

Conflict of Interest(COI)

- Authorship

한국과학학술지편집인협의회 교육연수위원회 편집인 워크샵

2023. 5.24. 11:40AM-12:05PM

김 지 현(과편협 교육연수위원, 이화여자대학교 문헌정보학과)

Conflict of Interest(COI): 이해상충

Conflict of Interest (COI): 개요(1/2)

• 정의

• 학술 출판에서의 이해상충은 연구과정과 결과의 완전성과 객관성, 동료심사, 편집위원회의 의사결정, 논문 출판에 필요한 공정한 전문가적 판단(professional judgment)에 부정적인 영향을 미칠 수 있는 경우를 의미

The potential for conflict of interest and bias exists when professional judgment concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by a secondary interest (such as financial gain). Perceptions of conflict of interest are as important as actual conflicts of interest (ICMJE, 2022).

COI is defined as anything that interferes with, or could reasonably be perceived as interfering with, the full and objective presentation, peer review, editorial decision-making, or publication of research or non-research articles submitted to a journal (PLOS ONE, 2022).

Conflict of Interest (COI): 개요(2/2)

- 범위 및 고려사항
 - 이해관계는 연구, 교육활동 및 공적활동에서 흔히 발생하고 이해관계의 발생 자체는 잘못이 아님
 - 그러나 이해상충이 발생할 경우 평가, 판정, 심사, 결정에 편견이 작용하여 연구활동에 왜곡이 발생할 수 있고 이는 교육의 엄격성, 연구의 무결성 및 연구기관의 사회적 신뢰를 위태롭게 함(노환진 외, 2021)
 - 학술지 정책에서의 이해상충은 출판 윤리의 범위 내에서 논의되는 내용으로 함
 - 연구비지원기관, 저자, 학술지, 학술지 담당직원, 출판사, 심사자와 관련된 이해상충

Conflict of Interest (COI): 필수요소

- 이해상충의 유형
- 이해상충의 명시 의무
- 이해상충 공개 방식

Conflict of Interest (COI): 필수요소(1/7)

● 이해상충의 유형 (서울대학교 연구윤리 지침, 2022)

- 금전적 이해상충(financial COIs): 연구와 관련된 연구자의 금전적 이익으로 인하여 유발되는 경우
- 인간관계적 이해상충(personal COIs): 개인적인 친분이나 소속 기관의 영향, 또는 개인적인 갈등이나 연구 경쟁 등 사적인 인간관계로 인하여 유발되는 경우
- 지적인 이해상충(intellectual COIs): 특정한 연구 종류나 분야에 관한 종교적 신념이나 세계관적 내지 도덕적 소신 또는 이론적 확신으로 인하여 유발되는 경우
- 역할충돌에 의한 이해상충(conflict of commitment): 교육, 봉사, 외부활동 등 소속 기관의 구성원으로서의 역할이 연구 활동과 충돌함으로써 유발되는 경우

Conflict of Interest (COI): 필수요소(2/7)

- 이해상충의 유형 정책 사례(1)
 - Elsevier
 - 금전적 이해관계(financial relationship)
 - 직접적(direct): employment, stock ownership, grants, patents
 - 간접적(indirect): honoraria, consultancies to sponsoring organizations, mutual fund ownership, paid expert testimony
 - 개인적 관계, 연구 경쟁, 지적 관심사(personal relationships, academic competition, and intellectual passion)

FACTSHEET: Competing Interests



Transparency and objectivity are essential in scientific research and the peer review process.

When an investigator, author, editor, or reviewer has a financial/personal interest or belief that could affect his/her objectivity, or inappropriately influence his/her actions, a potential competing interest exists. Such relationships are also known as dual commitments, competing interests, or competing loyalties.

The most obvious competing interests are financial relationships such as:

- Direct: employment, stock ownership, grants, patents.
- Indirect: honoraria, consultancies to sponsoring organizations, mutual fund ownership, paid expert testimony.²

Undeclared financial interests may seriously undermine the credibility of the journal, the authors, and the science itself. An example might be an investigator who owns stock in a pharmaceutical company that is commissioning the research.

Competing interests can also exist as a result of personal relationships, academic competition, and intellectual passion.³ An example might be a researcher who has:

 A relative who works at the company whose product the researcher is evaluating.

- A self-serving stake in the research results (e.g. potential promotion/career advancement based on outcomes).
- Personal beliefs that are in direct conflict with the topic he/she is researching.

