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**Single vs. Co-Authored and Multi-Authored Research Articles:
Evaluating the views and opinions of ICHRIE Scholars**

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ABSTRACT

In 1998, a study was conducted to determine whether CHRIE faculty believed scholars should receive the same amount of credit for single- and co-authored article. This study replicates and updates that information and offers new issues on the subject.

Key Words: hospitality, publications, author(s), co-authors, multiple-authors

INTRODUCTION

An article published in 1998 reported that hospitality management education scholars, who authored articles by themselves as sole authors, should receive more credit than those who published with others (Woods, 1998). At that time, 72% of CHRIE faculty participants indicated that papers penned by a single author should receive more credit than those co-authored with others. This study further reported that CHRIE faculty believed that co-authors should receive more credit than multiple-authors of articles (57%). While opinions of faculty from different ranks varied slightly, the general consensus was that the fewer the number of authors involved in an article, the more credit the author(s) should receive. Deans, Directors, and Department Heads of CHRIE programs who participated in that 1998 study held similar opinions. These participants believed that single authors should receive more credit than co-authors (67.7%) but they did not believe that co-authors should receive more credit than multiple-authors (52%).

The current study is conducted to determine whether the views on this subject have changed. The results are significant because, in recent years, co-authored and multiple-authored articles have become the norm. This is in spite of the fact that the 1998 study reported that both faculty and administrators believed that the amount of credit one receives for publishing should diminish with the addition of more and more authors.

The 1998 study also asked CHRIE faculty and administrators whether single-authored papers currently received more credit than co-authored papers and whether co-authored papers should receive more credit than multiple-authored papers. Overall, only 35.7% of participants in 1998 indicated that they believed scholars who wrote single-authored papers currently received more credit than co-authored papers and only 43.0% of the same participants believed that single authors received more credit than multiple authors. Thus, while nearly 75% of participants

believed that scholars who wrote single-authored papers should receive more credit, less than half of them believed that was actually the case.

We replicated the Deans, Directors and Department Head portion of the 1998 study to determine if opinions have changed in the last 12 years. Data collected in 2009 is compared to those collected in 1997 (1998 article) to determine the extent to which opinions and behaviors have changed.

REVIEW OF LITERATURE

What is the Common Number of Authors in Other Fields?

As part of our literature review we searched to see whether the trend to more authors is common in just hospitality and tourism, or in other fields and disciplines, as well. What we learned is interesting. As far back as 1963 some scholars were bemoaning the fact that the number of authors on scholarly papers was increasing. For instance, in 1963 Price wrote that “the trend towards co-authorship...is one of the most violent transitions that can be measured in recent trends of scientific manpower and literature (Price, 1963, p. 89).” His comments apparently had little effect as the trend continued. In 1983 McDowell and Melvin studied the issue of increasing numbers of authors on academic papers in economics and concluded that single authors should receive more credit. Assuming research utility to be a function of the number of articles produced, they even proposed a “Co-Authorship Model” seen below.

$$U = U(A)$$

where A , the total number of articles produced, is equal to

$$A = \delta S_s + \delta \gamma S_c + L_s + \gamma L_c$$

The notation is

S_s = Single author short articles

S_c = Co-authored short articles

L_s = Single author long articles

L_c = Co-authored long articles

γ = Value of a co-authored article relative to a sole authorship

δ = Value of a short article relative to a long article

Thus if $\gamma = \delta = 1/2$, then co-authored articles are only worth half as much as a single-authored, as far as counting towards research output, and short articles are worth half as much as long articles. They further assumed that producing a co-authored article only requires the fraction α of the time required for producing a single author piece. In other words, if L_s^T is time required for a single authored paper, $\alpha L_s^T = L_c^T$, where L_c^T is the time required for a jointly authored paper. This model clearly indicates that single-authored articles require more work and should receive more credit.

