

## The ethics of multiple authorship: power, performativity and the gift economy

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The allocation of authorship credit in academic publication raises complex ethical issues but is comparatively under-researched, particularly in the social sciences. The paper analyses the results of research into attitudes to multiple authorship based on a survey questionnaire of academics working in education faculties in universities in Hong Kong. The results illustrate the way in which intellectual contribution is often overridden by considerations related to hierarchical power relations, notably in relation to research project leadership and doctoral supervision. These considerations normalize a gift economy. Belief in the legitimacy of power ordering and gift ordering of academic contributions to multiple authored publications indicate the need for research universities to pay more regard to institutional policies on scholarly authorship.

**Keywords:** authorship; collaborative work; academic ethics; performativity

### Introduction

The integrity of research is central to the credibility of science and the reputation of higher education institutions (HEIs). Universities occupy a privileged position in society on the basis of public trust. This means that the academic profession and HEIs have a particular responsibility to protect truthfulness in science. In the wake of the Belmont report (National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research 1979), considerable attention has been paid to research integrity leading to the development of institutional level procedures for ethical approval of research proposals in most developed higher education systems. Alongside this development, the field of bioethics has emerged focused on research into misconduct in the biomedical sciences.

However, issues pertaining to legitimate authorship have received more limited attention in understandings of research ethics. University ethical approval procedures, for example, are focused on the treatment of research subjects but rarely incorporate a consideration of authorship issues. The international standard for authorship, the Vancouver protocol, has been defined by the International Council of Medical Journal Editors (ICMJE 2009) (see Table 1). While the protocol originated in the biomedical sciences in 1978, it is now being applied across all academic disciplines by a large number of research-intensive universities (e.g. Washington University in

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Table 1. The Vancouver protocol.

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Authorship credit should be based only on substantial contributions to:

- (a) conception and design, or analysis and interpretation of data; and to
- (b) drafting the article or revising it critically for important intellectual content; and on
- (c) final approval of the version to be published.

Conditions (a), (b) and (c) must all be met.

Source: ICMJE (2009) Originally published in 1978

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St Louis 2009) and in higher education systems, such as Australia (e.g. Universities Australia 2007).

Multiple authorship, also sometimes known as co- or shared authorship, may be defined as publication by two or more named persons. While conventionally associated with the ‘hard’ sciences, multiple authorship has been the norm in sociological and psychological studies since at least the early 1990s (Endersby 1996). This signals the importance of exploring understandings of legitimate authorship among social scientists within divergent fields, such as education, where multiple authorship is now commonplace (see Table 2). The growth of multiple authorship has been attributed to a number of factors including building collegiality, increasing methodological sophistication, an expansion in multi-disciplinary research, growing opportunities to collaborate internationally facilitated by the internet and globalization and rising levels of competition in academic life in response to performative pressures (Erlen et al. 1997; Moore and Griffin 2006). Research audit regimes have intensified academic productivity either through government-backed rating systems (e.g. Australia, Hong Kong, New Zealand and the UK) or direct incentive systems (e.g. South Africa and China). Academic publication has become critical in defining success in academic careers holding the key to the three P’s: prestige, promotion and pay (Mitcheson, Collings, and Siebers 2011).

This paper will investigate the ethics of multiple authorship in the social sciences through a case-study-based survey questionnaire designed to elicit the understandings of educational researchers based in Hong Kong. The research explores these understandings as to what constitutes legitimate multiple authorship in the context of often complex power relationships between academics. A brief review of the relevant literature and a consideration of relevant methodological issues will be followed by an analysis of the survey data and an identification of the key themes indicative of what is termed a ‘gift economy’.

Table 2. The growth of multiple authorship in education.

	Papers	Multi-authored	Authors	Multi-author ratio
<i>Educational studies</i>				
1975	22	3	25	1.13
2014	33	24	91	2.76
<i>Studies in higher education</i>				
1976	24	3	27	1.12
2014	126	83	275	2.18

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### Authorship ethics

Authorship is a key issue in the context of metrics and international research assessment but attention has been focused mainly on plagiarism, self-plagiarism and salami slicing. By comparison, considerably less research and analysis have focused on more fine-grained issues such as authorship order, one which academics regard as an especially important ethical issue (Macfarlane, 2009). The intertwining of power and positionality in decisions about authorship order has led to the identification of the so-called 'White Bull' effect (Kwok 2005) where senior researchers coercively assert a first authorship credit. This means that junior and less experienced academics and research students can either be excluded from a list of named authors or receive an authorship credit which reflects their organizational status rather than intellectual contribution. It has also been noted that junior or less powerfully placed academics can also be adversely impacted by the Matthew effect (Merton 1973) where co-authors with an already established reputation tend to gain disproportionate credit.

