

**South African Gender-Based Violence
Researchers' Awareness and Usage of
Bibliometrics and Altmetrics in the Context of
Open Access Scholarly Publishing**



By: N. Langdown

UNIVERSITY *of the*
WESTERN CAPE

**Submitted in accordance with the requirements for the degree of
PHILOSOPHIAE DOCTOR in the Department of Library and Information
Science, University of the Western Cape**

**Supervisor: Professor S. Zinn
Department of Library and Information science
University of the Western Cape
Bellville
South Africa**

November 2020



**UNIVERSITY *of the*
WESTERN CAPE**

South African Gender-Based Violence Researchers' Awareness and Usage of Bibliometrics and Altmetrics in the Context of Open Access Scholarly Publishing

By: Natasha Langdown



UNIVERSITY *of the*
WESTERN CAPE

Keywords:

* Gender-Based Violence * Scholarly Communication * Researchers * Altmetrics
* Citations * Awareness * Usage * Metrics Analysis * Bibliometrics * Open Access
* South Africa

ABSTRACT

The traditional model of scholarly communication uses journals, databases, and conferences. With the onset of the digital age, there has been a change in the system of scholarly communication, creating new publishing models, such as open access and institutional repositories, which have emerged as important, scholarly communication models. The research questions addressed in this study investigated the value of using altmetrics, as opposed to traditional metrics for measuring the impact of publications by researchers into gender-based violence (GBV) within South Africa.

In investigating the use of altmetrics among gender-based violence (GBV) researchers within South Africa, the following questions have been asked, How knowledgeable are GBV researchers about altmetrics? Which traditional metrics do GBV researchers use to measure their research impact? How do GBV researchers view open access publishing in research? What are the GBV researchers' perceptions about the value of altmetrics? What is the relationship between traditional metrics and altmetrics within scholarly communication, in measuring impact?

Data were collected in a tri-phase design comprising Phase 1 altmetric and bibliometric analyses of GBV research in South Africa and Phase 2 critical in-depth interviews of top GBV researchers using a mixed-methods approach. Phase 3 involved an electronic questionnaire distributed on the Sexual Violence Research Initiative Listserv (SVRI). Gender-based violence researchers, the focus of this study, fall within the larger area of gender and health research. For the second phase, the top researchers identified in the document analysis of the first phase, are combined with National Research Foundation-rated scientists for in-depth interviewing. Distribution of a questionnaire on the Sexual Violence Research Initiative Listserv constituted the third phase.

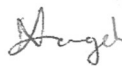
The potential value of this study is its challenge to existing or traditional models of communication. A relatively new phenomenon, altmetrics, is addressed, which focuses specifically on its merits, vis-à-vis traditional metrics, and its impact. The increasing role of technology in scholarly communication has had a significant impact on the changing roles of researchers as collaborators, knowledge creators, and disseminators of information by providing a broader scope to engage with the public. The results of the study confirm that the awareness, level of knowledge, and use of altmetrics among GBV researchers is minimal to low since most of the researchers interviewed had had no exposure to the terminology of altmetrics. The value of a mixed-methods approach in this study was in ensuring the triangulation of different data sources to produce a better understanding of altmetrics. This study has shown that there is greater knowledge and awareness among GBV researchers of traditional metrics than altmetrics.

This research contributes to the existing knowledge of altmetrics and may have implications for their further implementation for the measurement of research impact. A single metric indicator cannot determine the measurement of impact, which this study attempted to achieve, an indication that as the citations increase, an expected increase in the altmetric score would also occur. Given the importance of measurement that GBV researchers have indicated in this study, altmetrics could provide feedback on their social impact. The positive attitude of GBV researchers towards altmetrics has shown that they have an interest in these new metrics.

Declaration

I declare that *South African Gender-Based Violence Researchers' Awareness and Usage of Bibliometrics and Altmetrics in the Context of Open Access Scholarly Publishing* is my work, that it has not been submitted for any degree or examination at any other University, and that all the sources I have used or quoted are indicated and acknowledged by means of complete referencing.

Signed



Natasha Langdown

26 November 2020



UNIVERSITY *of the*
WESTERN CAPE

Dedication

This thesis is dedicated to my wonderful parents, Roy, and Judy, who have raised me to be the person I am today. You have been with me every step of the way, through your constant support and encouragement during this thesis. Thank you for all the unconditional love, guidance and support that you have always given me, helping me to succeed and instilling in me the confidence that I can do anything I put my mind to. To my aunt, Violet Poole, whose wisdom, and knowledge has guided me during this thesis: Thank you for everything.



UNIVERSITY *of the*
WESTERN CAPE

Acknowledgements

I would like to formally thank:

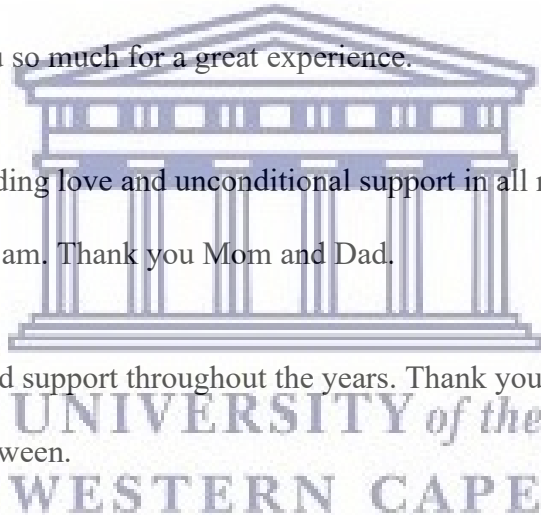
The Almighty, through whom all things are possible.

Professor Sandy Zinn, my advisor, for her hard work and guidance throughout this entire thesis process and for believing in my abilities. I have learned so much and without you, this would not have been possible. Thank you so much for a great experience.

My parents, for their never-ending love and unconditional support in all my efforts, and for giving me the foundation to be who I am. Thank you Mom and Dad.

My sister Tara, for her love and support throughout the years. Thank you for the laughing and the fighting, and everything in between.

My editor, Jean Fourie, for her work.



Contents

Keywords	iii
Abstract	iv
Declaration	v
Dedication	vi
Acknowledgements	vii
Contents	viii
List of figures	xi
List of tables	xii
List of appendices	xiii
List of abbreviations	xiv
CHAPTER 1: Introduction	
1. Background	1
1.1 Problem Statement	4
1.2 Aim of the study	5
1.3 Research question addressed in this study	6
1.4 Significance and originality of the study	6
1.5 Scope and limitations of the study	7
1.6 Ethics statement	9
1.7 Research design and methodology	9
1.8 Theoretical Framework	9
1.9 Layout of the thesis	10
1.10 Definition of terms	12
1.11 Conclusion and Summary	13
CHAPTER 2: Literature review	
2. Introduction	14
2.1 Review of scholarly communication	14
2.2 Review of open access	16
2.3 Bibliometrics	19
2.4 Altmetrics	22

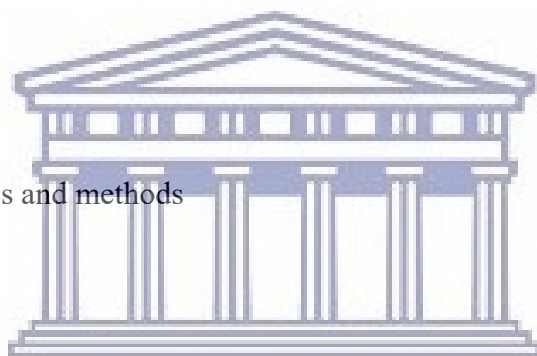
2.5 Relationship between traditional metrics and altmetrics	40
2.6 Gender-based violence research	42
2.7 Chapter summary	46

CHAPTER 3: Theoretical framework

3.1 Introduction	47
3.2 Theory for scholarly communication and metrics	58
3.3 Chapter summary	61

CHAPTER 4: Research methodology

4.1 Introduction	62
4.2 Research Paradigm	63
4.3 Research Approach	63
4.4 Research design	66
4.5 Target population	67
4.6 Data collection procedures and methods	71
4.7 Validity and reliability	78
4.8 Chapter summary	82



CHAPTER 5: Analysis of data and presentation of findings

5.1: Presentation of the findings, Part 1: Bibliometric Analysis	83
5.1.1 Bibliometrics descriptive analysis	83
5.1.2 Relationship between citations and altmetric score	93
5.1.3 Shapiro-Wilks analysis	94
5.1.4 Spearman Correlation analysis	94
5.1.5 Chapter 5, Part 1 Summary	95

5.2: Presentation of the findings, Part 2: Interview Findings

5.2.1 Introduction	97
5.2.2 Results, analysis, and interpretation	98
5.2.2.1 Section A: Profile of the researchers	99
5.2.2.2 Section B: What is altmetrics?	100
5.2.2.3 Section C: Traditional metrics	103

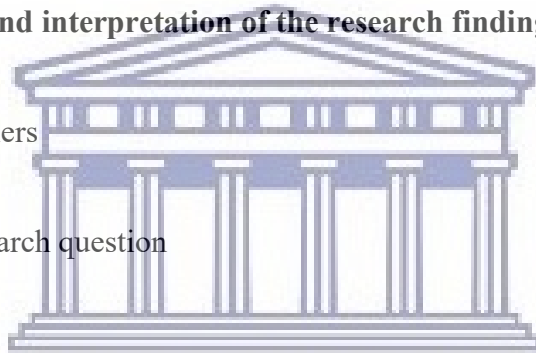
5.2.2.4 Section D: Scholarly communication	108
5.2.2.5 Section E: Perception of altmetrics	116
5.2.3 Chapter 5, Part 2 summary	118