The issue of an increasing number of authors per article is not limited to hospitality and tourism. Glanzel (2002) reported that the number of authors per paper in biomedical, chemical and mathematics has been going up since at least 1980. A study of AACSB business school publications found that 36% of co-authors reported that they worked with others who had done little work on the publication, while 18% cited working with co-authors who actually

contributed to the paper. The majority of participants indicated that they believed that the person who did the most work should be first author (Manton & English, 2007). In science, as early as 1984-87 there were 2.7 authors per scientific paper and the number of single-authored papers had dropped to 31.4% (Peters & Raan, 1991). In advertising 51% of the scholarly articles were single-authored in 1990, 35% were co-authored and the remaining 14% had multiple authors (Berry, 1990).

Trends in business schools mirror those in other fields. In management publications, the number of multi-authored papers increased from 18.3% in the 1960's to 47.7% in the 1970's to 60.1% in the 1980's (Floyd, Schroeder, & Finn, 1994). Another study on scholarly business publications indicates that all journals in the field had experienced increases in the number of authors per article, a dramatic decrease in the number of sole-authored articles and a significant increase in multi-authored articles (Manton & English, 2007). Trends in academic accounting show significant increases in financial, managerial and auditing research, somewhat less steep trends in taxation research and significant upward trends in non-specialized articles (Englebrecht, Hanke, & Kuang, 2008).

In addition, analyses of authorship trends in other fields show similar results. For instance, an analysis covering a 10-year period of eight biomedical journals revealed a trend toward an increasing number of authors (Epstein, 1993). The same was seen in the 1990's in nursing journals (Norris, 1993a; Norris 1993b). There exist exaggerated cases. For instance, an article in the *Journal Physical Review Letters* that was only six pages long used the entire first two pages to list the names and institutions of the 437 authors of the paper. A second article on the same research project listed 403 authors and their 42 institutions (McDonald, 1995). This obviously illustrates multiple authorships to the extreme. The *New England Journal of Medicine* even published the results of a large clinical trial and included 972 people as authors (Gelman & Gibelman, 1999). While the two previous examples may seem absurd in an analysis of 4,000 scientific journals, the Institute for Scientific Information in Philadelphia found that the number of papers with 50 or more authors grew from 49 in 1981 to 407 in 1994, and articles with 100 or more authors grew from 1 to 182 in the same time period (Gelman & Gibelman, 1999). There are also those who believe that this trend towards more authors is good. For instance, Suarez-Balseiro, Garcia-Zorita, and Sanz-Casado (2009) recently argued that multi-authorship papers by Puerto Rican authors helped the visibility of scholars from that country. However, this and other self-serving reasons appear only to denigrate the academy as it does nothing to further science or the literature.

Why is the Number of Authors Increasing?

Results of this study indicate that while administrators believe that single-authored work should count more, the trend is towards multiple authored articles. So, why the conflict between what administrators say they believe and what is really happening?

Katz and Martin (1995) identified reasons for the trend towards more than one author per published article. Writing about increases in research collaboration in scientific fields, these authors noted that: (1) changing patterns of funding; (2) the desire of researchers to increase their own popularity, visibility and recognition; (3) escalating demands for the rationalization of scientific manpower; (4) the increase in more complex instrumentation; (5) increased specialization; (6) the demand for higher levels of scientific inquiry; (7) the growing professionalism in academia; (8) the need to gain experience or train apprentices; (9) the desire to cross-fertilize across disciplines; and (10) the need to work in close proximity with others in order to benefit from their skills and tacit knowledge.