Evidence indicates that there are low levels of understanding as to what constitutes a legitimate claim to authorship where more than one author is credited (Erlen et al. 1997; Mitcheson, Collings, and Siebers 2011; Pignatelli, Maisonneuve, and Chapuis 2005). Most of the published literature on authorship ethics relates to the biomedical sciences and much of this takes the form of short editorials by editors of medical journals (e.g. Berquist 2009; Cowell 1998; Rogers 1999; Shewan and Coats 2010) or spokespersons for professional ethics committees (e.g. Carlson and Ross 2010). Conventionally multiple authorship is principally associated with the hard sciences where the number of contributors to an academic paper tends to be higher than in the humanities and social sciences. There are relatively fewer empirical studies on authorship ethics particularly in the social sciences (e.g. Endersby 1996; Moore and Griffin 2006; Netting and Nichols-Casebolt 1997). The rising proportion of multiple authored papers published in leading education journals, such as *Studies in Higher Education*, points to the need for more research in this area (see Table 2). Existing studies tend to focus on the perspectives of the powerful (e.g. journal editors) rather than the less powerful (e.g. junior academic faculty) or the powerless (e.g. research assistants). Moreover, there have been no studies involving East Asian contexts aside from non-empirical opinion pieces (e.g. Salita 2010).

### Methodological considerations

Methods of enquiry used in previous studies on authorship ethics include questionnaires (Endersby 1996; Wager et al. 2008), interviews (Pignatelli, Maisonneuve, and Chapuis 2005), critical incidents (Goodyear, Crego, and Johnston 1992), focus groups (Netting and Nichols-Casebolt 1997) and case studies (Spiegel and Keith-Spiegel 1970). In this study a survey questionnaire incorporating case studies was designed as the most appropriate method for data collection influenced by the work of Spiegel and Keith-Spiegel (1970). Case studies provide a stimulus for respondents to represent their perspectives on the manner in which authorship credit is allocated. They also illustrate the possible role of hierarchical relations between researchers enabling analysis of perspectives of the less powerful (i.e. junior rather than senior academic faculty). Case studies further help to minimize the possible impact of social desirability reporting which is a particular concern when researching ethical issues connected with academic integrity (Macfarlane, Zhang, and Pun 2014). This occurs when there is a tendency for respondents to give opinions that they think are socially desirable or present a favourable image of themselves (Johnson and Fendrich 2002).

Authorship is a sensitive area of enquiry and respondents may have heightened concerns about anonymity as a result of past or existing conflicts with colleagues. Questionnaires remove the social pressure associated with face-to-face methods, such as interviews, and hence alleviate the problem to some extent with case studies providing real-to-life alternatives. The design of the questionnaire included pre-determined response options for each question and case study including offering their own solution. Written comments explain choices, suggestions and provide a means to raise further dilemmas encountered drawing on personal experiences. The questionnaire was piloted with a small group of six respondents, including non-native English speakers, following which adjustments were made in the phrasing of questions and the simplification of some pre-determined response options to ensure clarity of communication. The quantitative element of the questionnaire was analysed using descriptive statistics whilst the open comments collected via the qualitative component were analysed using grounded theory. The data were scrutinized inductively using the constant comparison method (Glaser and Strauss 1967). This involved comparing the datum from open comments several times through coding, and recoding where necessary, in order to identify the overarching common themes and patterns. The quotations selected are illustrative of the main themes which emerged from this analysis.

A link to an online questionnaire was sent by email to each academic member of education schools or faculties in the Hong Kong higher education sector during October and November 2014. The research received ethical approval from the Human Research Ethics Committee for Non-Clinical Faculties of the author's home institution at the time the research was conducted (EA250914). The population was defined in terms of academic staff with professorial and research track positions working in Schools or Faculties of Education. This excludes educational researchers working outside of these contexts even though some academic staff located in other disciplinary departments may undertake educational research. Education is a broad multi-disciplinary field within social science and Faculties or Schools are often broad amalgams that include specialists in diverse areas. Reflecting this respondents were drawn from, *inter alia*, language education, educational psychology, early childhood studies, sports science, hearing and speech science, higher education, leadership and policy studies and curriculum and pedagogy.

108 responses were collected representing a response rate of 36.1% of the population of 299 education academics employed in four HEIs in Hong Kong. The sample is closely representative of the population, particularly in terms of academic rank at the associate and assistant professor levels which account for the vast majority of the population (see Table 3). Chair and Full professors are relatively under-represented whilst post-doctoral fellows are relatively over-represented. However, the nature of the sample gives a stronger sense of the perspectives of more junior ranked

Table 3. Academic rank by sample and population.

Academic rank	Sample	Population
Chair & Full professor	12 (11.1%)	56 (18.7%)
Associate professor	25 (23.1%)	79 (26.4%)
Assistant professor	53 (49.0%)	151 (50.5%)
Post-doctoral fellow	10 (9.3%)	11 (3.7%)
Research Assistant professor	2 (1.9%)	2 (0.7%)
Total	108	299

academics as a result. The sample was also closely representative of the population on the basis of gender.

**The case studies**

**Case 1: The co-authors**

The first case study entitled ‘the co-authors’ involved a research project where the two researchers had made identical contributions in terms of the conception, design, empirical research and writing of a paper for publication (Table 4). The two researchers were not though of equal academic status. ‘Professor Smith’ is represented in the case as the senior academic, the Head of Department and former doctoral supervisor of the co-researcher, ‘Dr Jones’ who is an assistant professor in the same academic department (Figure 1).

