

# Recommendations to Prevent Unjustified Authorship for Research Papers (Revised)

## - New recommendations on persons with special relationship (minor or family) -

<National Research Foundation of Korea, Korea University Council of Research & Industry Cooperation, 10/1/2019 (enacted) >

<National Research Foundation of Korea, Korea University Council of Research & Industry Cooperation, 4/10/2020 (amended) >

Research papers are basic materials that objectively present and communicate research outcomes. Observing ethical practices in the granting of authorship to deserving individuals is the basis of a healthy research ecosystem.

Below are recommendations on authorship criteria for research institutions and researchers by the National Research Foundation of Korea and the Korea University Council of Research & Industry Cooperation.

※ These revised recommendations of the recommendations announced by the National Research Foundation of Korea and the Korea University Council of Research & Industry Cooperation on October 1, 2019 include new guidelines on minors and family members.

## Chapter 1 General recommendations

### 1. Purpose

- These recommendations are for researchers of various disciplines to consider when naming authors of academic papers written based on research outcomes.
- They are intended to prevent “unjustified authorship,” which is an act that violates research integrity, and to ensure that proper credit is given to individuals who have made significant intellectual contributions.

### 2. What is authorship?

- An author is an individual who has made significant intellectual contribution to the relevant research paper.
  - The detailed criteria and practices concerning the level of intellectual contribution to qualify as an author vary by discipline.
- ※ See Attachment 2 for definitions of authorship by discipline.

### 3. What is unjustified authorship?

- “Unjustified authorship” refers to the granting of authorship to individuals who have not made significant intellectual contributions to relevant research papers.
- The exclusion of individuals who have made significant intellectual contributions also falls under “unjustified authorship.”

<Guidelines for Securing Research Ethics (Article 12 (1) 4) [Order No. 263 of the Ministry of Education]>

“Unjustified authorship” refers to the exclusion of individuals from authors despite their significant intellectual contributions to research or outcomes, and the naming of individuals who have not made significant intellectual contributions as authors or contributors, as specified in the items below

- A. Granting of authorship to individuals who have not made significant contribution to research or outcomes thereof
- B. Exclusion of individuals from authors despite their significant contribution to research or outcomes thereof
- C. Publication of academic papers written by advisees solely under the name of advisors

※ See Attachment 4 for types of “unjustified authorship.”

### 4. Matters to be observed by research institutions including universities

- Research institutes including universities shall present authorship criteria to affiliated researchers, and exert efforts to ensure that such guidelines are observed.
- ※ Research institutes seeking to establish their own authorship criteria may refer to Attachment 1.

### 5. Matters to be observed by research institutions including universities

- When publishing research outcomes in the form of research papers, researchers shall name authors based on a rational approach to quantifying individual contributions.
- Authors (first author, corresponding author, co-author) and persons to be acknowledged shall be determined through mutual agreement among participants according to authorship criteria of the relevant discipline, and informed written consent from all authors and contributors concerning the final manuscript should be obtained and documented.
- ※ See Attachment 3 for criteria on determination of authors and contributors (acknowledgements).

## Chapter 2 Recommendations concerning person with special relationship

### 1. Overview

- Below are matters to be taken into consideration by researchers when involving minors (aged below 19) or family (spouse, children, and relatives within 4-chon) in research or co-authoring papers with such persons.

※ The range of “person with special relationship” in these guidelines refer to minors (aged below 19) or family (spouse, children, and relatives within 4-chon), but may be broadened according to the circumstances of the relevant institution.

### 2. Matters to be observed by researchers

- Controversy on unethical research conduct should be prevented by observing the following when co-authoring papers with persons with special relationship or involving them in research.
  - Before research: The plan to involve persons with special relationship must be disclosed to affiliated institutions and co-researchers.
    - ※ See Attachment 5 for form on plan to involve person with special relationship in research.
  - During research: Information, data and knowhow obtained from involving person with special relationship in research shall be recorded in laboratory notebooks.
    - ※ The recording and storage of laboratory notebooks shall be governed by the relevant rules of affiliated institutes if available, or Guidelines on Laboratory Notebooks enacted by the Ministry of Science and ICT [Order No. 44 of the Ministry of Science and ICT, 10/4/2018, partially amended] (laboratory notebooks to be retained for 30 years from date of creation)
  - Before submission of co-authored paper: Affiliated institutions and the relevant academic organization shall be informed of such fact in advance.
    - ※ See Attachment 6 for form on disclosure of person with special relationship as co-author.