Some, but perhaps not all, of the reasons for the trend to more authors per article in hospitality might be consistent with the reasons offered by Katz and Martin (1995). For instance, Katz and Martin were writing about articles in scientific journals, where outside funding (and thus funding patterns) is more likely to have an impact. Perhaps the demand for rationalization and the demand for more complex instrumentation also do not apply to hospitality as much as they do in science fields. However, many of the other reasons do seem to apply to hospitality as well as sciences. Reasons such as increased emphasis on collaboration and collaboration across disciplines seem logical, as do researchers' desires to increase their own popularity, visibility and recognition. Increased

specialization and growing professionalism in hospitality might also be good reasons why we see more authors per article. Even the need to work in close proximity and the desire to train apprentices seem to apply in some cases. It is common for faculty to try to work with their graduate students and younger faculty in an effort to mentor these persons and to get them started on their careers. In many cases this involves publishing together as part of a mentoring process. But, perhaps the simplest explanation is that the pressure to publish has grown over the last 12 years. Administrators expect more publications from their faculty today and, because of this pressure scholars are forming publishing teams to churn out more articles. Oddly, however, recent research has shown that publication requirements have not increased within CHRIE programs (Cho, Schmidgall, & Woods, 2009).

Another explanation is that research and publication has become more time-consuming and/or more difficult work over the past dozen years and more scholars are needed to complete more complex research. This argument gains merit when one considers the increase in exotic statistical methods which dominate some academic hospitality and tourism journals today. One can easily envision a need for a stats “expert” on each article. Obviously, while all faculty learn statistical skills during their studies and their careers, some are simply more interested in and better at those skills, and statisticians have become more valuable in hospitality and tourism research publications today (for better or worse). A fourth explanation might be that involving more authors is simply how it’s done today, i.e. grad students and young faculty only know this approach. We also have more faculty with terminal degrees in hospitality and tourism programs today than we once did. This means we have more faculty trained to conduct research than we once did and perhaps they are just doing what they are trained to do. Finally, as enrollments and faculties have grown in the field, perhaps administrators simply need hard facts upon which to base tenure, promotion and reward systems and counting research publications is the easiest way to accomplish these tasks.

Some see this trend in other terms. For instance, Borry, Schotsmans, and Dierickx (2006) wrote the following about the increasing number of authors on academic articles. “Publications in peer reviewed journals are proof of academic competence, are used as evaluation criteria for academic promotion and fundraising and increase the prestige of research universities. The urgent need for publications has also led to abuses in authorship (Borry et al., 2006, p. 213).”

METHODS

Journal Authorship Trends

This study attempts to capture authorship trends in eight leading hospitality and tourism journals (Table 1) from 1989 to 2008, the most recent 20-year period for which complete publication information was available. Only research articles were considered for inclusion in the study. Research notes, conference reports, book reviews, and communications and letters from editors were not included in this study.

Table 1
Hospitality Journals Examined in This Study

| Abbreviation | Journal |
|--------------|--|
| CQ | Cornell Hospitality Quarterly |
| FIU | Florida International University Hospitality Review |
| IJCHM | International Journal of Contemporary Hospitality Management |
| IJHM | International Journal of Hospitality Management |
| JHTR | Journal of Hospitality & Tourism Research |

Tourism Journals Examined in This Study

| Abbreviation | Journal |
|--------------|----------------------------|
| Annals | Annals of Tourism Research |
| JTR | Journal of Travel Research |
| TM | Tourism Management |

Directors Survey

This portion of the project was designed to determine how U.S. ICHRIE Deans/Directors/Department Heads view authorship status within academic journals. It has two objectives. The first is to identify and compare results of Deans/Directors/Department opinions about the subject today. The second objective is to compare the results of these opinions with responses to a similar survey conducted 12 years ago.

Forty top hospitality program Heads were invited to participate in the current study. Twenty-three returned useable surveys and were included for final analysis in this portion of this report, representing a 58% response rate. Each participating program administrator was sent a mail survey with ten questions. The creation of the survey instrument was guided by the initial study conducted by Woods in 1998. The first six questions asked the administrators to report their views regarding authorship status in academic journals. The next three questions uncovered information on the number and types of articles they have published. The last portion of the survey was one open-ended question asking them to provide their opinion regarding authorship status and its importance in the hospitality field.

RESULTS

For the purpose of identifying authorship trends, a total of 6,691 research articles from eight hospitality and tourism journals were examined. The number of authors for each article was determined by counting the names shown on the first page of each article.