5.3: Presentation of the findings, Part 3: Questionnaire

5.3.1 Introduction	119
5.3.2 Results, analysis, and interpretation	119
5.3.2.1 Section A: Demographics	119
5.3.2.2 Section B: Traditional metrics	121
5.3.2.3 Section C: Altmetrics	124
5.3.3 Chapter 5, Part 3 summary	125

CHAPTER 6: Discussion and interpretation of the research findings

6. Introduction	126
6.1. Profile of GBV Researchers	126
6.2 Summary of the findings	126
6.3 Findings of the main research question	127
6.4 Chapter summary	143



CHAPTER 7: Summary, conclusion, and recommendations

7.1 Introduction	144
7.2 Meeting Objectives of the study	144
7.3 Recommendations	148
7.4 Conclusion and Summary	149

REFERENCES: (Vancouver Style: Author Date)	150
---	------------

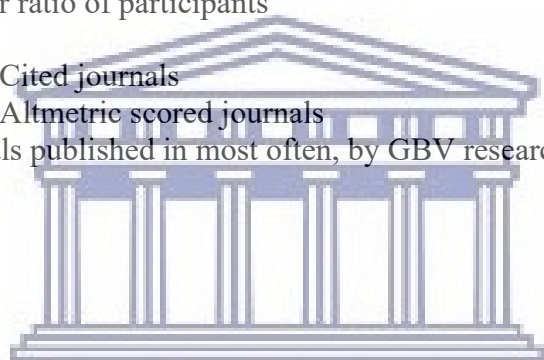
APPENDICES	183-241
-------------------	----------------

List of Figures

Figure		Page
Figure 1	An example of the altmetric donut	31
Figure 2	UNISIST model	51
Figure 3	Revising and updating the UNISIST model	52
Figure 4	Adapted scholarly research workflow and communication model	54
Figure 5	Adapted Pasteur's Quadrant	56
Figure 6	Pasteur's Quadrant	57
Figure 7	Creswell and Plano Clark (2018)	66
Figure 8	Definitive search strategy	74
Figure 9	Average citations per year	84
Figure 10	Most Relevant Journal Sources	87
Figure 11	Plum Analytics Category breakdown	90
Figure 12	Usage of the articles 2013-2016	90
Figure 13	Captures of the articles 2013-2016	91
Figure 14	Mentions of the articles 2013-2016	92
Figure 15	Social Media usage of the articles 2013-2016	92
Figure 16	Scatterplot between citations and altmetrics.	95
Figure 17	Institution of the participants	99
Figure 18	Archiving and sharing of researchers' information	108
Figure 19	Alerts and recommendations tools used by GBV researchers	112
Figure 20	Use of altmetrics with traditional metrics	114
Figure 21	Motivation to publish	120
Figure 22	Decision to publish in a journal	121
Figure 23	Opinion on the use of traditional metrics	123

List of Tables

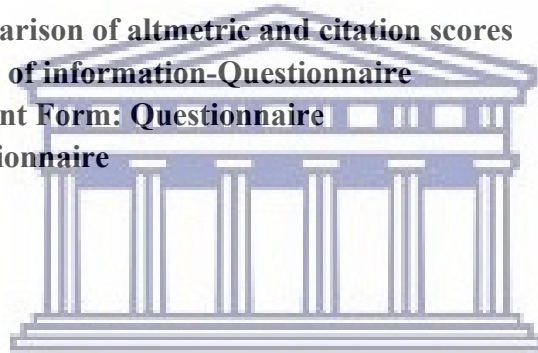
Tables		Page
Table 1	Interviewee Descriptors	69
Table 2	Summary of citation analysis	84
Table 3	Citation performance of the Journals GBV Researchers are publishing in	85
Table 4	Top Citation Authorship pattern of GBV 2017	88
Table 5	Summary of Altmetric Attention Score analysis	89
Table 6	Top Altmetric Authorship pattern of GBV	89
Table 7	Summary of numeric/continuous variables	93
Table 8	Gender ratio of participants	99
Table 9	Top 5 Cited journals	133
Table 10	Top 5 Altmetric scored journals	133
Table 11	Journals published in most often, by GBV researchers	134



UNIVERSITY *of the*
WESTERN CAPE

List of Appendices

Appendices		Page
Appendix A	Letter of information: Interviews	183
Appendix B	Consent form: Interviews	184
Appendix C	Questions in relation to interview questions	185
Appendix D	Approval obtained from the UWC Ethics Committee	188
Appendix E	Interviewee Breakdown	189
Appendix F	Top Altmetrics scores	190
Appendix G	Top Citation scores	208
Appendix H	Comparison of altmetric and citation scores	220
Appendix I	Letter of information-Questionnaire	222
Appendix J	Consent Form: Questionnaire	223
Appendix K	Questionnaire	224



UNIVERSITY *of the*
WESTERN CAPE

List of Abbreviations

Abbreviations	Meaning
ASNS	Academic Social Networking Site
COPs	Communities of Practice
DOI	Digital Object Identifier
DORA	San Francisco Declaration on Research Assessment
ESRC	Economic and Social Research Council
FTF	Face-To-Face
GBV	Gender-Based Violence
GDP	Gross Domestic Product
HEFCE	Higher Education Funding Council for England
HSRC	Human Sciences Research Council
HTML	Hypertext Mark-up Language
ICT	Information Communication Technology
IF	Impact Factor
IPV	Intimate Partner Violence
JASIST	Journal of The Association for Information Science and Technology
JIF	Journal Impact Factor
KPA	Key Performance Areas
NIH	National Institutes of Health
NISO	National Information Standards Organization
NRF	National Research Foundation
OA	Open Access
ORCID	Open Research and Contributor Identifier
PLAAS	Institute for Poverty, Land and Agrarian Studies
PLOS	Public Library of Science
PMID	PubMed ID
REF	Research Excellence Framework
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
SRAs	Scientists, Researchers and Academics
STEM	Science, Technology, Engineering and Mathematics
SVRI	Sexual Violence Research Initiative
UNISIST	United Nations Information System in Science and Technology
WHAT WORKS	What Works to Prevent Violence Against Women and Girls Programme
WOS	Web of Science
WWW	World Wide Web

CHAPTER 1: INTRODUCTION

1. Background

The traditional model of scholarly communication uses multiple formats, such as journals, databases, and conferences to publish scholarly works. With the onset of the digital age, there has been a change in the system of scholarly communication, creating new publishing models, such as open access and institutional repositories, which have emerged as important communication models. In open access (OA), scholarly material is made available through various media, such as repositories and OA journals. Through this development of information sharing, new metrics have emerged, such as article-level metrics that measure the impact, not only of journal articles but also datasets or supplementary information from research output (Bloom et al., 2014). Greenhow, Robelia and Hughes (2009: 252) suggest that digital participation in online media has the potential to change the way scholarly researchers enhance their scholarship.

Communication of research findings is one of the important tenets of scholarship and with online activities on the rise, researchers around the world use communication tools such as social networks, blogs, or wikis to improve their scientific knowledge, converse with other experts, and have discussions with people who have similar challenges (Li, Thelwall and Giustini, 2012). These communication media allow for the sharing of data through a variety of social applications and software, which are:

- Media sharing: (e.g., Flickr, YouTube)
- Social bookmarking sites: (e.g., Digg, Reddit)
- Social networking sites: (e.g., Facebook, Twitter)
- Academic networking sites: (Epernicus, Academia.edu, ResearchGate, LinkedIn)
- Wikis (e.g., Wikipedia)
- Blogs (e.g., Blogger, WordPress, BlogPress)
- Reference managers (Endnote, Mendeley)

(Priem, Groth and Taraborelli, 2012)

Authors have always used some form of metrics to measure and monitor output. These metrics have adapted to the changes within the publishing environment. Within scholarly communication, Garfield (1955) conceptualised a scientific citation index, in which citations in each publication are documented and serve as links between papers, thereby forming navigable network of ideas and concepts. This was to be evaluated in the same way as it had been applied in Shepard's citation system, which tracked the citation records of United States of America court cases citing or referring to previous cases. He also stated that a bibliographic system for scholarly literature is being proposed in order to make researchers more aware of criticisms associated with a paper. There are several traditional metric indicators such as the 5-year impact factor, the Eigenfactor, SCImago Journal rank, H-Index, G-Index and the Immediacy Index. The two main traditional metric indicators used are the journal impact factor (JIF) and citations (Donato, 2014). In the scholarly communication environment, the peer-reviewed journal publication has become the standard form of communicating research (Spier, 2002). Journal Citation Reports, Eigenfactor, SCImago Journal and Country Rank are metric indicators used to measure the impact of a journal. Researchers have the opportunity of discovering related research in their areas by following who is referring to whom in which articles, books or book chapters). For the past 30 years, there were only a few sources of data for tracking highly cited publications, such as Web of Science, Scopus and Google Scholar (Jacso, 2005: 1540). Of the three sources, Web of Science has been established for over 30 years, while Scopus and Google Scholar have only been in existence since 2004.

