



Patterns and Dynamics in International Research Collaborations: A Case of China-UK collaboration Ties in Educational Studies

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Research gap

- Studies on international research collaborations focus more on the **outcome** measured through bibliometric indicators (Mosbah-Natanson & Gingras, 2014; Chen, Zhang & Fu, 2019). The nuances of collaboration **process** requires more scholarly attention.
- More studies choose **natural sciences** as subject to investigate international collaborations (Lee & Bozeman, 2005; Choi, Lee & Zoo, 2021). The collaboration features in **social sciences** are underexplored.
- Not a lot of studies implement **mixed methods** to integrate both quantitative and qualitative data and provide synthesised conclusions.
- **China and UK** collaboration ties are less studied compared with **China-US** ties (Lee & Haupt, 2019).



Research questions

During 2001 to 2020,

The timespan of 2001-2020 was chosen in that China's internationally co-authored papers in SSCI only started to grow substantially after 2001; co-authorship data prior to that year were scarce and unsuitable for calculation (Li & Li, 2015).

- (1) What have been the **patterns** of China-UK research collaborations in education studies?
- (2) How do researchers based in China and UK **perceive their experiences** in China-UK research collaborations in education studies?

Theoretic framework



- The global and national research systems
- Centre-peripheral model and academic dependency theory



Global and national research systems

- **The global research system** (Marginson, 2021)
 - Materiality: an independent world social science system comprising publications and digital-based infrastructure;
 - Agency: cross-border collaboration activities facilitated and augmented through people mobility and information circulation;
 - Ideologies: the global diffusion of dominant social theories, methodologies, and excellence criteria
- **The national research system** functions in a qualitatively different logic as the global system (Wagner, Park & Leydesdorff, 2015).
 - Managed around a normative centre where institutions and individual researchers are subject to national regulations, policies, and governmental research funding (Marginson, 2021).
 - In social science research there is a smaller share of publications appear internationally (e.g. the CSSCI in China and SCIENLO in Brazil, Liu, Hu, Tang, & Wang, 2015)
 - Social scientists in some countries work as the 'interpreters' and 'legislators' of social changes and support policymaking at national and local levels (ISSC, 2010, p. 97).

Centre-peripheral model and academic dependency theory



- **Centre-peripheral model**

- Categorised world social science into the Anglophone centres and non-Anglophone peripheries through the capitalist economic logic (Wallerstein, 1974).
- It is challenging for peripheral countries to breakthrough into the centre due to limited surplus of research activities
- Central countries including US, UK and some western European countries maintain their dominance by permanently subordinating periphery countries in science development (Wallerstein, 2006).

- **Academic dependency**

- Also uses the discourses about 'centre' and 'peripheries'
- Central countries accumulate international deference and recognition by attracting ties from the peripheral countries through educational and academic opportunities (Schott, 1998).
- Periphery countries are increasingly dependent on the centres in theories, media, technology, research aid, investment, and skill demand (Alatas, 2003).



The ideal for internationalisation of social sciences

- **Challenges:** While imitation of research practices occur in all disciplines through global diffusion, the intrinsic requirement in social research to incorporate local relevance is potentially undermined through context-blind emulation (Keim, 2010).
- **Ideal:** a truly globalised social science field is defined as ‘a real debate among equals around the levels of generalisation of social science theory as well as around the epistemological foundations of social science disciplines’ (Keim, 2011, p. 138).
- **Key:** integrate diverse epistemic routes worldwide and make them visible in a less centre-dominated global system to address human problems (Archer, 1991; Keim, 2011).

Literature review



- Trends and patterns
- Drivers and motivations
- Coordination and dynamics

Trends and patterns



- **Rise** in publication volumes and world share in China's social science research.
- **Orientation towards team collaborations**: over 80 per cent of China's SSCI papers from 1978 to 2013 were co-authored, 40 per cent had international affiliation (Liu et al., 2015).
- **Locally embedded**: volume of CSSCI publications is substantially higher than SSCI publications (Li & Li, 2015)
- **UK** had an increase in world share from six per cent to nine per cent of SSCI publications during 2000-2018 compared to China from almost zero to five per cent (Zhang et al., 2021).
- **UK** continued to be China's **second largest collaborator** after US in SSCI publications from 1978-2013 (Liu et al., 2015).
- **At a world level**: an enhanced subordination and dependence of periphery countries on the centres were illustrated through the periphery countries' preference to reference work from two central regions and their deepened collaborations with European countries (Mosbah-Natanson & Gingras, 2014).



Drivers and motivations

- Social research is closely nested in **national transformation** and **political agenda** (Karady & Nagy, 2018; Knight & De Wit, 2018).
- **Administrative pressure** such as research assessment and university rankings
- Drawing on **expertise, resources, and funding**
 - Emerging scientists at times collaborate with established international scientists for positional resources such as visibility, citation, and recognition (Wagner, Whetsell, & Leydesdorff, 2017).
- **Cognitive fulfilment**
 - Intellectual enrichment and theoretical breakthroughs
 - Inter-disciplinary fertilisation occur in international collaborations that solidifies and extends scholarly consensus with new insights (Frenken, Hardeman, & Hoekman, 2009).



Coordination and dynamics

- **The balance of international and local focus**
 - Policies and administrative guidance potentially influences researchers in choosing topics and methodologies in international collaborations. (Ministry of Education, 2011; Xu, 2021)
- **Social relations among international collaborators**
 - Hierarchies: ‘parameters and rules’ are calibrated by collaborators from western countries (Zingerli, 2010, p.217)
 - An increasingly equal relation among former colonising and colonised countries (Leperlier, 2018).
- **Diverse cultural background, geographical distances, language barrier**
 - Trust-building, respect of cultural and academic traditions (Wildemeersch & Masschelein, 2018)
 - The expansion of English-medium publications impose challenge for non-English-speaking researchers (Fransman & Newman, 2019)
 - Emergence of language brokers, TESOL Quarterly provides mentoring service to inexperienced English writers (Sorá & Dujovne, 2018).

Methodology



- Explanatory sequential mixed methods
 - Bibliometric methods
 - Semi-structured interviews
- Data collection
 - Databases and datasets
 - Participants and interview questions
- Data analysis

Process of the explanatory sequential mixed methods



	Steps	Procedure	Outcomes
1	Quantitative data collection	<ul style="list-style-type: none"> Data download from SSCI, Web of Science and CSSCI using different search strings 	<ul style="list-style-type: none"> Bibliometric datasets
2	Quantitative data analysis	<ul style="list-style-type: none"> Data cleaning Data categorisation using Excel and Python text mining Data analysis to visualise trends and patterns through Excel spreadsheet 	<ul style="list-style-type: none"> Categorised sub-datasets Participant pool for semi-structured interviews Descriptive data on trends and patterns
3	Qualitative participants selection based on processed quantitative datasets	<ul style="list-style-type: none"> Sending interview invitations based on the categorised sub-datasets in Step 2 Conducting 2 pilot interviews Refining questions and conducting 8 semi-structured interviews 	<ul style="list-style-type: none"> Consent forms Field notes Pilot interview data Interview data (audio recordings, transcripts)
4	Qualitative data analysis	<ul style="list-style-type: none"> Data familiarisation and reduction Open coding via NVivo 12 Clustering and connecting codes 	<ul style="list-style-type: none"> Emerged codes Generated themes based on logical relations among codes
5	Integration of quantitative and qualitative data	<ul style="list-style-type: none"> Synthesising quantitative trends and qualitative themes Interpreting findings against prior research 	<ul style="list-style-type: none"> Conclusions Discussions Implications and future studies

1. Datasets in CSSCI: 2001-2020.

	Name	Records
1	All CSSCI papers	171,054
2	Education papers	4,988

2. Datasets in SSCI, Web of Science: 2001-2020.

	Name	Search string	Records
1	World social science publications	SU= (Business OR Business, Finance OR Economics OR Hospitality, Leisure, Sport & Tourism OR Industrial Relations & Labor OR Management OR Planning & Development (Development Studies) OR Cultural Studies OR Demography OR Social Issues OR Social Sciences, Biomedical OR Social Sciences, Interdisciplinary OR Social Work OR Area Studies OR Asian Studies OR Urban Studies OR Communication OR Education & Educational Research OR Education, Special OR Information Science & Library Science OR Education, Scientific Disciplines OR Law OR Criminology & Penology OR International Relations OR Political Science OR Public Administration)	1,977,735
2	World education papers	SU=(Education & Educational Research)	264,481
3	Mainland China-participated social science papers	AD= ((China NOT Macau NOT Hong Kong) AND (Scotland OR (Wales NOT South Wales) OR 'Northern Ireland' OR England)) AND SU= (Business OR Business, Finance OR Economics OR Hospitality, Leisure, Sport & Tourism OR Industrial Relations & Labor OR Management OR Planning & Development (Development Studies) OR Cultural Studies OR Demography OR Social Issues OR Social Sciences, Biomedical OR Social Sciences, Interdisciplinary OR Social Work OR Area Studies OR Asian Studies OR Urban Studies OR Communication OR Education & Educational Research OR Education, Special OR Information Science & Library Science OR Education, Scientific Disciplines OR Law OR Criminology & Penology OR International Relations OR Political Science OR Public Administration)	56,502
4	UK-participated social science papers	AD= (Scotland OR (Wales NOT South Wales) OR 'Northern Ireland' OR England) AND SU= (Business OR Business, Finance OR Economics OR Hospitality, Leisure, Sport & Tourism OR Industrial Relations & Labor OR Management OR Planning & Development (Development Studies) OR Cultural Studies OR Demography OR Social Issues OR Social Sciences, Biomedical OR Social Sciences, Interdisciplinary OR Social Work OR Area Studies OR Asian Studies OR Urban Studies OR Communication OR Education & Educational Research OR Education, Special OR Information Science & Library Science OR Education, Scientific Disciplines OR Law OR Criminology & Penology OR International Relations OR Political Science OR Public Administration)	257,594
5	Mainland China education papers	AD= (China NOT Macau NOT Hong Kong) AND SU= (Education & Educational Research)	4,988
6	UK-participated education papers	AD= (Scotland OR (Wales NOT South Wales) OR 'Northern Ireland' OR England) AND SU= (Education & Educational Research)	34,851
7	Mainland China and UK collaborated education papers	AD= ((China NOT Macau NOT Hong Kong) AND (Scotland OR (Wales NOT South Wales) OR 'Northern Ireland' OR England)) AND SU= (Education & Educational Research)'	312 16



Participants

	P	Current affiliation	Gender	Number of China-UK papers	Academic title
1	UK-R1	UK	F	1	Professor
2	UK-R2	UK	M	2	Professor
3	UK-R3	UK	M	2	Consultant
4	UK-NR	UK	M	3	Senior lecturer
5	MC-DF1	Mainland China	F	2	Assistant professor
6	MC-DF2	Mainland China	M	2	Associate professor
7	MC-NDF1	Mainland China	F	1	Associate professor
8	MC-NDF2	Mainland China	F	1	Associate professor



Semi-structured interview questions

	Questions
1	How was the collaboration initiated ?
2	What was the collaboration process regarding the theoretical development and empirical work ?
3	How did you feel about the collaboration process compared with individual work, domestic collaborations, or collaborations with other countries (beyond China or UK)?
4	How did you and your collaborators address the challenges in collaborations?
5	What were the motivations in your collaboration with China (or UK) or what values do you see in international collaborations?