Of the four suggested solutions for determining authorship order, respondents most favoured selecting ‘the person who needed a first authorship the most for their career advancement’ (32%). The proportion of respondents supporting this proposition though was even higher when taking account of the open comments offered under the option of providing an alternative solution (40%). In effect, many of these suggestions made the same direct or implied suggestion with respect to authorship order according to career and tenure considerations:

Table 4. Case 1.

The co-authors

Prof. Smith and Dr Jones have worked together on a research project. Dr Jones is Prof. Smith’s former doctoral student. Dr Jones is now an assistant professor in the same department in which Prof. Smith is the Head of Department. Both were involved in the conception and design of an unfunded study which involved conducting interviews. They conducted an equal number of interviews each, shared the transcription work between them and then sat down together and jointly analysed the data. They both made a roughly equal contribution to the writing of the paper for publication including final edits. They are not planning to collaborate on further papers in the future.

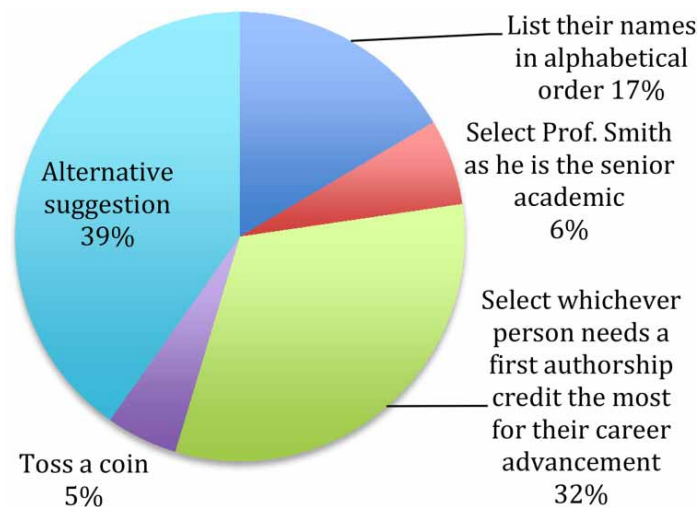


Figure 1. The co-authors.

I think both scholars should sit down and talk about the issue of authorship of a publication, as it has great impact on promotion, application for tenure and so forth. (Male, Assistant Prof.)

Nine respondents writing an open comment suggested that Dr Jones, as the junior academic, ‘needed’ the first authorship credit more than Prof. Smith as the more senior academic.

Dr. Jones needs first authorship more for career advancement. (Male, Full Prof.)

Select Dr. Jones because he needs the credit most for the attainment of tenure. (Female, Assistant Prof.)

Based on my experiences and interactions with my mentors, they would give the first authorship to the junior one, especially under the pressure of tenure and promotion. (Female, Assistant Prof.)

Hopefully Prof. Smith would realize that s/he probably doesn’t need 1<sup>st</sup> authorship as much as Dr. Jones. (Male, Assistant Prof.)

Fourteen respondents in open comments suggested that the decision should be guided by considerations of career advancement. Other popular suggestions included arriving at a mutually agreed decision (14), assigning first authorship to the person who initiated the writing of the paper or its conceptual basis (6) or publishing as joint first authors (5). Seventeen per cent of respondents indicated a preference for putting names in alphabetical order (implying Dr Jones as first author), 6% concurred with selecting Prof. Smith as the senior academic whilst the least popular solution was to toss a coin (5%).

### ***Case 2: The research student***

In the second case study a paper is written by a research student close to completion of their PhD. Their supervisor (‘Dr Yan’) has commented on a draft of the paper making some suggestions for how it might be improved (Table 5). It is made clear though that the supervisor has not played any role in the conception or design of the thesis on which the paper is based or in data gathering or analysis.

Almost all respondents (99%) indicated that the research student ought to be the first author. Furthermore, over two-fifths (22%) of respondents thought that the research student should be the sole author of the paper. However, more than three-quarters of

Table 5. Case 2.

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The research student

Dr Yan has a research student studying for a PhD. Dr Yan has taken no part in the design or conception of their project or in data gathering or analysis. However, during the last 3 years they have met about once a month on average and Dr Yan has given the student feedback on their work including suggestions as to how it might be improved. The student is close to completing their thesis and has written a paper based on its findings for publication. Dr Yan has encouraged the research student to write the paper and has commented on a draft making some suggestions for improvement, as usual. Following the meeting the student amends the paper and then sends it to a journal.

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respondents (77%) indicated that Dr Yan, as the doctoral supervisor, should be named as the second author of the paper. This reflected the view of the overwhelming majority of respondents that, in the words of one, 'the supervisor should take credit for the supervision'. In other open comments a number of respondents argued that Dr Yan deserved an authorship credit because of the intellectual contribution made over a number of years as the supervisor and not just in relation to this paper.

Meeting once a month for 3 years is substantial contributions and deserves co-authorship. (Female, Assistant Prof.)

If Dr. Yan has helped that student with concrete academic suggestions and has helped that student with professional attitudes. And the paper is related to the findings of the thesis directly, then Dr Yan should be considered as a co-author. (Female, Assistant Prof.)