One approach to measuring scientific output is based on the way the data are used in a research study. For example, the methods for measuring scientific output are bibliometrics, informetrics, webometrics, cybermetrics, librametrics and scientometrics. Bibliometrics analysis impacts on funding, hiring and promotion of researchers (Jacob and Lefgren, 2011). Traditional metrics are limiting because they take several years before citations appear, and also do not measure the impact on the broader society, as they only focus on the academic community. The scholarly communication process starts with a research idea and progresses to a formal peer-reviewed publication (Holmberg and Thelwall, 2014: 1027). Researchers are the catalysts for, and the providers and users of scholarly communication. Thus, changes in these processes will need to be embraced by the academic researcher community. The new metrics entirely bypass the existing scholarly communication methods through social media platforms such as Twitter, Facebook, Mendeley and others. Therefore, altmetrics analyses have been brought in as a solution to supplement traditional metrics. Having information disseminated digitally online replaces a traditional role filled by universities and publishers. Altmetrics measures the social web for

the use of diverse scholarly outputs, such as articles, blogs, datasets, and grey literature (Konkiel, 2012). There are a variety of different ways the outputs are measured, these are:

- Viewed: the number of times a journal article is viewed, and has developed from new web technologies, which have made it possible to accurately account how many times a journal article is viewed online [e.g., publisher's websites, Dryad Repository] (Perneger, 2004).
- Downloaded: is the number of downloads per publication, through usage statistics [SlideShare, publisher's websites] (Fenner, 2013).
- Cited: the number of times a publication is acknowledged in journal articles by authors in support of their research [PubMed, CrossRef, Scopus, Web of Science] (Bornmann and Daniel, 2008a).
- Re-used/adapted: is when data are re-used and adapted for new research projects or other output, as it has impacted upon author incentives such as citation increase if data are shared, for example, on publishers' websites, Github, Bitbucket (Tenopir et al., 2011; Piwowar and Vision, 2013).
- Shared: is the facilitation of information, such as journal articles, links, reports and slideshows being shared on numerous social networking sites such as Facebook, Twitter, SlideShare and ResearchGate (Craswell and Poore, 2012; Holmberg, 2015a:1-7).
- Bookmarked: a metric of how publications are bookmarked on reference managers, such as Mendeley and CiteULike (Fenner, 2013).
- Commented upon/discussed: is a metric wherein the potential impact of the publication is discussed or commented upon, typically on social media. [Blogs, Wikipedia, F1000] (Evans and Krauthammer, 2011; Priem, Piwowar and Hemminger, 2012).

Altmetrics has become an important part of analysis into how far-reaching (shared, used, interpreted, and discussed) research is, via social media, traditional media, and online reference managers. According to Taylor (2013a: Online), altmetrics might act as an indicator for future citations and incorporate a 'wider scholarly impact' by increasing visibility and accessibility of publications shared by authors. It is how we, as individuals, connect to society through research and social media, by pushing and advancing continuous communication, collaboration, knowledge creation and exchange (Adie and Roe, 2013: 12). The emphasis has changed from a journal-level of interaction, such as impact factors, to an article level.

The dissemination of research findings by researchers has led them to become communicators of knowledge to society. In doing so, researchers can reach other researchers in their field through social

networking platforms (Dash, Satija and Mishra, 2015: Online). This action is exemplified by researchers publishing their papers on an academic, social networking tool, such as ResearchGate (Owens, 2015). Although social media will not replace traditional publications, it is suggested in a study conducted by Cocchio and Awad (2014) that a peer review process is put in place to improve the validity of using social media in scholarly activity. This implies that as social media has evolved, more activities have been incorporated into traditional models. To improve academic merit, users of these social media platforms should implement a peer-review process for platforms such as a personal medical education blog. Therefore, an assessment needs to be done on the professional use of social media for those that take these types of “publications” into consideration for promotion or tenure evaluations.

Altmetrics, a new metric that emerged in 2010, has its challenges and criticisms. Some view altmetrics as an information popularity contest, which has given rise to the necessity to differentiate between the quality of the research and its popularity online. Altmetrics is not as user-friendly as traditional metrics, such as journal impact factors. It is asserted that because altmetrics lack a single total, rating, or score, additional interpretation is required, which can be time-consuming for the end-user (Konkiel, 2013: Online). As a result, the additional analysis required to evaluate the altmetrics can be challenging. Information produced by social media may be exposed to gaming (manipulation) or tweaking of results through automated downloads, which may affect results from the metrics analysis tools.

Another challenge related to altmetrics infancy and experimental phase is that there is no agreement or standard in place on how to measure the data for influence. Despite these challenges and criticisms of altmetrics, the metric indicator is worthy of investigation.

1.1 Problem statement

The advancement of research is generated through information and existing new knowledge, from multiple researchers, interacting through the process of scholarly communication. New altmetrics are expanding ways in which to measure research impact, because of the limitations faced by traditional methods for research analysis. The research field that is evaluated in this study focuses on gender-based violence researchers. The high levels of violence against women either sexually, emotionally, or physically in South Africa has activated a great interest in gender-based violence (GBV) research within South Africa.

Within the researcher's work environment at the South African Medical Research Council (SAMRC), researchers utilise metrics such as impact factors and h-index for their performance evaluations. Furthermore, to measure the policy uptake of their research projects, they evaluate their research impact. Therefore, this researcher assumed the following regarding all GBV researchers:

- that every GBV researcher has an awareness of metrics used for the analysis of their research.
- that by using metrics, they can ensure knowledge transfer has been effective.
- that every GBV researcher uses altmetrics to validate the wider influence of their research.

Based on these assumptions, the review of research publications can indicate the research activity of GBV researchers using altmetrics. While the web has opened new opportunities and models for publishing and research sharing, the research suggests that there are very few research-based studies that have been conducted on the use of altmetrics and traditional metrics among GBV researchers in South Africa. In response to this research gap, exploring the extent of use of altmetrics among GBV researchers in South Africa is proposed in the current study.

1.2 Aim of the study

The aim of this study is to investigate the level of awareness and the usage of bibliometrics and altmetrics among GBV researchers in South Africa within the changing scholarly communication landscape.

The objectives of the study are to:

- investigate the motivations of GBV researchers for publishing;
- determine GBV researchers' perceptions of the value of metrics;
- determine the factors used by GBV researchers for selecting a publication channel;
- determine GBV researchers' opinions of Open Access;
- understand how GBV researchers share their research;
- investigate the level of knowledge of altmetrics analysis among GBV researchers;
- understand why GBV researchers use altmetrics and how they make use of these;
- determine if there is a relationship between traditional metrics and altmetrics.

1.3 The research question addressed in this study

The overarching research question is:

Within the changing scholarly landscape, to what extent are GBV researchers in South Africa aware of and do they use bibliometrics and altmetrics?

The sub-questions of the study derived from the main research question are:

1.3.1 What motivates GBV researchers to do research?

1.3.2 Which factors (e.g., impact factors, approved lists, open access) do GBV researchers consider when selecting a publication channel?

1.3.3 What is the opinion among GBV researchers of open access in research?

1.3.4 How are researchers sharing their research information?

1.3.5 Which metrics are GBV researchers using to measure their research impact?

1.3.5.1 What are GBV researchers' perceptions about the value of metrics?

1.3.6 What is the level of knowledge among GBV researchers of altmetrics?

1.3.6.1 Do the GBV researchers use altmetrics to measure their research impact? If not, why not?

1.3.7 Do the different metrics measure similar or different impacts?

1.4 Significance and originality of the study

The findings that emerge from the study will contribute to the discourse on the use of, as opposed to traditional metrics, for measuring the impact of South African GBV researchers' publications. An important contribution of this research is the exploration of the pressure placed on researchers not to only publish but also produce research that will influence decision-making processes, policy, and changes in practice. The technological shift has influenced the way the research output is measured.

New knowledge. There is currently no study that has been conducted on the use of metrics by South African GBV researchers. While there are several altmetric studies in the international literature, only two were located in South Africa. Onyancha's (2017) study of the altmetrics of South African journals, and Kerchhoff's (2017) study of the impact of research outputs from the Institute for Poverty, Land and Agrarian Studies (PLAAS).

Unique concepts and theoretical issues. The research in this study is uniquely defined by concepts addressed in the literature, which are, traditional metrics; altmetrics; researchers; scholarly communication; gender-based violence research; and open access. The citation and social theories, with the adapted Scholarly Research Workflow and Communication Model, provide an explanation for their application to the analysis of altmetrics and traditional metrics for comparison. The adapted Scholarly Research Workflow and Communication Model by Stephen Griffin (2013) are applied, which adequately incorporates traditional and altmetrics for the analysis of research outputs. The altmetric data are also interpreted, using the attention economy theory.

Unique methodologies. A mixed-methods approach was used in this study. For gaining information regarding GBV researchers' current use and knowledge of altmetrics and traditional metrics, a tri-part study was selected. The first part of the study included an altmetric and bibliometric analysis of GBV researchers. While the second part comprised in-depth interviews of the top selected GBV researchers derived from the bibliometric analysis and the National Research Foundation's (NRF) rated scientists' list. The third part was an electronic questionnaire distributed on the Sexual Violence Research Initiative (SVRI) Listserv. The questionnaire option came about as a result of minimal responses to the interviews.

Policy formulation. The research contributes to the identification of the need to address the information requirements and knowledge of GBV researchers. This research could contribute towards starting a debate in South Africa about research impact measurement, funding, and the use of altmetrics in policy-making for future evaluations. Specifically, the use of altmetrics to determine the effect of research policies, which is meant to assess their impact on society.

1.5 Scope and limitations of the study

The increasing role of technology in scholarly communication has had a significant impact on the changing roles of researchers as collaborators, knowledge creators, and disseminators of information, by giving broader opportunity to engage the public or non-researchers. The research has the following scope.

