Replication Crisis? The Role of Reviewers and Data Availability Policies in Political Science Journals

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ABSTRACT

The huge demand for data availability and replication is evident in academia today since it is related to the continuous replication crisis. Unfortunately, social sciences, including Political Science and International Relations field, are not an exception in this case. The data-sharing practice has become one of the major tools in fighting the replication crisis. The shared data allows to conduct further studies, replicate previous work and develop science, make it more transparent and reliable. As the journals have become the central platforms for the academic discussions, the data-sharing issues depend on the introduction and consistent implementation of the data availability policies by those journals.

However, there are several important features that have not been touched and addressed before. One of them is the role of the reviewers and their contribution to the implementation of data availability policies and provision of research transparency in political science. Although some initiatives were started in this direction (like The Peer Reviewers' Openness Initiative), the issue has not been addressed yet as a part of the more general debates on DA-RT (data availability and research transparency).

The study shows that peer-reviewing, even without the responsibility of replication or verification, is already a very time-consuming and highly demanding unpaid burden on the reviewer's shoulders. Thus, in general, reviewers do not perceive a need for more involvement in the replication process since it requires specific skills, infrastructure, efforts and time. However, if the journal has a specific requirement such as, for example, the submission of the dataset and codebook for the initial review, the reviewers are ready to contribute to the implementation of these requirements and ask the author to upload the missing materials. Additionally, if the reviewers see the point of getting deeper into data and/or they see the possibility of mismatches/errors, they may ask the author to submit the data, even if it is not a requirement of the journal's data availability policy.

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INTRODUCTION

The huge demand for data availability and replication is evident in academia today since it is related to the continuous **replication (or replicability/ reproducibility)** crisis. Unfortunately, social sciences, including Political Science and International Relations field, are not an exception in this case. Since Brookman et al.'s extensive response on the irregularities in La Cour's study (2014), consequent scandal and retraction of the study due to the reason that data was forged by La Cour, or earlier scandal about the discovery of Reinhart and Rogoff (2010) and detected errors in their spreadsheet (Herndon, Ash, Pollin, 2013), the importance of addressing the replication crisis was highlighted in social sciences as well.

By replication crisis we understand the situation when researchers demonstrate mixed success while replicating the results of their previous studies, i.e. results are not "as robust as they originally seemed" (Schooler, 2014). Thus, undermining the reliability of the scientific research process and its results. The replication crisis has its roots from the 1990s in such disciplines as medicine, psychology, genetics, biology. It started to be addressed primarily in the above-mentioned fields since researchers that were, for example, trying to replicate previous psychological findings were not able to do it successfully.

In response to the replication crisis, scholars from different fields launched a number of initiatives which had to deal with the replication crisis at different levels. Those tools included pre-registration, development of metascience (Schooler, 2014) which promotes more reflection among scholars on how to make science (has its roots in the philosophy of science and the study of scientific methods), introduction and promotion of data-sharing policies, making journals and publishing houses partially responsible for the transparency issues in research, encouraging replication at universities and institutions (King, 2006; Janz, 2015), providing better training in statistics and methodology, etc.

The data-sharing practice has become one of the major tools in fighting the replication crisis. The shared data allows to conduct further studies, replicate previous work and develop science, make it more transparent and reliable. As the journals have become the central platforms for the academic discussions, the data-sharing issues depend on the introduction and

consistent implementation of the data availability policies by those journals (Crosas et al., 2018; Gherghina and Katsanidou, 2013; Dafoe, 2014). Thus, the data availability policies and their implementation practices by the journals' editors have become one of the central issues that are being debated in political science and international relations as well as in other fields nowadays. The whole process of data availability policy implementation, the necessity of preliminary replication, the role of specific actors in providing data availability and research transparency are in the focus of the ongoing debates.

However, there are several important features that have not been touched and addressed before. One of them is the role of the reviewers and their contribution to the implementation of data availability policies and provision of research transparency in political science. Although some initiatives were started in this direction (like The Peer Reviewers' Openness Initiative), the issue has not been addressed yet as a part of the more general debates on DA-RT (data availability and research transparency).

In my research, I am particularly interested in the next set of questions: *What is the role of reviewers in the implementation of data availability policies in Political Science journals? More specifically, what role does replication data play in the peer review process? Do reviewers perceive a need for more involvement in the replication process? And, broader questions, as should the costs of research transparency be borne by individuals (authors, peer-reviewers) or by journals/ publishing houses/ editorial committees? Are the current regime of data availability and replication standard sufficient for the accumulation of knowledge in political science? What next steps should be done in this direction?*

Literature Review

Previously, several studies were conducted on data availability policies issues from different fields. For example, in natural sciences by Piwowar et al. (2007), in sociology by Freese (2007), in psychology and behavioral studies by Wicherts et al. (2011).

In their article on the data sharing in medical studies, Piwowar et al (2007) investigated the citations of 85 cancer microarray clinical trials for the period from January 1999 to April 2003. The results of their analysis are that "41 of the 85 clinical trials (48%) made their microarray data publicly available on the internet" (Piwowar et al., 2007, 1), mostly located on

lab websites (28), publisher websites (4), within public databases (6) (Piwowar et al., 2007, 1). They found that publications that shared data were "cited about 70% more frequently than clinical trials which do not" and this result was the same even for low-quality publications (Piwowar et al., 2007, 3). However, as they further notice, it may not be the case of direct causal relationships (Piwowar et al., 2007, 3). Despite this consideration, they continue to investigate several possible mechanisms that increase the citation of publications if data is available.

Based on psychological papers, Wicherts et al. (2011) found that the willingness to share data can be related to "the strength of the evidence and the quality of reposting of statistical results" (Wicherts et al., 2011, 1). According to the results of their analysis, weak desire to share data is associated with lower evidence and possible errors in reporting of statistical results, especially when it comes to statistical significance (Wicherts et al., 2011, 1).

Among scholars who worked in this direction in political science and international relations are Dafoe (2014), Moravcsik (2010), Elman (2012), Davenport and Moor (2013), Hook et al. (2010), Carsey (2014), Key (2016), Gherghina and Katsanidou (2013), King (1995, 2006), Gleditsch et al. (2003, 2017), Fowler (1995), etc.

In general, scholars mark the lack of data availability which allows them to replicate the research and, thus, make it more transparent and reliable (Fowler, 1995; King, 1995, 2006; Dafoe, 2014). For example, Dafoe (2014) argues that there should be a consistent commitment in political science to publish replication files and make every step of research "as explicit and reproducible" as it is possible (Dafoe, 2014, 60). Further, he elaborates on the advantages of replication practices in political science and shares specific recommendations to authors, journals, and universities.

The current state of replication practices, including their establishment and implementation by the journals, in political science is analysed in the works of King (1995), Gleditsch et al. (2003), Gherghina and Katsanidou (2013), Key (2016), Crosas et al. (2018). As there are more journals that emerge in the field, there is a growing need to analyze this issue. One of the most important studies for the field of political science and international relations was done by Sergiu Gerghina and Alexia Katsanidou (2013). In their study, they investigated the question of how and why political science journals adopt data availability policies today. They found that data availability policies of journals are "general,…

inclusive,… specific in the procedures to be followed, and strongly enforced" (Gerghina, Katsanidou, 2013, 344). However, this "strong enforcement" means only the presentation of the data availability policies as mandatory for contributors (Gerghina, Katsanidou, 2013, 344).

In her analysis of the implementation of data availability policies by political science journals, Key (2016) tried to expand Gherghina and Katsanidou's work (2013) and moved from the journal-level to the article-level in order to evaluate the "impact of journal replication policies on data availability" (Key, 2016, 268). Based on the analysis of every quantitative article from 2013 and 2014 in six leading political science and international relations journals (American Political Science Review, American Journal of Political Science, British Journal of Political Science, International Organization, Journal of Politics, Political Analysis), Key examined articles's data and code availability and the location of replication material (Key, 2016, 269). She found that articles "published in journals with mandatory provision policies are 24 times more likely to have replication materials available than articles those with no requirements" (Key, 2016, 268).

There are other important issues in the field that are being discussed today. For instance, the discussion of the standards of the replication for qualitative and quantitative study in political science or whether the implementation of data availability policies for qualitative and quantitative research should follow the same rules or not, the questions of ethics and sensitive data protection are of great importance, especially in regard to data publication on open sources (Moravcsik, 2010; Elman, 2012; Davenport and Moor, 2010; Hook et al., 2010; Carsey, 2014; Bleich and Pekkanen, 2015; Wagemann and Schneider, 2015; Parkinson and Wood, 2015; Qualitative Transparency Deliberations: Final Reports, 2019). Moravcsik's article (2010) reflects on the replication crisis in regard to qualitative research. He finds the reasons for this crisis in the "failure to impose firm standards of replicability" (Moravcsik, 2010, 29). Thus, Moravcsik continues, the process of selection, citation, and presentation of sources in qualitative studies are undisciplined and non-transparent. He claims that for example in IR and European studies (where he is an expert), there are many studies which use a process-tracing method (within a case study analysis) and provide no proper citation of primary sources with empirical information. This generates a phenomenon of non-replicable causal inference. He lists possible solutions on how to overcome the replication crisis in qualitative research in political science and international relations. His solutions include the active usage of new technologies. For example, he advises to use "rigorous, annotated (presumptively) primary-

source citations hyperlinked to the sources themselves" (Moravcsik, 2010, 31). Additionally, he discusses the possible pro- and counter-arguments against the proposed active use of citations in qualitative research.

However, there is a lack as the above-mentioned studies and reports have not examined the role of reviewers in the implementation of the data availability policies as well as many other remaining aspects. In recent years the peer-review process has constantly been criticized due to several problems related to its slow and expensive conduction, inconsistency, bias, abuse, etc. (Smith, 2006, 178-180). At the same time, the important role of peer-reviewing is still recognized in the academic community as it potentially leads to the improvement of the articles, provides "a degree of certainty about the quality of the product" (Nicholas et al., 2015, 16), and some proposals regarding the important role of peer-reviewers in the support and implementation of journals' data availability policies (such as preplication, audit panel) have been made by the experts in the field.

Research Design

The research has an inductive character as the hypotheses (which could be tested in the follow-up studies) are built after the conduction of the survey with peer-reviewers and follow-up interviews with the journals' editors. For that purpose, I collect the information on the reviewers' practices regarding data availability policies and process of replication from 601 reviewers of the Journal of Peace Research (JPR). The list of reviewers (which I received via email from the managing editor of the JPR and which was published in the March 2019 issue of the JPR) covers the period 1 November 2017 to 31 October 2018.

There were several reasons to focus only on the JPR. First, the journal publishes mostly quantitative articles with shared data. Second, the journal was one of the pioneers in the implementation of data availability policies and participated in the discussion of the role of reviewers in that process (Gleditsch et al., 2017). For example, JPR has its own website for posting the data (since 2002). Peer review and openness of the data, according to Gleditsch et al. (2017, 271), remain key issues for the journal's policy in this direction. Third, JPR's list of reviewers includes a list of researchers who, most probably, review for other top journals in the field, especially quantitative studies. Thus, they can share their experience with other journals and the general state of data availability policies and replication in the field. Additionally, via

the investigation of the JPR's website (PRIO website), I include the information on the JPR itself (journal's number of issues, age, content, scope, ranking, topics, technical support, regulations on data ownership, list of reviewers, etc.) and information about its implementation of policies. In order to strengthen my analysis, I also conduct semi-structured interviews with the editors of the JPR and another journal – International Interactions – which one of the first implemented the practice of preplication. The pilot survey, survey, and interviews were conducted from mid-May until 5 June 2019.

The structure of my MA thesis proceeds as follows. In the first chapter, I reflect on the general shift towards research transparency and moves to data access in political science and international relations. The second chapter is devoted to the definition of "data availability policy" as well as the analysis of the existing journals' policies of data-sharing and replication, presentations of previous suggestions about the reviewers' role in that process. The third chapter describes the organization of the survey, interviews, and analysis of the collected data. Finally, in conclusion, I would like to reflect on the more general issues of research transparency and peer-reviewing as a potential solution for the replication crisis in political science and international relations.

Regarding limitations, since my MA was limited in time, there was no possibility to include a higher number of academic journals from the Political Science and International Relations field to be analyzed. Furthermore, the issue related to the low response rate (around 15%) from the reviewers should be also considered. Additionally, my research does not touch upon the issues of the differences in the implementation of data availability policies between qualitative and quantitative studies which is a relevant topic for the current debates in the field. This and other related aspects could be investigated further. Finally, as I was going to plunge directly into the heart of the practicalities related to the publication process, it was unknown until the very end of the survey, what I was going to find at the end.