Data analysis

Figure 1. Relevant information in bibliometric records downloaded from SSCI.

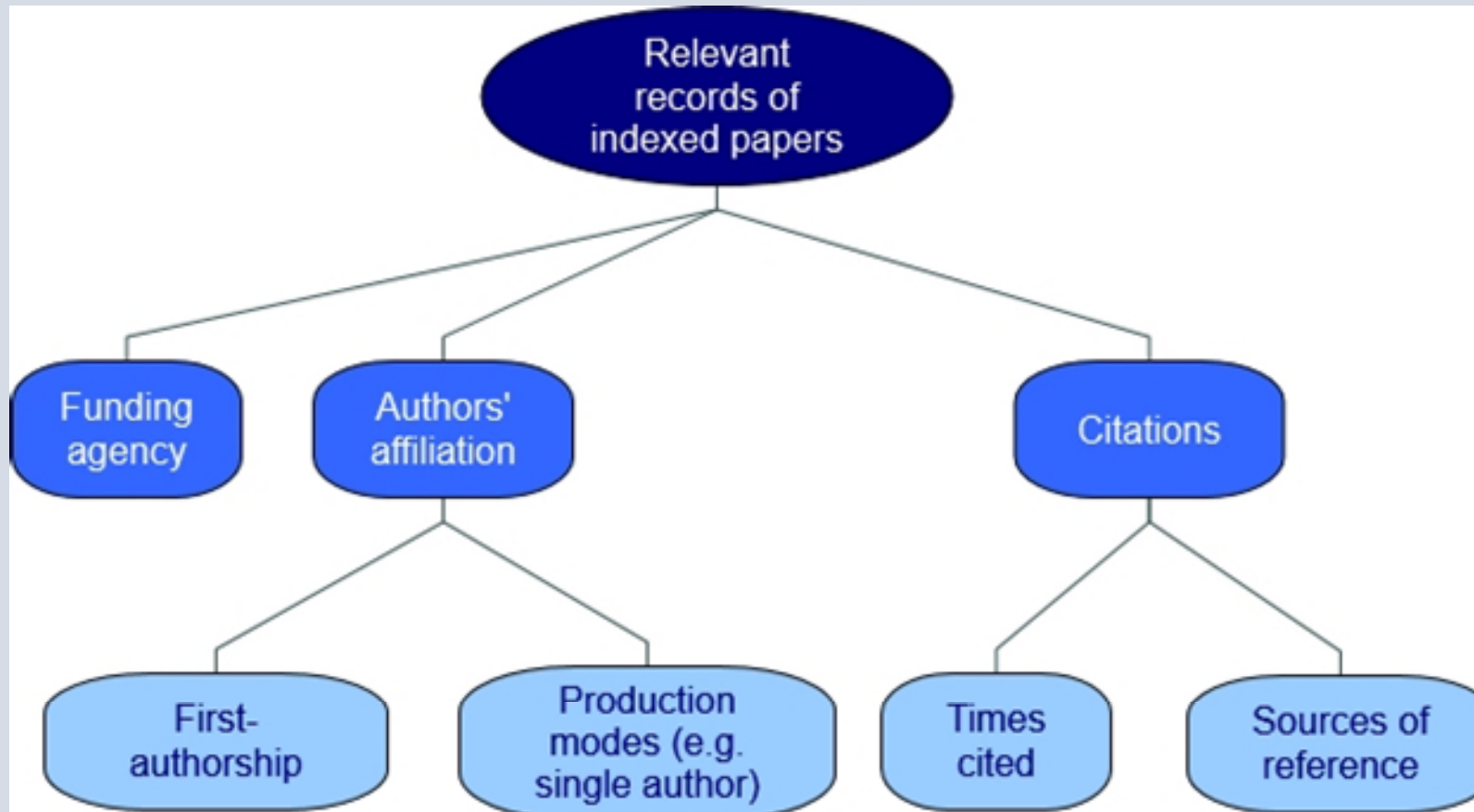


Figure 2. Different types of mainland China's education papers

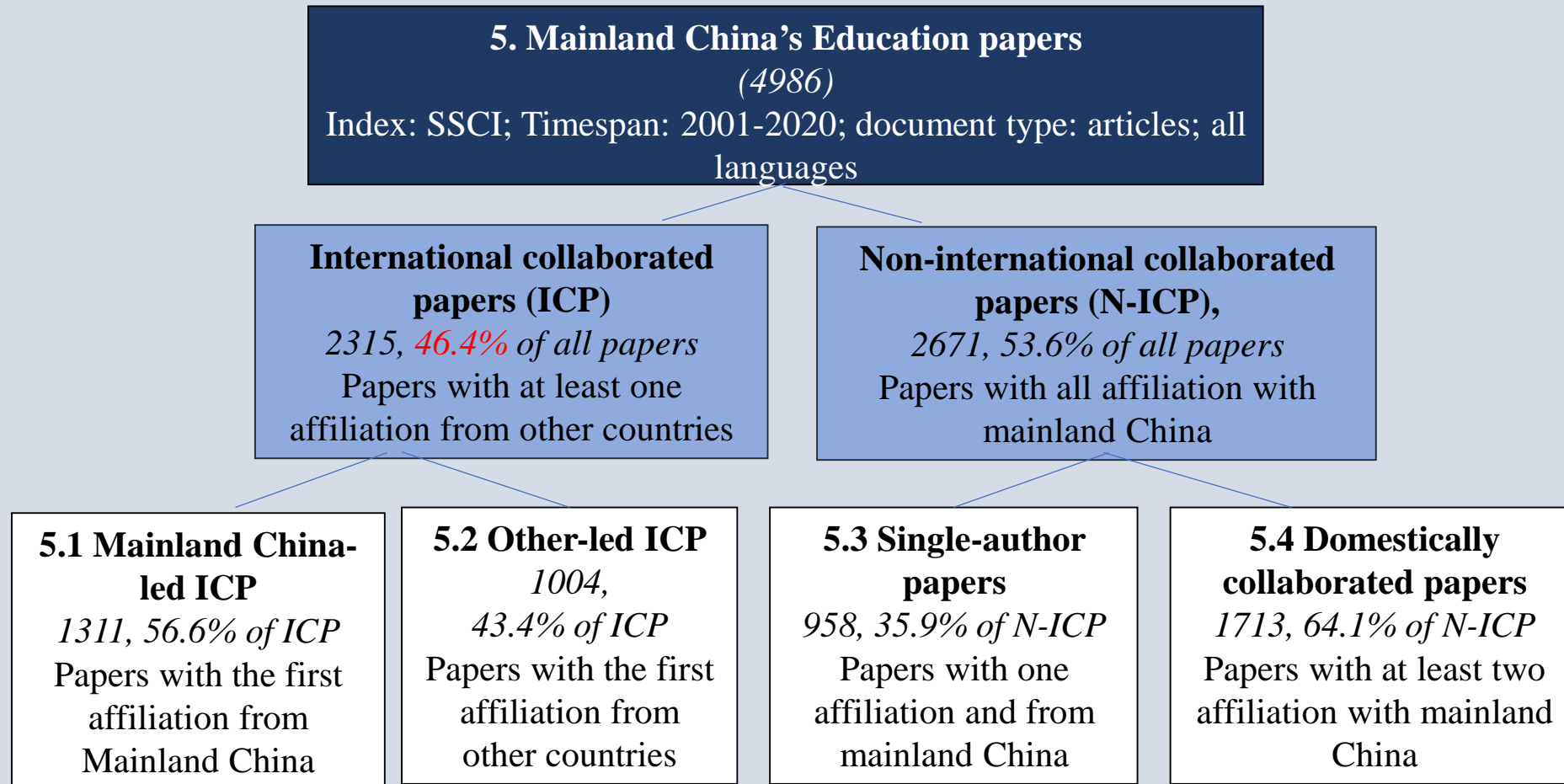


Figure 3. Different types of UK-participated education papers

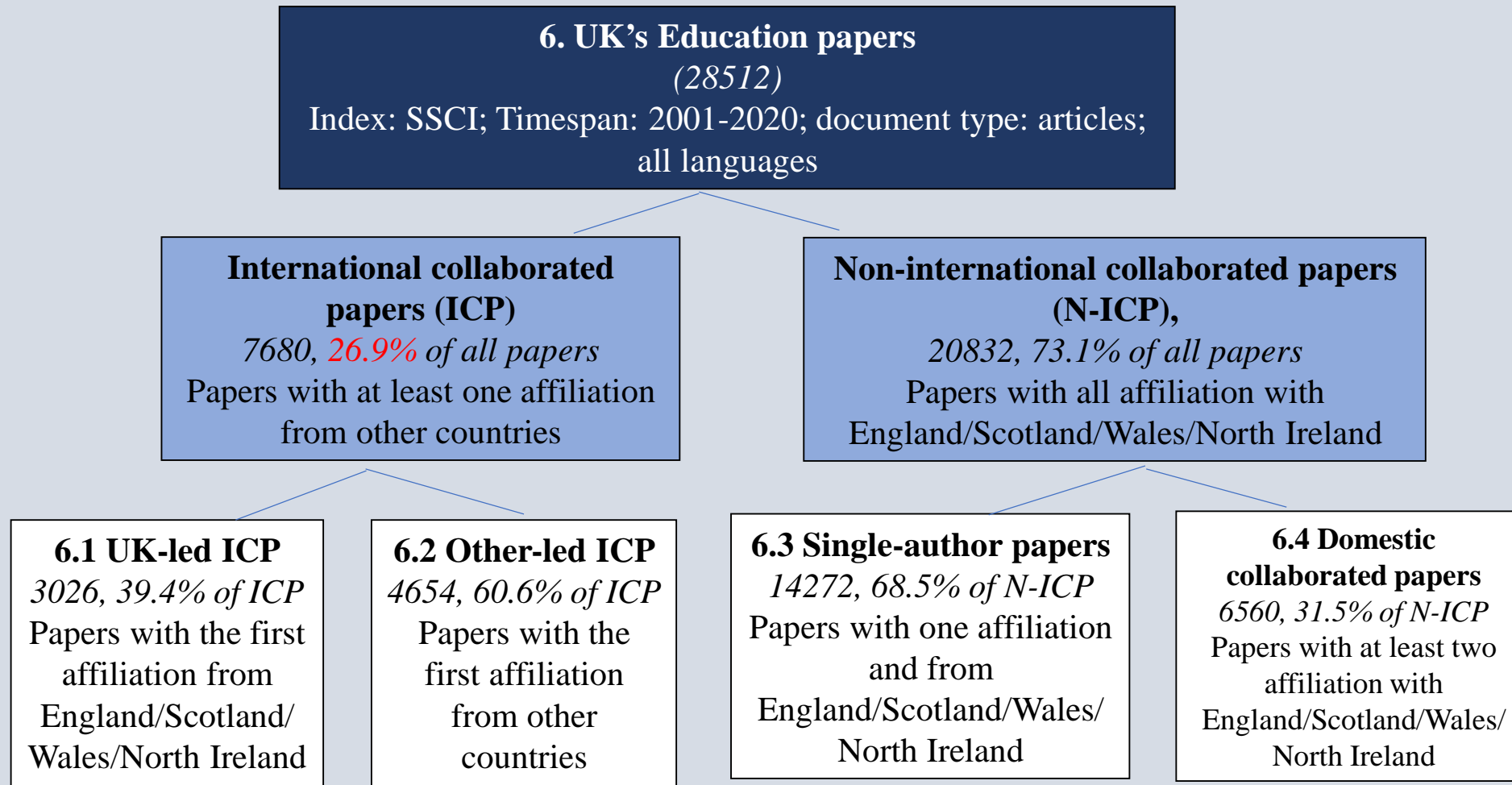
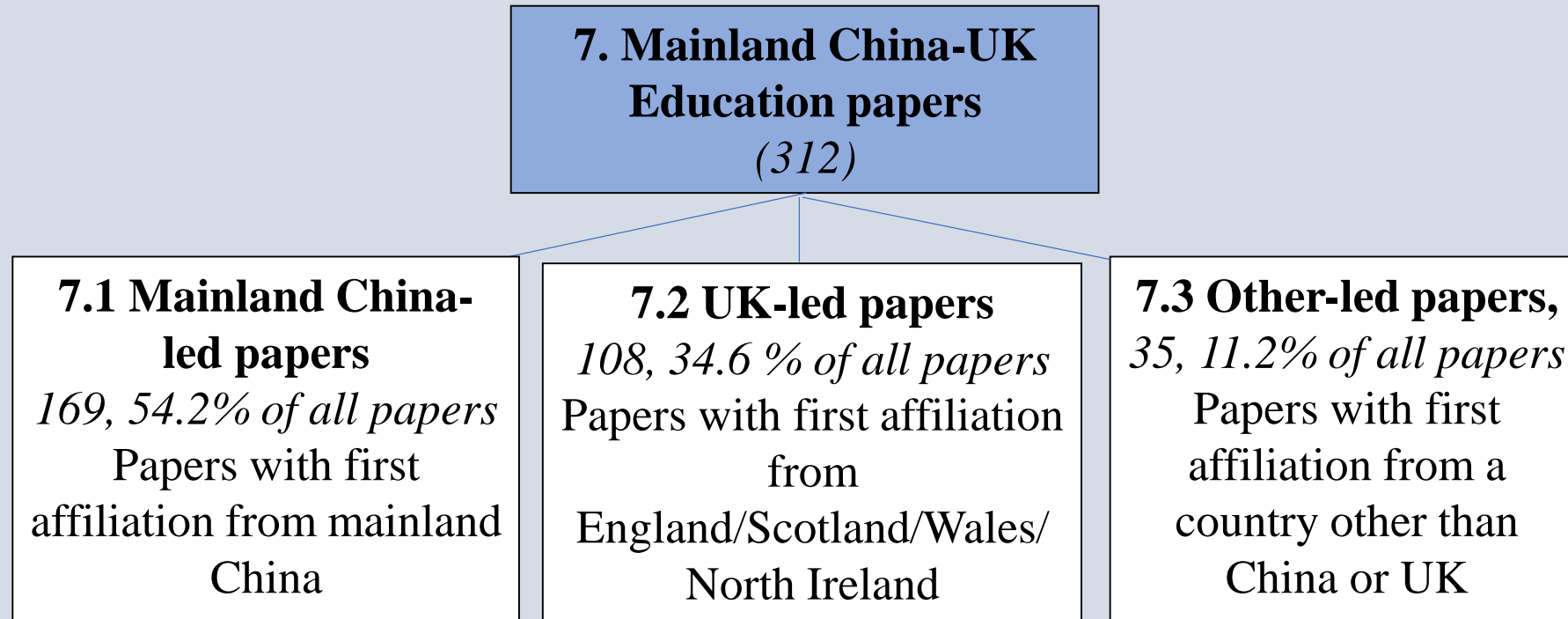


Figure 4. Different types of China-UK education papers





Findings & discussions

- Trends and patterns
 - *Outputs of social science research and education research*
 - *International collaborations and first-authorship*
 - *Citations*
 - *Funding*
- Researchers' experiences and perceptions
 - *Initiation*
 - *Motivations*
 - *Distribution of responsibilities*
 - *Factors that sustain or challenge collaboration dynamics*
 - *Dissemination of results*
 - *Reflections on international collaborations*

Figure 5. Outputs of world social science research and education research indexed in SSCI: 2001-2020.