Dr. Yan did provide mentoring to the research student. Writing a paper could be very different from the thesis and I believe Dr. Yan's contribution guided the student to successfully complete the paper. If there should be a second author, Dr. Yan deserves it. (Female, Assistant Prof.)

Allied to this position was a more direct sense, conveyed in several open comments, that Dr Yan deserves an authorship credit due to his or her role as the supervisor regardless of how much or little s/he may have contributed to the paper. Here, there was a view that because the paper emanated from a thesis to which Dr Yan had 'contributed' via supervision, an authorship credit in a linked publication would be legitimate.

I think that Dr. Yan should be the second author given that he/she is the supervisor, and has provided feedback on the work (even if the feedback is only small and may not be very constructive.) (Female, Associate Prof.)

Supervisor's input should be credited by authorship. (Female, Assistant Prof.)

This would be the typical arrangement in my field. Dr. Yan has made a significant intellectual input to the study. (Male, Full Prof.)

However, a substantial minority (22%) did not subscribe to the view that Dr Yan deserved an authorship credit. Again the principal argument justifying this position was in terms of intellectual contribution but here respondents contended that the supervisor did not contribute sufficiently to warrant an authorship credit.

Dr. Yan has not made enough contribution to deserve a co-authorship. (Female, Full Prof.)

I think only commenting on the paper does not entitle an authorship. (Female, PDF)

Dr Yan would need to provide more input than is indicated to warrant an authorship. (Male, Chair Prof.)

Three respondents suggested that it would be more appropriate to give Dr Yan an acknowledgement at the end of the paper rather than a full authorship credit. Two other respondents suggested that inviting the supervisor to be a co-author might be motivated by the belief that this would increase the research students' chance of getting published. It was also suggested that the student may feel that the supervisor should be the second author out of a sense of indebtedness.

Very often, students invite their supervisors to be the second author thinking that it would increase their opportunity for publication. (Female, Associate Prof.)

I have seen students that feel indebted towards his/her supervisor, and s/he wants to add the supervisor as a second author (not under any pressure but rather sense of gratitude). (Male, Assistant Prof.)

### ***Case 3: The project team***

The third case study involved a research project team consisting of three different academic ranks: a full professor, an assistant professor and a post-doctoral fellow (PDF) (Table 6). The case details indicate that the most junior team member, the PDF (Dr Wong), does the bulk of the field research and also writes the paper for publication. The full professor (Prof. Chen) gains the research funding and chairs team meetings while the assistant professor (Dr Lee) designs the research instrument. (Figure 2)

Two-thirds of respondents (65%) reasoned that the PDF, Dr Wong, should be the first author. Open comment responses indicated that these respondents felt that this member of the research team had contributed the most to the writing of the paper and other elements of the research process including the gathering and analysis of the data.

The keyword is ‘writes the paper’. What is at stake is publication and not research as a whole. The publication has an intellectual and an aesthetic/stylistic authorship. In this case, Dr. Wong did the most of both. (Male, Assistant Prof.)

Table 6. Case 3.

#### The project team

A project team composed of three researchers – Prof. Chen (Full Professor), Dr Lee (Assistant Professor) and Dr Wong (Post-Doctoral Fellow) – carry out a funded educational research project and seek to publish a paper based on its findings. Their respective contributions are as follows: Prof. Chen develops and gains funding for the research proposal; organizes and chairs research team meetings; and reviews the paper for publication making minor amendments to it after it is written by Dr Wong. Dr Lee designs the research instrument and oversees the work of Dr Wong on a day-to-day basis. Dr Wong collects and analyses all the data and also writes the paper for publication.

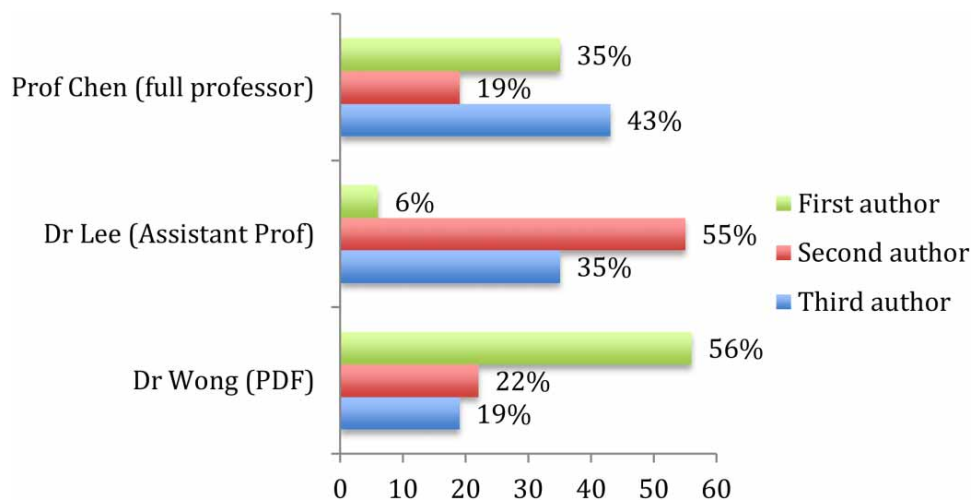


Figure 2. The project team.