CHAPTER 1. REPLICATION CRISIS AND MOVE TO RESEARCH TRANSPARENCY AND DATA ACCESS IN POLITICAL SCIENCE AND INTERNATIONAL RELATIONS

1.1. Replication Crisis and General Shift Towards Research Transparency

Knowledge plays an important role in almost all observable societal processes because we live in an era of post-industrial society. It has become our everyday instrument; an important tool that allows us to enjoy possibilities opened by new technologies, such as, increased speed and density of communications via the Internet, social media, or emails; additionally, knowledge is one of our major tools on dynamic markets of different kind of goods (Savage, Vickers, 2009, 1).

The advancement of knowledge in academia allows us to understand and explain certain observable phenomena. As it was noticed by Gibbons et al. in their book "The New Production of Knowledge: The dynamics of science and research in contemporary societies" (1994) and their later work "Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty" (2003) where they explore the changing mode of the knowledge production and its features, it is important to know not just what kind of knowledge is produced, but how it is produced.

How information is produced is valuable because there have been problems in the scientific process of knowledge production that have undermined its validity since the results were not "as robust as they originally seemed" (Schooler, 2014). This phenomenon is called "replication crisis". The replication crisis has its roots from the 1990s in such disciplines as medicine, psychology, genetics, biology. It started to be addressed primarily in the above-mentioned fields since researchers that were, for example, trying to replicate previous psychological findings were not able to do it successfully. It was also observed by McCullough and McKitrick in 2009 when they published research that demonstrated a variety of studies from different fields that failed to replicate the results (McCullough, McKitrick, 2009). This study highlights that the replication crisis is a problem and it seriously undermines the reliability and quality of science.

In response to the replication crisis, scholars from different fields launched a number of initiatives which should deal with the replication crisis at different levels. Those tools

included pre-registration; development of metascience (Schooler, 2014) which promotes more reflection among scholars on how to make science (has its roots in the philosophy of science and the study of scientific methods); introduction and promotion of data-sharing policies, making journals and publishing houses partially responsible for the transparency issues in research; encouraging replication at universities and institutions (King, 2006; Janz, 2015), providing better training in statistics and methodology, etc.

In addition to the moves in academia, the public bodies and organizations at different levels that usually sponsor the research process also started to introduce their own methods of fighting the research's unreliability. For example, in October 2010 the High-level Expert Group on Scientific Data submitted a final report "Riding the wave: How Europe can gain from the rising tide of scientific data" for the European Commission (European Union, 2010). In this report, the European Union made clear its strong intention to move into the direction of data availability policies and transparency in science. It confirmed its requirement for scholars to make their methods of data production and manipulation accessible for others.

Gherghina and Katsanidou (2013, 335) found that some national research funders in the United States, for example, the National Science Foundation in the U.S. or the National Institutes of Health, have adopted a requirement to "produce a data management plan that addresses data" in order to receive funding (National Science Foundation, 2011; National Institutes of Health, 2003; Gherghina and Katsanidou, 2013, 335). Similar trends are also observable in the United Kingdom where since 2011 the Economic and Social Research Council has established the rule to submit data management plans and archive all the produced on its funding digital data (ESRC, 2010; Gherghina and Katsanidou, 2013, 335) and all seven of the public research funding councils agreed on the set of common principles of data sharing and constituted that collected data is a public good that should be available for a wider public (Research Councils UK, 2011); in Germany where the German Research Council (Deutsche Forschungsgemeinschaft) promotes scholars to take into account data management issues and provides specific guidelines for this practice, especially for those data that are publicly funded (Deutsche Forschungsgemeinschaft, 1998).

1.2. Towards Research Transparency and Data Access in Political Science and International Relations. Minimum Replication Standard

Unfortunately, social sciences, including Political Science and International Relations field, are not an exception in this case. In the 1995 Symposium on replication in social sciences published by PS: Political Science and Politics, Gary King addressed an issue of replication and made a strong call for a replication standard (Gleditsch, Metelits, 2003, 72). He argued that this standard would allow to make further development of the social sciences, help to build on existing scholarly works and become a good pedagogical instrument at the universities. King made a proposal to send the data to a "public archives" such as PAVA (the Public Affairs Video Archive at Purdue University), or ICPSR (the Inter-University Consortium for Political and Social Research at the University of Michigan) (Ray and Valeriano, 2003, 82). It is important to note that King's idea was supported by other symposium's participants since it already became an issue for the field at that time. For example, Kenneth J. Meir together with Linda Fowler claimed that this move would enhance the methodological standards in the field (Meir, 1995, 456; Fowler, 1995).

However, the opposite opinion that there was no need in the promotion of replication policies was also popular among scholars. Some of them thought that the result would be "counterproductive" and they questioned the consequences of the establishment of such a standard (Gibson, 1995, 475). Gibson believed in the replacement of "data vultures" by "data hawks" that would only use previous datasets and not produce the new ones (Gibson, 1995, 475), or that the field would witness the process when "countless papers" discuss "minute methodological issues" (Gleditsch et al., 2003, 73). Herrnson (1995) was concerned that the replication requirement would discourage researchers to invest their time, money, and energy into the risky production of new data sets. In contrast, King argued that those who release their datasets would have advantages such as more interest in their works and be more cited by other scholars (King, 1995, 446).

After 1995, there were some movements among journals in the field towards replication policies. In 2003, Gleditsch et al. conducted a survey and examined the 15 most frequently cited political science journals and the 13 most frequently cited international studies journals showed that data replication policies had been not really strengthened by the journals as they, while proclaiming such policies, usually failed to "implement or enforce" them (Gleditsch et al., 2003, 76). Only a few journals at that time had clearly stated replication policies on their webpages or in the instructions in the printed versions of journals (Gleditsch et al., 2003, 74). Yet, the establishment of the policy did not mean that it would be properly supported via necessary means. The analysis uncovered that in some cases editors thought that e-mail

addresses or authors' institutional affiliations would be enough for finding the data. The study also showed some of the journals' editors misunderstood what "data replication" meant – they thought it was about copyright issues. Overall, although there were some failures and misunderstandings, the situation gave some hopes to Gleditsch and his colleagues as they thought that their survey was a good reminder and source of information about replication standard for the scholar community.

In the early 2000s, the next historical event happened – as a result of the 2002 International Studies Association (ISA) meetings in New Orleans, International Studies Perspectives Journal published the 2003 ISA Symposium on Replication in International Studies Research which is considered as one of "the largest leap" in facilitating replication of quantitative research in International Relations (Colaresi, 2016, 367). As a result of this Symposium, several editors of IR journals (Journal of Peace Research, International Studies Quarterly, International Interactions, and Journal of Conflict Resolution) agreed to make a requirement of data submission with a published work in order to promote replication. In the joint statement about minimum replication standards for journals, editors asked for "a statement of how that is done" and to include "all data, specialized computer programs, program recodes, and an explanatory file describing what is included and how to reproduce the published results" (Gleditsch et al., 2003). The journals took the responsibility of posting the submitted materials on the special websites "maintained by the journal for the purpose" (Gleditsch et al., 2003). Also, editors allowed the authors to send their replication materials to the website of the ICPSR or any other websites that they choose. In the end, the joint statement called other editors to join the enforcement of the minimum replication standards.

In order to promote transparency and replication in research, together with the general agreement on the minimum standard of replication, Bueno de Mesquita (2003, 98), proposed to establish the requirement for the authors "to submit their coding rules and access to their data at the same time that they submit manuscripts for review" (Bueno de Mesquita, 2003, 99). He claimed that this procedure would "improve the quality of the review process and of the resulting publication" (Bueno de Mesquita, 2003, 99-100). Later, it will be supported by Dafoe in his recommendations to the journals (2014, 64-65). At that time, Bueno de Mesquita's proposal did not meet the general will of the scholars' community, although there were hopes that one day the suggested practice would become a standard one (James, 2003, 88). Instead, Russett's description of the replication policy became a prototype of the minimum replication

standard for the researchers (James, 2003, 88; Russett, 2003, 88-89). However, there were studies that showed that even this minimum standard was neither maintained by the ISA journals (Colaresi, 2016, 368; Park and Colaresi, 2014), nor even by the journals where it was a requirement, for example, as in case of the American Journal of Political Science (Dafoe, 2014). In 2016, in addition to Dafoe's earlier recommendations, Michael Colaresi proposed a "preplication" norm which requires the journals to "run the replication data and code for conditionally accepted articles before publication, just as journals routinely check for compliance with style guides" (Colaresi, 2016, 367). In Colaresi's view, preplication is something that the journal's editors and staff should do on a routine basis (Colaresi, 2016, 367). This proposal was later implemented by the *International Interactions* journal. However, as Key's investigation of the journals' replication policies has demonstrated, this "gold standard" of verification the results before publication has no reasons to become a standard practice of the journals in the field (Key, 2016, 271).

Another important step towards the promotion of replication was made in 2010 with the establishment of the DA-RT (Data Access and Research Transparency) initiative by Arthur Lupia and Colin Elman in 2010[1]. In 2012 thanks to the work of the APSA's Ad Hoc Committee on DA-RT, the initiative forced to revise the APSA Ethics Guide and to incorporate transparency commitments into it.

In 2014 the Spring edition of *PS: Political Science and Politics* gathered the collection of essays from scholars, archivists and journal editors where they reflect on the 2012 changes to the APSA Ethics Guide[2]. The contributions were made by Arthur Lupia and Colin Elman (on the history of DA-RT and the approval of the new guidelines about data access and research transparency), Lupia, Elman, Alter and Kapieszewski (summary of the opportunities and challenges that were opened up by the new ethics guidelines for various research communities in the field). The attention to the specific features of replication policies and practices was paid in the publications of Carsey, Dafoe, Ishiyama, McDermott, and Moravscik. The editors of the Symposium hoped that this collection provided the necessary expertise to individual scholars, journals editors, publishers, and professional organisations on how to "build infrastructure and create incentives for greater openness and transparency"[3].

[1] DA-RT Webpage. URL: https://www.dartstatement.org/about
[2] 2014 DART Symposium https://www.dartstatement.org/2014-dart-symposium-in-ps
[3] 2014 DART Symposium https://www.dartstatement.org/2014-dart-symposium-in-ps

Later in 2014, APSA developed the DA-RT statement[4] that was supported by the editors of 27 journals who agreed on the establishment and implementation of three requirements regarding data-sharing issue: 1) provision of data access, 2) description of the analytic procedures, 3) provision of the references to all datasets used (DA-RT, 2014). The journals' editors have a requirement for the authors to submit their datasets to be uploaded to journals' data repositories at the time of publication (Key, 2016, 268). Thus, providing and agreeing on more or less standard requirements of data-sharing policies in the field.

However, the DA-RT Statement met a great skepticism from a large number of scholars: in 2015 the petition[5] to delay DA-RT implementation and a website "Dialogue on DA-RT"[6] were launched as a result of scholars' concerns. As for today, the petition was signed by 1,173 political science scholars, including 10 former APSA presidents which demonstrates the serious concern over the requirements. The majority of fears seems to be related to the qualitative and multi-method research, particularly such issues as confidential data, hand-written field notes, or implications for qualitative data[7]. However, there were opinions that some of the DA-RT statements have not been interpreted correctly[8], and the whole process of DA-RT delay actually started a very important discussion of the different models of transparency for various research endeavors.

In 2015, during the Annual Meeting of the APSA, these issues have been discussed and attempted to become more clarified. In the official "Response to Discussions and Debates at the 2015 APSA Meeting", the community claims that, researchers from qualitative, ethnographic, and interpretative traditions, probably, wrongly "read the joint statement as endangering human subjects and their scholars' ability to conduct valuable research"[9] which was not the intention of DA-RT at all. However, the community, in general, was surprised and

[4] The Journal Editors' Transparency Statement (JETS) https://www.dartstatement.org/2014-journal-editors-statement-jets

[5] Petition to delay the implementation of DA-RT. URL: https://docs.google.com/forms/d/1BWFO6462XNPBO8MyxV5WAcFtWn4m0fSXuOwq84FodKM/viewform?edit_requested=true

[6] Dialogue on DA-RT Webpage. URL: https://dialogueondart.org/about/

[7] https://politicalsciencereplication.wordpress.com/2015/11/07/political-scientists-trying-to-delay-research-transparency/

[8] https://tompepinsky.com/2015/11/05/the-da-rt-petition/ and https://duckofminerva.com/2015/11/put-a-da-rt-in-it.html

[9] https://www.dartstatement.org/response-to-2015-apsa-discussions

pleased by multiple reactions and debates on the issues of transparency and openness in the research.