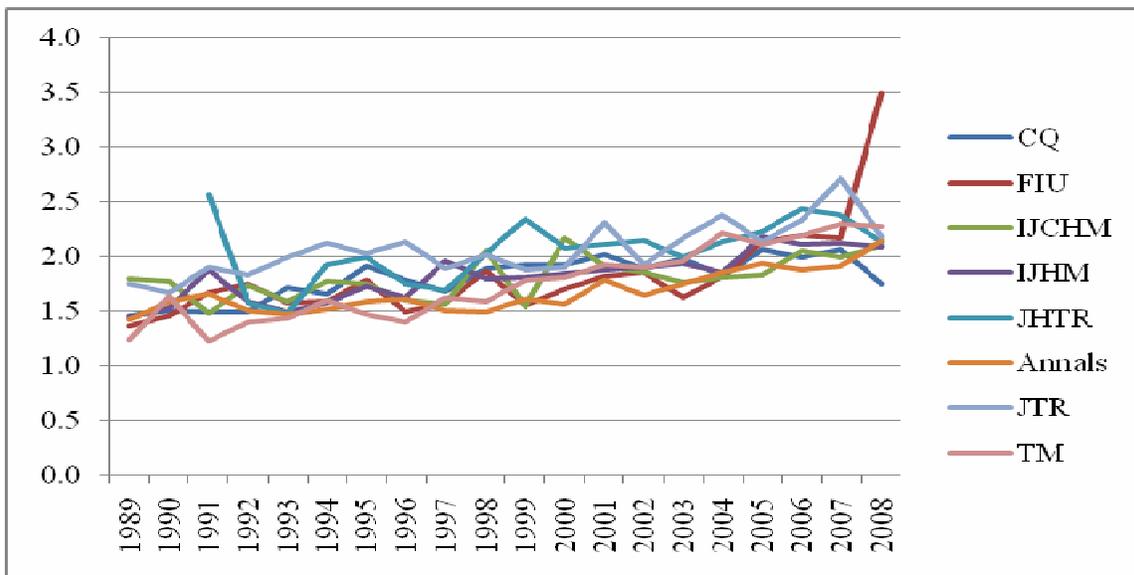


Figure 1. Authorship Trends for each Journal

Figure 1 provides the average number of authors per article for the eight journals during the observed 20-year period. There appears to be an increase in the number of authors per article, for all eight journals. Next, these journals were classified into either a hospitality group or a tourism group and the authorship trends were observed for each group. As shown in Figure 2, the number of authors per article in each group also saw apparent increases over the 20 years.