- Researchers shall observe general norms of research ethics when conducting research and co-authoring papers with persons with special relationship.

〈Roles and responsibilities of researchers (Article 5 of Guidelines for Securing Research Ethics [Order No. 263 of the Ministry of Education])〉

Researchers shall conduct research based on their right to freedom of research while observing the following subparagraphs.

1. Show respect to research subjects and treat them fairly
2. Protect personal information and privacy of research subjects
3. Conduct fact-based research in a transparent manner
4. Exercise professional academic conscience when sharing expert knowledge with society
5. Contribute to the development of the relevant discipline by publishing academic results
6. Give proper credit by citing sources when using the work of past researchers
7. Observe ethical practices in the signing of research agreements, and acquisition and execution of research funds
8. Specify all parties concerned without being influenced by relationship with funding institutions
9. Enhance research reliability by declaring researchers' affiliation and rank when presenting outcomes
10. Participation in continuous research ethics education

### 3. Matters to be observed by research institutions including universities

- Research institutions shall establish and systematically manage guidelines (or criteria) on the involvement of persons with special relationship to affiliated researchers or the co-authoring of papers with such persons, including the matters specified below.
  - **Before research:** The plan to involve persons with special relationship in research must be reviewed.
    - ※ Items to be reviewed: Activity plan of person with special relationship, conflict of interest, laboratory safety, etc.
  - **During research:** Affiliated researchers shall be given guidelines on inspection and management of laboratory notebooks written during the involvement of persons with special relationship in research and records of laboratory access.

- **Management of co-authored papers:** A database shall be established for bibliographic items and original copies of papers co-authored by affiliated researchers and persons with special relationship, and monitored regularly.

<Roles and responsibilities of universities, etc. (Article 6 of Guidelines on Securing Research Ethics [Order No. 263 of the Ministry of Education])>

- ① Universities etc. shall exert efforts to promote a culture of rational, autonomous research, enabling researchers to remain committed to research while observing research ethics.
- ② Universities etc. shall establish their own research ethics guidelines to promote ethical conduct in research.
- ③ Universities etc. may install an organization to mediate or resolve conflicts for the upholding of research ethics and prevention of research misconduct.
- ④ Universities etc. shall install an organization to investigate research misconduct if such an event arises.
- ⑤ Universities etc. shall conduct research ethics education for researchers to observe research ethics and prevent research misconduct.
- ⑥ Universities etc. shall provide full cooperation when a research ethics survey is conducted by the minister of education or other heads of organizations.
- ⑦ Universities etc. shall review and manage author information of research outcomes when publishing journals, organizing academic conferences and managing research achievements, and provide full cooperation when such data is requested by the minister of education or other heads of organizations.
- ⑧ Universities etc. shall strictly investigate any reported or suspected research misconduct, and provide full cooperation when related data is requested by the minister of education, professional institutes and universities.

## Att. 1 Websites on proper granting of authorship

URL	Details
<a href="http://www.icmje.org/icmje-recommendations.pdf">http://www.icmje.org/icmje-recommendations.pdf</a>	Recommendations of International Committee of Medical Journal Editors (ICMJE)
<a href="https://publicationethics.org/authorship">https://publicationethics.org/authorship</a>	COPE website containing requirements for authorship and contributorship as well as guidelines for managing disputes
<a href="https://ease.org.uk/publications/author-guidelines-authors-and-translators/">https://ease.org.uk/publications/author-guidelines-authors-and-translators/</a>	Author guidelines of the European Association of Science Editors (EASE)
<a href="https://ori.hhs.gov/publicationsauthorship">https://ori.hhs.gov/publicationsauthorship</a>	Guidelines on authorship and publications by ORI
<a href="https://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/ethical_conduct/guidelines-authorship_contributions.pdf">https://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/ethical_conduct/guidelines-authorship_contributions.pdf</a>	Guidelines for authorship contributions by NIH
<a href="https://www.councilscienceeditors.org/wp-content/uploads/CSE-White-Paper_2018-update-050618.pdf">https://www.councilscienceeditors.org/wp-content/uploads/CSE-White-Paper_2018-update-050618.pdf</a>	Guidelines of the Council of Science Editors (CSE)
<a href="https://www.britisoc.co.uk/publications/guidelines-reports/authorship-guidelines/">https://www.britisoc.co.uk/publications/guidelines-reports/authorship-guidelines/</a>	Authorship guidelines of the British Sociological Association (BSA)
<a href="https://www.pnas.org/content/115/11/2557">https://www.pnas.org/content/115/11/2557</a>	PNAS website on transparency in authors' contributions and responsibilities to promote integrity in scientific publication
<a href="https://www.springer.com/gp/authors-editors/editors/authorship-issues/4228">https://www.springer.com/gp/authors-editors/editors/authorship-issues/4228</a>	Authorship-related requirements by Springer