As it stated on the DA-RT official webpage, the activities of the initiative in the direction of data sharing and research transparency promotion continue. In 2015, members of DA-RT contributed to the production of the Center for Open Science's Transparency and Openness Promotion Guidelines[10]. The guidelines contain eight features of a research project "on which greater transparency and openness can be pursued"[11].

In the same year, the Organized Section for Qualitative and Multi-Method Research (QMMR), the APSA initiative, decided to organize the process of the discussions of transparency meaning and practicalities in qualitative research. It led to the evolvement of the Qualitative Transparency Deliberations (QTD) platform which functions today and contributes to the "open and careful deliberation over the value, costs, risks, and practicalities of research openness for specific forms of qualitative political-science scholarship" (QTD webpage)[12]. In February 2019, for example, the QTD platform published[13] the extensive reports on the developments and current challenges related to data access and research transparency issues prepared by the leading experts in qualitative research in political science. The reports cover fundamental issues of the transparency in qualitative research (varieties of explicitness and research integrity, perils of transparency, ethics) as well as other important issues of forms of evidence in qualitative research, analytic approaches and research contexts.

1.3. Existing Tools for Data Archiving and Promotion of Replication

For the purposes of data sharing and promotion of replication, special digital storages were created and called **data repositories**. According to Key (2016, 268), data repositories have many benefits as they perform the functions of the "durable, central archives that do not require individuals to be responsible for maintenance".

[10] https://www.dartstatement.org/2015-cos-top-guidelines
[11] https://www.dartstatement.org/2015-cos-top-guidelines
[12] https://www.qualtd.net/page/about
[13] https://docs.google.com/document/d/1p5aUrbXYSMAN6sRLOB8r2rnnQROHAhQ_WSXqt9dEa3Q/edit

As it was already mentioned before, journals allow their authors to publish datasets with their additional materials on the special journals webpages as well as other suitable data repositories if the author is willing to comply with the journal's data availability policy[14]. Data repositories are commonly used by the political science scholars for those purposes.

There are several already existing data repositories, usually created by a specific research community for the particular discipline. Some publishing houses, for example, Taylor and Francis, may give specific recommendations about where to place your data and how to find the repository that is suitable for the discipline. On their webpage, they advise scholars to use FAIRsharing[15] and re3data.org[16] for that purposes. Among the most generalist repositories the publishing house names 4TU.Datacentrum[17], ANDS contributing repositories[18], Dryad Digital Repository[19], Figshare[20], Harvard Dataverse[21] (built on the experience of the Virtual Data Center project, 1996-2006, as a mutual initiative between the Harvard-MIT Center and the Harvard University Libraries; King, 2003, 102), Mendeley data[22], Open Science Framework[23], Zenodo[24] and Code Ocean[25].

Although data repositories or data archives are credible instruments for data-sharing and promotion of replication, there are new ways of making data increasingly reliable nowadays. The project **GitHub** provides even more transparency of the research since its Git repository allows to track changes "to any file that is text, revert to any previous version easily, visualize changes between versions, and a variety of other eminently useful things" (Jones, 2013). The Github website became an extremely popular website which opened up new opportunities for the scholars, including a possibility to host Git repositories publicly (free student accounts for 2 years), compared to the journals' or any other data repositories.

In addition to the above-mentioned tools, there is one more approach to promote replication of the research which is a **pre-registration.** Pre-registration is an instrument that helps scholars to share their plans and hypothesis in advance before gathering data. It helps to separate "hypothesis-generating (exploratory)" from "hypothesis-testing (confirmatory)"

[14] https://authorservices.taylorandfrancis.com/data-repositories/
[15] https://fairsharing.org/
[16] https://www.re3data.org/
[17] https://researchdata.4tu.nl/en/
[18] https://researchdata.ands.org.au/contributors
[19] http://datadryad.org/
[20] https://figshare.com/
[21] https://dataverse.harvard.edu/
[22] https://data.mendeley.com/
[23] https://osf.io/
[24] https://zenodo.org/
[25] https://codeocean.com/

research[26]. Other scholars can then check the scholar's preliminary ideas (what they set out to do) and what was discovered during the research[27]. Some of those who did it claim that this process, although being time-consuming in the beginning, preventing them from "going down a rabbit hole"[28].

[26] https://cos.io/prereg/
[27] https://cos.io/blog/preregistration-plan-not-prison/
[28] https://www.nature.com/news/1-500-scientists-lift-the-lid-on-reproducibility-1.19970?WT.mc_id=SFB_NNEWS_1508_RHBox

CHAPTER 2. JOURNALS, DATA AVAILABILITY POLICIES AND PEER-REVIEW

2.1. What is the Data Availability Policy?

The debates about the replication policies in political science journals started in the late 90s. The results of those discussions were mostly published in the form of symposiums on replication policies in the *PSOnline* journal. Since that time, the debates have become even more important as many political science journals began to adopt "some form of data sharing or replication policy" (King, 2006). These discussions about the necessity of the adoption of data availability policies that allow to replicate and verify the results of previous studies have become especially relevant after the 2010 academic scandal provoked by Reinhart and Rogoff's study (Herndon, Ash, Pollin, 2013) and irregularities in La Cour and Green's study that led to the retraction of the article by Science (Broockman et al., 2015).

To begin the discussion of the journal's role in the promotion and implementation of data availability or replication policies, it is necessary to analyse the definitions and necessary elements of data availability policies. One of the first studies on replication in International Relations (Gleditsch, Metelis, 2003), unfortunately, does not provide any definition for what authors consider to be a data availability policy. However, next scholars that investigated the developments of data availability policies' of journals in the field tried to figure out those definitions and elements.

According to Gherghina and Katsanidou (2013, 336), although they do not provide it explicitly, data availability policy "puts standards in place that allow replication and makes sure that data used to produce a piece of research work are available" (Gherghina, Katsanidou, 2013, 336). Earlier Gary King (1995, 444) claimed that data availability policy establishes the standards of replication when "sufficient information exists with which to understand, evaluate and build upon a prior work if a third party can replicate the results without any additional information from the author" (King, 1995, 444). In 2003, Gary King proposed a list of elements that proper data availability policies should consist of: it included the original data, the description of the software that was used for data analysis, syntax files, extracts of existing data files, comprehensive documentation that explains how to reproduce the exact output presented

in the published piece of work (Gherghina, Katsanidou, 2013, 336; King, 2003). However, in their article, Gherghina and Katsanidou (2013, 336) claim that this definition is quite vague and provokes false interpretations. Following the established standard, many journals implemented this rule, although without any clarifications of how the data should be made available (Gherghina, Katsanidou, 2013, 336; Russet, 2003).

Gherghina and Katsanidou (2013, 337) also tried to figure out the necessary elements of data availability policies. Firstly, the detailed lists with the description of everything that has been shared by the author (original data file, a full set of supporting documents). Secondly, the type of data. The third element is the procedure, i.e. full description of steps and their sequence that the researcher has to take in, in order to make her or his data available. The final element is the extent data availability policies bind the author, i.e. whether the submission of paper with shared data a prerequisite for the publication or not. Additionally, Gherghina and Katsanidou pay attention to the technical and institutional support which should be provided in order to implement data availability policies. It may be, for example, a dedication of a page within the journal's website for the depositing of replication materials or creation of data archive. Furthermore, publishing institutions or houses should also express their willingness to preserve the established rule and implement this requirement.

2.2. Existing Efforts of Journals in Promoting Data Access and Research Transparency in Political Science and International Relations

Despite a number of problems related to market imperfections in the business model for journals (McCartan, 2010, 237), they still remain the major sources and channels of knowledge production and distribution, as well as perform a platform for academic communications among other means of knowledge dissemination (Garand, Giles, 2003, 293). According to Gherghina and Katsanidou (2013, 335), journals present "the standard for scientific progress, academic acclamation and career development; they are trend and "pace setters" in the different scientific fields, including political science (Gherghina, Katsanidou, 2013, 333-345). Since journals have become one of the main promoters of research transparency and data availability (Crosas et al., 2018; Gherghina nad Katsanidou, 2013), it is necessary and important to discuss the development of the journal's in the field and role of those changes in the provision of research transparency and data access.

There are a lot of international peer-reviewed political science and international relations journals at the moment. They can be grouped according to their rank (for example, in Citation Index), regional or area focus, country specificity, etc. Of course, not all of the existing journals have established data availability policies and implement them.

Earlier, in 2003, based on the collection of international relations and political science journals until 2001, Gleditsch and Metelits tried to assess the existence and form of data availability policies and found that only a very limited number of them somehow implemented data availability policies (Gleditsch, Metelis, 2003). However, as Gherghina and Katsanidou noticed (2013), Gleditsch and Metelits had too optimistic feelings about the situation back then.

One of the most recent and influential studies on the adoption of data availability policies in political science journals was done by Sergiu Gherghina and Alexia Katsanidou (2013). In their study, based on the empirical analysis of contemporary political science and international relations journals and their implementation of data availability policies through web-scraping of the journals' websites and surveys with their editors, they investigated the question of how and why political science journals adopt data availability policies today. Testing King's claim that the situation with data availability policies has improved in the political science field (King, 2003), the scholars conducted a two-phase selection of peer-reviewed political science and international relations journals and ended up with 120 journals as units of their analysis. Gherghina and Katsanidou attempted to create a typology of journals and distinguished between three types of journals and their attitudes towards data availability policies: first group of journals consisted of those journals that explicitly stated that they already adopted and currently implement data sharing policies; second group was represented by journals that only plan to adopt those policies; and third group of journals which did not plan to establish and implement any kind of data availability policies (Gherghina and Katsanidou, 2013, 334). Additionally, to the investigation of data availability policies themselves, Gherghina and Katsanidoualso tried to investigate the factors associated with the introduction and implementation of those policies.

They found that the situation with the establishment and implementation of DA policies has improved over the years which supports King's notion made earlier – as more journals in the field started to adopt those policies. Additionally, more journals and their editors had the necessary knowledge about the elements of data availability policies and some of them

implemented them successfully (Gherghina, Katsanidou, 2013, 345). To be more concrete about the results of their study, data availability policies of journals are "general… inclusive,… specific in the procedures to be followed, and strongly enforced" (Gherghina, Katsanidou, 2013, 344). Gherghina and Katsanidou (2013, 339) found that data availability policies are usually very specific for each journal (except Communist and Post-Communist Studies, Electoral Studies); some journals (International Studies Quarterly) had a data availability policy, but it was not available on journals' website; editors of other journals mentioned that "such policies are known to be necessary" (Acta Politics), "they are on the agenda" (Comparative Politics, Journal of Common Market Studies), "they will be soon adopted (Party Politics, Political Psychology) (Gherghina, Katsanidou, 2013, 339). Out of 120 analyzed journals, 57 journals did not have data availability policies; 19 journals did not have "formal" policies in place; one journal – Terrorism and Political Violence – indicated that concept of data availability was not familiar. Additionally, their analysis demonstrated that there was a small number of publications with empirical data in some journals (Independent Review, Survival); or some of the editors redirected this issue to be addressed by their publishing house (British Journal of Politics & International Relations, New Political Economy) (Gherghina, Katsanidou, 2013, 340); some of the editors indicated that they had no plans to adopt any kind of data availability policies as "data was seldom used" (Problems of Post-Communism) (Gherghina, Katsanidou, 2013, 340).

In addition to the descriptive statistics about the implementation of data availability policies by political science and international relations journals (18 PS journals have adopted DA policies, 7 – plan to adopt them, 76 – do not have a policy and no information about their plans, 18 – do not plan to adopt any policies), Gherghina and Katsanidou try to identify the variables that influence journals' decisions in regard to DA policies. They estimated that journal's age, frequency, language, type of audience and focus, impact factor influence that (Gherghina, Katsanidou, 2013, 340). As a result, the impact factor plays a major role: "journals with more citations are more likely to have a DA policy than the publication with fewer citations" (Gherghina, Katsanidou, 2013, 344). However, the age of journal (newly emerged journals are less likely to adopt DA policies), and type of audience (journals with general audience prefer to adopt DA policies more, than journals with specific audience), language (English language journals do request more to submit data files than non-English journals) also have their own influence.