In principle the one who does the writing and who contributes the most substantial ideas should be first author. (Female, Assistant Prof.)

Just 6% of respondents indicated that Dr Lee, who designed the research instrument, should be the first author. However, around a third argued that Prof. Chen, as the project grant holder, should be credited as the first author despite contributing comparatively little to the research process beyond obtaining the grant funding. Some respondents were unequivocal in asserting that Prof. Chen as grant holder should be credited as the first author and expressed this idea as a 'given' without reference to any further justification:

[in determining first authorship] ... the main point is who gains funding for research. (Male, PDF)

... under normal circumstance, the PI of the project would be the first author. (Male, Associate Prof.)

Of course, the one who wrote the research proposal such as PI should have legitimate authorship. (Male, Assistant Prof.)

Other respondents though did offer explanations for this assertion, indicating a range of reasons including the need for the project holder to be accountable for ensuing publications, to be credited as the facilitator of the research, and because in gaining funding they will have been responsible for the original conception/design of the research.

The project holder is responsible for findings generated from the project, and therefore should be the first author of the paper. (Female, Associate Prof.)

Prof. Chen is the PI and without the funding, the rest of the project won't be possible (data collection, analysis, publication, etc.). (Female, Assistant Prof.)

The conceptualisation and funding of the study is essential to it being carried out. For this reason Prof. Chen should get first authorship. (Male, Chair Prof.)

Position power and hierarchy is a common theme in the written responses of those arguing that Prof. Chen should be the first author. Here, the argument is that Dr Wong owes his or her job to Prof. Chen as the project holder having been, in the words of one respondent, 'hired by the grant'. This reasoning led a number of respondents to argue that Dr Wong's contribution, as PDF, is as a junior member of the research team receiving 'training' and hence not necessarily entitled to a first authorship credit.

I think that Prof. Chen should be the first author given that he brought in the funding, and likely that he hired Dr. Wong as the post-doctoral fellow. (Female, Associate Prof.)

Dr. Wong's role may be to support Dr Lee's research, and Dr Wong may have agreed to this role, being a PDF. (Female, Assistant Prof.)

As the professor is the PI, he provides training for Dr. Wong. In a way, as Dr. Wong has done so much he in theory should be the first author, but because he is a research staff member of the team, being the second author also makes sense. (Female, Full Prof.)

Dr. Wong is hired by Prof. Chen and he/she is doing the job by writing the paper. (Female, Assistant Prof.)

There was also a view expressed by a few respondents that while the project holder/senior academic in the team would normally be the first author, it would be within

their gift to determine the order of authors as a special favour to the PDF and for the career benefits it would bring to the more junior member of the team.

I have been in similar situation and as my PDF could have most benefits of being the first author, I advised her to take this place. In one instance, I even have not included my name in the list of authors in order to help her to prepare for her own progress. (Male, Associate Prof.)

It could be argued that Prof Chen should be first as he is the one who enabled the project to happen. However, since he is a Prof I think there may be a case to be made for allowing a junior, particularly one who seems to have done most of the work, to be first author. (Female, Assistant Prof.)

Future alternation of authorship order on research papers between members of the project team was a compromise solution suggested by several respondents.

A further co-operative solution was provided by four respondents who suggested that Prof. Chen's name might appear last as 'corresponding author' as a way of honouring his contribution and as the senior academic of the three collaborators.

#### ***Case 4: The research assistant***

In the final study, a professor (Prof. Cash) employs a research assistant (RA), currently a masters' degree student, after obtaining funding for an educational research project, and is named as the principal investigator (PI). (Table 7). The RA does substantial work on the project including collecting and analysing a large data set and drafting a full academic paper. In addition to gaining the funding, Prof. Cash designs a survey questionnaire which is later amended after the pilot phase by the RA. Prof. Cash makes minor amendments to the paper before it is submitted to a journal.

Most respondents (62%) felt that Prof. Cash should be the first (or sole) author while a substantial minority (37%) thought that this person should be the research student. Of those respondents who thought there should be a second author around two-thirds (67%) suggested this should be the RA with a further third (34%) suggesting Prof. Cash. Here, the reasoning of many respondents who favoured crediting Prof. Cash as first author was again informed to some extent by the status of the RA as a 'hired hand'. This echoed some opinions expressed in the previous case in regard to the PDF but even more strongly so given the fact that, unlike a PDF, an RA is not an academic member of faculty.

Table 7. Case 4.

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#### The research assistant

Prof. Cash obtains funding for an educational research project and is named as the principal investigator (PI). Prof. Cash employs a postgraduate master's degree student as a research assistant (RA) on the project. The project involves the use of a survey questionnaire and involves collecting and analysing data from over 1000 respondents. Prof. Cash designs the questionnaire and asks the RA to conduct a literature review. The RA pilots the questionnaire with a small group of respondents. After amending the questionnaire as a result of the pilot the RA sends out the final version to potential respondents, collects all responses and analyses the results using a statistical data tool. The RA then drafts a paper which includes a literature review, an explanation of the methodology and an analysis of the results. The RA sends the paper to Prof. Cash who expresses satisfaction with it. Prof. Cash makes minor amendments to the paper before submitting it to a journal for peer review.