Not all relationships represent a true competing interest–conflicts can be potential or actual. Some considerations that should be taken into account include: whether the person's association with the organization interferes with their ability to carry out the research or paper without bias; and whether the relationship, when later revealed, make a reasonable reader feel deceived or misled.

Full disclosure about a relationship that could constitute a competing interest—even if the person doesn't believe it affects their judgment—should be reported to the institution's ethics group and to the journal editor to which a paper is submitted. Most publishers require disclosure in the form of a cover letter and/or footnote in the manuscript.

Conflict of Interest (COI): 필수요소(3/7)

- 이해상충의 유형 정책 사례(2)
 - Springer Nature
 - Funding (연구비 관련 이해관계)
 - Employment (고용 관련 이해관계)
 - Financial (금전적 이해관계)
 - Stocks or shares in companies, consultation fees, patents
 - Non-financial (비금전적 이해관계)
 - Professional interests, personal relationship, personal beliefs

Competing Interests

Authors are requested to disclose interests that are directly or indirectly related to the work submitted for publication. Interests within the last 3 years of beginning the work (conducting the research and preparing the work for submission) should be reported. Interests outside the 3-year time frame must be disclosed if they could reasonably be perceived as influencing the submitted work. Disclosure of interests provides a complete and transparent process and helps readers form their own judgments of potential bias. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate.

Interests that should be considered and disclosed include, but are not limited, to the following:

Funding: Research grants from funding agencies (please give the research funder and the grant number) and/or research support (including salaries, equipment, supplies, reimbursement for attending symposia, and other expenses) by organizations that may gain or lose financially through publication of this manuscript.

Employment: Recent (while engaged in the research project), present or anticipated employment by any organization that may gain or lose financially through publication of this manuscript. This includes multiple affiliations (if applicable).

Financial interests: Stocks or shares in companies (including holdings of spouse and/or children) that may gain or lose financially through publication of this manuscript; consultation fees or other forms of remuneration from organizations that may gain or lose financially; patents or patent applications whose value may be affected by publication of this manuscript.

It is difficult to specify a threshold at which a financial interest becomes significant, any such figure is necessarily arbitrary, so one possible practical guideline is the following: "Any undeclared financial interest that could embarrass the author were it to become publicly known after the work was published."

Non-financial interests: In addition, authors are requested to disclose interests that go beyond financial interests that could impart bias on the work submitted for publication such as professional interests, personal relationships or personal beliefs (amongst others). Examples include, but are not limited to: position on editorial board, advisory board or board of directors or other type of management relationships; writing and/or consulting for

Conflict of Interest (COI): 필수요소(4/7)

● 이해상충의 명시 의무

- 저자(authors): 저자는 연구 결과 해석에 영향을 미칠 가능성이 있는 저자의 이해관계, 연구 수행 과정, 논문 작성 과정에서 도움을 받은 모든 사항 등을 투명하게 밝혀야 한다. 저자의 모든 금전적, 비금전적 이해관계를 밝혀 둠으로써 편집인, 심사자, 독자들이 이를 충분히 인지한 상태에서 논문을 이해하도록 도와야한다(황은성 외, 2014).
- 심사자(reviewers): 심사자는 평가의 객관성 확보를 위해서는 논문에서 수행된 연구의 내용이나 저자와 관련된 이해관계가 얽히지 않아야 한다. 이를 검토하여 이해상충이 발생할 여지가 있다고 생각되면 즉시 그 이유를 명시하여 심사를 거절하거나 편집인에게 이를 문의해야 한다. 심사를 거절할 만한 정도가 아니라고 판단되면 심사를 맡되 심사의견서에 이를 명시한다(황은성 외, 2014).
- 편집인(editors): 투고된 논문에 대해 최종 게재 여부 결정을 내리는 편집인은 해당 논문에 대해 잠재적 이 해상충 가능성이 있다고 판단되면 관련 직무수행을 회피해야 한다(ICMJE, 2022).

Conflict of Interest (COI): 필수요소(5/7)

• **이해상충의 명시 의무** 정책 사례

- PLoS ONE
 - 저자(authors)
 - 투고 시 모든 관련된 이해상충을 보고해야 함
 - 편집인(editors)과 심사자(reviewers)
 - 이해상충 보고 의무를 가지며 필요하다면 심사에서 제척
 - 독자(readers)
 - PLoS에 출판된 논문에 대한 의견을 제시하는 독자일 경우 이해상충 보고 필요 (Anyone who comments on published PLOS articles must declare all competing interests (financial or non-financial) at the time of posting the comment)

Who Must Declare Competing Interests?