In the consequent analysis of the implementation of data availability policies by political science journals, Key (2016) tried to expand Gherghina and Katsanidou's work (2013) and moved from the journal-level to the article-level in order to evaluate the "impact of journal replication policies on data availability" (Key, 2016, 268). Based on the analysis of every quantitative article from 2013 and 2014 in six leading political science and international relations journals (American Political Science Review, American Journal of Political Science, British Journal of Political Science, International Organization, Journal of Politics, Political Analysis), Key examined articles's data and code availability and the location of replication material (Key, 2016, 269). She found that articles "published in journals with mandatory provision policies are 24 times more likely to have replication materials available than articles those with no requirements" (Key, 2016, 268). She also discovered that there was a different understanding of the "replication policy" among journals as some of them were focused on verification of the published results and others – only on data availability. In addition to the analysis of the implementation of data availability policies by journals, Key tried to reflect on the general role of journals in the support of research transparency. She concludes that shifting that burden only to journals is "costly". The editors of those journals are usually overburdened as they have a lot of other responsibilities and the volume of submissions to be reviewed is very high. Instead of verification of the submitted articles before their publication (which is considered a "gold standard"), Key proposes journals to adopt such types of replication policies that will require the specific replication materials to be submitted to the journal's dataverse and "cited in an article's reference" (Key, 2016, 271).

2.3. Peer-Review and Replication. Is peer-reviewing a solution to the replication crisis?

As it was noted by Gherghina and Katsanidou (2013), there are several important aspects that have not been analyzed properly before. One of them is the role of peer-reviewers in the implementation of data availability policies.

Although the peer-review[29] process has constantly been criticized due to several problems related to its slow and expensive conduction, inconsistency, bias, abuse, etc. (Smith,

[29] The history of peer-reviewing process started in 1732 with the establishment of the committee to select papers for *Philosophical Transactions* published by the Royal Society of Edinburgh (Spier, 2002; Walker, Silva, 2015). This practice has been used from time to time throughout the 19th and early 20th century, until the exponential

2006, 178-180), its advantages are widely recognized by the scientific community. Previous surveys among authors and reviewers showed that, in general, peer review improves the quality of publications, excludes low-quality works, prevents publishing works with significant errors (Walker and Silva, 2015), provides "a degree of certainty about the quality of the product" (Nicholas et al., 2015, 16). In addition, together with the anonymity of the peer review process which "allows reviewers to express critical views freely" (Walker, Silva, 2015), the advantages include non-interactions among reviewers which prevents "high prestige or forceful reviewers from dominating the review process" (Walker, Silva, 2015); possibility for institutions to use peer-reviewed publications as an indicator "of scientific productivity and value" (Walker, Silva, 2015); "effective mechanism for selecting articles likely to attract a large number of citations and improving impact factors, especially for publishers of those paper journals that have "high marginal production costs and limited page budgets" (Walker, Silva, 2015).

As I mentioned in Chapter 1, in 2003 Bueno de Mesquita (2003, 98) made a suggestion to establish the requirement for the authors "to submit their coding rules and access to their data at the same time that they submit manuscripts for review" (Bueno de Mesquita, 2003, 99) which was later supported by Dafoe (2014, 64-65). In addition to the above-mentioned proposal, Allan Dafoe in his 2014 recommendations to journals proposed to implement a "replication audit" (Dafoe, 2014, 65). Basically, the team of trusted researchers chosen by the editorial committee, based on the random selection of publications from the journal, will access the robustness and reproducibility of the submitted articles. He claims that it will reduce the burden of replication for individual reviewers (in case they conduct that replication) and make authors put additional efforts "to make sure that their results are reproducible" (Dafoe, 2014, 65). However, his proposal has not received any reactions and so far not implemented by any of the journals in political science and international relations.

In his research, Carsey (2014) together with the discussion of what concrete actions individual researchers and organizations can take to ensure data access and research transparency, also raises under-researched issues of the process of paper submissions and role of reviewers in data sharing. He asks a set of questions which can be investigated further (and

growth of scientific papers and invention of the photocopier after the World War II (Spier, 2002; Walker, Silva, 2015). After that, the peer-review became the general practice introduced by the majority of highly prestigious scientific journals.

will be further investigated in this project): "should authors be expected to submit replication data and code as part of their initial submission, only when invited to revise and resubmit, or only when a paper is accepted for publication? [...] should reviewers be asked to review the data and code as part of evaluating a paper under consideration for publication? How much access to data should reviewers be granted prior to publication? Does access to data reduce anonymity of authors for journals using double-blind review? Should journal editors or publishers be expected to verify replication materials? What happens to replication materials if a submission is ultimately rejected for publication? Do editorial and production staff have the necessary expertise to evaluate and manage the review of replication materials and data publication?" (Carsey, 2014, 74).

Despite several interesting proposals and analyses that were made earlier and some practical steps in the direction of the promotion of the important role of peer-reviewers in data availability policies (like *The Peer Reviewers' Openness Initiative,* Morey et al., 2016), this issue is still important to be investigated today.

CHAPTER 3. RESEARCH DESIGN AND ANALYSIS OF RESULTS

3.1. Case Selection

Journal of Peace Research

In order to investigate the role of reviewers in the support and implementation of data availability policies, I decided to focus my attention on the practices and experience of the reviewers for the Journal of Peace Research. A full list of reviewers for JPR was received via the email from the managing editor of the journal. The published list of the reviewers can be also found on the journal's website published in the March 2019 issue[30]. The list covers 601 names of the JPR reviewers for the period from 1 November 2017 until 31 October 2018.

As it was stated by the editors of the Journal of Peace Research (JPR), JPR is "an *independent*, *interdisciplinary*, and *international* journal devoted to the study of war and peace" which was founded in 1964 (Gleditsch et al., 2017, 267). The journal is owned by the Peace Research Institute of Oslo (PRIO) and has a publishing contract with Sage. Although it has a specific focus on war and peace studies, its articles range across all social sciences, and its authors mostly have their main training in political science (Gleditsch et al., 2017, 267). The decisions regarding the establishment and implementation of data availability policies as well as peer-reviewing were taken by the editor "in consultation with close colleagues, as was common in the social sciences at the time" (Gleditsch et al., 2017, 267).

The reasons to choose the JPR's reviewers' practices can be summed up as next. Firstly, this is a pioneering journal in regard to the implementation of data availability policies and, thus, it makes it a crucial case based on the most-likely design. According to Gleditsch et al. (2017, 267), the journal has long been a leader among the journals in political science and international relations in making research data publicly available and is a pioneer in publishing dataset in the form of "special data features" (Gleditsch et al., 2017, 267). JPR, according to the information from the Symposium on Replication in International Studies Research from 2003, has its data replication policy / or replication requirement since 1998 (Gleditsch, 2003, 76) and it is very similar to the data availability policies of the majority of journals in the field today. Authors of the articles that have systematic data should post their data, codebooks, and other materials on their own websites or, if they do not have their websites, the necessary for replication purposes information is posted on the JPR data replication website (Gleditsch, 2003, 76). Moreover, JPR has its own website for posting the data (since 2002).

Secondly, as it was explained by the editors, the establishment of the peace research in the Scandinavian countries in the 1960s was connected to the behavioral revolution in the social

[30] https://journals.sagepub.com/doi/full/10.1177/0022343319827579

sciences. Thus, due to the behavioralist tendencies in the field, the focus on the empirical studies has become the JPR's main orientation from its first publications in 1964. The majority of the accepted studies were empirical and used original, quantitative data (Gleditsch, 2017, 268).

Thirdly, the JPR has a long tradition of making new datasets available to the scholars' community without any sophisticated analysis (Gleditsch et al., 2017, 267). The first time when JPR published the first version of the dataset on formal alliances produced by the Correlates of War Projects was in 1966 and a further update on the project in 1969 (Gleditsch, 2017, 268). Another case of the early published datasets was the dataset on local wars for the period after World War II published by the JPR in 1971 and further updated multiple times. Because those early datasets were of limited size, they could be published in the print version of the journal. Later, the JPR introduced a special general heading for such articles presenting new datasets – Special Data Feature (originally just "Data Feature"). From the early 1990s, the number of such articles with datasets remarkably increased. The editors of the JPR stress the fact that two most-cited articles are data articles.

Fourthly, since the journal's establishment in 1964, the reviewing process was mostly conducted by the editorial committee (Gleditsch et al., 2017, 267). Only in 1983, the outside peer review was introduced. Although the early reactions of the editorial committee were quite skeptical, because they wanted to control the whole process and believed that outside peer-review would require the recruitment process of peer-reviewers, the peer review, according to Gleditsch et al. (2017,271), remains a key issue. The overall rate of rejection to review or non-response has been stable at about 35% since 2010 (Gleditsch, 2017, 267). Since 2002, the double-blinded peer-review process was introduced and quickly became a norm not only of the JPR but in most social science journals, that probably reduced potential biases regarding gender, seniority, the nationality of the authors.

Additionally, the editors of the JPR discussed the question of the peer reviewer's qualifications to assess the "reliability and usefulness" of the presented datasets (Gleditsch et al., 2017, 269) and later – the possibility for the reviewers to conduct a replication of the submitted study. However, as Gleditsch et al. (2017, 270) noted, JPR decided "not to go down this route" (Gleditsch et al., 2017, 270) and leave a room for the authors to decide whether they want to submit the data and codebook with the initial version of the article or not. Furthermore,

JPR decision was also connected to the concerns that the requirement to check the initially submitted data together with the article will increase the extra burden of peer-reviewing

Finally, the list of reviewers includes a list of scholars who, most probably, review for other top journals in the field and their shared experience of reviewing for other journals in the field can be also beneficial for the purposes of this research.

International Interactions

In order to strengthen my analysis, I decided to interview the current editor of the *International Interactions* since the journal has a preplication standard – requirement "run the replication data and code for conditionally accepted articles before publication" (Colaresi, 2016, 367). However, it is a responsibility of the editorial assistants, not the formal practice for peer-reviewers of the journal (Colaresi, 2016; 376).

International Interactions has a contract with Taylor and Francis's Publishing house. It is one of the leading interdisciplinary journals "that publishes original empirical, analytic, and theoretical studies of conflict and political economy" (International Interactions website) and promotes collaborations between the representatives of different fields such as political science, economics, sociology, anthropology, etc.

3.2. Organisation of the questionnaire for the JPR's reviewers

Survey Goals

The main goal of this survey is to approach all recent JPR reviewers in order to get the information about their experience of dealing with data-sharing issues (for instance, what reviewers usually do with the replication data, whether they perceive a need for more involvement in the replication process) in one of the leading political science and international relations journals. Since this information is not publicly available on the journal's website or anywhere else, I send them the request to complete a short online survey and share their additional comments via email.

However, I was also aware of the limitations of this method of gathering data since the kind of data we obtain from surveys is very much shaped by the framing of issues and questions, types of questions and response formats, questionnaire context and sampling.

Pre-Survey Preparations

At the initial stage of the survey design, there was a need to clarify the purposes of the research as well as research questions. After the careful examination of the research proposal and additional literature on replication and peer-reviewing, the survey design has been started. At that stage, the survey questions and survey instructions were constantly peer-reviewed by the supervisor and tested many times on the different survey platforms. It was decided to make the structure of the survey consisting of the introductory letter with information on the study and survey purposes, ethical issues, some instructions, and design questions in a way that respondents will spend no longer than 10-15 min (on average) on answering them.

Survey Platform

For the conduction of my survey, following my supervisor's advice, I started to prepare my questions on Survey Monkey platform in the form of the self-administered questionnaire via my official CEU email. However, after the end of the survey design, it turned out that some options (especially, an option to include the comments' fields together with Yes/No questions) are only available for an annual subscription to the Survey Monkey platform. Unfortunately, none of my colleagues or professors had that subscription at the time of my survey conduction. Thus, I decided to test other platforms, such as Google Forms, Survey Town and Qualtrics (which was proposed by one of my senior colleagues). It came out that Google Forms was the most suitable platform for my types of questions and expected answers among the above-mentioned platforms.

Yet, as it was mentioned by one of the reviewers in the comments section, "privacy and data protection through Google docs may be challenging" (anonymized answer from the survey). Additionally, some of the reviewers refused to share their names, also mentioning the security concerns.