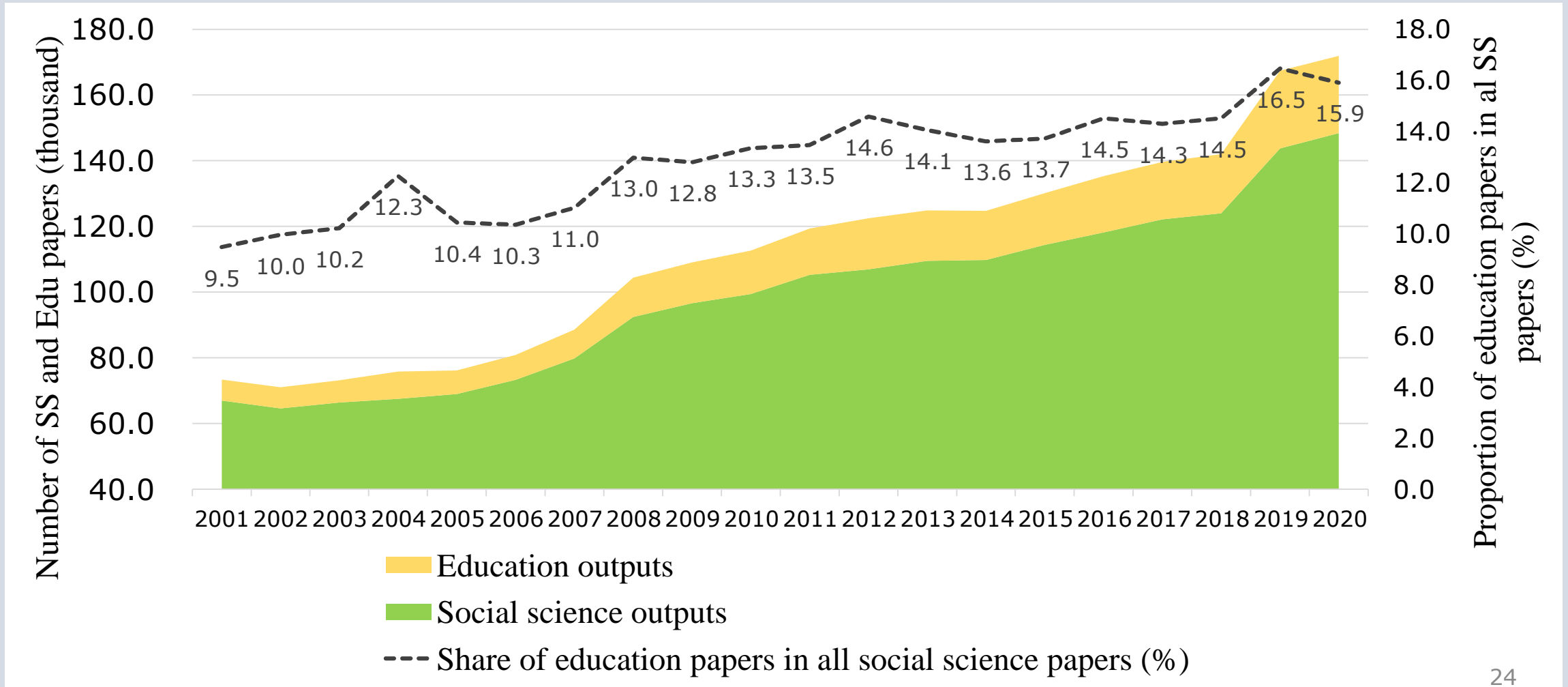


Figure 7. Outputs and share of China-participated and UK-participated education

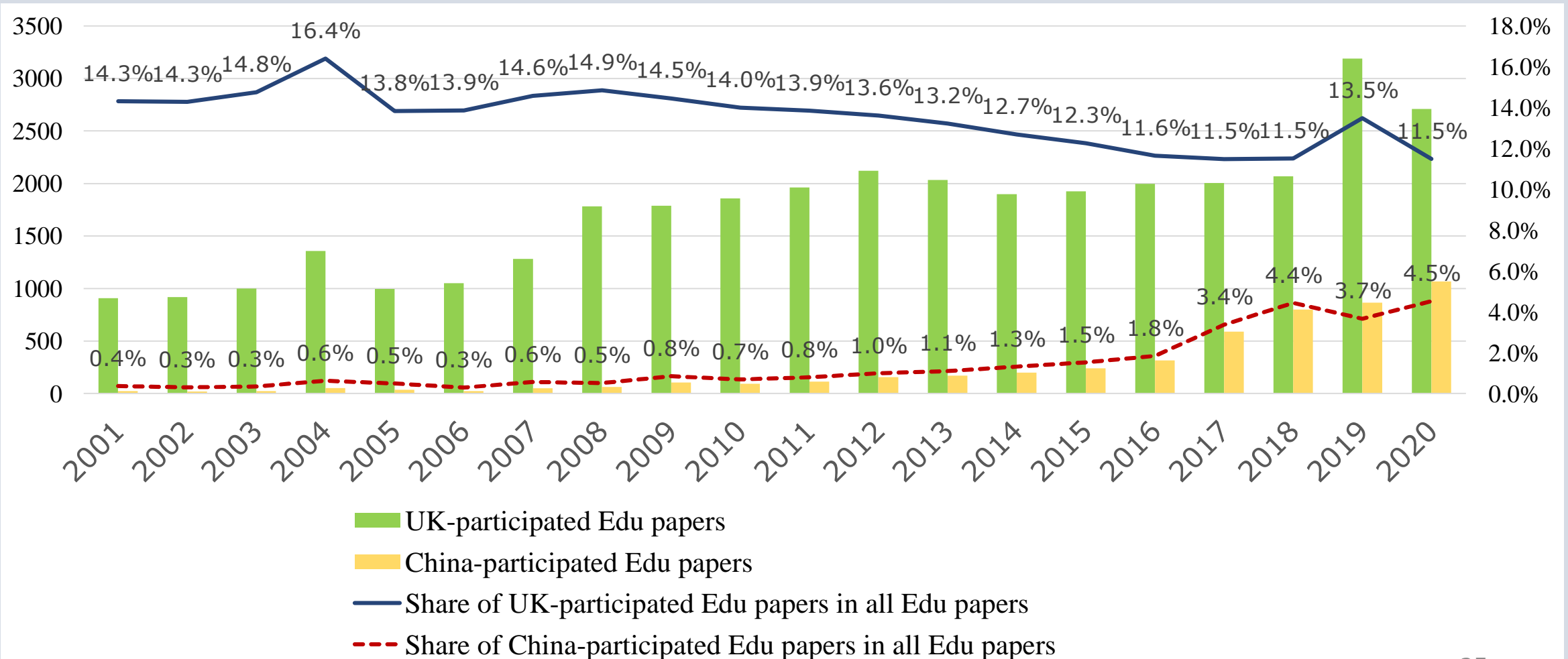
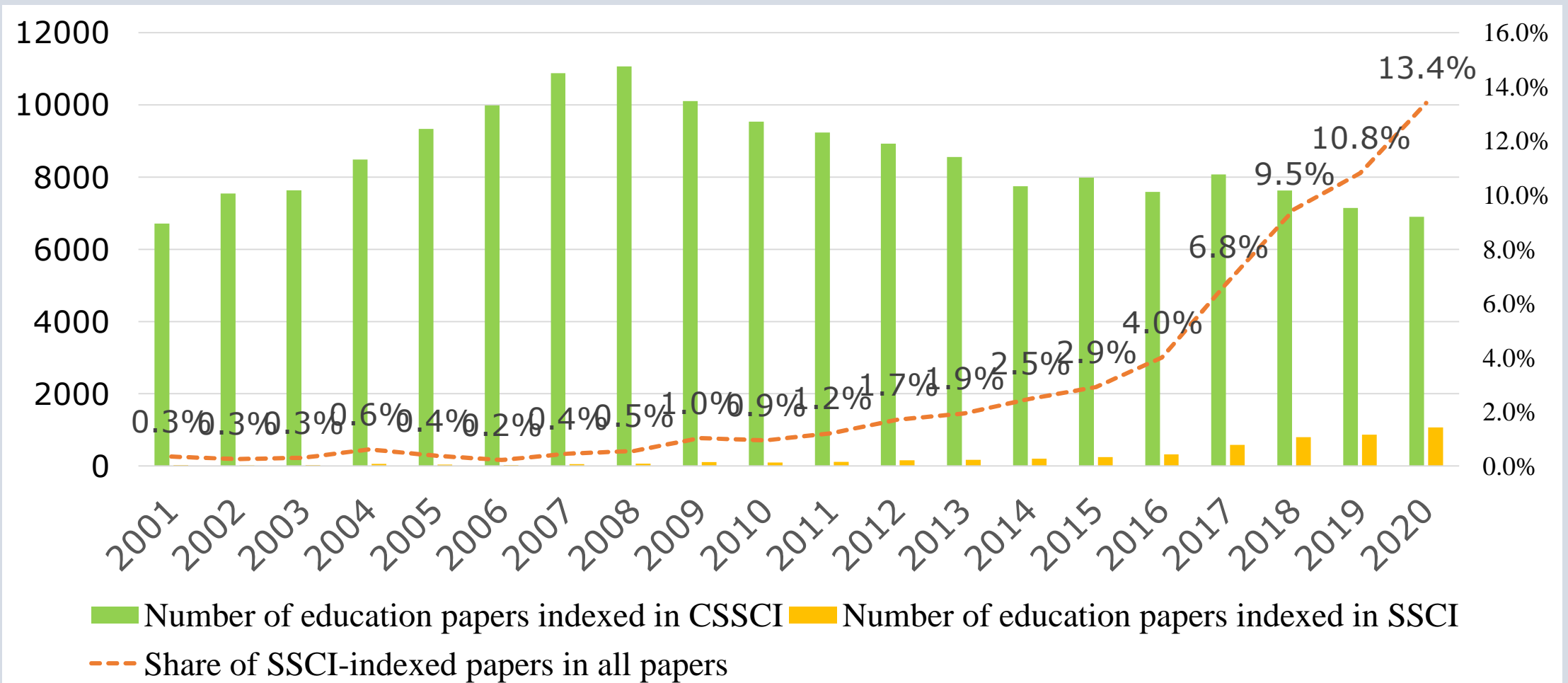


Figure 9. Number of education papers indexed in SSCI and CSSCI: 2001-2020



International collaborations and first-authorship

Figure 10. Output and share of international collaborated papers in all China-participated education papers indexed in SSCI: 2001-2020

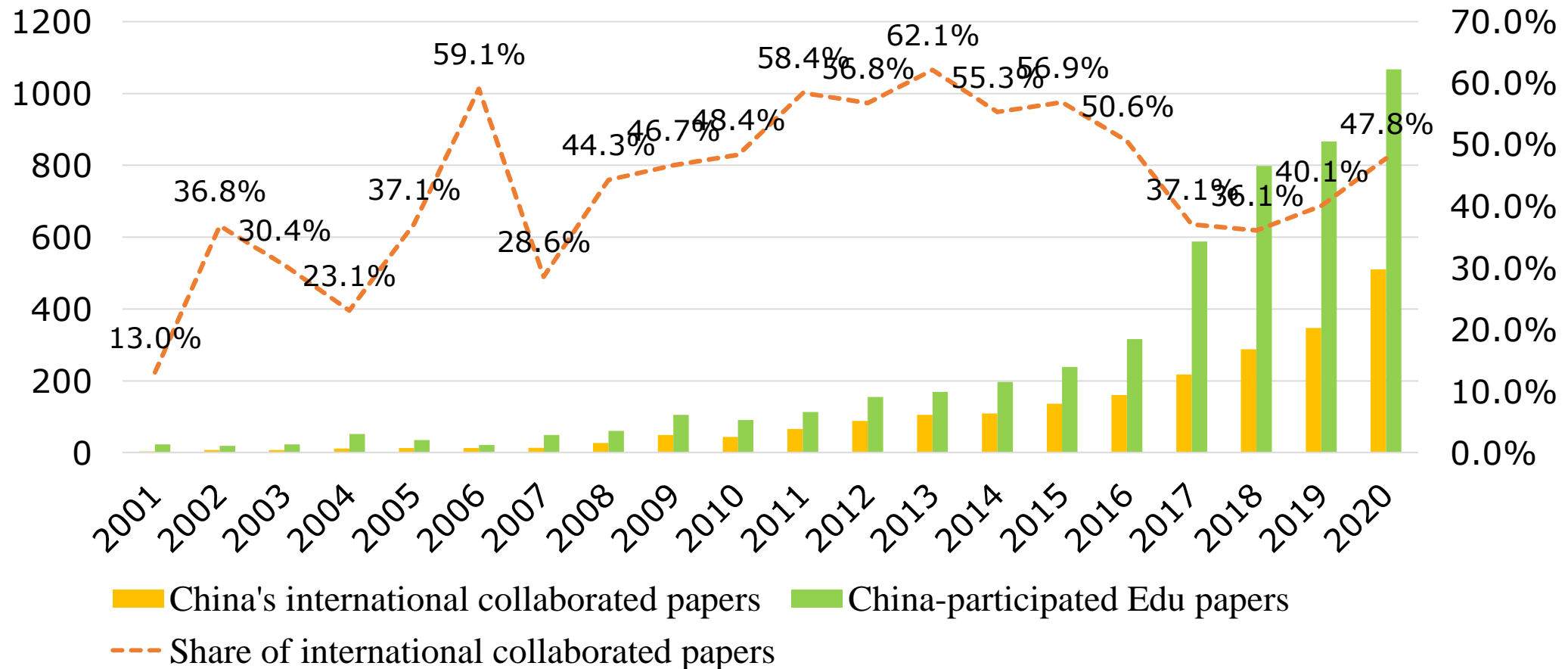


Figure 13. Outputs and share of **China-led** education papers in all China's international collaborated papers indexed in SSCI: 2001-2020