The research highlights the extent of use of altmetrics among GBV researchers in South Africa in 2016. For this thesis, the scope was narrowed to maintain focus on GBV research specifically. The NRF ratings for GBV researchers was downloaded in 2016. The information about altmetrics is available on Scopus showing the usage, captures, social media in the Plum Analytics tab. Within the

bibliometric study, the publications focused on were only about GBV as this analysis was subject-specific. The period that the data covered was between 2013 and 2016. In addition, through the screening of the titles and abstracts, articles that did not include either exclusively or in part undertaken in South Africa were excluded. Articles published by gender researchers on African centrism, feminism, gender bias, and African identity were excluded. Only original articles, reviews and articles in press were included for analysis. If there was no abstract available, the article was excluded.

The GBV researchers included in the study were derived from the bibliometrics analysis and the NRF rankings. The sample selected was from top GBV researchers with the most citations and altmetric scores in South Africa. From the bibliometrics, only the publications produced with, 1) high citations and altmetric scores, and 2) a high NRF rating were selected. Researchers were excluded if they did not produce GBV research (within the NRF excel template the specialisations of the researchers are listed and provide a way in which to search for only researchers that publish on GBV) (National Research Foundation, 2016).

The following limitations need to be acknowledged and addressed regarding the present study.

- a) The initial research questions assumed that researchers were utilising altmetrics in the scholarly communication process, which was a misguided assumption and impeded the study to some extent. Terminology, such as altmetrics, unfamiliar to prospective respondents, may have been viewed as jargon and may have discouraged participation by extremely busy researchers.
- b) The study would have benefited from a broader, more internationally targeted sample base.
- c) Some potential interviewees were contacted several times without success, which resulted in a low response rate for the study. An additional questionnaire phase was added to capture more data on GBV researchers. However, the response rate for the questionnaire was also low. The COVID-19 epidemic could have affected data collection.
- d) To measure the metrics (citations and altmetrics) that are available for GBV research, identifiers such as DOI, PubMed ID, and Handle are required. Therefore, there is no guarantee that the metrics information can be obtained without identifiers (Roemer and Borchardt, 2012).
- e) There are no standards for altmetrics yet, although, during the process of this PhD thesis, the National Information Standards Organization (NISO) may have developed standards for altmetrics. The NISO has completed Phase two of their project and has compiled a report to

address the limitations and the gaps associated with altmetrics. Furthermore, the NISO has created a Standing Committee to observe the altmetric environment and to propose standards (National Information Standards Organization, 2015: Online).

1.6 Ethics statement

The researcher's firm intention has been to comply with and adhere to the ethical guidelines of the Research Committee of the University of the Western Cape (University of the Western Cape, 2014). The pursuit of new knowledge through this research was conducted with an awareness and understanding of the ethical norms and standards applicable to research in general.

This standard includes the truthful reporting of findings by not misrepresenting research data and the avoidance of errors. At all times, the researcher endeavoured to remain objective while conducting this research, by striving to avoid personal bias in the research methodology and interpretation of research findings.

This research involved obtaining responses from several GBV researchers, including their opinions, and was conducted in an environment of trust, through the acknowledgement of mutual professional respect, along with accepting accountability for reporting on all research findings. The potential research participants were provided with sufficient information about the research study to obtain their informed, written consent. Where relevant, the job title of interviewees is used but, as a rule, respondents remain anonymous. Respondents were reassured of their anonymity and of their right to withdraw at any stage. Where necessary, their permission was also sought for the use of a recording device.

1.7 Research design and methodology

Data were collected in a tri-part design using a mixed-methods approach. 1) An altmetric and bibliometric analysis of GBV research in South Africa, 2) in-depth interviews of top GBV researchers, and 3) an electronic questionnaire distributed on the SVRI Listserv. GBV researchers, the focus of this study, fall within the broad area of gender and health research.

1.8 Theoretical framework

The frameworks that were applied were the adapted Scholarly Research Workflow and communication Model (Griffin, 2013) and Pasteur's Quadrant of scientific research (Stokes, 1997). Citation theories

applied were the normative theory, social constructivist theory and concept symbols theory. The social theories applied were attention economic framework, social capital, and impression management.

A scholarly communication framework for the analysis of researchers' altmetric scores was used as the theoretical framework for this work. The model used for this study, based upon Stephen Griffins' (2013) adapted model of scholarly communication, is the result of digital practices that incorporate the processes of production, publishing, curation, and use of scholarship. Griffin's model (2013) for scholarly communication allows integration of emerging data (such as blogs, social media, repositories) within the workflow feeding and supplementing each aspect of the process thereby evolving the process from a static to a dynamic process. Pasteur's Quadrant of scientific research are the knowledge and use of a taxonomy framework to categorise academic and scientific research, based on the scale of utility (Stokes, 1997; Swanepoel, 2011).

Common citation theories were created to examine social media behaviour to explain the fundamental foundation of altmetrics (Leydesdorff, 1998; Haustein, Bowman and Costas, 2016). Citation patterns for the interpretation of bibliometric measures were used by comparing the traditional normative theory with the theory of social constructivists. Three theories are used for the analysis of articles that attract the most attention. These theories can focus on different aspects of scholarly communication.

1.9 Layout of the thesis

Chapter One: Introduction to the study

In this chapter, the study is introduced. An indication is provided of the aspects discussed in the subsequent chapters of this thesis. The background, aim and objectives of the study are established, outlining the context for the research questions. The scope, limitations, ethics, and originality of the study are discussed, and a brief overview of the theoretical framework and research methodology is provided.

Chapter Two: The literature review

In this chapter, the research literature on altmetrics, traditional metrics and scholarly communication are discussed. The research literature on GBV researchers is also identified and discussed.

Chapter Three: Theoretical framework

In this chapter, the theoretical framework, the theories, and models applied in the study are discussed.

Chapter Four: Research design and methodology

The research design and methodology employed in this study are described in Chapter 4. The motivation for conducting this study is explained. The following aspects are discussed: mixed methods, data collecting procedure, reliability, and validity. The profile of the participants and the data collection approaches employed, namely the bibliometric analysis, interviews, and questionnaire are explained.

Chapter Five: Presentation of research findings

The research findings are sub-divided into 5.1 bibliometric analysis; 5.2 interview findings; and 5.3 questionnaire findings. Bibliometric Analysis (5.1): This section focuses on the presentation, and analysis of the research findings, of the bibliometrics and altmetric analysis (Appendices F-H). Interview Findings (5.2): This section focuses on the presentation and analysis of the interview findings. Questionnaire Findings (5.3): In this section, the questionnaire findings are presented and interpreted. The findings of the questionnaire are divided into three main sections. Section A focuses on demographic information, motivations for publishing, social media tools used and the awareness and use of open access; section B focuses on traditional metrics, and section C focuses on altmetrics.

Chapter Six: Discussion and interpretation of the research findings

In this chapter, all the findings are discussed and interpreted to show the use of altmetrics as opposed to traditional metrics, among GBV researchers within South Africa. The discussion encompasses the findings of the bibliometric analysis, and those of the interview and questionnaire. The purpose of the discussion is to address the study's research-focused questions.

Chapter Seven: Summary, conclusions, and recommendations.

Conclusions to the formulated research questions are provided in this chapter. A summary of the research problem, methodology and findings provides an understanding of the use of altmetrics as opposed to traditional metrics, for measuring the impact of South African GBV researchers'

publications. Based on the findings, recommendations, as well as suggestions for future research are discussed in the chapter.

1.10 Definition of terms

- **Altmetrics.** The tracking and analyses of online activity from multiple online sources, including social networking tools, mainstream media outlets, publishing data and scholarly data. The information is then calculated to determine the altmetric score measuring the quantity and quality of attention received. Information for the indicators is derived from a multitude of stakeholders and scholarly outputs for showcasing the attention the publication receives (NISO, 2016a: 1; Priem, Groth and Taraborelli, 2012).
- **Altmetric data provider.** “Platforms that function as sources of online events used as altmetrics, for example, Twitter, Mendeley, Facebook, F1000Prime, Github, SlideShare and Figshare” (NISO, 2016b: 8).
- **Attention.** Notice, interest, or awareness. In altmetrics, this term is frequently used to describe what is captured by the set of activities and engagements generated around a scholarly output (NISO, 2016b: 8).
- **Bibliometrics.** The use of quantitative analysis in assessing the impact of publications within a specific field (Andrés, 2009:2; NISO, 2016b: 8).
- **Citation.** A quotation from or reference to a book, paper, or author, especially in a scholarly work (Oxford University Press, 2014: Online).
- **Impact factor.** This measure is defined as the average number of citations received per paper, published in a specific journal, during the preceding two years (Garfield, 2006: 90; Deepika and Mahalakshmi, 2011: 1138).
- **Informetrics.** This term focuses on information productivity and interprets information technology in terms of its interaction with information theories (Egghe, 2005: 1311).
- **Metrics.** “A method or set of methods used for purposes of measurement” (NISO, 2016b: 8).
- **Open access.** The author(s) and right(s) holder(s) of scholarly work, grant to all users a free, irrevocable, worldwide “right of access to, and a license to copy, use, distribute, transmit and

display the work publicly, and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship” (Berlin Declaration of Open Access, 2003: 2).