Types of Questions

Close-ended as well as open-ended questions were included into the survey. Open questions usually ask people about their opinion/facts in their own words. The answer, according to Schuman (2011, 30), thus, has a "face validity". Closed questions propose specific answers to the reviewers, i.e. the reviewers' behavior fits into the "scale of possible behaviors" (Schuman, 2011, 168) (for example, how often the reviewers receive the author's dataset and codebook during the stage of the initial review). That is why, due to the possible biases and the potential effect of the closed questions, open-ended questions are more useful if we want to get the data about attitudes, beliefs, etc. At the same time, open-ended questions may lead to situations when some responses are precluded as there was no frame of reference in the question. Overall, the quality of both types of questions also depends on the wording.

As it is seen from the questionnaire (Appendix 2), the survey for the reviewers, thus, contains more open-ended questions with additional "why" questions in order to get the reasoning, than closed-ended ones. However, one of the challenges related to the use of open-ended questions is that survey analysts should spend time and efforts on categorizing a different kind of responses after the survey ended, while in case of close-ended questions the categorized items are produced before that by the researcher. This was one of my main tasks during the analysis of the obtained results.

It is important to note that there is another distinction that can be made - factual and attitudinal questions (Schuman, 28, 2011). However, as it was noted by Schuman (2011, 28), sometimes questions that are usually treated as "factual" have a "substantial attitudinal component" (Schuman, 28, 2011). In my survey, questions 1-5, 7-9 (Appendix 2) can be considered as "factual", and the rest – as "attitudinal".

Type of Data to Collect

Regarding the type of the collected data, there are several kinds of it: nominal data (yes/no answers, questions 1,3,6,7-9, 11, 12, Appendix 2), ordinal data (frequency of getting the dataset and/or codebook, question 2, Appendix 2), and other qualitative data when the reviewers had to share their attitudes (questions 5,6, 10-12, Appendix 2).

Response Formats

Response formats included dichotomous (Yes/No) responses (questions 1,3,8, Appendix 2), multi-chotomous responses (questions 2,4, Appendix 2), open responses (questions 5,6,7,9,10-13, Appendix 2).

Regarding the limitations of the response formats, the majority of them have related to the survey platform (Google Docs) opportunities, English language (since it is not a mother tongue for some of the respondents as well as for the interviewer). That is why, while testing the platform during the pilot survey, I keep in mind the limitations of the response formats in Google Docs and tried to remedy them since I expected that my respondents may feel constrained by the proposed alternatives (Schuman, 2011, 14). For that purpose, I added category "Other"; sometimes I also preferred adding "long text" responses in order to allow my respondents to propose their own alternatives (as the survey showed, they used that option quite often). Additionally, some of them (as they are experienced scholars) also pointed on that limitation of my survey (which I very appreciated). Furthermore, since I tried to encourage the reviewers to provide the reasoning for their "yes/no" answers, I added comment sections and clearly stated my request to provide their reason of choosing a certain category.

Order of the Questions[31]

The survey has started from the general questions about the knowledge of reviewers on the data sharing policy of the JPR and followed by their experience of getting the data and/or codebooks. Further questions were aimed to figure out reviewers' replication experience, i.e. whether they conducted replication once they had data, whether they founded mismatches or errors and reported about them, what were their next steps regarding the initially submitted paper, etc. The last section of questions included the proposal about the introduction of the "preplication" practice and whether this practice should be conducted by the reviewers. In the end, I asked all respondents to share their comments or suggestions in case they had anything to add.

Ethics

[31] I was aware about the potential influence of the questions order.

At the preliminary stage of survey design, there was an issue of whether the questions of my survey to the reviewers need to be approved by the CEU Ethical Committee since my survey includes the collection of participants' sensitive data (names) and sharing of their personal experience. In addition, I asked a couple of professors from my Department to give me some advice on how to approach ethical issues and prevent future problems. Unfortunately, I have not heard back from them. The CEU Ethical Research Committee's[32] response was that "responsibility for ethical review and oversight of students lies with their supervisors and departments" and they cannot help me in this regard. However, we decided to mitigate this issue by anonymization of the collected responses at the end and informing our participants about that (please see question 14 from the survey for the reviewers - "*As I mentioned in the beginning, your answers will be treated confidentially, and all results will be anonymized*").

Respondents and Sample Size

The choice of respondents for the survey is based on the list of the reviewers sent by the editor of the Journal of Peace Research directly to my email. The list included 600 names of reviewers without any other supplementary information (please see Appendix 1). In order to get respondents' emails, I had to manually search for their affiliations and emails via Google search. In some situations, it was not possible to identify the email of a particular person (no information on the webpage or person was available only through special websites, no information on email in the article which was authored or co-authored by the person), thus, I excluded them from the final list of the reviewers that should receive the survey. In the end, I sent my survey to 571 reviewers from the list which constitutes the number which is quite close to the universe of cases (600-1 former editor of JPR).

In addition to the above-mentioned concerns, the limitation that the reviewers were from only one journal that publishes articles on the specific topics from the field (conflict management, peace-building, and peace-making, etc.) was also considered as it may lead to the specific results. Furthermore, the list covered only 600 reviewers (one of them was the editor of the journal) for the period from 1 November 2017 to 31 October 2018.

Pilot Survey and Its Results

[32]CEU Ethical Committee's Website. URL: https://www.ceu.edu/administration/committees/ethical-research

In order to test my questions, I decided to send my preliminary survey to the members of the Political Science Department at Central European University and make the changes in the survey. The first responses that I got back from some of my professors were about their inability to help me since they 1) have not dealt with the reviewing process for the Journal of Peace Research, 2) have not dealt with quantitative data as they teach Political Philosophy and other very theoretical subjects. After that, I received a couple of responses and suggestions on how to improve my survey and a proposal to change the platform for my survey (from Google forms to Qualtrics).

The proposal to omit questions (number 8, 9, Appendix 2) was considered (since those questions apply only to the cases when the answer to question 7 was positive). Since Google Forms do not provide an opportunity to include the omission, I decided to not make those questions required for the answer compared to the rest of the questions in the survey.

Additionally, I received more information on the process of the peer-review at the Journal of Peace Research from one of my professors who sent me the form of the JPR's invitation for review. As it is seen from the letter (Appendix 3), the JPR's invitation letter does not include information on the necessity for the reviewer to look at the dataset or codebook or even the information that the person will have access to them as a reviewer. The letter which was submitted to the email dates back to 2017 and, probably, this practice has changed over time.

Other Potential Biases, Concerns and Remedies

There are other concerns and biases that should be mentioned. Firstly, *social desirability bias* may have influenced the type of the obtained responses. Some of the respondents showed it by answering very shortly ("yes", "no", "n/a") on questions that required providing reasoning or arguments in support of their point of view.

Secondly, the specific formulation of questions may have also interfered the responses of the reviewers. Several respondents have mentioned that problem in the comment section (specifically, *double-barreled inquires, potential bandwagon effect*). Regarding the problem of double- or even triple-barreled inquires (as I did in questions 6, 7, 11, 12, Appendix #xxx), there was special reasoning of formulating them this way. For example, in case of question 11

("Do you think «preplication» is a good idea? Do you think it would increase transparency and improve confidence in research findings? Why yes, or why not?"), the main reason was to remedy the potential bandwagon effect. It is seen that I formulated this question in a way that may provoke an only positive reaction from the respondents towards preplication. However, by adding the interpretive question "why yes, why not" I tried to diminish receiving only positive responses.

As for the problem of the potential ambiguity of the questions, it is a common problem of the surveys (Schuman, 2011), and it is impossible to eliminate it completely, although it is desirable to do that. Additionally, it is not clear enough what is the definition and scope of ambiguity. According to George Bishop (2005, 15) ambiguity refers to the problem when the question means not the same thing to all respondents. However, following Schuman (2011, 26), I also agree that this perceived "ambiguity" is not an obstacle, but an opportunity to learn more about the reviewers. For example, in the case of my survey, the question about pro/cons of preplication help to uncover the differences between the reviewers of quantitative and qualitative studies.

Finally, the personality of the interviewer and power-structure relationships (MA student, female, Eastern European name and surname, non-English speaker) may have also affected the response rate and the quality of the received data since I communicated with distinguished academics and experts from the field.

3.3. Results of the Survey with the JPR's reviewers

Response Rate

Since not all respondents were happy to receive even an invitation to the questionnaire (they sent me emails with these complaints), the initial response rate was about 15% (86 out of 571 responses) for the period from 23 May to 1 June 2019. After the decision to extend the deadline (the first deadline was set on 31 May 2019) and kind reminders with a new deadline (4 June 2019, 23.59 CET), the response rate increased on almost 5% and became 20% at the end (114 out of 571 responses). Along with other factors, it is important to note that time

limitation may have also influenced the response rate since people who work in academia are usually very busy at this period of the academic year (May-June) with the workload at the universities, fieldwork, or simply on vacations.

Approach to Data Analysis

During the data analysis, my goal was not to get the "referendum" point of view about the certain issues on replication and data transparency or report on the absolute percentages (Schuman, 2011, 11), but use more analytic approach and try to observe the tendencies, get insightful opinions and experience of the reviewers, their reasoning of the (non)introduction of certain standards and practices. Thus, I tried to escape presenting those kinds of tables or graphs or other supplementary materials that are problematic to interpret directly. In addition to that, I attempted not just to make the analysis of the separate questions, but make connections between the different questions of the survey. Finally, following Ross's notion (1977) about the fact that our questions affect the answers from respondents, I tried to use a highly reflexive approach to the analysis of the obtained responses.

Results

The results of answers on question 1 demonstrate that, in general, the *reviewers of the JPR are aware of the fact that journal has a data availability policy*, although almost half of them *do not know the specific form of its implementation*, i.e. they do not know when (during the initial review or after acceptance) and what kind of materials should be submitted by the authors ("*New some replication materials were required at some point, but not sure exactly what and when").*

However, there is a problematic moment related to the formulation of this question (the problem of ambiguity) since it is not clear for the reviewers whether I am asking them about the JPR's requirement to submit the dataset and codebook for the initial review or before publication. Some of the respondents were confused by this and further questions (number 1-5) and provided a description of the requirement of the JPR's data availability policy ("*It is my understanding that the data and codebook are required upon acceptance, not for the review process"; "The JPR submission guidelines do not require that the dataset and codebook are*

sent out for review. They only require that replication data is made available once the piece is published"; "I was aware that this had to be submitted before publication, but not as part of the review process"; "This is actually wrong. JPR requires replication data to be submitted for conditionally accepted articles, not at submission for review … Only II and AJPS are doing preplication, and it is not smooth or accepted"; "This is only after the manuscript is accepted. It is not mandatory during the review process"; "I was aware that the author was required to submit data for public view, but I thought this was only once the paper was accepted").

Nevertheless, this confusion actually helped to find out that *some of the reviewers are very aware of the exact requirements of the JPR's data-sharing policy and expressed their desire to clarify this issue in the comment section*; moreover, JPR does not provide the information on its data-sharing requirements and possibility for the reviewers to ask the authors for the data and/or codebook in their invitation to review for the journal (as the pilot survey demonstrated). These findings raise my interest in whether, first, the JPR makes it clear (somewhere on their website or in the printed version of the journal) the requirements of their data-sharing policy and whether they are easily available for all interested people, including reviewers, and second, whether there were any changes in the text of their letter of invitation to review since 2017, i.e. whether they included some information about their data-sharing policy or not (I received the 2017 copy of the JPR's invitation to review from one of the respondents).

Since the journal does not have a policy of submission of the replication data during the initial review, it explains why the majority of the reviewers have never received it (question 2), why they do not ask to submit the data and/or codebook and just proceed with the review (questions 3-4). However, some of the reviewers are ready to insist on the submission of the dataset and/or codebook if they consider the paper as being *"worth publishing"* and it contains (or may contain) signs of errors/mismatches, or if they have *"grave concerns about the data itself"* or *"suspicions about some of the empirical findings"*, although they are aware of the fact that it is a function of the editorial team of the JPR at the moment. This reaction of the reviewers demonstrates their interest and desire to support the norms of research transparency and data access and contribute to the production of high-quality research.