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Prof. Cash is the PI and the RA is hired for the job. I'll give the first author to Prof. Cash. (Female, Assistant Prof.)

Because RA is paid already, thus should not be the first author, but could be the second author. (Female, Assistant Prof.)

The one who writes the proposal and gets funding always deserves to have the first authorship (unless he/she gets someone else to write for it). Supervisor is supervisor. (Female, Associate Prof.)

Prof Cash should claim originality of the output as the one who obtained the funding and designed the questionnaire. (Female, Associate Prof.)

The project holder is responsible for findings generated from the project, and therefore should be the first author of publications out of the project. (Female, Associate Prof.)

Moderating this position slightly, a large number of comments related to suggestions and personal examples of circumstances where the RA might be the first or second author but as a privilege or favour on the basis of the 'generosity' of the project leader. These suggestions related principally to academic career considerations which may benefit either or both the RA and Prof. Cash but they included the suggestion that it might be a generous gesture on the part of Prof. Cash to 'reward' the RA with a second authorship credit on the paper. This was regarded as within the gift of Prof. Cash.

If the RA was to later apply for RPG candidature I'd be inclined to consider changing them to first author. (Male, Full Prof.)

If there is the chance to have a second authorship, it will be very nice for Prof Cash to consider his RA and also as a gesture to build up his young portfolio. (Female, Associate Prof.)

Under normal circumstances the PI will be the first author, however, sometimes it is good to help junior people to succeed in the future. (Male, Associate Prof.)

Only a minority regarded the RA as the legitimate first author of the paper on the basis of this person's level of intellectual contribution to the paper regardless of their employment status. However, it was suggested by a number of respondents that it is common not to credit the work of RA's on academic papers even where this work is substantial.

This is perhaps a common scenario nowadays. But the Professor does not write the paper or a substantial part of it. Why should he deserve authorship? (Female, Assistant Prof.)

RAs are never even mentioned when their work is published under professors' names. (Female, Assistant Prof.)

Prof. Cash did not make enough intellectual input in the paper. If Prof. Cash had made substantive improvements on the final draft he could legitimately claim it as his own work. Here, it is the RA's work. (Female, Assistant Prof.)

### **Understandings of legitimate authorship**

The questionnaire also sought to probe the understanding of respondents with respect to legitimate authorship by drawing on the elements identified in the Vancouver protocol (ICMJE 2009) on common standards in the medical sciences. While this agreement does not cover publication in the social sciences it provides an internationally

recognized set of criteria (see [Table 1](#)). The questionnaire made no reference to this international protocol but asked respondents whether each of the conditions, divided into 4 for the purposes of clearer communication, was sufficient or insufficient grounds individually to claim legitimate authorship. The ‘correct’ response, if following the international protocol, is that all of these conditions are necessary to claim legitimate authorship.

Of the four conditions suggested, ‘conception and design’ (77%) and ‘writing the paper’ (77%) were both regarded as individual conditions which merited an authorship credit by most respondents (see [Figure 3](#)). The conception and design of a piece of research was often regarded as the main contribution by the PI, as illustrated in case study 4. Opinions were almost equally divided though in respect to whether collecting and analysing primary and/or secondary data justifies receipt of an authorship credit. While for some respondents this type of contribution is regarded almost disdainfully as ‘simple RAs [ie research assistants]’, others felt this condition constituted a significant intellectual input. Finally, there was little support for giving an authorship credit on the basis of ‘giving approval for the final version of the paper to be published’ (14%) alone.

The responses to other short questions confirm that while those that obtain research funding are almost always seen as legitimate authors the same is not necessarily true of research supervisors or other members of a research project team (see [Figure 4](#)). Most notably, the majority (60%) agreed with the statement that ‘the person who obtains funding for a project leading to a publication should always receive an authorship credit’. While differences on the basis of gender and academic rank were negligible in relation to most questions posed, the percentage who agreed with this statement rose steadily on the basis of seniority. Finally, although a majority disagreed with the statement that doctoral supervisors should always receive an authorship credit when their doctoral student writes a paper for publication, a substantial minority (19%) concurred.

Many respondents commented that authorship credit and the order of names are matters that need to be addressed at the beginning of research collaborations rather than at some later point, if at all, in order to avoid later misunderstanding and disputes. Clarity at the outset is clearly preferable but even this recommendation is no guarantee

