the American Society for Information Science and Technology*, 57 (13): 1804–1813.