- **Researcher or scholar.** Individuals who establish themselves as knowledgeable of a specific topic or field (Collins Dictionaries, 2015: Online).
- **Research quality.** “The assessment of a scholarly output’s self-contained value and potential for impact, as determined by qualified subject experts” (NISO, 2016b: 9). In most cases, the assessment of the research quality is the presumption of the application of qualitative methods of evaluation. Research quality is not necessarily correlated with research impact (NISO, 2016b: 9).
- **Scholarly communication.** The study of how scholars in any field use and disseminate information through formal and informal channels (Borgman, 2000a, as cited in Khosrowjerdi, 2011: 359).
- **Scientometrics.** The science of measuring the ‘quality’ of science (Bornmann, 2014b: 647).
- **Scholarly output.** “A product created or executed by scholars and investigators during their academic and/or research efforts” (Simons, 2017: 14). The term scholarly output is sometimes used synonymously with research outputs” (NISO, 2016b: 9).
- **Social networking.** A social structure made of nodes (e.g., a person, a society, a country) and links (friendship, collaborations) (Wu and Yang, 2010: 250).
- **Webometrics.** The field of the mathematical aspects of the “construction and utilization of information resources, structures and technologies on bibliometric and informatics approaches” (Björneborn and Ingwersen, 2004: 1217).

1.11 Conclusion and Summary

In this chapter, the background of this research study was introduced. It encompassed the following areas: the problem statement, the aim of the study, significance and originality of the study, scope and limitations of the study, ethics statement, research methodology, the theoretical framework, dissertation layout and finally the definition of terms. Regarding the chapter layout, the literature review on scholarly communication, bibliometrics, and altmetrics is discussed in the following chapter.

2. Introduction

There is a variety of themes in the altmetrics literature. These themes include but are not limited to the value of tracking metrics; the validation of the metrics and the correlation between research tools, such as Mendeley and CiteULike; OA publishing; social media usage; definitions of altmetrics; definitions of traditional metrics; research performance and evaluation; the online visibility and footprint of research on the social web; altmetrics and librarians; and the scholarly acceptance of altmetrics.

The aim of this study is to investigate, within the changing scholarly communication landscape, the level of awareness and the use of bibliometrics and altmetrics among GBV researchers in South Africa. Currently, no study has been conducted on the occurrence of altmetrics and traditional metrics among GBV researchers in South Africa. The literature reviewed in this chapter deals mainly with conceptual issues about scholarly communication, OA publishing, bibliometrics, altmetrics, GBV research, researchers and metrics and the relationship between traditional metrics and altmetrics.

A shift in scholarly communication has shown that researchers are inclined towards collaborative research, use of social media as well as discovering and sharing research results online with other scholars (Rowlands et al., 2011). Informal scholarly communication across social media is traceable (Holmberg and Thelwall, 2014) and raises the visibility of research. Because of this visibility, local research can be identified for adoption in policy, law, and the development of practice.

2.1 Review of scholarly communication

The origin of scholarly communication lies as far back as the 1640s. Among the first journal titles produced were the *Journal des Sçavans* published in Europe, and the *Philosophical Transactions of the Royal Society of London* initially composed from a collection of letters (Banks, 2018). These journals enabled scholars to patent their research findings and observations, thereby gaining prestige, obtaining tenure or promotion and additional funding for further research. The journal became the preferred medium for preserving and archiving scholarly research and was the beginning of the publishing, distribution, and sale of the printed journal in many academic disciplines. Thus, the creation and dissemination of knowledge is the cornerstone of academia (Oppenheim, Greenhalgh and Rowland, 2000: 361; Sugimoto, 2016).

Scholarly communication is defined as the process of creating a quality evaluation, sharing, disseminating and publishing of research findings and its further preservation for future use by researchers, scientists and academics (Dash et al., 2015). The vehicle to make these widely available to all research and academic communities is known as scholarly communication (Das, Satija and Mishra, 2015). The research outputs range from journal articles, books, conference presentations, poster presentations and even online blogs. Most of the scholarly communication publication process would include peer-review quality control before the research is published (Munigal, 2017).

Branin and Case (1998: 476) have described the process as follows:

“To oversimplify, the established formal scholarly publication system is made up of three major constituents: scholars who create, describe, and use new knowledge: publishers, who evaluate, edit, package, and distribute this knowledge: and librarians, who collect, organize, preserve and share this published knowledge.”

Through technology, significant changes in culture and research policies have occurred in today's research environment that have influenced the processes of accessing, archiving, distributing and using information (Groves, 2018). According to van Raan (2012), with the digital revolution, the process of scholarly communication has improved regarding the acceleration of access, the collaboration with peers in academia, peer-reviewed research, and the distribution of preprint publications. Having information disseminated digitally online has replaced a traditional role filled by universities and publishers.

However, the total capitalisation of journals remains unchanged (Larivière, Lozano and Gingras, 2014). With the monopoly of the major publishing houses producing journals and selling subscriptions to their journal collections, they can charge higher prices which have resulted in the cancellation of subscriptions by academics and libraries. Thus, publications such as journals are no longer viable for publishers. With these disadvantages in traditional scholarly communication and new knowledge and information being produced and distributed, new models of publishing, such as open access, have the potential to change the future approach to scholarly communication.

2.1.1 Review of researchers' motivation to publish

According to a study conducted on scholars in the United Kingdom (Fry et al., 2009), certain factors that contribute to the motivation to publish. First, there is an expectation and, in some cases, pressure for researchers to publish their work in a peer-reviewed journal. Successful publications bring acclaim to researchers and their research institutions. Second, participants felt that there was an increased

pressure to collaborate on research, within a discipline and across disciplines and institutions, even internationally. This collaborative pressure is about the increase of their research papers' citations which is viewed negatively. Third, intellectual autonomy is valued by the participants in the study and research assessment is identified as a potential threat to intellectual honesty. Fourth, the impact factor of journals formed a significant part of discussions with many participants as there is pressure on researchers to publish in journals with a high IF. However, the impact factors can skew the citation data on the number of highly cited publications (Larivière et al., 2016). According to Larivière and Sugimoto (2019: 8), an impact factor calculates based on a two-year citation window, which is limiting the scope for many disciplines as it covers "only a small fraction of citations received over time," note in their analysis. Articles appearing in journals with a lower impact factor do not imply a judgement of the individual's worth as a researcher (Pan and Fortunato, 2014).

2.2 Review of open access

Scholarly communication is an expansive topic and covers three areas, which are publishing, disseminating results and providing access to the published material. Therefore, scholarly communication is an important focus of research, especially concerning the OA movement (Creaser, 2011: 53). OA publications are available free of charge and free from most embargoes, such as copyright and other licensing restrictions. To ensure that scholarly content and products are made accessible to all, researchers, scientists, and academics may provide and contribute to OA literature in many ways (Gilliland, 2017).

2.2.1 Benefits and shortcomings of open access

OA visibility is one of the most significant characteristics of research because OA has made it possible to share the knowledge that is impeded by traditional publishers (Tennant et al., 2016). Publication of research outputs that are immediately made available in institutional repositories and archives exposes them to:

- a) According to Pyne et al., (2019) their survey indicated that 50% of respondents indicate that a wider readership is a benefit of OA publications;
- b) The increase citation rate on OA publications was confirmed to have a boost of 18% more citations (Piwowar et al., 2018);
- c) Houghton (2010) indicated that on average there is a reduced transaction cost through an OA model than paid access models;

- d) Through OA the communities can access research online, which has increased the interest in research funded by the public (Tennant et al., 2016).
- e) Furthermore, this accessibility has increased access, thereby allowing measurement of the return on investment by investigating the research impact (McGuigan and Russell, 2008; Tennant et al., 2016; Tracz and Lawrence, 2016).

The immediate availability of information has affected scholarly communication, especially regarding the expectation that knowledge can be obtained when needed (Widén, 2010). Readers can access research earlier and more effortlessly across many and various disciplines, enabling improved collaboration, thereby benefitting researchers, institutions, and the entire research community (Antelman, 2004; Eysenbach, 2006). With the growing popularity and awareness of OA publishing, a significant number of policies and mandates (e.g., NIH Open Access mandate, Horizon 2020 Open Access mandate) have been developed. Governmental organisations and funding institutions address the need for access to information, knowledge, and data. The responsibility is placed upon the author of the research to make the knowledge available to the public (Madalli, 2015). Even with the benefits associated with OA publishing, there are still potential drawbacks such as quality of the journal, journal ranking (impact factors), and peer-reviewing (Akhtar, 2015; Shen and Björk, 2015).

a) Quality of the journal

Among some researchers or scientists, distrust has emerged regarding the quality of open-access journals. The reputation of the journal plays a critical role in publishing open access. Some OA publishers and journals are predatory in their practice of publishing. They exploit researchers by charging exorbitant fees without the provision of proper editorial and peer-review services (Vakil, 2019). Giglio and Luiz (2017), Shamseer et al. (2017) and Shen and Björk (2015) agree that fraudulent and predatory journals pose an ongoing threat to integrity within academic research and publishing. These publishers exploit the emerging acceptance of open-access journals and undermine the peer-review process (Bowman, 2014). Another variable that is a barrier to researchers using some OA publishing journals is the high article processing charges (APCs), especially in Gold Open Access journals. According to Björk and Solomon (2015), when authors decide on publishing in an OA journal, they are sensitive to the relationship of the quality of the journals and the APCs where they submit their manuscripts.

b) Journal ranking

There are multiple journal ranking tools such as Journal Citation Reports (impact factor), CiteScore, Google Scholar Metrics, SCImago Journal and Country Rank and the Source Normalized Impact per Paper (SNIP). The two largest journal ranking tools are Journal Citation Reports and SCImago (Murphy et al., 2018). The journal ranking system much used by researchers is the JIF (Journal Citation Reports) based on citations created by Clarivate Analytics. Researchers are rated by their ability to publish in journals with a high JIF (Brembs, 2018). Rankings such as Journal Citation Reports (impact factor) do not reflect all OA journals on their systems, which could lead to the discouragement of researchers using OA journals (Xia, 2012). Thus, they are marginalised even with high citations and the high-quality research that they produce (Xia, 2012). Additionally, the impact factors of OA journals tend to be below average by a small but significant amount in the scientific disciplines (Barbaro et al., 2014). Brembs et al. (2013) has shown that there has been misuse and manipulation of the JIF and journal ranking metrics. The reason behind this is the low citations and quality of some individual papers, limited coverage of research areas such as humanities and the comparatively few research outputs from African, Latin American, and Southeast Asian countries. Further limitations are the self-citations which boost the impact factors as well as the fact that only articles which are cited are included in the analysis tool.