At the same time, the interesting finding is that "sometimes" or "rarely", according to reviewers' answers on question 2, the authors of the articles express their will to submit the

dataset and/or codebook, although it was not clear (due to the formulation of the question 2) whether the reviewers receive them before or after their request. That is why it is also hard to explain the specific authors' motivations in submitting the data for the initial peer-review. Perhaps, one of them can be related to the special practice of the JPR to introduce new datasets.

In general, the reviewers have quite different opinions on whether the replication data should be made routinely available to reviewers or not (question 6). If there is a perceived need to dig further into the data or there are clear signs of errors/mismatches, then the reviewers appreciate this practice. According to the opinion of some respondents, data should be available, but it should not be a reviewer's responsibility to review it or necessarily replicate the study. The negative sides of making data routinely available to reviewers that were mentioned are that, first, the process of the peer-review would become even more time-consuming, especially if the reviewers have to spend time on replication of each submitted study; second, there is an issue regarding the security of the author's data since it could be unproperly used by others before the publication (*"As an author, I would be concerned about maintaining the novelty of my data before having it published*"); finally, according to some reviewers, since there are no strict rules about what the reviewers can and cannot do with the data, it is better not to introduce this practice. One of the respondents mentioned that there is no need to make this practice as standard because some studies are already based on the datasets that are well-known and already publicly available (*"some are based on datasets which are already open and which I am familiar with")*. Another respondent raised an important issue that, probably, should be addressed further – about the suitability of the review platforms for the submission of the dataset and other materials *("Review platforms at most journals are extremely unsuited for handling datasets and replication material"*).

When it came to preplication as the requirement to the journals to "run the replication data and code for conditionally accepted articles before publication, just as journals routinely check for compliance with style guides" (Colaresi, 2016, 367), the great majority of scholars supported his idea (question 11). The arguments in support of preplication included the notion that it may increase the transparency of the research, *"it keeps the non-replicable articles out of the journals in the first place",* it "*sounds great and would be useful for reviewers*". However, some of the respondents were skeptical about it in regard to the costs (time-consuming, need in the staff or editorial assistants with the necessary skills who will run preplication) of this practice for journals, the necessity to apply it to qualitative studies. They

proposed not to make preplication as a standard practice, but to conduct it occasionally since "*making it standard practice means that some advanced methods and confidential data material will not be possible to use*".

As for the issue who should conduct the preplication (question 12), the considerable number of the respondents agreed that it should be the responsibility of the editorial staff (although some of them mentioned that even editorial staff already has too much on their shoulders), or editorial assistants (graduate students with necessary skills and knowledge), but not the reviewer's burden. The reasons against this additional responsibility for the reviewers were almost the same as in the case of the previous suggestion to make data routinely available for the reviewers (question 6).

The majority of those reviewers who received the data have not tried to replicate or verify the results of the reviewed paper (question 7). Along with the popular reason that they "*never had the data*", the respondents mentioned quite often "*time constraints*", lack of necessary skills or expertise. In most of the cases when the respondents tried to verify or replicate the study, it was not a situation when they played a role of the JPR's reviewer. Those who replicated the study during the process of peer-reviewing for JPR and found any mismatches or errors (question 8), they usually tried to figure out what the reasons of the errors were, discussed those errors in their reviews, contacted authors and asked them to clarify the issues (question 9).

Regarding the experience of the reviewers with other journals in the field (question 10), many of the respondents were aware of replication practices of other journals and reported that they have similar requirements of the data availability policies as JPR.

3.4. Organisation of the interview with the editors

Interview Goals

In order to strengthen the results of my survey, I decided to reach the editors of the *JPR* and *International Interactions* in order to get their opinion on the implementation of data availability policy and reactions of the reviewers. That is why, I send them lists of questions

(Appendix 4,5) that reflected the results of the survey with reviewers and asked for additional information about journals' data availability policies (see Appendix 4,5).

Structure of the Interview Questions

Since both journals are implementing some kind of data-sharing policies, I decided to ask the editors about that process and the role of reviewers in it, whether they perceive a need in changing some of their practices or not, what are other possible actions that they take in order to strengthen the research transparency and data access. However, as *International Interactions* already has a preplication procedure and JPR does not have it, I decided to prepare specific questions to each journal.

The question list to the JPR's editor included such questions as whether editorial and production staff usually have the necessary expertise to evaluate and manage the review of replication materials and data publication; whether it clearly stated somewhere on their website (or anywhere else) when the authors have to submit their datasets and codebooks; whether they perceive a need for action to include the information on data availability policy of their journal in the invitation letter/ letter with instructions to the reviewers, so they can know that the journal has this policy and its requirements; whether the editorial board ever discussed the issue of the obligatory submission of the author's datasets and codebooks for the initial peer-review, although without the requirement for peer-reviewers to replicate/verify the study and what kind of challenges they see related to the introduction of this norm of making data "routinely available to the reviewers" (see Appendix 4).

The question list to the editor of International Interactions comprised such questions as what were the reasons of introducing the preplication practice, what are the measures taken to secure the replication materials, what are the effects of preplication standards (how it influenced, for example, the journal's index, number of articles' submissions, etc.) whether their editorial staff or graduate assistants have a necessary expertise to do that (see Appendix 5).

Unfortunately, due to time limits, I was not able to conduct the interviews with the editors. Those interviews based on the proposed questionnaires may be conducted in the follow-up study.

3.5. Discussion

The analysis of the survey responses demonstrated that the reviewers, in general, are aware of the data availability policies of the JPR and other journals, they consider the issues of data access and research transparency as being relevant for the future development of the field and they perceive a need for certain changes.

Regarding their role in the implementation of data-sharing policy, the survey showed the willingness of the reviewers to support their implementation at the minimal level, i.e. making data routinely available for the reviewers with no obligatory requirement to replicate the study or asking the datasets and/or codebooks from the authors in case the reviewers have concerns about the results of the study. This can be explained by the fact that peer-reviewing, even without the responsibility of replication or verification, is already a very time-consuming and highly demanding unpaid burden on the reviewer's shoulders as it was mentioned in the survey. Thus, Dafoe's proposals (2014, 64-65) about the introduction of the requirement for the authors to submit their replication before acceptance, although without a requirement for the reviewers to necessarily replicate the study, and conduction of the replication audit of randomly selected articles (by a selected team of researchers) seem reasonable enough to be re-considered by the journals today. However, there are several issues that should be taken into account and discussed further: first, the issue of data protection – in order to prevent the improper use of the author's dataset (whether there should be special regulations regarding reviewers' behavior with datasets or not, whether these policies should be written by the journals or other organisations); second, the infrastructural problem. As it was mentioned by one of the reviewers, the review platforms should be reorganized in order to allow the authors to upload their datasets and/or codebooks on the platform.

Still, the above-discussed issues and implementation of even these minimal measures requires active journals' involvement. It is the journals and their editorial committees who should take care of those issues. However, as it was raised by some of the respondents, journals already put their efforts in the establishment and implementation of the replication policies, and additional responsibilities (such as preplication) will be very costly for them (time-consuming, need in the additional assistants, infrastructure, etc.). Thus, following Gherghina

and Katsanidou (2013, 346) and some other notions and comments made by the reviewers, there is a perceived need in the actions from other actors - professional organizations, institutions, publishing houses, national endowments, funding agencies - to support the establishment and implementation of the data-sharing practices. For example, one of the reviewers made a proposal to the publishing houses ("which profit a great deal from the free labor of reviewers") to "provide a modest sum for journals to hire a graduate RA" to conduct, for example, preplication. This suggestion, however, has its own problematic aspects since not all graduate assistants have the necessary skills to conduct a preplication.

CONCLUSION

The study sheds the light on one of the under-researched aspects of research transparency and data access in the political science and international relations today – the role of peer-reviewers in the implementation of data availability policies of journals in the field. The usage of the survey helps to uncover some practicalities related to the process of publication. Additionally, the study contains a strong analytical component and presents a unique collection of reviewers' experiences on the replication practices in one of the most important and leading journals in the field. The high response rate demonstrates that this issue matters for the academic community; moreover, the reviewers are ready to contribute to the exploration of the specific issues related to data access and research transparency as they have a perceived need for changes in the field.

The study shows that peer-reviewing, even without the responsibility of replication or verification, is already a very time-consuming and highly demanding unpaid burden on the

reviewer's shoulders. Thus, in general, reviewers do not perceive a need for more involvement in the replication process since it requires specific skills, infrastructure, efforts and time. However, if the journal has a specific requirement such as, for example, the submission of the dataset and codebook for the initial review, the reviewers are ready to contribute to the implementation of these requirements and ask the author to upload the missing materials. Additionally, if the reviewers see the point of getting deeper into data and/or they see the possibility of mismatches/errors, they may ask the author to submit the data, even if it is not a requirement of the journal's data availability policy. It also develops the communication between the potential replicators and authors – the necessity of that was stressed in the study of Janz and Frese (2019).

The project also demonstrated the reviewers' awareness about the important issues of data-sharing policies and their willingness to support the implementation of data availability policies at the minimal level, i.e. making data routinely available for the reviewers with no obligatory requirement to replicate the study or asking the datasets and/or codebooks from the authors in case the reviewers have concerns about the results of the study. Yet, even this minimum set of rules requires the active support from journals since they are still, according to Dafoe (2014, 64), "the key site for improving replication practices". For instance, the reorganization of the certain facilities (reviewers' platforms) or establishment of the specific rules that can regulate reviewer's actions with submitted authors' datasets is needed in order to successfully implement these aspects of the journal's data-sharing policy. Furthermore, the active participation of other actors - such as professional organizations, institutions, publishing houses, national endowments, funding agencies – is also very important for the establishment and implementation of data access and research transparency standards in the field as the costs of that should not be borne only by individuals, but also by organizations.

As a recommendation for further steps in this research direction, I would propose the conduction of more surveys with the reviewers of other journals in the field, especially those that, for example, introduced the preplication standard or made the data "routinely available" to the reviewers. As I was limited in time, I would continue my investigation of the role of peer-reviewing in the implementation of data availability policies of the JPR and International Interactions and conduct the interviews with both editors. Additionally, as a suggestion for further inquires, it would be interesting to count for gender, affiliation, attachment to qualitative or quantitative studies, particular research tradition of the reviewers.

The anonymized data from the survey is available on request. Email: Kovyliaeva_natalia@student.ceu.edu or natasha.kovylyaeva@gmail.com

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APPENDIX 1

List of the JPR's reviewers

2018 Reviewers

Referees

In addition to the members of the editorial committee, we would like to express our gratitude to the following outside referees for their help:

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Brück, Natalia Bueno, H Zeynep Bulutgil, Jonas Bunte, Charles Butcher, Christopher K Butler, Tobias Böhmelt, Filipe Campante, Melissa Carlson, David B Carter, Lorena Castilla Medina, Lars-Erik Cederman, Terrence Chapman, Stephen Chaudoin, Erica Chenoweth, Gabrielle Cheung, Daina Chiba, Adam Chilton, Giacomo Chiozza, Jonathan Chu, Olga Chyzh, Gokhan Ciflikli, Deniz Cil, Joe Clare, Aaron J Clauset, Govinda Clayton, Christina Cliff, Michael Cobb, Bridget Coggins, Dara Kay Cohen, Michael Colaresi, Katharina Coleman, Jeff Colgan, Katy Collin, Luke Condra, Courtenay Conrad, Justin Conrad, Renato Corbetta, Rebecca Cordell, Tom Coupé, Charles Crabtree, Sarah Croco, Mihai Croicu, Jose Cuesta, Philip Cunliffe, David E Cunningham, Travis Curtice, Alessia Damonte, Geoffrey Dancy, Erica De Bruin, Karl DeRouen, Alexandre Debs, Annekatrin Deglow, Tijen Demirel-Pegg, Bruce Desmarais, Jessica Di Salvatore, Matthew DiGiuseppe, Paul F Diehl, Hylke Dijkstra, Karsten Donnay, Axel Dreher, Alexander Dukalskis, Eric Dunford, John Dunne, Allard Duursma, Christoph Dworschak, Maggie Dwyer, Karin Dyrstad, Bryan Early, Joshua Eastin, Kristine Eck, Arne Eide, Emma Elfversson, Leandro Elia, Tanja Ellingsen, Bettina Engels, Neil Englehart, Andrew J Enterline, Mariaelisa Epifanio, Jennifer Erickson, Matthew Evangelista, Christopher Farris, Tanisha M Fazal, Neil Ferguson, Leopoldo Fergusson, Michael Findley, Sverker Finnström, Henning Finseraas, Ronald J Fisher, Hanne Fjelde, Thomas Flores, Michael Flynn, Erika Forsberg, Virginia Page Fortna, Dennis M Foster, Erica Frantz, Owen Frazer, Jeffrey Friedman, Iselin Frydenlund, Andreas Fuchs, Matthew Fuhrmann, Tony Gallagher, Selina Gallo-Cruz, Max Gallop, Jonas Gamso, Varun Gauri, Stephen Gaustello, Stephen Gent, Justin George, Jacob Gerner Hariri, Johannes Gerschewski, Anna Getmansky, Sambuddha Ghatak, Eliza Gheorghe, Eugene Gholz, Douglas Gibler, Mark Gibney, Paul Gill, Andrea Gilli, Elisabeth A Gilmore, Luc Girardin, Elise Giuliano, Sarah Glaser, Christian Gläßel, Kristian Skrede Gleditsch, Nils Petter Gleditsch, Hein E Goemans, Agustin Goenaga, Gary Goertz, Arthur Goldsmith, Benjamin Goldsmith, Belen Gonzalez, Jay Goodliffe, Aditi Gorur, Benjamin Graham, J Michael Greig, Ryan Griffiths, Jamie Gruffydd-Jones, Jerg Gutmann, Felix Haass, Dino Hadzic, Nils Hagerdal, Jillienne Haglund, Dotan Haim, Henry E Hale, Jonathan Hall, Richard Hanania, Thomas Hanitzsch, Keith Hartley, Alexandra Hartman, Andreas Hasenclever, Sophia Hatz, Jacqueline L Hazelton, Marina Henke, Peter Henne, Eric Herring, Stephen Herzog, Daniel Hill, Solveig Hillesund, Kentaro Hirose, Gilad Hirschberger, Matthew Hoddie, Kristian Hoelscher, Aaron Hoffman, Stina Högbladh, Florian Hollenbach, James Hollyer, Amelia Hoover Green, Amelia Hoover-Green, Jeremy Horowitz, Michael Horowitz, Christian Houle, Jeffrey Howard, Lisa Hultman, Agatha Hultquist, Philipp Hunziker, Susan D Hyde, Anna-Lena Hönig, Jacob Høigilt, Elena Ianchovichina, Tobias Ide, Kosuke Imai, Molly Inman, John Ishiyama, Brandon Ives, Yukari Iwanami, Patrick Thaddeus Jackson, Erin K Jenne, Robert Jervis, Robert Johns, Jaclyn Johnson, Jesse Johnson, Seth Jolly, Benjamin Jones, Madhav Joshi, Danielle Jung, Jai Kwan Jung, Koji Kagotani, Arzu KIBRIS, William H Kaempfer, Stathis N Kalyvas, Kyungkook Kang, Sooyeon Kang, Jasper Kaplan, Jeffrey Kaplow, Sabrina Karim, Niklas Karlén, Scott L Kastner, Jacob D Kathman, Robert Kaufman, Eric Keels, Michael Kenwick, Eda Keremoglu-Waibler, Joshua D Kertzer, Nam Kyu Kim, Elisabeth King, Kara Kingma Neu, Brandon Kinne, David Kinsella, Roudabeh Kishi, Katja Kleinberg, Esteban F Klor, Dominic Kniveton, Carl Henrik Knutsen, Jiyoung Ko, Yoshiharu Kobayashi, Michael Koch, Andrej Kokkonen, Ore Koren, Denisa Kostovicova, Nadiya Kostyuk, Dominika Koter, Andreas Kotsadam, Vally Koubi, Jana Krause, Peter Krause, Volker Krause, Joakim Kreutz, Tim Krieger, Douglas Kriner, Alex Kroeger, Matthew Kroenig, Jeffrey Kucik, Tadeusz Kugler, Patrick Kuhn, Sven Kunze, Tuna Kuyucu, Andrew H Kydd, Giulia La Mattina, Dean Lacy, Brian Lai, Daniel Lambach, Steven Landis, Egor Lazarev,

Philippe Le Billon, Bronwyn Anne Leebaw, Brett Ashley Leeds, Lucas Leemann, Gabriel Leon, Andrew Levin, Orion Lewis, Quan Li, Evan S Lieberman, Summer Lindsey, Christopher Linebarger, Andrew Linke, James Long, Marie Olson Lounsbery, Cyanne E Loyle, Magnus Lundgren, Yonatan Lupu, Jason Lyall, Paul K MacDonald, Niall MacKay, Carla Martinez Machain, Edmund Malesky, Zeev Maoz, Max Margulies, Nikolay Marinov, Kimberly Marten, Brian Martin, Susanne Martin, T David Mason, Aila Matanock, Jean-François Maystadt, John McCauley, Gwyneth McClendon, Rose McDermott, Omar McDoom, Elena McLean, Roseanne McManus, Theodore Mclauchlin, Halvor Mehlum, Daniel Meierrieks, Erik Melander, Patrick Mello, Anne Meng, Elizabeth Menninga, Nils Metternich, Nicholas Miller, Daniel Milton, Matthew Mitchell, Neil Mitchell, Sara McLaughlin Mitchell, Jorgen Moller, Stephen Moncrief, Jeanette Money, Nuno Monteiro, Pauline Moore, Shweta Moorthy, Karina Mross, David Muchlinski, Hannes Mueller, Bumba Mukherjee, Ragnhild Muriaas, Katariina Mustasilta, Carl Müller-Crepon, Monika A Nalepa, Bapat Navin, Matthias Neuenkirch, Eric Neumayer, Annerose Nisser, Roberto Nistico, William Nomikos, Irfan Nooruddin, Enzo Nussio, Håvard Mokleiv Nygård, John O'Loughlin, Elisabeth Olivius, Louise Olsson, Martin Ottmann, Sabine Otto, Jack Paine, Kostadis Papaioannou, Sunhee Park, Emel Parlar Dal, Henry Pascoe, Wendy Pearlman, Frederic S Pearson, Dursun Peksen, Yannick Pengl, Abigail Peralta, Amber Peterman, Timothy Peterson, Margarita Petrova, Jon C Pevehouse, Brian Phillips, James Piazza, Steve Pickering, Jan Henryk Pierskalla, Jonathan Pinckney, Costantino Pischedda, Thomas Plümper, Paul Poast, Sara Polo, Amy Pond, Niklas Potrafke, Philip Potter, Emilia Justyna Powell, Jonathan Powell, Brandon C Prins, Alyssa Prorok, Xiaoyu Pu, Andre Python, Jason Quinn, Alejandro Quiroz Flores, Clionadh Raleigh, Karen Rasler, Brian Rathbun, Patrick Regan, Lindsay Reid, Andrew Reiter, Dan Reiter, Jonathan Renshon, Rafael Reuveny, David Richards, Oliver P Richmond, Thomas Richter, Christopher Rickard, Jonathan Ring, Anselm Rink, Emily Ritter, Mauricio Rivera, Philip G Roeder, Philip Roessler, Ingo Rohlfing, B Peter Rosendorff, Michael L Ross, Peter Rudloff, Ida Rudolfsen, Constantin Ruhe, Bruce M Russett, Siri Aas Rustad, Peter Rutland, Seraina Rüegger, Tal Sadeh, Stephen Saideman, Nicholas Sambanis, Cyrus Samii, Belgin San-Akca, Todd Sandler, Burcu Savun, Katherine Sawyer, Susanne Schaftenaar, Adam Scharpf, Frank Schimmelfennig, Gerald Schneider, Philip A Schrodt, Livia Schubiger, Kenneth A Schultz, Sebastian Schutte, Todd S Sechser, Carlos Seiglie, Petros Sekeris, Peter Selb, Renard Sexton, Taylor B Seybolt, Jacob N Shapiro, Kunaal Sharma, Anastasia Shesterinina, Hirofumi Shimizu, Rachel Sigman, Beth Simmons, Randolph M Siverson, Anders Sjögren, Rune Slettebak, Hannah Smidt, Alastair M Smith, Todd Smith, Jack Snyder, Mark Souva, Michael Spagat, James Sperling, Detlef F Sprinz, Theresa Squatrito, Paul Staniland, Jessica Stanton, Abbey Steele, Megan Stewart, Scott Straus, Andrew Stravers, Jaclyn Streitfeld-Hall, Georg Strüver, Jun Sudduth, Christopher Sullivan, Ralph Sundberg, Jonathan Sutton, Eik Swee, Ora Szekely, Johanna Söderström, Roya Talibova, Henning Tamm, Netina Tan, Ahmer Tarar, Steven Taylor, Terrence Teo, Rochelle Terman, Cameron G Thies, Eva Thomann, Jakana Thomas, Ches Thurber, Clayton L Thyne, Jaroslav Tir, Daniel Tirone, Richard Tol, Anja Tolonen, Ashly Townsen, Nicolas Van de Sijpe, Jonas Vestby, Dragana Vidovic, Maarten Voors, Johannes Vüllers, Matthew L Wagner, Michael Wahman, Thomas C Walker, Geoffrey Wallace, James Walsh, Barbara F Walter, Michael D Ward, Jessica Weeks, Stijn Weezel, Tim Wegenast, Eva Wegner, Joseph Weinberg, Alex Weisiger, Eric Werker, Simon Weschle, Oliver Westerwinter, Jeni Whalan, Taehee Whang, Beth Whitaker, Peter White, Sam Whitt, Tore Wig, Steven I Wilkinson, Rick K Wilson, Frank Witmer, Jason Wittenberg, Michael Woldemariam, Scott Wolford, Gadi Wolfsfeld, Pui-Hang Wong, Tom Wong, Reed M Wood,

Austin Wright, Joseph Wright, Cathy Wu, Julian Wucherpfennig, Serhan Yalciner, Javed Younas, Joseph K Young, Lauren Young, Amy Yuen, William Zartman, Dominik Zaum, Yael Zeira, Thomas Zeitzoff, Matthew Zelina, Yuri Zhukov, Hernando Zuleta, xun cao, Olaf de Groot, Indra de Soysa, Catherine de Vries, Peter van Bergeijk, Ali Çarkoğlu, Burak Özpek.

(The list covers the period 1 November 2017 to 31 October 2018).

APPENDIX 2

Introductory Letter and Questionnaire for Reviewers of JPR

Dear Reviewer of the Journal of Peace Research,

Currently, I am a Master's student in the Department of Political Science at the Central European University, writing my MA thesis on "The Role of Reviewers and the Implementation of Data Availability Policies in Political Science Journals" under the supervision of Professor Matthijs Bogaards.

Inspired by Gherghina and Katsanidou's (2013) study of the data availability policies in peer-reviewed political science journals, I decided to go further and investigate the role of reviewers in the implementation of data availability policies and replication practices. For my MA thesis, I am particularly interested in the following questions: *1) What is the role of reviewers in the implementation of data availability policies in Political Science journals? 2) More specifically, what role does replication data play in the peer review process? 3) Do reviewers perceive a need for more involvement in the replication process?*

Since the Journal of Peace Research (JPR) is one of the pioneers in establishing and implementing data availability policies in the discipline and since it publishes mostly quantitative studies using datasets (Gleditsch et al., 2017), I am approaching all recent JPR reviewers with a request to complete a short survey. Here is a link to the survey: https://docs.google.com/forms/d/e/1FAIpQLSdibl6iaumn0nqTDGn31cxQE9WAl_AxkyauDiQ8gB1pcIBHxw/viewform?usp=sf_link

As you can see, the survey consists of open and closed questions. Your answers will be treated confidentially and all results will be anonymized.
All respondents will receive a copy of the results, which will be made publicly available on the CEU website.

I would be very grateful if you could fill out the survey **by 4 June 2019**.

If you have any additional comments, questions, or suggestions, please use the following e-mail address: Kovyliaeva_natalia@student.ceu.edu. Please do not hesitate to contact me.

Thank you very much for your time and contribution!

Kind regards,
Natalia Kovyliaeva

About the Author
Natalia Kovyliaeva is a one-year MA student at Central European University, Department of Political Science. Her research interests include transparency and data availability policies, social movements, civil society, democracy promotion, European Union's foreign policy, Russian foreign policy.

