Registered Report – Phase 1, Review round 1, Rebuttal

I want to thank the Registered Report, and these reviewers for a very in-depth and kind feedback on the first phase of this Registered Report. I apologize for taking this long to make certain adjustments. I hope this rebuttal and the newer version of the phase 1 of this Registered Report have alleviated the issues pointed out, and edits based on the suggestions listed below have increased the quality of this manuscript with increased confidence in the success of this large study.

Best regards,

Henry

Reviewer Feedback	Taken Actions, Explanations, Next Step
Reviewer #1	
Major Point #1: The contextualization of the article is not fully aligned with the study plan	I have attempted to align these two together by adding context and editing the wording in the Introduction and Research Objectives sections.
The data collection/analysis and the contextualizing of the research are not fully aligned. At the moment the article is rooted in the field of game studies, while potentially addressing a much wider area of studies into games and play. As such, the article would benefit from a more detailed discussion of the fields or disciplines of research into games.	I have removed mentions of play research to limit the scope of the study to be more feasible.
It would be helpful for the reader if there was a short section that clearly outlined what "game studies" and "game research" mean in this particular article – or then the clear coupling to the tradition of game studies was severed. Furthermore, in the same section it would be useful to discuss if this article concentrated narrowly on digital games, all kinds of games, or very widely on anything on games and play.	I have added a paragraph pertaining to this to the introduction.
Presenting the history of Finnish research into games in one paragraph is quite impossible (at the beginning of the Background section). The article does a decent job here. However, I am surprised that gambling (aside from a nod towards Pajazzo) is not discussed as exceptional as Finnish history and legislation is quite unique globally – and there is academic work available on the topic, for example by Pauliina Raento. A nod towards Kalevalaseura's 1981 book also would not go amiss. And I am puzzled that earliest Finnish game/play research does not mention Yrjö Hirn's Barnlek (1916).	I have added these suggested citations. I have not delved deep into the unique legislation of gambling games in Finland as that would go off-topic.
Major Point #2	
Explicate limitation of the study design	

	T
A quantitative study like this will not account for	I have added a paragraph
differences in the cultures of academic fields and	pertaining to this point in the
disciplines automatically	section 4.1.
When the plan states "could be revealed through an	See above.
analysis of the most cited or authoring scholars", it should	
be somehow present in the analysis that academic fields	
are different, citational practices are different, and	
authoring practices are different. In some fields one	
should reference the originator of an idea, in other fields	
the most recent work is more important.	
In some fields professors put their names on all of their	See above.
students' papers, in other fields a professor is only listed	
as co-author if they actually actively participated in a	
specific study (and securing funding and normal	
supervision are not seen as active participation). The	
current version of the study plan does not propose how to	
account for such cultural differences. And perhaps they	
simply will not be accounted for at all, but at minimum I	
would like to see an acknowledgement that this study will	
be comparing apples and oranges.	
The definition of "Finnish research" as originating only	I am aware of these
from Finnish HEIs leaves out Finnish scholars who do not	circumstances. I was not able to
work in Finland, leaves out some of the work of scholars	find a definitive source for the
who work in Finnish HEIs but have not always worked in	claim of Nokia Research
Finland, and leaves out all of the work by scholars who	Center's role in the past.
conduct research in Finland outside of HEIs (for example	Similarly game developer
Nokia Research Center was a key hub of game-related	conferences (not sure if the
research in Finland for several years). All delimitations	GDC was used for this) operated
have their problems, of course, but those limitations	as a forum for early game
should be made clearly explicit.	research talks. I was not able to
one and a community on process	find a source for these two
	claims, but I've left them in the
	text. Sources are welcome, or I
	have to remove these claims.
	nave to remove these stanner
Major Point #3	
Resolve assumptions vs. evidence	
The choice of the founding of Digra as the starting point is	I have added a paragraph
perplexing and could be motivated better. If Digra is	pertaining to this in
presumed to be a major turning-point, then that clearly	Introduction.
prioritized certain types of research into games (digital	
recreational games instead of simulation, sports, or	
education) and it means that since that is the starting	
point, it is not possible to show what impact the founding	
of Digra had since the-Digra work has been excluded.	
Perhaps pushing the starting date of the data gathering to	
i i sinaps pasining the starting date of the data gathering to	
2000 could be considered?	I would make a claim that
2000 could be considered?  Center of Excellence in Game Culture Studies is, I would	I would make a claim that
2000 could be considered?  Center of Excellence in Game Culture Studies is, I would also assume, a key development in Finnish game studies.	indeed it is a key development in
2000 could be considered?  Center of Excellence in Game Culture Studies is, I would	