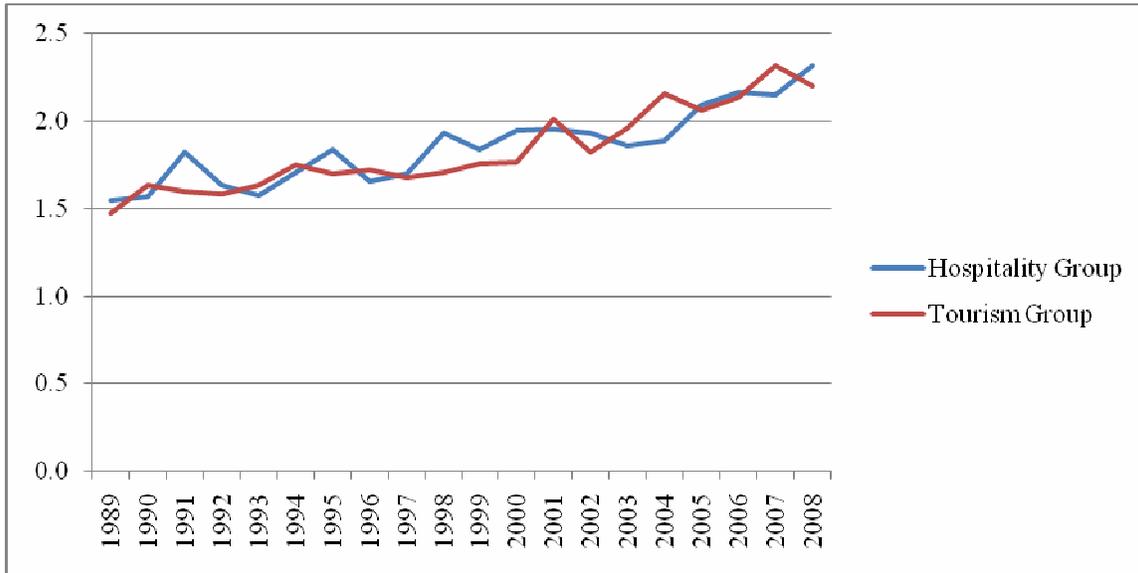


Figure 2. Authorship Trends for each Group

In 1998, the average number of authors for both hospitality and tourism journals were 1.5. Twelve years later the number has increased to 2.3 for hospitality journals and 2.2 for tourism journals. Therefore we know that more faculties collaborate today on research and publication than did so in 1997 when the 1998 survey was completed. This raises some interesting questions.

Among the questions raised from comparisons between current and 1998 authorship are: (1) why are there fewer single authored papers today; (2) how do trends in academic publishing in hospitality and tourism management compare to those in other fields; and (3) why have administrators, who favored single-authored research in both 1998 and 2009, not forcing this interpretation of quality on their faculty through the reward system.

The answer to the first question was approached through the survey to current administrators. Since these administrators are deeply involved in the evaluation of faculty productivity, the changes in authorship status among faculty members may be reflecting changes in the way that their administrations value the research collaboration. Table 2 reports findings of the survey along with the findings reported in the earlier study (Woods, 1998) for comparison. Answers to the second question are addressed in the conclusion of this paper while comparisons to other fields are provided in a separate section devoted to that topic.

Table 2
Opinions of Deans, Directors, and Chairs

| Question | 1998 (n=66) | | | 2009 (n=23) | | |
|--|-------------|-------|------------|-------------|-------|------------|
| | YES | NO | Don't Know | YES | NO | Don't Know |
| DO sole-authored research papers count more than co-authored | 36.4% | 51.6% | 12.0% | 52.2% | 47.8% | |
| SHOULD sole authors receive more credits than co-authors | 40.6 | 59.4 | | 65.2 | 34.8 | |
| DO sole-authored research papers count more than multiple-authored | 40.9 | 39.4 | 16.7 | 60.9 | 39.1 | |
| SHOULD sole authors receive more credit than multiple authors | 67.7 | 32.2 | | 73.9 | 26.1 | |
| DO co-authored research papers count more than multiple-authored | N/A | N/A | | 30.4 | 65.2 | 4.3 |
| SHOULD co-authors receive more credit than multiple authors | 48.4 | 51.6 | | 39.1 | 52.2 | 8.7 |
| # of articles you have authored as SOLE author | 7.4 | | | 10 | | |
| # of articles you have CO-authored | 7.6 | | | 13 | | |
| # of articles in which you have been a MUTIPLE author | 4.2 | | | 10 | | |

Table 2 reports a number of interesting findings about how the participants value sole-authored, co-authored, and multiple-authored research articles. It appears that the administrators today value sole-authored research more than they did 12 years ago. In 1998, well less than half of the participants reported that they did not currently value sole-authorship over co-authorship but 67.7% indicated that they believed such papers should count more. Today, more than half of the administrators count sole-authorship papers more than co-authored papers and two-thirds of them reported that single authors should receive more credit than co-authors. When the study asked opinions on sole-authorship versus multiple-authorship, a majority of the participants indicated clear preference towards sole-authorship. As a group, these administrators believe that multiple authorships should not count as much as single authorships. It is fairly clear that the participants in this study did not make a distinction between co-authorships and multiple-authorships. These findings indicate that faculty members are rewarded equally for co-authored or multiple-authored articles.