Besides, it takes time before any new journal, through traditional publishing methods, can obtain an impact factor because current ranking systems rely on citations which can take some time to reflect the influence and relevance of a journal. In most cases, only when a journal has obtained such a ranking do they become of interest to researchers (Jain, 2011). According to Lee and Simon (2018), there is a bias against African journals because researchers aim for high impact journals internationally and African journals are not easily able to attract researchers. In a study conducted by Harris et al. (2017), stereotypically the response from researchers in the northern hemisphere or that are “rich” economically produce quality research. Furthermore, research from low-income countries is not expected to be of high quality.

c) Peer-reviewing

Concerns have been raised regarding the quality of peer review of the OA journal, which is linked to predatory or fraudulent journals and publishers (Severin et al., 2018). Authors of papers expect a rigorous peer-review process and rapid publication in return for publishing in OA journals that require APCs (Frass, Cross and Gardner, 2014; Rowley et al., 2017). Even with the rigorous peer review, there

is misconduct that can occur, which specifically has been found by Moylan and Kowalczyk (2016) in their study conducted on BioMed Central (BMC). The research revealed that withdrawn papers reported in open-access journals on BMC from March 2015 had falsified or distorted peer-review procedures. The fabrication of contact details for peer reviewers was the reason (Haug, 2015).

2.3 Bibliometrics

Research is carried out for the development of knowledge, the improvement of existing knowledge, to provide solutions to specific problems, and to improve the processes and practices. According to Hirsch, (2005: 16569),

“For the few scientists who earn Nobel Prizes, the impact and relevance of their research are unquestionable. Among the rest of us, how does one quantify the cumulative impact and relevance of an individual’s scientific research output.”

One way to quantify “impact and relevance” of research is bibliometric analysis. Generally, a bibliometric analysis is performed in the evaluation of the research trends and scholarly networks of multiple research disciplines (Zhang et al., 2019). Agyeman and Bilson (2015) state that “Bibliometrics, is a research technique in library and information science that applies quantitative analysis and statistics to describe publication patterns in any field of knowledge.” Two common approaches are citation analysis, which works to demonstrate top contributors in a field, and keyword analysis, which attempts to show the dominant conceptual areas in each research field (Diodato and Gellatly, 2013). There are three main aspects of bibliometrics used by researchers and institutions, which are the journal impact factor, citation count, and the h-index.

2.3.1 Journal impact factor

The JIF initially intended to assist librarians in making purchasing decisions for subscriptions; it then evolved over decades into not only a measurement of the quality of the journal but also to determine the calibre of academic researchers (Marks et al., 2013). The JIF is used to measure the importance of the publication and not the quality of the articles (O’Neill, 2000: 106; Jain, 2011: 290). With widespread significance placed on the value of the JIF, researchers seek to publish in journals that are more “visible”, that is they have a high JIF (O’Neill, 2000: 105). Furthermore, South African researchers seek to publish in journals that are indexed (Journal Citation Reports (JCR), Clarivate Analytics) and are publishing internationally, especially those journals with high impact factors (Academy of Science of South Africa, 2006: xxv).

Traditional methods of quantitatively measuring research are considered insufficient in terms of accountability and the value of the return on investment to the funder (Carpenter, Cone and Sarli, 2014). The misuse of the impact factor for individual performance is often used as an example of how inadequate it is for assessing the individual impact (Misteli, 2013).

The main problems with the JIF are:

- The distortion of scientific research, that is the conflation of paper quality with the perceived quality of the journal in which it is published (Sandström and van den Besselaar, 2016);
- The full impact of the research is not fully understood until later, as in some cases impact can only be measured two years after the article has been published for instance by citation analysis (West, Stenius and Kettunen, 2017);
- The current emphasis on high impact research has affected the value of publications that have merit but do not have high conventional impact indicators such as the JIF (Harvey, 2017);
- The poor correlation between the JIF and the citation rate of the research papers. The higher citation rate of a few articles can skew a journal towards a higher JIF. The reason for this is because the journal is dependent only on those few highly-cited papers to raise its JIF each year (Nature Editorial, 2005);
- The delay in the communication of scientific research and data through the lengthy process of submitting it to be published in a high impact journal (Ganapathiraju and Orii, 2013);

Therefore, there are shortcomings in the use of the JIF, and a need exists to address the inadequacies of current journal-level metrics. The San Francisco Declaration on Research Assessment (DORA) was formulated in 2012, and many institutions and individuals have already signed this declaration to advocate for change within the scholarly communication process (San Francisco Declaration on Research Assessment, 2012: par 4; Bladek, 2014: par 4, par 6). The Declaration presented its concern about journal-based metrics and recommended that:

- 1) the use of journal-based metrics, such as JIFs, in funding and promotions should be eliminated;
- 2) there is a need to assess research on its own merit;
- 3) there is a need to capitalise on opportunities from online publications.

Originally, the JIF was established to assess the performance of journals. Over the past several years, it has been used to assess an individual's performance. Furthermore, the term, impact factor, has evolved to be used for the journal's as well as the author's impact (Garfield, 2006; Greenwood, 2007).

2.3.2 Citations

Citations are the traditional indicators used for the measurement of the impact and prominence of scholarly articles (Aksnes, Langfeldt and Wouters, 2019). "It took approximately a generation (20 years) for bibliographic citation analysis to achieve acceptability as a measure of academic impact" (Vaughan and Shaw, 2003: 1315). Citation metrics are often viewed as indicators of research excellence even today and have become the foremost indicator for return on investment to research institutions. They are used in rankings such as Leiden and the Ranking World Universities (Piro and Sivertsen, 2016; Sivertsen, 2017). Merton is the founder of the theory of the link of citation counts to the use and quality of research (Aksnes, 2005). Applying citations have been criticised for the validity of their performance and its negative influence on research at institutions, notably because it relates to how quality is measured through citations (Seglen, 1998). Citation analysis consists of linking between publications through the evaluation of their citation patterns. The metrics used are the total citations, h-index, and average of citations received per year for the measurement of the research impact (Iribarren-Maestro et al., 2009; Bornmann and Mutz, 2015). However, the problems and limitations of citation analysis arise differently at different aggregation levels (Aksnes, 2005). Traditionally citations are the standard for the measurement of research impact within academic institutions (Rau, Goggins and Fahy, 2018).

2.3.3 H-index

Hirsch (2005: 16570) stated that the h-index depends on the number of publications of a scientist and the impact of the publications on the scientist's colleagues and peers through citations. He explains that "a scientist has index h if h of his or her N_p papers have at least h citations each and the other ($N_p - h$) papers have $\leq h$ citations each." Therefore, it can be determined that the h-index can and will be affected by researchers who produce a number of influential publications, rather than those who produce either an exponential number of papers that are occasionally influential or who publish minimally and are uninfluential (Kelly and Jennions, 2006). The h-index can be calculated on multiple databases such as Web of Science (Clarivate Analytics), Scopus (Elsevier), or Google Scholar (Jacso, 2008).

The h-index was proposed as an alternative to the other citation-based metrics used to measure the achievements associated with the research produced, such as the total number of citations or those per publication or paper (Bornmann and Daniel, 2007; Bornmann et al., 2008). Importantly, is that although the h-index is used for quantitative and qualitative evaluation of research performance, users of the metric should consider that it is “dependent on the length of an academic career” of the researcher and the study field in which the research is published and cited (Bornmann and Daniel, 2009: 5).

2.4 Altmetrics

All established metrics have limitations and, in some cases, serve to alleviate the deficiencies of other metrics. However, with the multitude of metrics that have been created the researchers and scientists, who utilise them ultimately are not even remotely aware of what the metrics mean and how to use them (Abaci, 2017: 313). New altmetrics have been developed to measure academic research to improve the limitation of traditional metrics (Costas, Zahedi, Wouters., 2014: Online). Despite some years of research into altmetrics, there has not yet been a concise interpretation and understanding of the measure that this metric provides to those institutions and scholars that use them (Thelwall et al., 2013; Haustein, 2014; Glänzel and Gorraiz, 2015; Haustein, Costas and Larivière, 2015; Haunschild and Bornmann, 2017; Robinson-Garcia, van Leeuwen and Rafols, 2017). Nevertheless, altmetrics can be pronounced as being revolutionary in measuring research performance (Piwowar, 2013a). The research into altmetrics has grown since 2012 (Konkiel, 2017), specifically in the OA environment (Fenner, 2014; Priem, 2013).

Traditional scholarship in the scholarly communication lifecycle has been measured according to traditional metrics, that is generally the JIF and the h-index. As researchers are now able to share their research online in an OA environment, their research has become available for public review, examination, use and critique. The migration from paper to that of online has created a new measure of metrics, altmetrics. This new term was first proposed by Jason Priem, a doctoral candidate at the School of Information and Library Science at the University of North Carolina at Chapel Hill, in 2010, in a tweet. He further explained the definition in the publication of *Altmetrics: a manifesto*, which he penned with three other researchers (Priem , Groth, Taraborelli, 2012; UNESCO, 2015a).