rather formulate it as a question than as a background component.	intentionally vague and large objectives and research aims to a specific cases. If CoE-GameCult shows up as a key development in the data, or a change in publication patterns aligns with the formation of it, I will present CoE-GameCult as one possible reason for it. Claiming that CoE-GameCult definitely is a key development, would open the door to add any other such plausible development to the list of hypotheses. This study is intentionally not hypothesising things to avoid these types of issues.
Major Doint #4	
Major Point #4 Minor Things	
In Finland, I would add consider adding journals Widerscreen and Fafnir to the list of journals to check out. I would also check that the database searches reliably report on the biggest game studies journals[]	I have added these to the list.
I find the comparison of contemporary game scholars to big names like Plato, Descartes, and Newton to be rhetorically unconvincing. While the idea expressed here – certain scholars works are significantly more influential than others – is valid, the expression of the idea reads as populist in a way that takes the reader out from the argument.	I have removed this comparison.
I would expect the names of works (games, books, journals, etc.) to be in italics.	I have italicized the works.
Reviewer #2	
I have several comments and questions regarding the proposed methodology and feasibility of the study, which I believe should be clarified before proceeding with data collection.	
The 20-year time frame (2003-2023) is justified by the establishment of the DiGRA chapter in Finland. However, as the author correctly notes, game and play research in Finland has a much longer tradition. This is well-documented by the fact that game research courses have been offered since 2002. While I understand the importance of the Finnish DiGRA platform, I suggest reconsidering the limitation of the timespan to 2003-2023 and including more historical context to capture the full evolution of the field. A sensitivity analysis could be	I have added a paragraph pertaining to this in Introduction.

performed for studies published from 2003 onwards.	
However, this is ultimately up to the author.	
The process of data collection is comprehensively	They do not provide the same
described. While I'm not very familiar with Finnish national	set of information, albeit the
and HEIs libraries and registries, I wonder if the author has	ones I've done pilot searching
checked whether all the sources (both international	(the international databases) do
databases and local ones) provide the same set of	offer similar top level
information necessary for the analyses described. For	information on the search
instance, if a database is missing keywords, it won't be	results. I have yet to delve into
possible to include it in the co-occurrence analysis as	libraries of the HEIs or see how
outlined by the author.	national databases operate in
	comparison to international
	ones.
Loosely following this point, databases may not be very	I have done some piloting, and
compatible. The author has likely done some piloting, but	report of that is added at the
I'm concerned that some of the suggested analyses might	end of this document.
only be feasible with specific databases. Could the author	
report on the piloting and confirm that all of the proposed	
analyses are doable on the entire body of papers?	
If not, please provide information about which analyses	I am aware it is very labour
will be done on which data. The author may be aiming to	intensive, and I have accepted
overcome the missing (meta-)data issue by extracting the	that fact. In the future this might
missing data manually. However, this approach seems	change, but for now manual
extremely laborious, as I can imagine that hundreds of	labour is needed in multiple
documents will be included, and not all information will be	steps to complement missing
readily available.	data, or make the gathered data
	into analysable and presentable format.
Why limit the publications to English and Finnish? Given	I have added a paragraph
that this is a bibliometric study, I don't see many concerns	pertaining to this in section 4.1.
related to the inclusion of other languages. On the	pertaining to this in section 4.1.
contrary, including additional languages could provide	
further insights into publication patterns.	
Can the author provide more technical details regarding	I have added a paragraph
the data cleaning and preprocessing? For example, how	pertaining to this in section 4.2.
will text be preprocessed (e.g., extraction of author	The exact way the duplicates
names), and how exactly will duplicates be removed?	and other data cleaning will
The state of the depth of the state of the s	happen, can be reported once it
	is done, however.
Could the author provide more information on the metrics	I have changed the notion of
that will be reported and discussed (e.g., centrality	what type of research is done,
measures in networks, clustering coefficients, etc.)?	and via frequency count will the
	metrics be reported as listed in
	the section 4.3.
Could the author provide additional information on what	I have added a paragraph
software and/or packages will be used?	pertaining to this in section 4.3.
I hope that the comments and questions will help clarify	They did, thank you!
the methodology and feasibility of the study. I wish the	<u>-</u>
author the best of luck and look forward to reading the	
revised version of this RR.	