The open-ended question included in the survey yielded some useful insights. Among those comments, the most frequently offered was on the quality of the publication outlet. Thus, some participants commented that they would determine faculty productivity value based on the quality of the journal rather than on the authorship status. Here are some excerpts from the survey:

“Research papers for tenure/promotion decisions cannot be valued solely on authorship status. Other factors- quality of the journal and/or role of the authors- must be taken into consideration to fully value the work. For instance, a co-authored work in a premier journal may be valued higher than a sole authored work in a second tier journal.”

“The quality of the research should be more important than the # of authors.”

“Typically, single author research counts more in our school. However, if the researcher is the lead author of a co-authored or multi-authored paper in a first-tiered journal, the lead author will be given more weight. In summary, the researcher needs to show single- authored papers to demonstrate individual research work.”

This study investigated authorship trends in eight leading hospitality and tourism journals. Many schools consider these eight journals as “tier 1” and an article published in any of these journals is considered to have a higher impact than articles in other journals. A number of participants reported that while they expect their faculty to show sole-authored work to demonstrate individual research capability, they would prefer seeing collaborated work which appeared in top quality journals to a single-authored work in less prestigious publication outlets. The findings of this study reveal an increasing trend in the average number of authors per article for all eight journals. Increased importance on journal quality (as determined by “tiering”) appears to have contributed towards this trend.

CONCLUSION

It appears obvious that the number of authors on articles in hospitality and tourism journals is increasing. It also appears obvious that this trend is common to many other disciplines. Therefore, while somewhat behind the curve in terms of when the movement from single authors to co- and multiple-authors occurred, CHRIE faculties are no different than faculty in other disciplines regarding the overall.

What is not known from this research are the real reasons that CHRIE publications are seeing more co- and multiple-authors. We know why this might be the case in other disciplines i.e. funding requirements, complex instrumentation and so on. However, these reasons do not seem to apply well to hospitality and tourism. More research is needed to explain why this is occurring in hospitality and tourism management education, especially now, some years after this has occurred in other fields. This appears to be both a practical question as well as an academic query. We know that administrators, both 12 years ago and today, believe that single authors should receive more credit. We also know that CHRIE faculty members participating in both the 1998 study and the current study hold the same opinion. So, why is the number of authors increasing? The simple answer seems to be that administrators are saying one thing while doing another. If, for instance, administrators truly believed that single authors should receive more rewards for their work then it stands to reason that they would put this belief into practice and that more faculty would publish alone.

A question left unanswered by this inquiry is what will happen to tenure requirements in the future. It is fair to ask if the number of scholarly publications required for tenure will increase several times over in the decades to come. Some programs have fixed thresholds of publications that young scholars must meet to gain tenure. Others have something of a moving bar based on the last few tenure decisions made. If the past three tenured faculties had published fewer articles, but primarily single-authored, would the trend in the number of publications required for tenure go downward? If the last few had published a large number of articles, likely co-authored or multi-authored with others, would the trend to higher tenure requirements increase exponentially? If so, what would the next person, and the next person and so on have to produce to gain tenure? What effect this trend will have on tenure was not addressed in our research but it seems logical that further investigation of this topic is required now.

The issue of tiered journals is important to solution of this issue, as well. Today several programs have tiered their journals, noting which are best for publication and which are worst. Normally in these programs publications in

the higher-tiered journals counts more than others. The problem for hospitality and tourism is that there is no single tiering system. Each program can have its own system. As long as faculty remain at the same institution throughout their careers this works well. Problems appear, however, when faculty move from an institution with one tier system to a second with a vastly different system. In that case the number of publications might be a significantly more important consideration.

Finally, earlier in this paper we reminded readers of the “Co-Authorship Model.” According to that model single authored papers should count about twice as much as co-authored and multi-authored papers. It is fair to ask whether that should be the model for evaluating publication records in hospitality and tourism education management.

* By the way, we assume you noticed that there are three authors to this paper. We all worked hard.

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