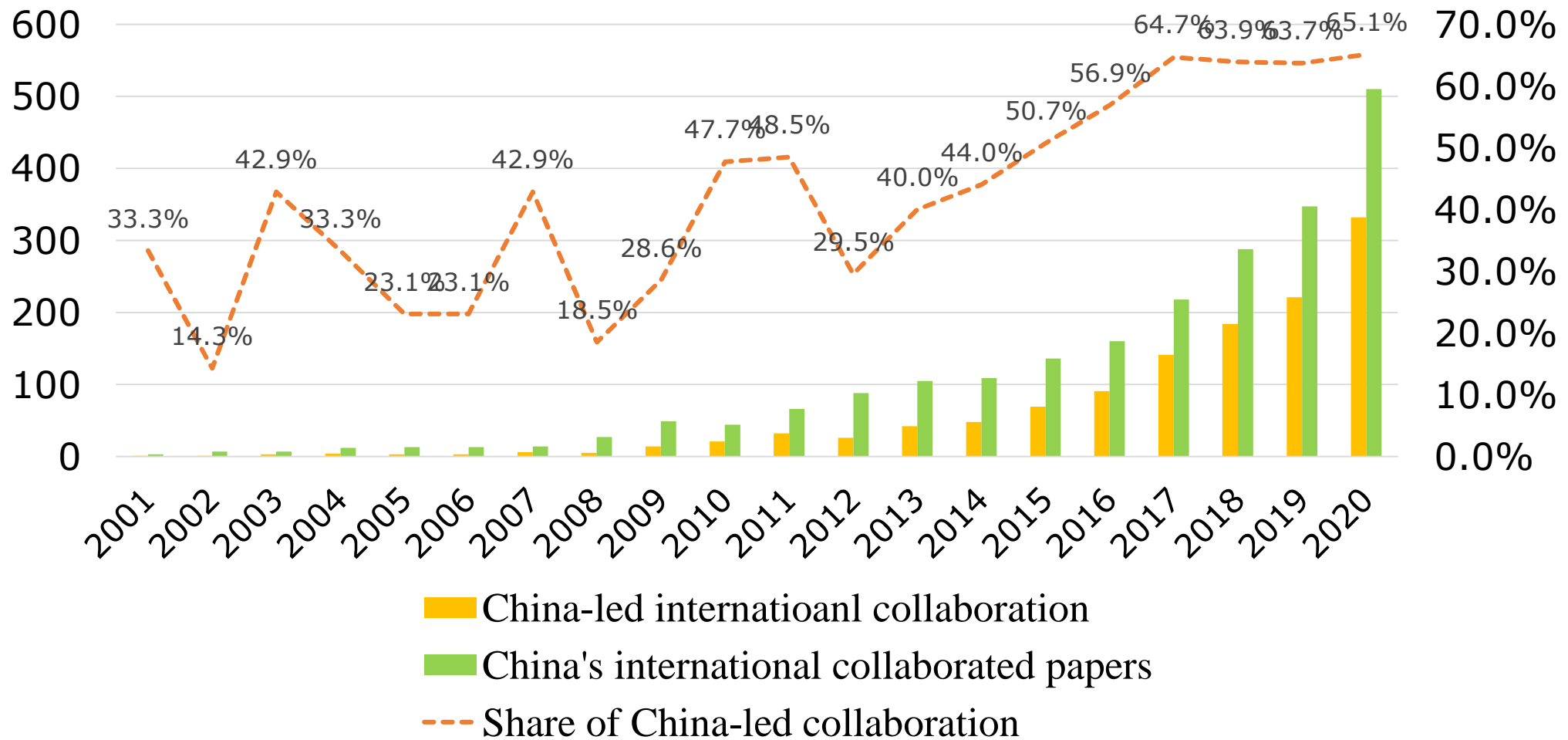


Figure 12. Output and share of international collaborated papers in all **UK-participated** education papers indexed in SSCI: 2001-2020.

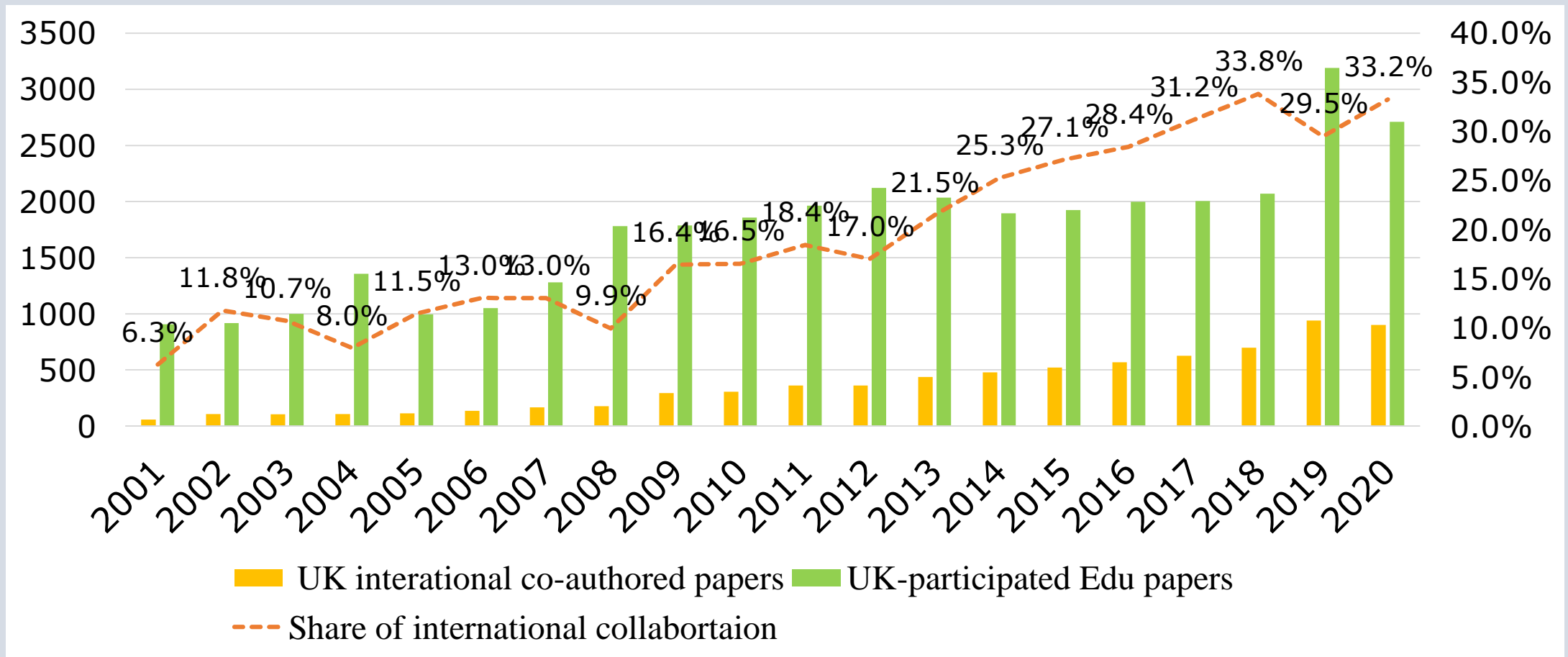


Figure 13. Outputs and share of UK-led education papers in all UK's international collaborated papers indexed in SSCI: 2001-2020