Basiana #0	T
Reviewer #3  The project is very ambitious, but given the timeframe and limiting the scope to one particular geographical area and research that is either authored or co-authored by researchers affiliated with Finnish Higher Education Institutes, the paper gives the impression of a well-planned research. The researcher seems well qualified in conducting a quantitative analysis and providing new insights to the development of the game studies in Finland.  Suggestion: the research can proceed to the second stage; however, I would advise the researcher to pay closer attention to the research question and some of the key concepts, and add some background literature.  The research question is not addressed properly (or is not in the form of a question). There are some speculative questions in the introduction and the purpose, aims and objectives of conducting a meta-analysis of game research in Finland are discussed throughout the plan.	I have intentionally steered away from any research question or hypothesis testing. I want this to be as open as possible when it comes to approach and game research. This is done to reduce as much personal bias as possible, albeit one can not remove it completely. Thus, the research objective, with a number of disclaimers and limiters, is to merely see what, how, where, and to some degree why in regards of game research between the selected years.
The researcher justifies the planned research adequately, stating for instance that meta-analyses are in constant need for updates and this seems to be the right time to do one.  Suggestion: consider forming a clear research question for the study.	See above.
The study is driven by recent significant contributions to the field of game studies and the assumed development of the research in Finland. The author also points out the foundation of DiGRA, Centre of Excellence in Game Culture Studies and the emergence of game research courses in higher education institutions. This is well justified, however, this background is quite strongly focused on Tampere University, but the author should check whether there is anything about other universities worthy of mentioning.  Prior literature has been considered to some extent. The background section takes into consideration the early stages of game research conducted in Finland, and brings up some of the oldest games as examples as well as the history of games. However, the section and the previous	Tampere University is mentioned a lot in that paragraph mainly due its history and is rather coincidental, not because other universities have not contributed to this topic at the same time. This focus is not intentional, and if it feels too much, I can edit this in the further versions.  I have not edited the Background section much, but I have added sentences and references to other works to both the Introduction and

game research cited here is quite scarce, though it starts very promisingly and the reader expects a more thorough overview. The author could add more game research before the year 2003, providing a short historical overview of the research scene in Finland. This could also benefit from recently published works.

Background sections that I hope will alleviate this.

In general, I am surprised that the author has not noted the book Pelit kulttuurina as one of the significant contributions to the Finnish game research and education. The author could at least check Frans Mäyrä' chapter in the book to broaden the historical background of the research. To build a supportive background, the author could also cite Jaakko Suominen's Pajatsosta pöytätennikseen (2023) that uncovers games and game culture in Finland between wars. Ari Saastamoinen's (2022) book Lautapelien historia might also be helpful in the background section.

I have added these to relevant sections in the Background section.

Some of the cited references should also be explained and elaborated further, e.g. these: "documenting the historical progression and development of games, the nature of play, and the evolution of game development within the context of Finland, as referenced (Nylund, 2020; Nylund, Prax & Sotamaa, 2021; Saarikoski & Suominen, 2009; Sotamaa, 2021, 2023; Suominen, 2008)."

I have edited this and the other section which have multiple authors cited by writing out the titles of the publications in questions. I hope that alleviates this issue.

The section is strongly focused on game research although the word play (leikki or pelaaminen) is used in the title. The reader becomes a little confused, because the word play is used as a search word but it is unclear which Finnish term it refers to, or whether it refers to both. This should be clarified in the research goals whether the author's intention is to exclude "leikki" from the study.

I have removed the play research from the manuscript. It would be too much to go around the word play in its meaning on top of the focus on digital video games. Not to mention the differences in usage of the terms game and play in English and peli and leikki in Finnish. Play and player are still in effect in the video game research, so removing them completely (e.g. from search queries) is impossible, but only video game related publications will be included.