Authors

At the time of submission, authors must list all competing interests relevant to the submitted research. Examples may include but are not limited to:

- > Names of all funding sources
- Description of funder's role in the study design; collection, analysis, and interpretation of data; writing of the paper; and/or decision to submit for publication
- > Whether they have served or currently serve on the editorial board of the journal to which they are submitting
- > Whether they have acted as an expert witness in relevant legal proceedings
- > Whether they have sat or currently sit on a committee for an organization that may benefit from publication of the paper

Editors and reviewers

Editors (professional or academic, paid or unpaid) and reviewers must declare their own competing interests, and if necessary disqualify themselves from involvement in the assessment of a manuscript.

Common reasons for editors and reviewers to recuse themselves from the peer review process may include but are not limited to:

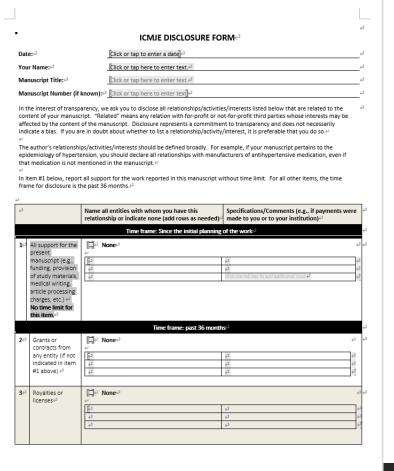
- They work at the same institution or organization as an author, currently or recently
- > They collaborate with an author, currently or recently
- > They have published with an author during the past 5 years
- > They have held grants with an author, currently or recently
- > They have a financial relationship with the company who funded the research
- > They have a personal relationship with an author that does not allow them to evaluate the manuscript objectively

Readers

Anyone who comments on published PLOS articles must declare all competing interests (financial or non-financial) at the time of posting the comment.

Conflict of Interest (COI): 필수요소(6/7)

- 이해상충 공개 방식 정책 사례(1)
 - 양식 사용: <u>ICMJE Disclosure Form</u>
 - 13가지 항목에 대한 이해상충 보고
 - 현재 투고하는 논문에 대한 모든 지원사항(기간 제한 없음)
 - 나머지 12개 항목 (Grants or contracts; Royalties or licenses; Consulting fees; Payment or honoraria for lectures, etc.; Payment for expert testimony; Support for attending meetings and/or travel; Patents; Participation on a Data Safety Monitoring Board or Advisory Board; Leadership or fiduciary role in other board, society etc.; Stock or stock options; Receipt of equipment, materials, drugs, medical writing, gifts or other services; Others)에 대해 서는 36개월 이내에 해당하는 내용을 보고



Conflict of Interest (COI): 필수요소(7/7)

- **이해상충 공개 방식** 정책 사례(2)
 - 이해상충 statement 템플릿 제시:
 Springer Nature

Provide "Conflicts of interest/Competing interests" as a header (see template)

Financial interests: Author A has received research support from Company A. Author B has received a speaker honorarium from Company Wand owns stock in Company X. Author C is consultant to company Y.

Non-financial interests: Author C is an unpaid member of committee Z.

Financial interests: The authors declare they have no financial interests.

Non-financial interests: Author A is on the board of directors of Y and receives no compensation as member of the board of directors.

Financial interests: Author A received a speaking fee from Y for Z. Author B receives a salary from association X. X where s/he is the Executive Director.

Non-financial interests: none.

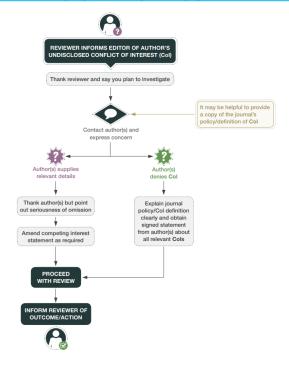
Financial interests: Author A and B declare they have no financial interests. Author C has received speaker and consultant honoraria from Company M and Company N. Dr. C has received speaker honorarium and research funding from Company M and Company O. Author D has received travel support from Company O.

Non-financial interests: Author D has served on advisory boards for Company M, Company N and Company O.