He includes, as an opening statement to the manifesto that:

“No one can read everything. We rely on filters to make sense of the scholarly literature, but the narrow, traditional filters are being swamped. However, the growth of new, online scholarly tools allows us to make new filters; these altmetrics reflect the broad, rapid impact of scholarship in this burgeoning ecosystem. We call for more tools and research based on altmetrics” (Priem et al., 2010: par 1).

Using altmetrics began with the innovation of new tools and scholarly practices that have emerged in the ‘born digital’ era, which particularly draws upon the Web 2.0 movement and the popularity of users sharing information through social media and networking tools (Roemer and Borchardt, 2015). The altmetrics are part of the ‘open science’ movement and, as a result, favour OA publishing. The use of altmetrics demonstrates the value of OA publishing, especially in terms of institutional repositories (Aram Donabedian and Carey, 2011; Mounce, 2013). Altmetrics, according to Mounce (2013), is an indication that by publishing in an OA journal, could show the attention those publications receive, demonstrating the quality of the research not presented through citations, which takes many years. Altmetrics attempts to obtain a thorough picture of the communication and impact of research outputs compared to the traditional publications, such as datasets, patents, software, copyrights, and blogs. Therefore, this metric allows for direct analysis of the author or article impact versus the traditional metrics such as the impact factor, which tends to focus on the journal’s impact (Pradhan and Dora, 2015).

Correlation between citations and altmetrics

A correlation was found between high citations and the total altmetric count, indicating that altmetrics can distinguish the impact of a publication (Hassan et al., 2017). There is also a correlation between the multiple-authored publications of international collaborations and their citation counts. Therefore, this type of research is seen as having an advantage in obtaining more citations. Other researchers, according to Careless (2013), believe that traditional metrics are not viable for the representation of the impact of academic research. They set out to describe altmetrics as a measurement that will bridge the gap, and that this metric is an alternative for the research environment and its publication systems. Altmetrics has evolved into a complex set of terms (Priem and Hemminger, 2010, 2012; Costas et al., 2014) and the different producers of the metrics for the altmetric scores do not in any instance provide an accurate reflection of how they determine these scores and data. There is no standardisation of the system and this can be difficult for transparent discussions and decisions on the use of the metric

(Costas et al., 2014; Zahedi, Fenner and Costas, 2014; Erdt et al., 2016). The aggregators or altmetric providers, such as Altmetric.com, focus on the debate involving emerging standards within the community (Adie and Roe, 2013).

Barnes (2015) criticises the validity of altmetrics, particularly the allowance of impact to be measured in a minimum amount of time. His findings concur with those of Alhoori and Furata (2014) and Bar-Ilan et al., (2012) in that the correlations between altmetrics and traditional metrics are weak, and compare them to other studies that were conducted (Barnes 2015). This researcher (NL) notes the fact that all the previous studies (Alhoori and Furata, 2014; Barnes, 2015, Bar-Ilan et al., 2012) generalise their data. In using Pearsons' correlation, however, altmetric data show skewed distributions as not all publications have citations. Furthermore, Barnes (2015) asserts that altmetrics supporters do not define impact. Nevertheless, he determined that the consumption of the research is measured, and the invalidation of skewed data is derived from altmetric scores (Barnes, 2015). The digital object identifier (DOI) is currently the only means of obtaining an altmetric score from these aggregators, such as Altmetric.com. Although using the DOI may be a disadvantage, as it can be seen in a positive light, as this content is organised and standardised with those used by databases such as Scopus and Web of Science (Fraumann, 2017; Gauch and Bluemel, 2017; Görögh et al., 2017).

The correlation between traditional citations and altmetric scores is weak, although positive, suggesting they do not reflect the same impact. In some instances, highly cited research can be identified using altmetrics. Many studies that provided a robust interpretation of the comparison between traditional metrics and altmetric scores revealed three main areas of comparison, (a) Mendeley readership score and citations, (b) tweets and citations, and (c) F1000 rankings and citations (Bar-Ilan, Haustein et al. 2012; Li and Thelwall, 2012; Bornmann and Leydesdorff, 2013; Mohammadi and Thelwall, 2013; Costas et al., 2014; Ravenscroft et al., 2017; Maggio et al., 2018). Accordingly, the following were observed in these different studies:

- a) a norm correlation between 0.3 and 0.5; (Bar-Ilan, 2012a, 2012b; Priem, Groth, Taraborelli, 2012; Mohammadi and Thelwall, 2014; Torres-Salinas, Cabezas-Clavijo and Jiménez-Contreras, 2013; Zahedi, Costas and Wouters, 2014)
- b) in this study specifically, the Spearman correlation was used, giving a score between 0.22 and 0.36 using an OA journal's citations and tweets; (Eysenbach, 2011)
- c) the correlation found between the rankings and citations was 0.3–0.4 (Bornmann and Leydesdorff, 2013; Li and Thelwall, 2012; Mohammadi and Thelwall, 2013).

As mentioned earlier, regarding the problems faced when using the Pearson rank correlation, these studies provide a more accurate reflection of the actual value of the skewed set of data presented in this comparison. The Eysenbach (2011) single study over two years, in which the findings between tweets and citations suggest that highly tweeted journal articles were more often in line with being cited than those with fewer tweets. Eysenbach's (2011) study focused on only one OA journal, the Journal of Medical Internet Research. Even with this limitation, we can still determine that his correlations were higher than in other studies that were conducted, such as those by Haustein, Peters, et al., (2014), Thelwall et al., (2013), and Torres-Salinas, Cabezas-Clavijo and Jiménez-Contreras (2013). This finding is concurrent with the comparison of traditional metrics and other altmetric data (F1000 rankings and Mendeley).

In Bornmann's (2015) study, the focus is on Mendeley, Twitter, Facebook and Figshare, in relation to the stages and ratings assigned in F1000 datasets. He determined that the tag on social media could indicate public interest before the academic norm, specifically on Twitter and Facebook. Furthermore, Bornmann (2015) demonstrated that the two prominent social media tools, Facebook and Twitter, can be used to measure societal impact in comparison to Figshare and Mendeley. While a journal article may not receive many citations, metadata on who is downloading, bookmarking, tweeting, Facebook-'liking' or sharing an article, allow academic researchers to see who or what organisations are using their research or research data. Therefore, providing the opportunity to engage with their community of researchers or the general public (Alperin, 2013). Allen et al., (2013) found that sharing an article and posting the abstract in a blog, created a temporary spike in access to the publication over a week, thus not having a lasting effect on the exposure of the literature. Mentioning publications in social media, as suggested by research, is not derived from finding scholarly information (Nicholas et al., 2017). This evidence is proven with the research conducted on Twitter, where salacious and controversial topics are more often tweeted without the concurrence of the relevance or the quality of the research generated (Tyson, 2010; Priem, Costello, Dzuba, 2011; Haustein, Peters et al., 2014; Holmberg and Thelwall, 2014).

The qualities of altmetrics cannot be defined, nor do the clicks, views, and downloads indicate the type of attention that is received, as suggested by researchers (Haustein, Bowman and Costas, 2016). Similarly, Barbaro, Gentili and Rebuffi (2014) claim that publications shared online receive attention through controversy or interest, which does not necessarily result in them being considered of high academic quality. The procurement of altmetrics from renowned journals such as PloS One is recognised as a practice associated with scholarly communication. Therefore, the saving and

bookmarking of articles by researchers have become ways of showing interest in or usage of scholarly information online (Roemer and Borchardt, 2015). With the openness of the Internet, the opportunity has developed for research to be shared worldwide. Just as the language, culture and geopolitical location affect authors' citation preference, so do they also affect the social media users (Schubert and Glänzel, 2006).

Alhoori et al., (2014: 61) note the fact that although there are weak correlations on the article level between citations and altmetrics, the latter “measure a social impact that is different from the scholarly impact.” The main findings of Costas et al. (2014) are that the altmetric measures in relation to altmetric scores are minimal. However, more of the recent publications are receiving altmetric scores as it is deemed valuable for the most recent articles (Costas et al., 2014). Bar-Ilan et al. (2012) and Alhoori et al. (2014) examined the literature to derive a concise overview of altmetrics. In both studies, they found a weak to moderate correlation between the two metrics (citations and bookmarks). They could derive the relationship without further investigation. In a study by Zahedi and Haustein (2018), a correlation between the increase of citations and social engagement, Mendeley was found to have a minimum correlation with references in a paper or blog but received higher coverage in review articles and media exposure. Barnes (2015) had concerns about whether altmetrics can anticipate the academic impact, as it mainly measures societal impacts. In contrast, the impact of a publication citation is often tantamount to usage and therefore, a proxy for the ‘volume of impact’ (Holmberg, 2015a, 2015b; National Information Standards Organization, 2016a, 2016b).

Impact of Altmetrics

Altmetrics provide a dynamic and multidimensional tool, which has the potential to generate information directly to the public and is widely emphasised as a measure of research consumption. Barbaro, Gentili and Rebuffi (2014) clearly state that there are multiple benefits to altmetrics. These are the influence that a paper can deliver in real-time, being a metric that can be used for a multitude of other formats, and that it measures the public response to research through downloaded statistics in Mendeley and Zotero (Barbaro et al., 2014). According to Bornmann (2014), altmetric data would be capable of indicating general societal impact without specific variations between the type be it social, environmental, cultural, or economic. Standardisation of altmetrics is challenging to use for comparison because of the multitude of forms (Barbaro, Gentili and Rebuffi, 2014). Abbott et al., (2010) infer that it would be necessary to investigate the role that traditional metrics versus altmetrics that are used for academic institutions towards further decision-making around job performance and career advancement. According to Taylor (2013a, 2013b), even with a view of how content is accessed

and discussed, understanding research's reach and impact, context is required. The value of the altmetrics should not be exaggerated, and the limitations of the tool, should it be used within institutions, should be heeded.