If the author's intention is to include play research as part of the study (as implied in the title), I would advise adding Finnish play research background to the section. These should include references at least to Yrjö Hirn's work (Barnlek 1916; see also Sotamaa & Stenros 2021), Katriina Heljakka's research on adult play (e.g. 2013) and technologization and digitalization of play (2024). From the field of neuroscience, physiologist Matti Bergström's Mustat ja valkeat leikit (1997) might also be worth noting.

See above. I thank the reviewers for these suggestions and will keep in mind for possible future works.

I was also left wondering, whether this study would benefit from defining some of its key concepts such as game studies or game research. The author points to these different terms but does not provide any clarification on them. What is meant by game studies or game research in this paper exactly? Do they differ from one another in any way, and will this research acknowledge it? Now, the paper lacks a proper definition of our current understanding of game research, which obviously can and most likely will naturally evolve and become more precise as the research progresses.

I have added a paragraph pertaining to this in Introduction.

Suggestion: Broaden the background section by using suitable previous literature. Check, if the concepts would benefit from clarification.

I have attempted to alleviate this issue by following suggestions given by the reviewers.

In this case, data sharing would most likely comprise researcher's notes and the dataset of search results. It is not mentioned if this will be in any way opened, however, the results will be more relevant and shared likely via journal that follows open science policies.

Registered report will in itself follow open science policies, and any other derivate works, or publications with this data set will follow the same policies. Seminar and other smaller presentations will also be as open as possible.

The author has also taken into account ethical considerations. It should be considered whether there are any ethical issues in drawing attention to already popular research and researchers, and whether some of the objectives might exclude researchers belonging in minorities. Suggestion: Check any ethical issues regarding research objectives.

For data gathering, I am merely executing search queries with limiters on topic, affiliation country and selection of years of publications. This removes, or should remove, any issues regarding those in minorities. I will report the data as it is available to me – and I will report how I handled said data.

Some other notes: The link for Suominen 2008 does not work, please advise author to check and update links.

I have switched the link to point to a website that contains the article in full.

# Reviewer #4

## **Major Points**

This registered report does not suggest any hypothesis to be tested, except in one case. Usually the added value of registered report is to avoid potential researcher's degrees of freedom when doing hypothesis testing. In this study however the author is not going to conduct any hypothesis testing. While exploratory research can also be preregistered

I have edited to manuscript to not include any hypotheses to be tested to increase the consistency of the study. I hope it is now explicitly stated.

(https://www.nature.com/nathumbehav/submission-guidelines/registeredreports) it would be great to consider if some actual hypotheses can be tested (e.g. - this is a toy example, I am not suggesting the author to test for this hypothesis - authors who publish in more prestigious

I have added sentences to make it more clear that this is not a meta study in its method, nor it will be systematic or exploratory literature review, but something in between the two.

outlet tend to work together). It is of course ok if this registered report does not perform any hypothesis testing,	
but then it should be written explicitly that this is an exploratory registered report.	
[]However it is not clear to me how this hypothesis can be quantified and what statistical test can be used to obtain an effect size and a p-value (or other Bayesian equivalent). There is another explicit mention of an hypothesis when the author writes "I hypothesize the following: respective disciplines through a frequency analysis." but the statement in objective 5 is not an hypothesis.	I have edited the wording about hypothesis testing.
In the manuscript the author uses the word "Meta- analyses" but I suppose they mean to use "systematic reviews". Meta-analysis and systematic reviews are different in nature (see	See above about the exact type of study.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5903119/ ). A meta-analysis is the statistical process of analyzing and combining results from several similar studies, usually by converting the effect size of the statistical result of each study, into a standardized effect size, followed by statistical methods analysis such as fixed-effects or random-effects modelling. For example one could gather all the studies studying the efficacy (=effect size) of a certain drug for a specific disease, and gather all the effect sizes from each study into a meta-analysis. In this report instead there are no statistical values from tested hypotheses extracted from each paper, instead the author is going to carry an exploratory study on the thematic patterns and authors of the Finnish game research scene.	
The author should consider using standardised tools for conducting systematic reviews, specifically the PRISMA guidelines should be followed.	Since this is not a systematic literature review, following the PRISMA guidelines is very complex, and I have added a notion about this in section 4.1
Methodology, section 4.1	
the section defines the inclusion criteria for the papers. Inclusion criteria should be summarised as a table.	I have decided to keep it as is. I think formatting these long criteria in a table would reduce the readability of the section.
Criteria 2 is not clearly objectively defined, a better definition would be "game or play must be included in the title or abstract".	I have edited the Criteria 2 to alleviate this.
There is no criteria on what to do when full text is not available: it might well be that the author does not need the full text since it uses only co-authorship information. This should be clarified.	I have added a sentence about this at the end of section 4.2: They will be discarded and not analysed any further.
It might be more feasible to start with just peer-reviewed articles and (peer-reviewed) conference papers. Doctoral Theses have no co-authors making it impossible to extract	I have edited the Criteria 3 and removed white papers and other