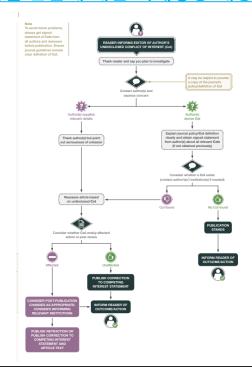
Conflict of Interest (COI): Flowchart

● 출판윤리위원회(COPE)에서는 이해상충 논란이 발생하였을 경우 편집위원회의 대응 과정을 출판 전 그리고 출판 이후로 구분하여 순서도로 제시

<출판 전 심사과정에서 이해상충 대응 과정>



<출판된 논문에 대한 이해상충 대응 과정>



Conflict of Interest (COI): 권장사례

PLoS ONE (https://journals.plos.org/plosone/s/competing-interests)



What Represents a Competing Interest?

What to Declare

Who Must Declare Competing Interests?

Editorial Actions and Decisions

Competing Interests

The following policy applies to all PLOS journals, unless otherwise noted.

What Represents a Competing Interest?

A competing interest is anything that interferes with, or could reasonably be perceived as interfering with, the full and objective presentation, peer review, editorial decision-making, or publication of research or non-research articles submitted to PLOS.

Competing interests can be financial or non-financial, professional, or personal. Competing interests can arise in relationship to an institution, organization, or another person.

Declaring all potential competing interests is a requirement at PLOS and is integral to the transparent reporting of research.

Failure to declare competing interests can result in immediate rejection of a manuscript. If an undisclosed competing interest comes to light after publication, PLOS will take action in accordance with COPE guidelines and issue a public notification to the community.

What to Declare

Everyone involved in the peer review process, including authors, editors and reviewers, and readers, must declare all potentially competing interests that occurred within 5 years of conducting the research under consideration, or preparing the article for publication.

Authorship: 저자됨

Authorship: 개요(1/2)

• 정의

- 저자됨은 출판된 논문에 대한 인정(credit)을 누구에게 부여할 것인지를 보여주며 학문적, 사회적, 금전적 측면에서 중요한 함의가 있다. 저자됨은 출판된 논문에 대한 책임성(responsibility)과 설명책임의무(accountability)를 나타낸다는 점에서도 중요하다(ICMJE, 2022).
- 저자됨의 요건은 (1) 연구의 구상이나 설계에 실질적인 기여, 또는 자료의 획득, 분석, 해석 (2) 연구 결과에 대한 논문 작성 또는 중요한 학술적 부분에 대한 비평적 수정 (3) 출판되기 전 최종본에 대한 승인 (4) 연구의 정확성 또는 진실성에 관련된 문제를 적절히 조사하고 해결할 것을 보증하며 연구의 모든 부분에 책임을 지는 것에 동의하는 것을 포함한다(이렇아, 2021; ICMJE, 2022).

Authorship: 개요(2/2)

- 범위 및 고려사항
 - . 저자 표시의 기준과 관행은 학문분야별로 매우 다양함을 고려해야 함
 - 주의사항: "ICMJE 저자표시 기준이 널리 활용되고 있지만, 저자표시의 기준과 관행은 매우 다양합니다. 예를 들어, ICMJE에 따른 저자는 권고사항에 제시된 4가지 기준을 모두 충족한 자를 말합니다. 그러나 복잡한 작업과 대량의 데이터 생성과 관련된 연구 분야에서는 ICMJE 기준에 따를 경우 누구도 저자로 적합하지 않는 논문이 발행되는 상황을 상상할 수 있습니다. 이는 어떤 학문 분야에서는 저자의 공헌도가 남용된 것으로 분류되지만, 다른 분야에서는 허용 가능한 실무 관행이 될 수 있음을 의미합니다(한국연구재단, 2020, p.6)."

Authorship: 필수요소

- 교신저자의 역할
- 저자가 아닌 기여자
- 저자 기여도 명시
- 저자 변경
- 저자식별기호

Authorship: 필수요소(1/9)

● 교신저자의 역할

• 논문 투고 과정 동안 학술지와 교신하면서 학술지 투고 절차에 따라 저자들의 상세 정보를 제공하고, 연구윤리 심의나 임상시험 등록 및 이해관계 등과 관련한 제반 문서를 완비하는 데 일차적인 책임은 교신저자에게 있다. 교신저자는 논문 투고와 심사 과정에 걸친 전 과정에서 편집진과 적시에 교신할 수 있어야 하고, 출판 후에도 저작물에 대한 비평이 있을 경우 이에 회신할 수 있어야 한다. 저작물에 대한 의문이 제기되어 학술지가 추가적인 자료나 정보를 요청하면 이에 협조해야 한다(이렇아, 2021; ICMJE, 2022).