### <Matters requiring attention>

○ In theory, authorship sounds straightforward, but in practice it often causes headaches. Listing the authors tells readers who did the work and should ensure that the right people get the credit, and take responsibility, for the research. Although journal editors do not always agree among themselves on what constitutes authorship, many of them subscribe to the guidance from the International Committee of Medical Journal Editors (ICMJE).

※ Source: The COPE Report 2003, How to handle authorship disputes: a guide for new researchers.

○ Although the authorship standards of ICMJE are widely respected, disciplines vary widely in authorship standards and practices. For example, ICMJE defines authors as those who have fulfilled four criteria. However, in research fields involving work on complex instruments and the generation of large amounts of data, it is possible to imagine circumstances where articles are published in which no one qualifies as an author according to the ICMJE criteria. The same circumstances might imply author credit misrepresentation in one field and acceptable practice in another.

※ Source: NASEM (National Academies of Sciences, Engineering, and Medicine), 「Fostering Integrity in Research」 Washington, DC: The National Academy Press, 2017

## Att. 2 Definitions of authorship by major academic organizations

Classification	Definition of authorship
<p>International Committee of Medical Journal Editors (ICMJE)</p>	<p>The ICMJE recommends that an author should meet all four of the following criteria:</p> <ul style="list-style-type: none"> <li>① Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work</li> <li>② Drafting the work or revising it critically for important intellectual content</li> <li>③ Final approval of the version to be published</li> <li>④ Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved</li> </ul>
<p>Council of Science Editors (CSE)</p>	<p>Authors are individuals identified by the research group to have made substantial contributions to the reported work and agree to be accountable for these contributions. In addition to being accountable for the parts of the work he or she has done, an author should be able to identify which of their co-authors are responsible for specific other parts of the work. In addition, an author should have confidence in the integrity of the contributions of their co-authors. All authors should review and approve the final manuscript.</p>
<p>American Physical Society</p>	<p>Authorship should be limited to those who have made a significant contribution to the concept, design, execution or interpretation of the research study. All those who have made significant contributions should be offered the opportunity to be listed as authors. Other individuals who have contributed to the study should be acknowledged, but not identified as authors.</p>

<p>American Sociological Association</p>	<p>The American Sociological Association includes the following in its Code of Ethics:</p> <p>① Sociologists take responsibility and credit, including authorship credit, only for work they have actually performed or to which they have contributed.</p> <p>② Sociologists ensure that principal authorship and other publication credits are based on the relative scientific or professional contributions of the individuals involved, regardless of their status. In claiming or determining the ordering of authorship, sociologists seek to reflect accurately the contributions of main participants in the research and writing process.</p> <p>③ A student is usually listed as principal author on any multiple-authored publication that substantially derives from the student's dissertation or thesis.</p>
<p>Humanities and other disciplines</p>	<p>Authorship within the humanities, law, and theology is still very much a product of the writing process, and usually by a single individual. Any other form of contribution such as generation of ideas, commenting on a draft, or technical assistance is listed in the Acknowledgments. Traditions in the humanities also differ from some disciplines in the social and natural sciences in terms of the relationship between supervisors and students in authorship with respect to graduate work. Frequently, students are sole authors of graduate-related research and supervisors and committee members are acknowledged for the supervision and mentorship that they have provided to the student authors.</p>

※ Source: COPE Council (9 June 2014), What constitutes authorship? COPE Discussion Document [as cited in Jun-ho Chung & Ok-ju Kim, International guidelines for ethical research publication, National Research Foundation of Korea (2019)].