References:

1. Gherghina S., Katsanidou A. (2013) Data Availability in Political Science Journals. European Political Science. Vol.12. Pp.333-349.
2. Gleditsch N.P., Nordås R., Urdal H. (2017) Peer Review and Replication Data: Best Practice from Journal of Peace Research. College & Research Libraries. Vol. 78. No.3. Pp. 267-271.
3. Colaresi M. (2016) Preplication, Replication: A Proposal to Efficiently Upgrade Journal Replication Standards. International Studies Perspectives. Vol. 17. Pp.367-378

Questionnaire for reviewers (on Google Survey):

Title: "The Role of Reviewers and the Implementation of Data Availability Policies in Political Science Journals"

1) JPR requires authors to submit both dataset and codebook (Gleditsch et al., 2017).
As a reviewer for JPR, were you aware of this requirement? (required to answer)

- Yes
- No
- Other (field for comments)

2) How often do you receive the author's dataset and codebook? (required to answer)

- Always
- Usually

· Sometimes
· Rarely
· Never
· Other (field for comments)

3) If the dataset and/or codebook are missing, do you usually ask to submit them? (required to answer)
· Yes
· No
· Other (field for comments)

4) If anything is missing, what is your next step? (required to answer)
· I reject that paper
· I insist on the submission of the dataset and/or codebook
· I proceed with the review
· Other (field for comments)

5) What is the editor's reaction to your actions? (required to answer)
· Field for a long-answer comment

6) In your opinion, should replication data be made routinely available to reviewers? Why yes, or why not? (required to answer)
· Field for a long-answer comment

7) If you have the data, have you ever tried to replicate the study/verify the results? Why yes, or why not? (required to answer)
· Field for a long-answer comment

8) In case you did the replication, have you ever found any mismatches/ errors? (Please answer this question only if you answered "yes" for question 7)
· Yes
· No
· Other (field for comments)

9) What were your next steps in case of errors/ mismatches? (Please answer this question only if you answered "yes" for question 7)
· Field for a long-answer comment

10) You probably review for other journals as well. Please briefly describe your experience with data availability policies and replication practices for other journals in political science. (required to answer)

· Field for a long-answer comment

11) There was a “Preplication” proposal by Colaresi (2016), which requires the journals to “run the replication data and code for conditionally accepted articles before publication, just as journals routinely check for compliance with style guides” (Colaresi, 2016, 367). In Colaresi's view, preplication is something that the journal's editors and staff should do on a routine basis. Do you think «preplication» is a good idea? Do you think it would increase transparency and improve confidence in research findings? Why yes, or why not? (required to answer)

· Field for a long-answer comment

12) Do you think «preplication» is something that reviewers should do? Why yes, or why not? (required to answer)

· Field for a long-answer comment

13) Do you have any additional comments or remarks?

· Field for a long-answer comment

14) Please share your name and surname. As I mentioned in the beginning, your answers will be treated confidentially and all results will be anonymized. Thank you very much for your time and contribution! (required to answer)

· Field for a comment

APPENDIX 3

PR-17-XXX entitled "XXX"Invitation to Review for the Journal of Peace Research

-----Ursprüngliche Nachricht-----
Von: onbehalfof+jpr+prio.no@manuscriptcentral.com
[mailto:onbehalfof+jpr+prio.no@manuscriptcentral.com]
Gesendet: Dienstag, 2017 12:47
An: xxx

Dear Prof. xxx:

I wonder if you would be willing to referee Manuscript ID JPR-17-XXX entitled "XXX", which has been submitted to Journal of Peace Research. The abstract appears at the end of this letter.

We are aware that reviewing is time-consuming and grateful to referees for using their personal time to do so. Yet, we promise authors to review their work fast but thoroughly, and so I hope that you can let me know as soon as possible if you are able to accept my invitation. To do so, you may click the appropriate link at the bottom of the page to automatically register your reply with our online manuscript submission and review system.

Journal of Peace Research is committed to ensuring that the peer-review process is as robust and ethical as possible. The Committee on Publication Ethics (COPE) guidelines regarding peer review can be found at the following link. Please read the guidelines before accepting or declining my invitation.

http://publicationethics.org/files/Ethical_guidelines_for_peer_reviewers_0.pdf.

Journal of Peace Research greatly values the work of our reviewers. So, in recognition of your continued support, we are pleased to announce that we have arranged with our publishers SAGE to offer you free access to all SAGE journals for 60 days upon receipt of your completed review. We will send you details of how to register once you have submitted your comments.

In the event that the article is too far removed from your field of interest, I would be grateful for two or three suggestions for alternative referees. However, I would primarily hope to get your views on the article.

If you accept my invitation to review this manuscript, you will be notified via e-mail about how to access Manuscript Central, our online manuscript submission and review system. You will then have access to the manuscript and reviewer instructions in your Reviewer Center.

Last but not least, if you evaluate this manuscript for JPR, we will make a note not to send you another evaluation request (except possibly a revised version of this ms.) for at least one year.

We look forward to hearing from you.

Sincerely,

Kristin M Bakke
Associate Editor, JPR

via Bertrand Lescher-Nuland - Managing Editor Journal of Peace Research
Editorial Office jpr@prio.no

*** PLEASE NOTE: This is a two-step process. After clicking on the link, you will be directed to a webpage to confirm. ***

APPENDIX 4

Introductory Letter and Questions to the editor of JPR

Dear Professor Gates,

Currently, I am a Master's student in the Department of Political Science at the Central European University, writing my MA thesis on "The Role of Reviewers and the Implementation of Data Availability Policies in Political Science Journals" under the supervision of Professor Matthijs Bogaards. Also, I was a participant of the Peace Research course at the University of Oslo and PRIO last summer and conducted a project on the sexual harassment within the UN peacekeeping missions.

Inspired by Gherghina and Katsanidou's (2013) study of the data availability policies in peer-reviewed political science journals, I decided to go further and investigate the role of reviewers in the implementation of data availability policies and replication practices. For my MA thesis, I am particularly interested in the following questions: *1) What is the role of reviewers in the implementation of data availability policies in Political Science journals? 2) More specifically, what role does replication data play in the peer review process? 3) Do reviewers perceive a need for more involvement in the replication process?*

Since the Journal of Peace Research (JPR) is one of the pioneers in establishing and implementing data availability policies in the discipline and since it publishes mostly quantitative studies using datasets (Gleditsch et al., 2017), I am approaching all recent JPR reviewers with a request to complete a short survey. Thus, I need your consent on the conduction of my survey with your reviewers (I already asked Bertrand about that in my previous emails to him; unfortunately, he has not replied back yet).

In order to strengthen the results of my survey, I would like to know your opinion on the implementation of data availability policy by your journal and some reactions of the reviewers. I believe that your experience of working as a journal's editor may

improve the results of my study. That is why I would be appreciative if you (or your colleagues - Gudrun Ostby or Marianne Dahl) could answer the attached list of questions and send it back **by 6 June 2019 (9 am, CET)** (in a written form or we can also arrange a Skype call if it works better for you; additionally, I apologize for such a short time for the submission of your answers because of my thesis submission deadline). Also, if you have any additional comments, questions, or suggestions, please use the following e-mail address: Kovyliaeva_natalia@student.ceu.edu. Please do not hesitate to contact me.

Additionally, you will receive a copy of the results, which will be made publicly available on the CEU website.

Thank you very much for your time and contribution!

Kind regards,

Natalia Kovyliaeva

About the Author
Natalia Kovyliaeva is an MA student at Central European University, Department of Political Science. Her research interests include data transparency, data availability policies, social movements, civil society, democracy promotion, European Union's foreign policy, Russian foreign policy.

References:

1. Gherghina S., Katsanidou A. (2013) Data Availability in Political Science Journals. European Political Science. Vol.12. Pp.333-349.
2. Gleditsch N.P., Nordås R., Urdal H. (2017) Peer Review and Replication Data: Best Practice from Journal of Peace Research. College & Research Libraries. Vol. 78. No.3. Pp. 267-271.

Questions for the editor(s) of the JPR:

1. You have the requirement to submit the datasets and codebooks after the paper was accepted by the peer-review. Do editorial and production staff usually have the necessary expertise to evaluate and manage the review of replication materials and data publication?

2. There was a confusion among the respondents as well as about the time of the submission of the required data for the publication in your journal. Does it clearly stated somewhere on your website (or anywhere else) when the authors have to submit their datasets and codebooks?

3. As far as I know from some of the reviewers for JPR, in 2017 the text of the letter did not contain any information on the data-sharing policy of the journal. How does the invitation

letter to the reviewers look like today? Does the information about the data-sharing policy of the journal easily available to the reviewers? Where can they find it? (*Please provide a link to the website if it is available online; also, I would be grateful if it is possible to send me the current text of that letter*) Do not you perceive a need for action? For example, to include this information in the invitation letter to the reviewers, so they can know that you have this policy, if it is not there yet?

4. A lot of the reviewers agreed with the proposal that the data should be "made routinely available to the reviewers", although recognizing the already heavy burden on the reviewers' shoulders if it comes to the introduction of the requirement of data verification or replication. However, have you ever discussed the issue of the obligatory submission of the author's datasets and codebooks for the initial peer-review, although without the requirement for peer-reviewers to replicate/verify the study? If so, what are the challenges you see related to the introduction of this norm (data made "routinely available to the reviewers")?

5. What do you think your journal or other journals in the field can do in order to strengthen the research transparency and data access?

6. Do you have any additional comments or remarks?

Thank you for your time and contribution!

APPENDIX 5

Introductory Letter and Questions to the editor of International Interactions

Dear Professor Pickering,

Currently, I am a Master's student in the Department of Political Science at the Central European University, writing my MA thesis on "The Role of Reviewers and the Implementation of Data Availability Policies in Political Science Journals" under the supervision of Professor Matthijs Bogaards.

Inspired by Gherghina and Katsanidou's (2013) study of the data availability policies in peer-reviewed political science journals, I decided to go further and investigate the role of reviewers in the implementation of data availability policies and replication practices. For my MA thesis, I am particularly interested in the following questions: *1) What is the role of reviewers in the implementation of data availability policies in Political Science journals? 2) More specifically, what role does replication data play in the peer review process? 3) Do reviewers perceive a need for more involvement in the replication process?*

Since the Journal of Peace Research (JPR) is one of the pioneers in establishing and implementing data availability policies in the discipline and since it publishes mostly quantitative studies using datasets (Gleditsch et al., 2017), I am approaching all recent JPR reviewers with a request to complete a short survey which contains questions about the introduction of "preplication" norm.

Since your journal has already established a practice of "preplication", I believe that your opinion on the implementation of data availability policy and preplication practice by your journal may strengthen the results of my study. That is why I would be appreciative if you (or your colleagues - Prof. Garriga, Prof. Gizelis, Prof.Machain, Prof.Savun, Prof.Souva) could answer the attached list of questions and send it back **by 6 June 2019 (9 am, CET)** (in a written form or we can also arrange a Skype call if it works better for you; additionally, I apologize for such a short time for the submission of your answers because of my thesis submission deadline). Also, If you have any additional comments, questions, or suggestions, please use the following e-mail address: Kovyliaeva_natalia@student.ceu.edu. Please do not hesitate to contact me.

Additionally, you will receive a copy of the results, which will be made publicly available on the CEU website.

Thank you very much for your time and contribution!

Kind regards,

Natalia Kovyliaeva

About the Author
Natalia Kovyliaeva is an MA student at Central European University, Department of Political Science. Her research interests include data transparency, data availability policies, social movements, civil society, democracy promotion, European Union's foreign policy, Russian foreign policy.

References:

1. Gherghina S., Katsanidou A. (2013) Data Availability in Political Science Journals. European Political Science. Vol.12. Pp.333-349.
2. Gleditsch N.P., Nordås R., Urdal H. (2017) Peer Review and Replication Data: Best Practice from Journal of Peace Research. College & Research Libraries. Vol. 78. No.3. Pp. 267-271.

Questions for the editor (s) of the International Interactions:

1. What was the reason to introduce the practice of "preplication" by your journal?

2. What does usually happen to the replication materials in case the study has been rejected after preplication?

3. What has changed since the introduction of "preplication" practice? Has it influenced the journal's index? Number of articles' submissions? Number of published articles with successful/or unsuccessful attempts to replicate/verify the results of submitted studies?

4. Have you ever received any complaints from editorial staff or graduate assistants that they may feel overburdened by the preplication standard? Do they usually have a necessary expertise and time to conduct the verification/replication of the study?

5. What do you think your journal or other journals in the field can do in order to strengthen the research transparency and data access?

6. Do you have any additional comments or remarks?

Thank you for your time and contribution!