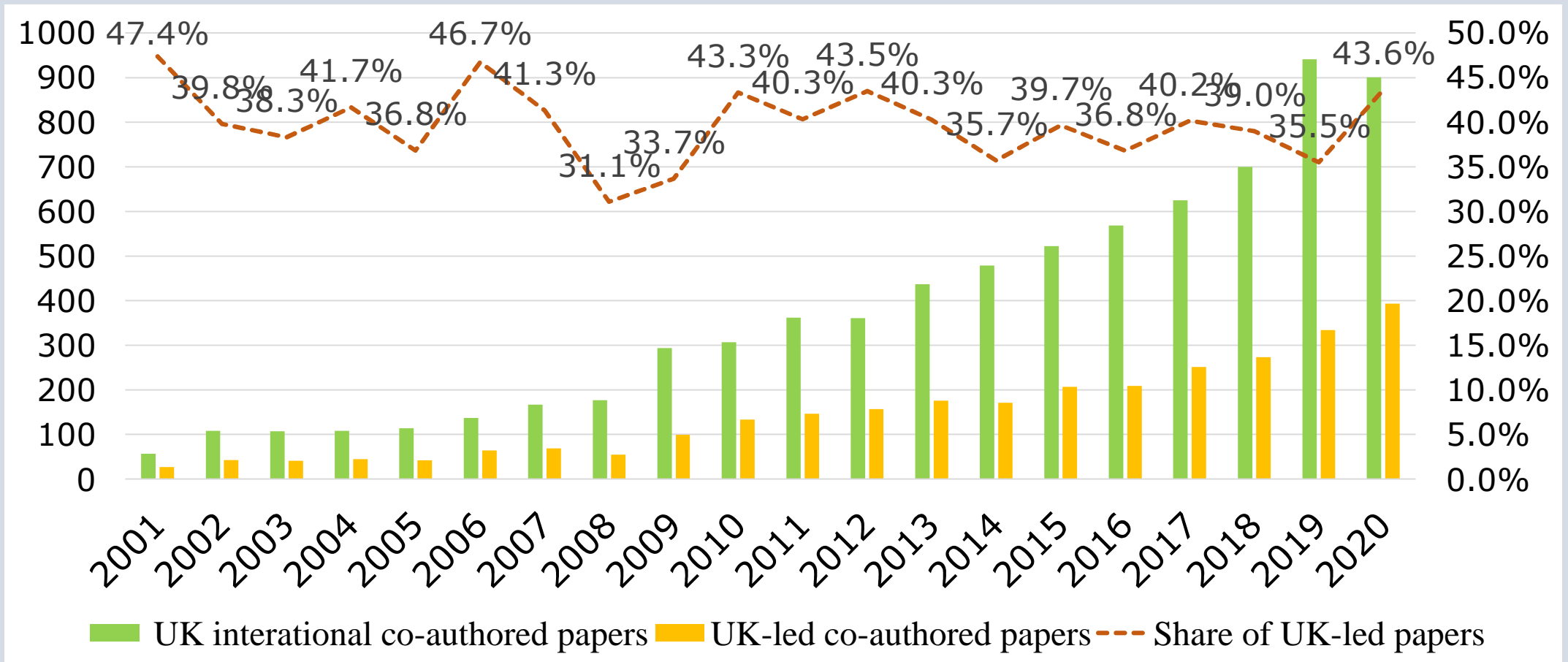
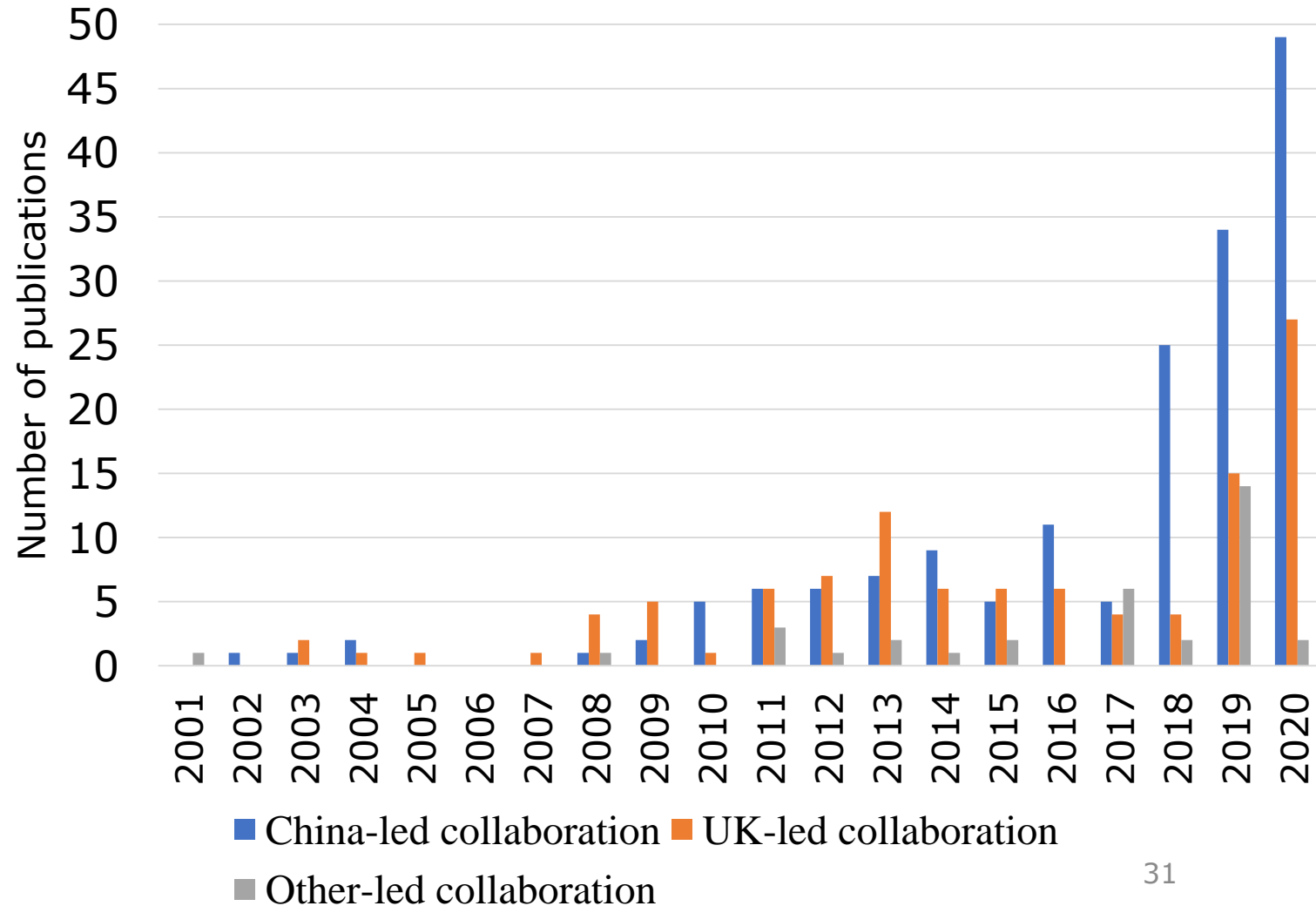
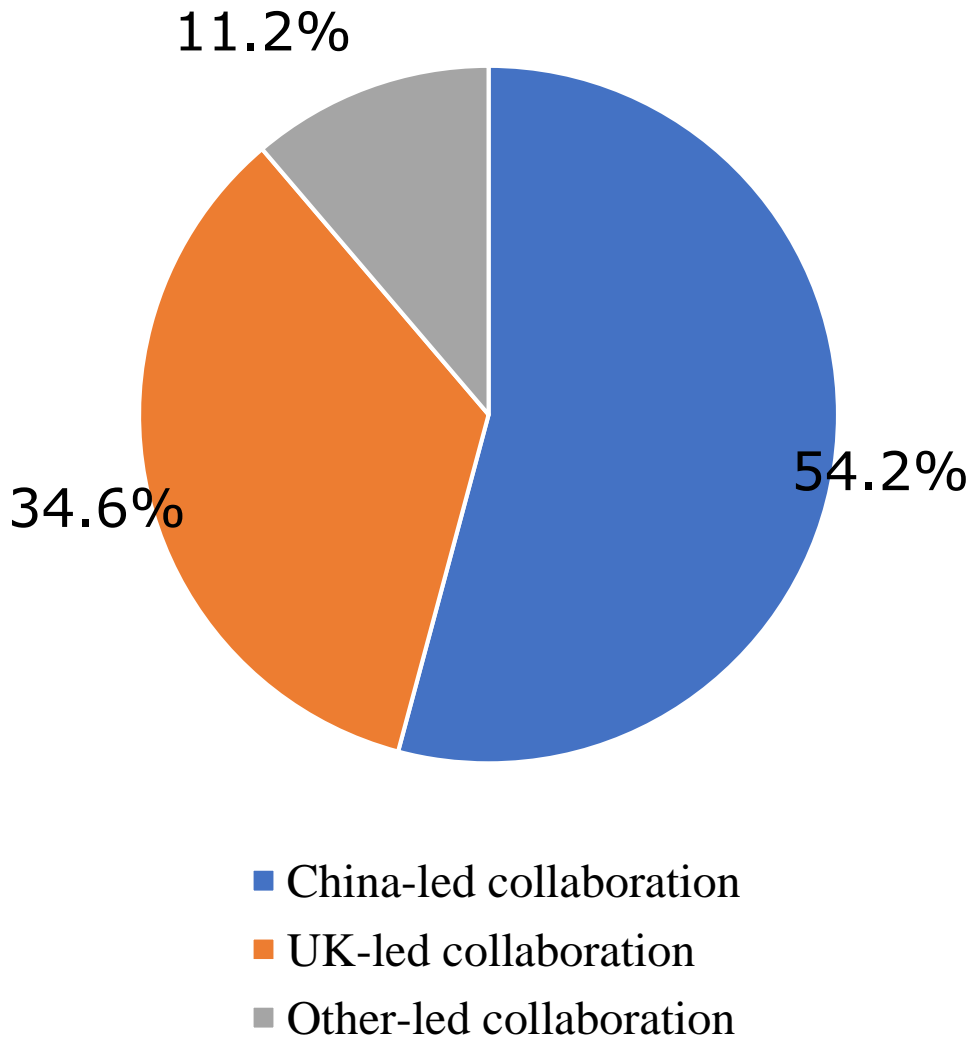


Figure 14. Number and share of first authorship in China-UK education papers indexed in SSCI from 2001-2020





Citations: citation sources

Table. Ten most cited countries and regions in **China**-participated education papers indexed in SSCI: 2001-2020

Countries/Regions	Records	Share of all citations
PEOPLES R CHINA	8483	28.1%
USA	7006	23.2%
AUSTRALIA	2195	7.3%
UK	2027	6.7%
TAIWAN	1658	5.5%
SPAIN	1570	5.2%
CANADA	1254	4.2%
TURKEY	1038	3.4%
GERMANY	840	2.8%
MALAYSIA	723	2.4%

Table 7. Source countries of citations in **China**-participated education papers indexed in SSCI in 2001-2005, 2006-2010, 2011-2015, 2016-2020.