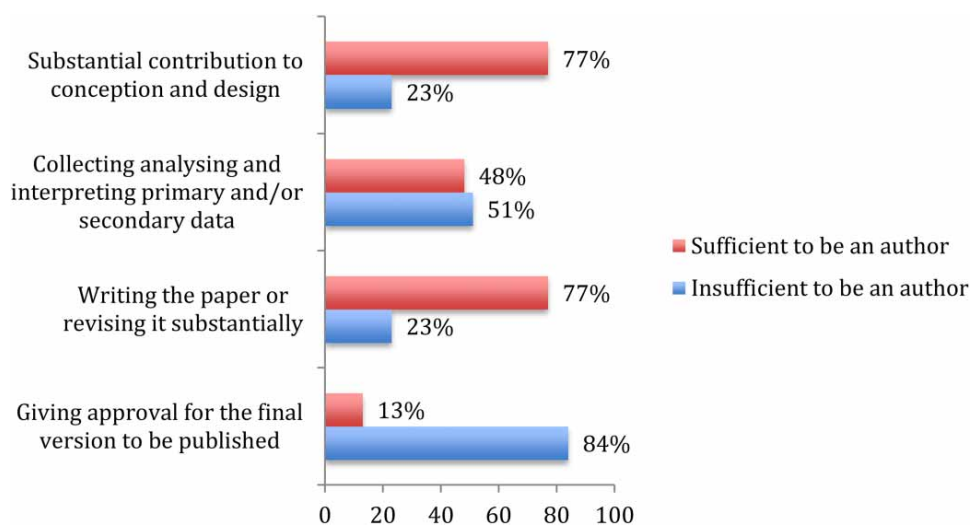


Figure 3. Understandings of legitimate authorship.

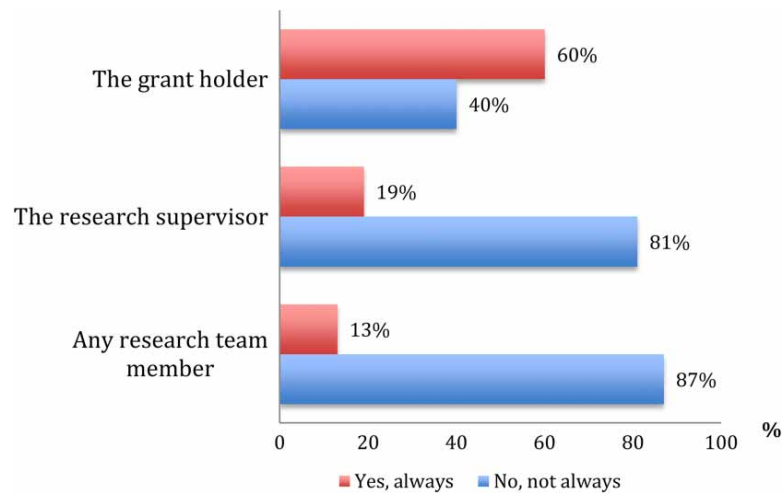


Figure 4. Who should always receive an authorship credit?

that disputes will not subsequently occur particularly given the possibility that levels of contribution may vary from original intentions.

Anyone who has substantial contribution to the paper is legitimate to an authorship. However, it is not always easy to define 'substantial' and 'contribution'. (Male, Associate Prof.)

### Power, gift and favour

The final part of the questionnaire invited further open comments on the issues raised in the case studies and encouraged respondents to reflect on any personal experiences they wished to share. What emerged were a number of individual stories where academics felt that authorship had been unfairly denied them or where they were given minor rather than primary credit for a publication. These stories tended to reinforce themes which emerged in the case studies regarding the role of hierarchy in determining claims to authorship. A number of respondents shared their disquiet at the prevalence of parasitical behaviour among senior researchers in powerful positions who exploit more junior colleagues or research students in a practice which has been labelled the white bull effect (Kwok 2005).

I believe only those who contributed to the article should be considered as authors. Free riding is a disgraceful behavior in academia and for the advance of science (particularly when it is done by senior faculty or people with power to do it, who do it because they feel entitled to – seems a behavior similar to some traditions of the middle ages). (Male, Assistant Prof.)

Those who get the funding insist that their names must appear in all papers written out of the research, without contributing a word of writing to it. Usually they just put their names as ONLY authors without even acknowledging the real writers of the paper. (Female, Assistant Prof.)

Personally I feel that PhD students own their research ... I think there is a lot of exploitation by some supervisors of student work to enhance their own profiles. (Female, Associate Prof.)

A senior researcher should never use his or her authoritative position to gain an authorship credit and ideally intellectual input should be the only criterion for inclusion in the author list. (Female, Assistant Prof.)

I have met lots of researchers who think that they ‘own’ research assistants. (Male, Assistant Prof.)

However, the concern expressed by some academics about the existence of exploitative practices among research supervisors, in particular, stood in stark contrast with those respondents who felt that research students sometimes did not give them, as research supervisors, sufficient credit for their intellectual contribution to student research when seeking to publish on the basis of their theses.

The research supervisor [ie is a legitimate author] when their doctoral student writes a paper for publication. It depends on the topic of the paper. If it is related to the doctoral work, then yes [ie the supervisor is a legitimate author]. (Female, Assistant Prof.)

This remark captured the attitude of a number of other respondents who gave examples of how they felt aggrieved not to have been credited as an author by a current or former student. One male chair professor remarked that he had ‘contributed a lot of intellectual property’ to a former student’s PhD and felt very disappointed when he was not named as a co-author of a book published out of the thesis. A female full professor relayed a story about a PhD student who she had

supervised very closely and encouraged ... to write an article on some of his findings. I corrected 4 drafts for him ... However, in the end, all he did was to ask me where I would suggest that he should submit the paper (and I made the suggestion). Although I felt I deserved to be a co-author.