## Att. 3 Criteria for determining author and contributor (example)

### 1. NIH checklist

	Contributions	Authorship?
Design & interpretation of results	Original idea, planning & input	An idea alone may not warrant authorship, unless highly original & unique
	Other intellectual contribution	Yes, but assuming active involvement
Supervisory role	Supervision of project	Yes, but assuming active involvement
	Training, education	No
	Mentoring of first author	No, unless substantive contribution made to study
Administrative & technical support	Resources: \$	Acknowledgements yes, authorship no
	Resources: Animals, reagents	No if already published; yes if novel
	Resources: Patients	Maybe, depending on circumstances
Data acquisition	Original experimental work	Yes
	Technical experimental work	No if routine; yes if novel methods added, or specific role e.g. statistics, imaging, etc.
	Data analysis (assays)	Yes, unless only very basic
	Data analysis (statistics)	Yes, unless only very basic (e.g. t-tests)
Writing & other	Drafting of manuscript	Warrants first authorship
	Reading/commenting on manuscript	No (substantial feedback can be acknowledged)
	Other (Lab Chief, etc.)	No

※ Reference:

[http://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/ethical\\_conduct/guidelines-authorship\\_contributions.pdf](http://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/ethical_conduct/guidelines-authorship_contributions.pdf)

## 2. ICMJE guidelines

### □ Conditions of authorship

- The ICMJE recommends that authorship be based on the following 4 criteria:
  - ① Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work
  - ② Drafting the work or revising it critically for important intellectual content
  - ③ Final approval of the version to be published
  - ④ Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
  
- An author should be able to identify which co-authors are responsible for specific other parts of the work
  - In addition, authors should have confidence in the integrity of the contributions of their co-authors
  
- All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors
  - These authorship criteria are intended to reserve the status of authorship for those who deserve credit and can take responsibility for the work; The criteria are not intended for use as a means to disqualify colleagues from authorship who otherwise meet authorship criteria by denying them the opportunity to meet criterion #s ② or ③
  - Therefore, all individuals who meet the first criterion should have the opportunity to participate in the review, drafting, and final approval of the manuscript
  
- The individuals who conduct the work are responsible for identifying who meets these criteria
  - Ideally, individuals fulfilling the four criteria should be identified as authors when planning the work, and modifications may be made as appropriate as the work progresses
  - The order in which authors are listed should be decided collectively by the author group

## □ Criteria of corresponding author

- Individual who takes primary responsibility for communication with the journal during the manuscript submission, peer review, and publication process.
  - Typically ensures that all the journal's administrative requirements(\*) are properly completed and reported.
    - \* Example: Providing details of authorship, ethics committee approval, clinical trial registration documentation, and disclosures of relationships and activities
- Should be available throughout the submission and peer review process to respond to editorial queries in a timely way
  - Should be available after publication to respond to critiques of the work and cooperate with any requests from the journal for data or additional information should questions about the paper arise after publication

## □ Non-author contributors

- Contributors who meet fewer than all 4 of the above criteria for authorship should not be listed as authors, but they should be acknowledged
  - \* Examples of activities that alone (without other contributions) do not qualify a contributor for authorship: Acquisition of funding; general supervision of a research group or general administrative support; and writing assistance, technical editing, language editing, and proofreading
- Those whose contributions do not justify authorship may be acknowledged individually or together as a group under a single heading (e.g. "Clinical Investigators" or "Participating Investigators"), and their contributions should be specified (e.g., "served as scientific advisors," "critically reviewed the study proposal," "collected data," "provided and cared for study patients", "participated in writing or technical editing of the manuscript")
- Because acknowledgment may imply endorsement by acknowledged individuals of a study's data and conclusions, editors are advised to require that the corresponding author obtain written permission to be acknowledged from all acknowledged individuals

※ Reference: ICMJE (International Committee of Medical Journal Editors), Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, Updated December 2018 [as cited in Jun-ho Chung & Ok-ju Kim, International guidelines for ethical research publication, National Research Foundation of Korea (2019)].