2001-2005			2006-2010			2011-2015			2016-2020		
	#	%		#	%		#	%		#	%
USA	956	41.0	CHN	1723	25.8	CHN	3671	26.8	CHN	4641	33.9
CHN	790	33.9	USA	1612	24.2	USA	3185	23.2	USA	2640	19.3
AUS	166	7.1	AUS	447	6.7	AUS	1061	7.7	AUS	950	6.9
GBR	149	6.4	GBR	418	6.3	GBR	992	7.2	GBR	868	6.3
ESP	96	4.1	TWN	404	6.1	TWN	811	5.9	ESP	787	5.8
CAN	91	3.9	CAN	315	4.7	ESP	684	5.0	TWN	762	5.6
TWN	89	3.8	ESP	277	4.2	CAN	628	4.6	CAN	491	3.6
NLD	78	3.3	TUR	232	3.5	TUR	476	3.5	TUR	468	3.4
DEU	77	3.3	MYS	198	3.0	DEU	400	2.9	DEU	363	2.7
TUR	54	2.3	IRN	181	2.7	IRN	340	2.5	MYS	315	2.3

Table 8. Ten most cited countries and regions in **UK**-participated education papers indexed in SSCI: 2001-2020



Countries/Regions	Records	Share of all citations
UK	83527	25.0%
USA	70232	21.0%
AUSTRALIA	29980	9.0%
CHINA	18387	5.5%
SPAIN	16851	5.0%
CANADA	15493	4.6%
GERMANY	12377	3.7%
NETHERLANDS	9481	2.8%
SWEDEN	5281	1.6%



Table 7. Source countries of citations in **UK**-participated education papers indexed in SSCI in 2001-2005, 2006-2010, 2011-2015, 2016-2020.

2001-2005			2006-2010			2011-2015			2016-2020		
	#	%		#	%		#	%		#	%
GBR	20900	26.4	GBR	28285	23.6	GBR	29272	30.6	GBR	14214	32.3
USA	17014	21.4	USA	24968	21.6	USA	22491	23.5	USA	9277	21.1
AUS	7909	10.0	AUS	11974	10.4	AUS	13109	13.7	AUS	5806	13.2
CAN	4376	5.5	CAN	6496	5.6	ESP	6597	6.9	ESP	3637	8.3
NLD	3159	4.0	ESP	5683	4.9	CAN	6505	6.8	CHN	3488	7.9
ESP	3158	4.0	CHN	5097	4.4	CHN	5965	6.2	CAN	2602	5.9
CHN	2815	3.5	NLD	4366	3.8	NLD	4545	4.7	DEU	1972	4.5
DEU	2510	3.2	DEU	4243	3.7	DEU	4178	4.4	NLD	1723	3.9
SWE	2003	2.5	SWE	2934	2.5	SWE	3024	3.2	SWE	1321	3.0



Table 10. Ten most cited countries and regions in **China-UK** education papers indexed in SSCI: 2001-2020

Countries/Regions	Records	Share of citations
PEOPLES R CHINA	869	27.6%
UK	567	18.0%
USA	473	15.0%
AUSTRALIA	314	10.0%
TAIWAN	125	4.0%
CANADA	118	3.7%
SPAIN	114	3.6%
TURKEY	112	3.6%
IRAN	98	3.1%
GERMANY	88	2.8%



Table 11. Source countries of citations in **China-UK** education papers indexed in SSCI in 2001-2005, 2006-2010, 2011-2015, 2016-2020

2001-2005			2006-2010			2011-2015			2016-2020		
	#	%		#	%		#	%		#	%
USA	66	22.8	CHN	123	30.6	CHN	333	24.2	CHN	391	33.9
CHN	57	19.7	USA	65	16.2	GBR	272	19.3	GBR	223	19.3
NLD	24	8.3	GBR	69	17.2	USA	184	13.4	USA	165	14.3
TWN	23	7.9	AUS	26	6.5	AUS	183	13.3	AUS	105	9.1
TUR	21	7.2	TWN	18	4.5	ESP	53	3.9	TUR	45	3.9
GBR	23	7.4	CAN	17	4.2	CAN	48	3.5	CAN	43	3.7
DEU	15	5.2	NZL	17	4.2	IRN	48	3.5	ESP	43	3.7
MYS	13	4.5	TUR	17	4.2	TWN	46	3.3	TWN	40	3.5
CAN	12	4.1	IRN	13	3.2	FIL	44	3.2	IRN	36	3.1
IDN	11	3.8	SGP	13	3.2	DEU	36	2.6	NZL	33	2.9

Highly cited papers

Table 12. Number of highly cited papers and first affiliated papers in social science papers in China and four UK jurisdictions: 2011-2021



	Number of social science papers	Number of highly cited papers (HCP)	Number of highly cited papers with first affiliation	Rate of HCP in social science papers	Share of first affiliation in HCP
Mainland China	41,589	907	776	2.18%	85.6%
UK	153,062	2376	1596	1.55%	67.2%

Funding sources



Table 13. Top ten funding agencies in **China**-participated education research

Funding Agencies	Country/Region	Records	Share (%)
National Science Foundation of China NSFC	China	399	8.00
Fundamental Research Funds for Central Universities	China	126	2.53
Ministry of Education China	China	109	2.19
National Natural Science Foundation of China	China	93	1.86
National Social Science Foundation of China	China	69	1.38
China Scholarship Council	China	66	1.32
Peak Discipline Construction Project of Education	China	57	1.14
United States Department of Health Human Services	USA	51	1.02
National Institute of Health USA	USA	50	1.00
National Science Foundation NSF	USA	45	0.90 ³⁹



Table 14. Ten biggest funding agencies in **UK**-participated education research

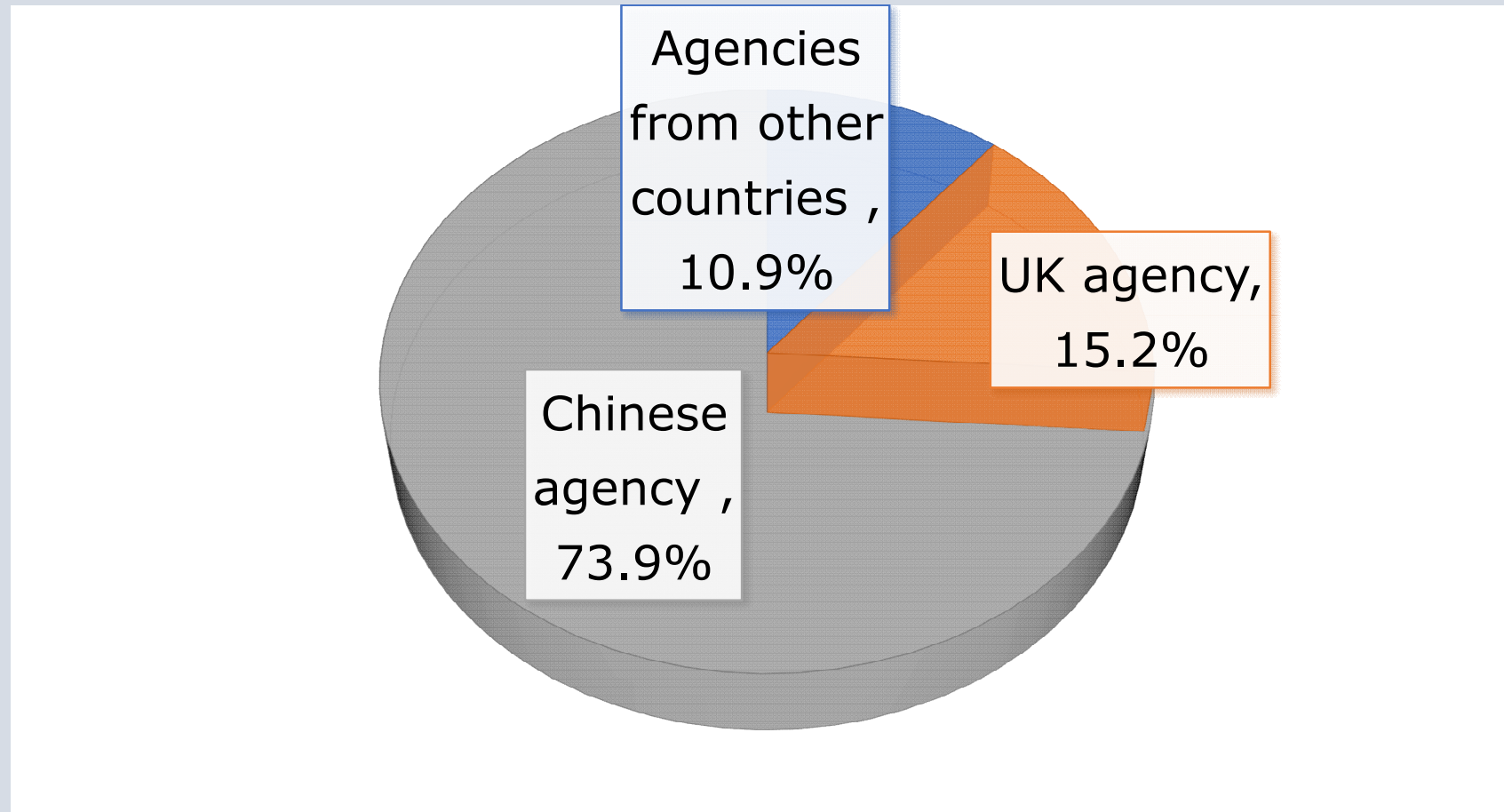
Funding Agencies	Country/Region	records	Share (%)
UK Research Innovation (UKRI)	UK	1485	4.26
Economics Social Research Council (ESRC)	UK	1166	3.35
European Commission	EU	455	1.31
Medical Research Council UK (MRC)	UK	182	0.52
National Institute for Health Research (NIHR)	UK	151	0.43
Wellcome Trust	UK	114	0.33
Arts Humanities Research Council (AHRC)	UK	108	0.31
United States Department of Health Human Services	USA	98	0.28
National Institutes of Health (NIH) USA	USA	95	0.27
Australian Research Council	Australia	86	0.25



Table 8. Ten biggest funding agencies in **China-UK** education research

Funding Agencies	Country/Region	Records	Share (%)
National Natural Science Foundation of China NSFC	China	9	3.00
China Scholarship Council	China	7	2.33
Peak Discipline Construction of Education at East China Normal University	China	7	2.33
Economic Social Research Council ESRC	UK	6	2.00
UK Research Innovation UKRI	UK	6	2.00
Fundamental Research Funds for The Central Universities	China	4	1.33
The British Council	UK	3	1.00
Comprehensive Discipline Construction Fund of Faculty of Education	China	2	0.67
British Academy	UK	2	0.67

Figure 16. Share of funding agencies in **China-UK** education papers indexed in SSCI: 2001-2020.