co-author measures and the same is valid also with books non peer-reviewed publications or books chapter where usually there is a single author per from the list. chapter. Whitepapers and other non peer-reviewed sources can be difficult to evaluate and I would leave those for future studies on the topic. Methodology section 4.2 There is no detailed explanation on how the queries are I have added a section going to be run. The queries might be returning hundred of pertaining to the pilot searching of the international databases thousands of papers making the work impossible to be below this rebuttal. carried. I would be personally happy if the review only queries three large databases like Scopus, Web of Science, EBSCOhost and leaves all the other options out. More detailed comments on section 4.2 here below: section 4.2 1. The query should be better explained. Now it See above. Further explaining in is not clear if the author is going to perform "gam\* AND" the section 4.2.1 would be nigh play\*" or if it is going to perform "gam\* OR play\*". impossible, as there is no guarantee that same query or operators would return the same data set. I've edited the section. Hopefully this makes it clearer to understand. The actual query used will vary between datasets, but these two terms are the basis of them all. All queries utilizing these two terms will use OR operator between them – AND operator for affiliation country and year range. I have added the Finnish Same section as above: the Finnish equivalent should be explicitly written in the section. counterpart. There is only one as game and play utilize, effectively in the context of video games, the same word 'peli'. The other word for play, in this context that is, 'leikki' refers to more analogous gaming and playing, much like children do in the day care. I assume the Andor was used as Same section as above: It is not clear how the university libraries are going to be queried. If I visit the website of the the database from which search Tampere university library and perform the query "gam\* results are derived from. As that OR play\*" I obtain more than 27 million results. Different is the service to which the universities library websites might have different library search points to (as interfaces and would allow different types of filtering. I website is andor.tuni.fi). was not able myself to filter for results that would return only the authors from that organisation. It would be great if I used "gam\* or play\*" as well, the author could expand on the procedure on how to do without any other limitations as this in practice and let others to reproduce and reuse the per the criteria, I receive 3.1

same approach. Ideally the author would be able to test the feasibility of this approach on all 35 HEI libraries and make sure they all allow to be queried as desired, or then simply remove this approach from the registered report as I recommended above. Finally, it is unclear if the search is performed on titles, author names, etc. The author could specify where in the paper the terms gam\* and play\* should appear.

million search results. I am not sure where the difference comes from, but the results listing will include massive amount of irrelevant results due non-filtered search query. The exact query used to find the relevant publications will be reported after the data gathering has been completed.

To limit the search results to much more manageable list I've added these limiters utilizing the above search query:
Years: 2003-2023
Publication type: Articles,
Review Articles, Doctoral
Dissertations, Books, Book
Chapters
Languages: Finnish, English
Author: "Tampere University" or
"University of Tampere" (they changed the name some years ago).

This gives 186 results, which is much more manageable list. Repeating this with other HEIs should give rathe robust list of articles to go through.

section 4.2 2. With research.fi I was able to conduct the query "gam\* OR play\*" and clearly obtain only research outputs affiliated with a Finnish HEI. However the syntax of research.fi did not allow to use OR. Also it seems that only search on Titles and authors are possible. The author could provide greater detail on how the search should be carried in these outlets, however it is also fine if these are removed and the source of articles will only be Scopus, Web of Science, and EBSCOhost.