Authorship: 필수요소(2/9)

● 교신저자의 역할 정책 사례

- PLoS ONE
 - 출판 전 (pre-publication), 출판 후 (post-publication)의 교신저자 역할 정의

Corresponding Author Responsibilities

The corresponding author takes responsibility for and speaks on behalf of all authors.

Pre-publication:

- > Ensure that the manuscript is in full adherence with all PLOS editorial and publishing policies.
- > Ensure that all authors have access to the final version of the manuscript that is submitted to the journal, and agree to the author list and author contributions.
- > Ensure that all authors have seen the final draft of the manuscript before it is published.
- > Provide to the journal written confirmation that all authors consent to any requested changes in the manuscript's authorship.

Post-publication:

- > Continue to be the point of contact for gueries about the published paper.
- Inform all coauthors of any matters arising and ensure such matters are dealt with promptly.

Authorship: 필수요소(3/9)

● 저자가 아닌 기여자(non-author contributors)

• 저자됨의 네 가지 요건 중 하나라도 충족하지 못하는 경우 기여자로 간주한다. 기여자에 대해서는 사사표기(acknowledgement)를 통해 그 이름과 역할을 부여한다. 교신저자는 감사의 글에 표시되는 모든 사람에게 승인을 받는 것이 바람직하다(과학기술정보통신부, 2022; 이령아, 2021; 한국연구재단, 2020; ICMJE, 2022).

Authorship: 필수요소(4/9)

- 저자가 아닌 기여자(non-author contributors) 정책 사례
 - PLoS ONE
 - 사사표기(acknowledgement)에서 언급할 것을 제시

Acknowledgments

Contributors who do not meet the criteria for authorship should be mentioned in the Acknowledgments. It is expected that those being acknowledged have given their permission to be named.

Authorship: 필수요소(5/9)

● 저자 기여도 명시

• 연구내용 또는 결과에 대한 각 저자의 기여도는 CRediT(Contributor Roles Taxonomy)에서 제시하는 14가지 저자 역할을 기준으로 명시한다(Elsevier, 2022; Wiley, 2022).

Authorship: 필수요소(6/9)

- 저자 기여도 명시 정책 사례
 - <u>Elsevier</u>
 - 14가지 기여자 역할에 따라 논문 투고 전 저자의 기여도를 명시하게 함

	Conceptualization	Ideas; formulation or evolution of overarching research goals and aims
	Methodology	Development or design of methodology; creation of models
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	Formal analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data
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	Project administration	Management and coordination responsibility for the research activity planning and execution
	Funding acquisition	Acquisition of the financial support for the project leading to this publication
_		2025-03-20

Definition

Authorship: 필수요소(7/9)

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• 논문 투고 후 저자 변경(추가, 삭제 및 순서 변경)이 필요한 경우 모든 저자들의 동의가 필요하다. 반드시 교신저자가 저자 변경을 요청해야 하며 변경 사유도 함께 제출한다. 출판 후 저자 변경이 이루어진 경우 정정기사(correction)를 발행하여 변경 사실을 알린다(PLoS ONE, 2022)

Authorship: 필수요소®/9)

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Authorship: 필수요소(9/9)

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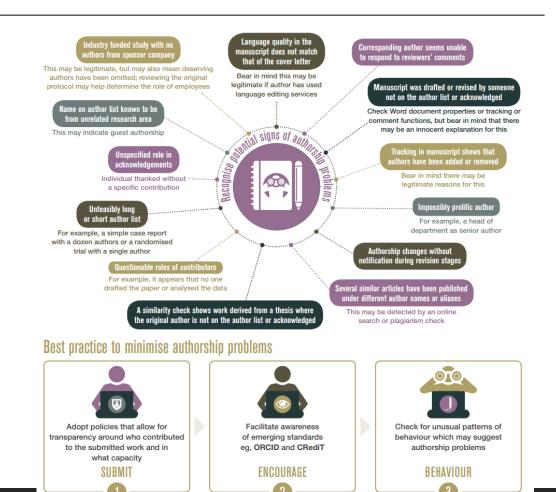
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