These academics regard themselves as collaborators in a research process with post-graduate students who have devoted time and effort that deserves acknowledgement through an authorship credit. They do not see themselves, as others might do, as white bulls. A very different perspective though was provided by a number of mainly female, more junior ranking academics. They shared stories about how they felt that they had been exploited by senior academics often when working as a member of a research project team. One respondent indicated that she had no option but to leave the institution in order to escape an exploitative senior academic.

I both gave a ‘gift’ authorship to my supervisor who didn’t write the paper ... ..and I was forced to include a name of a person who obtained research funding but did not write a word of the paper; I also had difficulties publishing a paper without a name of a senior project director on it. I have drafted at least 5 to 7 ‘collaborative’ research papers outlines of which were collected by a senior faculty member for ‘comments’ and which disappeared after that. (Female, Assistant Prof.)

I was repeatedly asked by my department head (which I joined after graduation) to put his name on my articles despite the fact he had never been involved in building the conceptual framework, the subsequent data collection and the writing up of the manuscript. I did not refuse in the beginning as I felt obliged to return his effort in bringing me into the department and enabling me to start my academic career. I started to feel exploited as he wanted to be the first author in all our ‘joint’ papers; he ordered me to do so bluntly. I therefore decided to ‘run’ away from him and to start my own work by leaving the institution. It took me a lot of courage to do so as he had tried to black-mouth me in his network; but then I saw the urgency and necessity of standing on my own feet in my career. I can see he is still using this tactic on his other doctoral students and research assistants. I feel very disappointed about this sort of practice in Hong Kong. (Female, Associate Prof.)

I worked in a team led by a senior researcher. Even though I did most of the work, someone else in the team was given the opportunity to write the paper, and thus received the first authorship. I was a co-author. (Female, Assistant Prof.)

Doctoral supervisor usurps authorship, and first authorship that he/she does not deserve. I wrote the full paper but all the other project holders without doing a thing also claimed the co-authorship. (Female, Assistant Prof.)

Respondents also referred to a wider exchange or 'gift economy' within academe based on an exchange of favours, such as naming 'sleeping' but effectively non-contributing co-investigators in research grant applications who would then receive a subsequent co-authorship credit. Another example given was proof reading and substantially amending a paper in return for teaching a course.

Respondents made mention of patterns of joint authorship between former supervisors and research students which stretched well beyond graduation with some former doctoral students feeling obligated to include the name of their former supervisor as a co-author as part of a longer term reciprocation.

when a research project initiated by a research student with his/her supervisor and a few papers were published, should the supervisor's name continue to be listed as co-author some time in the future? When will be the good moment be to end the co-authorship under the same umbrella of topic? (Male, Assistant Prof.)

The continuation (or indeed, inception) of publication relationships after a doctoral student has graduated might be regarded as part of a positive mentoring process but, in instances where a gift authorship is being ceded to the former supervisor by the junior academic based on a sense of indebtedness, may also be indicative of free-riding or parasitical behaviour. The operation of the Matthew Effect may hold back the recognition of the junior academic and retard the progress of their academic career (Merton 1973).

In case study 1 which focused on co-authorship between an assistant professor and a full professor, the most favoured solution to determining authorship was 'whichever person needs a first authorship credit the most for their career advancement' (Female, PDF). Further open comments reinforce the impression among a large number of educational researchers that influencing authorship order on the basis of performative considerations is a legitimate practice.

When there are a large number of authors the order of authorship can sometimes be decided more on political grounds than substantive contribution to the research and article.

The arguably more business oriented mindset of getting ahead at whatever the cost seems too often to drive questions of authorship.

The results of the survey indicate that two forms of practice in determining authorship order are commonplace. Firstly, *gift ordering* occurs where author order is determined by career and performative considerations rather than intellectual contribution. Secondly, the survey shows that *power ordering*, where author order is decided by considerations of hierarchy and management control within research rather than intellectual contribution, is also widely practised. There is a widespread belief that the manipulation of authorship credit is a legitimate practice, an assumption also prevalent elsewhere in an East Asian context (Macfarlane and Saitoh 2009).

## Conclusion

The research confirms the results of previous studies that there are low levels of understanding as to what constitutes a legitimate claim to authorship (Erlen et al. 1997; Mitcheson, Collings, and Siebers 2011; Pignatelli, Maisonneuve, and Chapuis 2005). It also illustrates the way in which intellectual contribution can be overridden by considerations of power and performativity in academic life. These practices misrepresent authorial credit and can have a particularly significant impact on the development of early career researchers. This highlights the need for junior academics, in particular, to be better informed about their rights and responsibilities in regard to publication and for university policy and training programmes to pay more attention to equity issues connected with authorship. Junior researchers need to be better informed about the consequences of gift and power ordering and how the Matthew effect can retard rather than accelerate their scholarly recognition when publishing with more renowned senior academics. Further research is needed in exploring whether gift and power ordering practices represent a shift in the behaviour of academics over time or remain an essentially unchanged feature of academic life. Deeper examination is also required as to whether the assumptions which underpin gift and power ordering practices are more pronounced in an East Asian context than within Western university systems.

## Disclosure statement

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