As of today (January 24th, 2025), there is a new advanced search function for the publications in research.fi website. Adding the criteria listed, I had 4205 results listed, with additional information available, such as article type, language, open access, internationality of the publisher, is the publication self-archived or not, etc. Considering this, these results should be a close match to the individual libraries' results.

section 4.2 3. I tried to perform the same query on the outlet "Lähikuva" and obtained more than 20 thousand records. It is unclear how I would be able to filter for certain formats (books, papers, etc) or for authors affiliated with a Finnish HEI. The author could expand how this is going to happen with these outlets. In my

Currently, Lähikuva is hosted on the journal.fi web site and utilizing the search function with "gam\* or play\*" (in English) and the only added filter of year range, I received 135 results.

understanding (I am not Finnish) this is not a peer reviewed journal so it could be excluded (see my comment above to limit the search to peer review articles only).	Since Lähikuva is a Finnish publication, I repeated with "peli* OR pela*" terms, I got 292 results with irrelevant results on the first page (sorted by newest) already. 'Peli' here refers to the word game and its derivates, and 'pela' here for the activity to play (pelata) or player (pelaaja) and their derivates. Finnish language has many other words with those characters in it, but filtering through these couple hundred results returned from journal.fi/lahikuva/search page
	is easy enough to do.
section 4.2 4. Scopus and ScienceDirect are both owned	See above about the
by Elsevier, with ScienceDirect most likely forming a subset fully contained in Scopus. I would recommend to only use Scopus and leave out ScienceDirect. I was able to run the query "gam* OR play*" on scopus limited for only papers associated with Finnish HEI (27087 results with time filter 2003 - 2023).	international databases.
Same section as above: I was not able to filter per	See above about the
affiliation with EBSCOhost. The author should provide	international databases.
details on how to do that on EBSCOhost and how the	
query would look like.	
Same section as above: I did not have time to test Web of	See above about the
Science and Wiley, the author should clearly specify also	international databases.
with these databases how the query will be run and what	
types of filters are possible. I believe Wiley is similar to	
ScienceDirect, i.e. other larger databases (like Scopus)	
should have all Wiley peer reviewed articles.	
section 4.2 5: metadata extraction should happen AFTER the dataset has been pruned from duplications. Some of the aforementioned databases might not contain all the metadata that the author wants to explore or might be possible that they do not allow for automatic download of such metadata. Furthermore, if the same paper is available in more databases, it could be too much effort to extract the same metadata from different databases	I have added paragraph pertaining to this in section 4.2.
automatically.	
Same section as above: it is not clear what the author	I have edited this part to make it
means with "through inference if all else fails". If a paper is	clearer regarding inference.
missing the list of keywords there is simply no way to infer keywords. The author should instead outline a strategy for missing values for each of the categories mentioned	If the publication is available, but no keyword or abstract is
(publication year, authors' names, affiliations, keywords,	found, they will be excluded
publishing venue, publishing venue type, discipline of	from those analyses. The
publishing venue): for example the author could decide to	number of publications in each
exclude all papers that do not have any keyword attached.	

	analysis will be recorded and shown.
M. D	
Minor Points	
This is a somewhat stylistic consideration and I leave to the editor and the author the final decision: Since this is a stage 1 registered report that will be published, I would try to use the passive tense e.g. "I am especially interested in mapping the Finnish game research field due to how it has significantly developed in recent years as outlined" -> "Mapping the Finnish game research is important due to how it has significantly developed in recent years as outlined".	I have used this sentence as it is excellent, and I have edited the manuscript to use passive tense. Only one place where the tense is different remains: Regarding the exclusion of the publications in Swedish.
Continuing from the previous comment, I would refrain from including statements like 'I consider myself knowledgeable enough' as they cannot be substantiated and may undermine the objectivity of the paper. Instead, it's more effective to focus on presenting evidence and supporting arguments that demonstrate expertise of the author without relying on personal assertions.	See above.
Page 3: Similarly, to strengthen objectivity, I would refrain from using 'based on my intuition' as it suggests a reliance on personal judgement and innate instinct rather than a reasoning process. It would be more effective to articulate the reasoning based on observed patterns or data that support the conclusions drawn	I have removed these cases. I hope the manuscript is now stronger and less subjective.
Often the first person is used, but sometimes the third person is also used (with "the researcher"). It would be good to be consistent and use only one. If sentences can be turned into passive mode, the author does not need to mention themselves. For example "The researcher will remove any duplicate publications and carefully examine each article to determine if it meets the selection criteria" becomes "Any duplicate publications will be removed and each article will be carefully examined to determine if it meets the selection criteria"	I have edited the manuscript to use passive tense where possible to ensure consistency in the language to improve readability and objectivity.