---

## Att. 4 Types of unjustified authors in research papers

---

1. Person designated as author without making significant intellectual contribution ⇒ Known as “honorary authorship”

### Coercive authorship

- Coercive authorships may be seen as falling under the category of honorary authorships, but the main difference is that the impetus is external
- Authorship conferred to individuals in response to their exertion of seniority or supervisory status over subordinates and junior investigators
- Authorship coercion may also occur as a result of other subtle “environmental” pressure

### Honorary authorship

- Guest, gift and honorary authorships refer to authorships granted to persons who have not made significant intellectual contributions
- In some cases, guest or gift authorships are conferred with the expectation that their own names will be placed on others’ papers
- Honorary authorships are usually conferred to persons of seniority or supervisory status to the main author, and the names are voluntarily placed by corresponding authors without honorary authors being aware of such fact
  - Used to give the paper a greater sense of legitimacy

### Mutual support authorship

- An agreement by two or more investigators to place their names on each other’s papers to give the appearance of higher productivity

### Duplication authorship

- The publication of the same work in multiple journals to give the appearance of higher productivity

## 2. Person whose name is omitted despite making significant intellectual contribution

⇒ Known as “ghost authorship”

### Ghost authorship

- Authors whose names are omitted from a paper even though they have made significant intellectual contributions

### Denial of authorship

- A particularly serious form of ghost authorship is termed “denial of authorship”
- The most typical example of this involves individuals who participate in generating data for what they presume is a legitimate scientific collaboration. However, the other so-called “collaborators” publish a paper using these data without giving the investigators coauthorship or accurately acknowledging their contribution.
- Denial of authorship can rightfully be considered a form of plagiarism and therefore scientific misconduct

※ Reference: Strange, Kevin. “Authorship: why not just toss a coin?.” American Journal of Physiology-Cell Physiology 295.3 (2008): C567-C575.

## Att. 5 Plan to involve person with special relationship in research (example)

The form below may be used to disclose to affiliated institutions and co-researchers the involvement of a person with a special relationship in research.

### Overview of research project (based on research proposal)

Title of project	
Research period	
Principal investigator	(Name) (Affiliation) (Position)
Research fund	(Name of sponsor institute) (Amount) KRW * Leave blank if not applicable.
Participating researchers	- Participating researcher A (Name/affiliation/department/position) - Participating researcher B (Name/affiliation/department/position) - <b>Person with special relationship</b> (Name/affiliation/department/position)

### Type of special relationship (Check box with √)

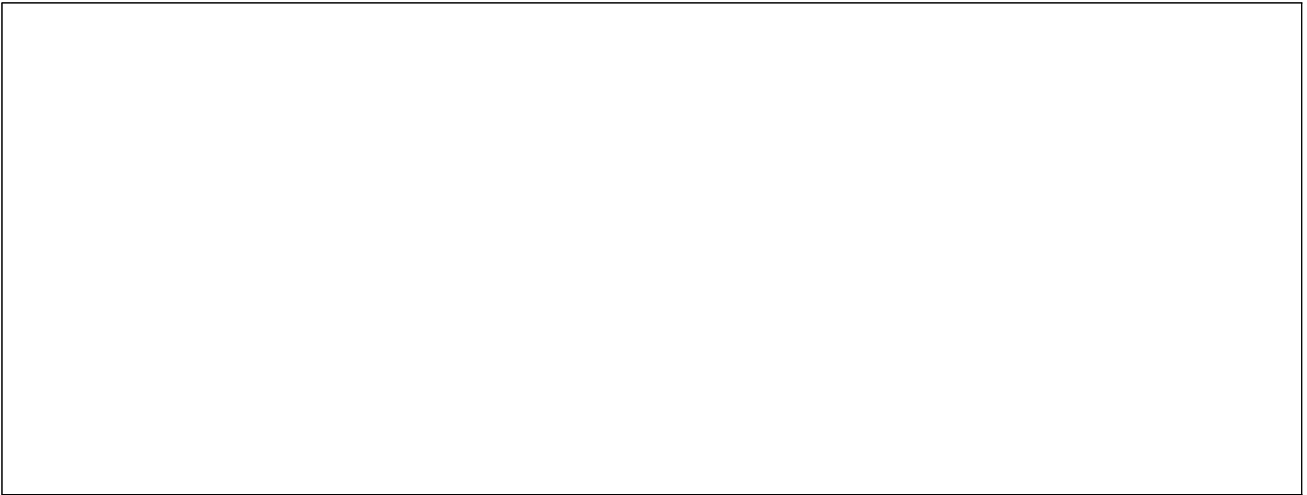
Family			Minor		
Spouse	Child	Other	Child of acquaintance	R&E program participant	Other

### Purpose of participation by person with special relationship (Check < > with √, and provide brief description)

1. Participating to observe and learn (not related to paper) < >	2. Participating to implement own ideas (related to writing of paper) < >

Role of person with special relationship and activity plan

※ Attach research proposal and other detailed plans where necessary



## Att. 6 Disclosure of person with special relationship as co-author (example)

The form below may be used to disclose to affiliated institutions and academic organizations the inclusion of a person with a special relationship as co-author to a paper(\*).