Summary of quantitative findings

Aspects	Themes	Findings
Background in production	World level	<ul style="list-style-type: none"> ● Social science and education outputs both increased ● The visibility of education in social sciences continued to increase
	National level	<ul style="list-style-type: none"> ● The visibility of social science in all disciplines in China and UK both increased ● While China's world share of education papers increased, that of UK decreased
	China-UK publications	<ul style="list-style-type: none"> ● Education publications are more visible within social science publications in UK than within social science publications in China ● The difference in the volume of social science and education production between China and UK narrowed
International collaboration	Leadership	<ul style="list-style-type: none"> ● China-based education researchers collaborated more internationally than their UK counterparts ● China has a higher rate of first authorship than UK in China-UK education publications
	Recognition	<ul style="list-style-type: none"> ● China's education publications had increasing self-reference and dropping foreign reference, while UK's citation profile remained relatively stable ● UK's China-affiliated citations grew substantially ● China had a higher first author rate than UK in highly cited social science papers in 2011-2021 ● Two thirds of China-UK highly cited papers had Chinese first affiliation, while none had UK first affiliation
	Funding	<ul style="list-style-type: none"> ● China and UK education research were primarily funded by their home country ● About three quarters of China-UK education papers were funded by Chinese funding agencies

Collaboration dynamics & researchers' experiences



- Initiations
- Motivations
- Distribution of responsibilities
- Challenges in collaboration dynamics
- Dissemination of collaboration results
- Reflections on international collaborations



Initiations of collaborations

- **Prior personal networks**

‘When I needed a Chinese collaborator for my research, it was through one of my contacts in China made during my visits. Overall it’s about the fact that I had done a lot of practical work in China – I made connections and had a profile there.’ (UK-R3)

- **Visiting scholar projects, exchange programs and international employment**

‘She has done her PhD and wanted to turn it into a paper. She too came to UK as a visiting scholar, and we worked on the paper together.’ (UK-R1)

- **Reaching out to unacquainted academics through email**

‘The key was that my partner was able to provide abundant information about her departments, websites of her university, and contacts details of other academics in the same field. If it was a chatty email I wouldn’t have agreed to it.’ (Academic UK-NR)

- IN CONTRAST, academic UK-R1 did not value unacquainted collaboration-seekers as much due to the high volume of such requests.



- **Unexpected initiations of collaboration**

- Academic UK-R1 recalled one ‘weird’ collaboration experience where the research project turned out to be a ‘business promotion’ trying to use the UK ‘brand’
- Academic-UK-R1 shared an untraditional policy-oriented collaboration between one Chinese institution and her UK institution: ‘It took a bit of negotiation because their way of using external help in reforming research and development I think was not common in China’.



The motivations of collaborations

- **The nature of research topics as international**
 - *The share of international collaborations in my work is probably up to 70 per cent because the concept itself is very international and global. (MC-DF1)*
- **Cognitive and social fulfilment**
 - *I engage in international collaborations with those more senior researchers because I can learn a lot from them ... Learning to become a researcher is like an apprenticeship or craftsmanship that is guided by masters ... My thoughts are substantially extended when working with my UK collaborator. I love working with her to analyse some data even though sometimes they don't not result in publications. (MC-NDF2)*



- **Fresh perspectives**
 - ‘Collections question one’s own assumptions’, a process in terms of research is the ‘goddess’
- **Boost of production and quality**
 - ‘Audition from government agencies’ and ‘aims and scopes of some journal’ (UK-R2)
 - ‘You still have to produce good work, but it may be easier to get published if you are collaborating internationally’ (UK-NR).
 - ‘When you start a new career in a teaching position, you need to seek out people - you don't have very much time’



Distribution of responsibilities

- **Theoretical and empirical work are distributed in a more equal manner**
 - *They [the more senior collaborators from UK and other countries] are very familiar with the concepts that I use. Sometimes I don't realise the issue of my paper until I see their comments. This is probably because these concepts originated from their countries. Our role would reverse when they use concepts originated from China. (MC-DF1)*
- **Distinctive labour distribution**
 - the China-based visiting scholars had conducted the empirical part of the research, but had limited knowledge about the requirement for publishing



- **An evolution of responsibility distribution**
 - started from more theoretical contributions from the UK side and more empirical work from the Chinese side, evolved to ‘both analysed and reported data from scratch as equal partners’
 - (Academic MC-NDF2) Her self-position transformed from a ‘learner of an internationally prestigious scholar’ to a more equal collaborator where their expertise can ‘complement each other’.



Factors that challenge collaboration dynamics

- **Publishing in both languages** and moving between Chinese and international academic systems can be a challenge for China-based scholars.
 - Even well respected scholars in China could potentially face challenges when ‘moving to an international stage’ due to a lack of experience in English academic writing (UK-R3)
- **Competitions among collaborators** for recognition, resources and rewards
 - *The tension is a kind of competitive spirit fuelled by institutional pressure and expectations. It's difficult for the collaboration when you find your so-called partners are actually more ambitious for their personal and institutional progress than the project progress. (UK-R2)*



Factors that maintain collaboration dynamics

- **Trust building**

- a visit is hugely productive because ‘it’s crucial to be serious on doing collaborations’
- While much of scholarly communications nowadays are housed by the sophisticated digital platforms, ‘in the end the relationship is key’. (UK-R1)

- **Cultural awareness**

- ‘Unless you have academics on both sides who are willing to try to understand and try to adapt it, it [the collaboration] is not going to work’ (UK-R1)
- the ‘obstacles’ regarding cultural differences that one had to overcome were ‘in many cases what makes an interesting project’ (UK-R2).

- **Awareness of politeness and criticality**

- UK academics were ‘raised to hone their criticality’ and more used to ‘argue about every aspect related to the research’ (UK-R1; UK-R2).



Reflections on international collaborations

- **Values of collaborations**

- International collaborations present opportunities to include more contexts and empirical evidence that made the ‘arguments more robust and transferable’ and theory more ‘applicable to other contexts’ (UK-NR).
- The research results can be utilised by a larger community. As illustrated in the opening quote, international collaborations are the only way to address global human problems in the long term (UK-R1).

- **Limitations of collaborations**

- *There's some things that need to be developed by following your intuition and your impulse as an individual. Launching every project as something that has to be achieved by another country or institution will compress research findings and may lead to more homogeneity.* (UK-R3)
- Some large-scale and intervention-based international collaborations ‘failed to deliver because the deeper ideas and theory were not be properly worked through’ (UK-R3).
- UK-R2 expressed his preference to write grant proposals with domestic colleagues and hinted the easier team management of domestic collaborations in a long-term collaboration commitment.

- **Funding**

- We did try to apply for the grant from British Council, but it didn't succeed. There wasn't much funding distribution mainly because we have our own projects and funding respectively.

- **Comparison with IRC in NS**

- Collaborations such as 'multi-million drug development' may incur disagreement in funding distribution (UK-NR).
- *Methodologically, compared with social scientists who work 'within more mixed methods', natural scientists engage in international collaborations with 'more strict procedures', and less compatible 'ethical requirements' among different countries (UK-NR).*
- *International collaborations in STEM subjects (Science, Technology, Engineering, Mathematics) generally seek commonality such as mathematical formula or cures for diseases, while those in social sciences aim to bring about more understanding and appreciation for the differences based on various cultural identities in collaborating scholars. (MC-DF1).*



- **Comparisons in the collaboration environment in China and the UK**

- Academic MC-NDF1 suggested that China's collaboration culture seemed to be more 'utilitarian' and 'complicated' than that in UK, in the sense that 'people pay more attention to first-authorship and corresponding author' whereas such a trend was not perceived in her collaborations with UK academics.
- UK-NR noticed that Chinese academics seemed to have a clearer individual research area a clearer institutional research agenda than academics he had collaborated with from some Caribbean countries: 'They don't do others' work'.
- Academics based in both countries shared criticism towards administrative pressure
- There's a tension in the values between people in the front line and people in management – education researchers should be trusted more. (MC-NDF2)

Summary of qualitative findings



The procedure of international collaborations

Initiation of international collaborations

- Prior personal networks
- Visiting scholar routes
- Reaching out directly
- Less traditional initiations (disguised by business promotions; policy-oriented collaborations)

Distribution of responsibilities

- Mentoring through visiting scholar projects
- Learning and absorbing
- Balanced theoretical and empirical work
- Epistemic integration and theory innovation

Dissemination of collaboration outcomes

- Distribution of first authorship
- Journal choices
- Publishing languages
- Balance of native and international agenda

Motivations of international collaborations

- Nature of research focus and scope
- Cognitive improvement
- Social fulfilment
- Production boost and career development
- Funding sources

Factors that sustain collaborations

- Third-party reference in methodological disagreement
- Trust building
- Cultural awareness (e.g. politeness and criticality)

Factors that challenge collaborations

- Unfamiliarity of language
- Competitions among collaborators
- Influences from institutions and the broader landscape

Reflections on international collaborations

- Value and prospect of international collaboration
- Limitations of international collaboration
- Comparison of social science and natural science
- Comparison between China and UK

The shaping forces of international collaborations



Discussions and conclusions

- **Diversity** in the approaches, process, and outcomes of collaborations
- **Competitions** at individual, institutional and national levels significantly **tension the development** of international collaborations.
- **Funding** does not significantly motivate or tension the development of international research collaborations in educational studies.
- Multiple ways to interpret **first-authorship**
- Fluid and shifting **social relations** among collaborators
 - Within the more stable collaboration team where multiple projects or publications are produced, relations generally transition into more equal contributor
 - No participant reported feeling instrumental or exploited in collaborating with international partners
- With the dissolving of hierarchical relations comes the **pluralization of theoretical thoughts**



Thank you for your attention!

I welcome any questions and comments!