Here are the notes regarding the international databases and search queries and tactics used in each of them. I hope these clarify certain things, as it is evident, the exact query is not event available from all databases. This leads to a situation where each database has, effectively, a different search query with only "gam\* or play\*" at the top and then the rest of the criteria where applicable are added to filter the results further.

Scopus search:

(TITLE (game\* OR play\* OR gami\*) AND KEY (game\* OR play\* OR gami\*) AND AFFILCOUNTRY (finland)) AND PUBYEAR > 2001 AND PUBYEAR < 2024

Returns 2067 results which is much more manageable size, and there are still discardable search results, but going through these manually is much more doable. Exported these results for preliminary, and mostly offline, analysis on how to export data needed for the study in a comparable way. Exported data is in \*.csv format.

Ignored abstract as that gives the biggest issues with irrelevant search results. Doing so, removed over 90% of the search results with the remaining ~2000 results being much more relevant for this study.

### ScienceDirect search:

This is much more limited in its ability to filter information and search results, but with the following set-up "only" 3137 results were returned:

Year: 2003-2023

Author Affiliation: Finland

Title, abstract, keywords:game OR play OR gamified OR gamification OR gaming -display -"play a role" -"plays a role" -"play role"

Negating the "play a role" phrase removed large amount of publications which merely utilizes the word "play" in its abstract. Similar for the word "display", because just using 'play' as search term returns any word that has those four characters in it. This search query is not a perfect one, and downloading search results can be done only 100 at a time as ScienceDirect does not allow more results to be shown in one page, nor is exporting all the results possible like in Scopus. Exported data is in \*.txt but with comma delimiter, meaning transferring data to Excel should be not so big nuisance.

It is a bit ironic as both are under Elsevier.

This is one of the more meta and underlying things I am exploring in this study: the (in)compatibility of the databases when searching for publications in some way. Since these findings in the context of this study are a nuisance, they won't be analysed or reported in such a depth that ought to be warranted. I might try to present these nuisance level findings in a seminar or another venue in the future, but for now it is enough that these differences are very well known to exist and will be dealt as is.

SAGE search:

All content field: gam\* or play\*

Affiliation field: Finland

Custom Range: Jan 2003 - Dec 2023

1296 results, which only can be seen ten at a time. No ability to export all results like in Scopus, but similar to ScienceDirect only the number of results shown in a page, and that seems to be locked to ten.

#### EBSCOhost search:

Proximity: gam\* or play\*

Expanders: Apply equivalent subjects

Limiters: Peer Reviewed, Publication date: 20030101-20231231

Source Types: Academic Journals, Conference Materials, Books, Dissertations

Geography: Finland

This search result returns 3182 results. I was able to export all the search results via a provided email link in \*.xml format.

#### Web of Science search:

Query: (((TI=(gam\* or play\*)) AND AK=(gam\* or play\*)) AND AB=(gam\* or play\*)) AND PY=(2003-2023)

Refining result with country to be Finland returns 1671 results. I was able to export the search results as \*.xls file format by choosing "Excel" as the exporting option. 1000 results at a time maximum, so two different files which need to be combined.

This is an example of preliminary data gathering, the queries and other limiters. As can be seen, the first set had "OR gami\*" there which is redundant because it is included in "gam\*" term already. This type of fast iterative data gathering will happen, and ultimately the last used search query in full will be reported, and as will the analyzed data once it is sorted in Excel. There will be many, many steps to squeeze the data from these international databases together. Add the libraries of the institutes, national journals and national databases to the mix, and it will be quite a manual labour-intensive section of the study. Yet, it is going to be worth it for numerous reasons, of which two of them are the registered report itself, and the reporting of (in)comparability of the databases for this kind of stuff in the future.