\* Paper to be submitted to a peer-reviewed academic conference or journal.

※ This form was prepared based on the final report form of research funded by the National Research Foundation of Korea (Hee-jung Hwang, Establishment of Research Ethics Guidelines for the Korea Distribution Science Association, 2019).

### Overview of research project (based on research proposal)

Title of project	
Research period	
Principal investigator	(Name) (Affiliation) (Position)
Research fund	(Name of sponsor institute) (Amount) KRW ※ Leave blank if not applicable.
Participating researchers	- Participating researcher A (Name/affiliation/department/position) - Participating researcher B (Name/affiliation/department/position) - <b>Person with special relationship</b> (Name/affiliation/department/position)

### Type of special relationship (Check box with √)

Family			Minor		
Spouse	Child	Other	Child of acquaintance	R&E program participant	Other



Publication plan for paper co-authored by person with special relationship

Conference		Journal	
Domestic	International	Domestic	International
<Summary of prospective conference> - Name of conference: - Journal of publication: - Place and dates: - Participating authors:		<Summary of prospective journal> - Title of journal: - Title of paper: - Expected date of submission: - Participating authors:	

Reason for including person with special relationship as author

※ Describe contributions of person with special relationship to key outcomes

Description of contribution by research stage (summary)

Classification	Research planning (research design, establishment of work concepts, etc.)	Conducting research (data collection/analysis/interpretation, preparation of draft, etc.)	Writing of draft manuscript (drafting of key details or critical changes)	Confirmation of final manuscript (review and approval of final paper)
Author A				
Author B				
Person with special relationship				

※ Note: To be filled only by individuals who meet author requirements. Individuals listed as authors need not be the same as participating researchers listed in the research proposal.

Contribution by author <through mutual agreement among authors>

Classification	Research planning	Conducting research	Writing of draft manuscript	Confirmation of final manuscript	Total contribution	Signature
Author A	( ) %	( ) %	( ) %	( ) %	( ) %	
Author B	( ) %	( ) %	( ) %	( ) %	( ) %	
Person with special relationship	( ) %	( ) %	( ) %	( ) %	( ) %	
Total	30 % <sup>#</sup>	40 % <sup>#</sup>	20 % <sup>#</sup>	10 % <sup>#</sup>	100 % <sup>#</sup>	

# Weight of each item may be adjusted depending on the nature of the research institute or project

Research ethics checklist (Example)

Item	Details (Example)
Prevention of arbitrary changes/addition to authorship	Based on contributions rates, the authors agree that Author A is the first author, and Author B and Author C (person with special relationship) are the co-authors.
Prevention of plagiarism and dual publication	The tables and figures were mainly prepared by Author B. The plagiarism check results were provided by Author C. Plagiarism was not detected for any sentence or paragraph.
Prevention of translation-based plagiarism	The authors attest to the originality of the title, keywords, key variables and research model. The abstracts in Korean and English were written based on actual results. Plagiarism was not detected in the Korean manuscript before translation into English.
Prevention of violation of research ethics concerning empirical analysis	The original data used in empirical analysis is securely stored. Sources have been accurately indicated for tables and figures.

Prevention of patchwork plagiarism	The most similar study to this report is ( ). The idea was proposed by Author A, and improvements were made by Author C.
------------------------------------	---

MM/DD/YYYY

The above is true and accurate.

Name of author	Author A	Author B	Person with special relationship
Signature			

---

**Att. 7**   **Criteria for creative contributions as co-author (example)**

---

Research institutions, including universities, may establish separate criteria based on the following to determine the validity of having a person with special relationship as co-author.

1. Did the individual present unique ideas (concepts)?
2. Did the individual participate in specific research design?
3. Did the individual understand the research plan, acquire data according to the plan (experimentation, measurement, interview, survey, observation, etc.), and analyze such data to make significant contributions worthy of authorship?
4. Did the individual organize individually-obtained data, and prepare a draft describing methods of data generation, analysis, and conclusions? Was the draft included in the final version of the paper?
5. Did the individual make significant intellectual contributions (comments, changes, and supplementation) to the draft manuscript?