Onyancha (2017) studied the impact of altmetrics on the Department of Higher Education's accredited journals list. For South African journals, the results revealed that published research had received some altmetric visibility and presence on different social media platforms. The prominent platforms, where the researcher's publication was shared, used and discussed, were Twitter and Facebook. Furthermore, he found that journals which had been indexed in two of the leading academic platforms, Scopus, and Web of Science (Thomson Reuters), received an average amount of altmetric scores (126 and 86) compared to those not indexed publications (34 and 33). Therefore, it has shown that the online visibility of the publications will increase South Africa's research impact. Kerchhoff (2017) validated Onyancha's study on the impact of research outputs from the Institute for Poverty, Land and Agrarian Studies (PLAAS), along with hers. Kerchhoff discovered there was minimal coverage and that the grey literature she investigated was mainly unknown to the world. In both studies, literature indexed particularly in databases, such as Scopus, seemed to yield more visibility and altmetric scores for some of their publications. The reason for limitations in both studies for accessing altmetrics was the procurement of unique identifiers for grey literature, such as a digital object identifier. Although Kerchhoff's altmetrics were challenging to obtain and minimal at best, she still sees the potential for altmetrics on PLAAS's outputs. Kerchhoff was unable to determine the impact because of the lack of altmetric data. However, the implication is that this type of comparison between the two metrics (bibliometrics and altmetrics) can provide useful insight into scholarly communication within an institution.

Adoption of Altmetrics

The adoption of altmetrics is increasingly important, specifically to publishers, as is the role that altmetrics plays in the dissemination of material. Multiple authors have debated the role of higher education institutions in becoming accountable for their institutions' performance evaluation and communication by researchers through social media (Bar-Ilan, Haustein et al., 2012; Adie and Roe, 2013; Alhoori and Furuta, 2014; Van Noorden, 2015). Also, they analyse the impact or value of the research produced (Bornmann, 2012; Bornmann and Marx, 2016). Therefore, with the growth of researcher's online presence on the increase Bik and Goldstein (2013) have argued that further formal training is required, for institutions, in how to use the new technology that is emerging effectively. Furthermore, the research community in many different countries has an ongoing debate regarding

research impact. The term ‘research impact’ is currently a major buzzword in the research field and the topic has been discussed at many conferences and in policy documents and initiatives (Bornmann and Marx, 2012; Oancea, 2013).

The growth of altmetrics has expanded in the new, evolving and different data sources that have emerged, for instance, Robinson-Garcia, van Leeuwen and Rafols, (2017) established there was a demand for adaptable methodologies, for using altmetrics in assessing societal and research impact. Academics have been using non-traditional ways in which to engage researchers worldwide through their research on platforms such as Twitter and Facebook. Also, the dissemination of research on online platforms such as FigShare, SlideShare, or the sharing of information online, means attention to articles can be measured from page views, downloads, and shares. Even though the evidence suggests that social media can create bridges between academic communities and laypersons within society, it has also created new channels for informal discussions among researchers and academics (Sugimoto, 2016).

2.4.1 Types of altmetrics

Altmetrics is the tracking and analyses of online activity from multiple online sources, including social networking tools, mainstream media outlets, and publishing and scholarly data. The information is then calculated to determine the altmetric score measuring the quantity and quality of attention received (Priem, Groth, and Taraborelli, 2012). Altmetrics is usually made available soon after publication and allows for the assessment of the social impact of scholarly outputs in real-time (Melero, 2015). According to Roemer and Borchardt (2015: 103), there are four levels of metrics associated and measured within altmetrics.

These levels focus on:

1. Scholarly contributions;
2. Journals or venues that produce metrics;
3. Author output;
4. Institutional output.

2.4.1.1 Scholarly contributions

These are the individual contributions made by researchers and scholars that currently exist online. There are specific groups of usage metrics within altmetrics data compilations that consist of user’s

content to which they have individually contributed. These comprise a) usage metrics, b) capture metrics, c) mentions, and d) social media metrics.

2.4.1.2 Journal/venue metrics

Research should not only be linked to where the researchers are but what they publish, specifically the article. As views and downloads of articles became popularised, publishers such as PloS Journals, Elsevier, Sage, and Wiley (the publishing venue) started including altmetrics and other bibliometrics to their online content. A venue metric is the focus of venues that generate their own scholarly contributions in relation to scholarly interests. In addition to the metrics, researchers discover research journals and other venues by word of mouth through colleagues. The venues for publishing scientific contributions are, for example, the Impact factor, Eigenfactor, Article Influence score, h5-index and Source normalised impact per paper (SNIP) (Alhoori and Furuta, 2011, Alhoori and Furuta, 2013, Roemer and Borchardt, 2015; Alhoori, 2016; Alhoori and Furuta, 2017).

2.4.1.3 Author level metrics

These are metrics that begin the quantification of research produced by a single author. There are specific indices for author-level impact analysis. They are the h-index, i-10 index (Google Scholar) and the G-index. The h-index has become a tool for institutions to evaluate their researchers' contributions to research and their impact, as suggested by Penner et al. (2013). The h-index is the number of papers (h) with a citation number $>h$. The main tools that measure the h-index are the Web of Science, Scopus and Google Scholar (Kelly and Jennions, 2006; Pan and Fortunato, 2014). The i-10 index was created and only used by Google Scholar to engage several publications with at least ten citations. The G-index was introduced by Egghe, (2006) to improve upon the h-index. This index is the contemporary version of the h-index, which indicates a greater preference for highly cited articles. The g-indices are indicated by the highest number of g of papers that ranked in decreasing order of their g-index and that have collectively received two or more citations. Therefore, when reported alongside the h-index, the g-index score is higher (Egghe, 2007; Gavvani and Abbasi, 2015).

2.4.1.4 Institutional level metrics

As research metrics are important to authors and journals, so they are to institutions. Institutions and bibliometrics play an important role in measuring their research impact. There has been a growth of new metrics geared as a ranking system for research institutions and universities. The ranking and indicators are global, and there is a variety of them, such as Essential Science Indicators. This indicator,

developed by Clarivate Analytics, is a way to track emerging trends in science, specifically at academic institutions, and in publications, journals, and countries, allowing universities to benchmark themselves against other institutions ensuring quality research is produced.

CWTS Leiden Ranking is a set of bibliometric indicators that indicate scientific collaboration and impact, which is based on data from the Clarivate Analytics platform, Web of Science data. Scival is the platform offered by Elsevier for research performance analysis by institutions and countries, globally. The systems specifically offer benchmarking and collaborative indicators for institutions. Incites is a platform created by Clarivate Analytics and like Scival, is a benchmarking and analytics tool. It enables institutions to analyse their institutional performance and productivity. (Mañana-Rodríguez, 2015; Roemer and Borchardt, 2015; Reznik-Zellen, 2016; Yudkevich, Altbach and Rumbley, 2016; Colledge, 2017; Clarivate Analytics, 2018; Leiden University Centre for Science and Technology Studies, 2018; Rousseau, Egghe and Guns, 2018).

There are many concerns and shortcomings with the ranking of institutions. Institutions will be ranked on an aggregated list of indicators, based on assumptions about the type of variables and weightings (Goglio, 2016). The bias in the current ranking systems include categories, such as the prominence of their scientific research field, English-speaking institutions, and the assumption in the quality of research versus quality of teaching. These rankings are highly influential and can affect the way a university behaves in future (positive or negative) (Saunders 2007). A further bias is an emphasis that is placed on the larger well-funded institutions versus those publicly funded, with rankings that are biased towards the more outstanding institutions (Rauhvargers, 2014). Since the rating is important to the universities that compete and perform well because the measurement of the criteria is established, they have every opportunity to game on the system and increase their University rankings.

2.4.2 Assessment of Altmetric sources

The altmetrics sources provide a measurement of the impact of research that is published, after distribution from five main areas. These are (1) the usage data provides the number of people clicking on or downloading a publication; (2) the number of captured data including bookmarks, favourites; (3) the number of authors who mention the article; (4) the number of social media data that is measured from an article such as comments or reviews; (5) the number of sources citing the publication (Adie and Roe, 2013; Tananbaum, 2013; Williams, 2019). PlumX Metrics from Plum Analytics has integrated traditional metrics such as citations and displays them in conjunction with Altmetrics (Lindsay, 2016). This score indicates how important the research is for promotional purposes and will

soon, if not already, become a component of a researcher’s resume or curriculum vitae (Elmore, 2018). Altmetrics draws upon a wider range of places where scholarly discussions occur (Kwok, 2013).

To visually present the analysed score for altmetrics, a ‘donut’ bookmarklet (or more specifically, a French cruller; Figure 1), represents the number of metrics. The aggregated content displays the attention metrics from the journal article, including an “aggregated attention score (shown within the coloured donut), along with a complete breakdown of the individual metrics that encompass the score” (Liu and Adie, 2013: 154). The score is constructed of two main components of online attention, specifically the social media and mainstream views. Additionally, to these metrics, the online reference managers, such as CiteULike, Publons, F1000 reviews and Mendeley are also monitored, although they are not fundamentally incorporated into the altmetric scores. The score is determined by the weight of 8.0 points for news coverage and 0.25 points for Facebook, Twitter, YouTube and other social media platforms (Tattersall, 2016; Munigal, 2017).

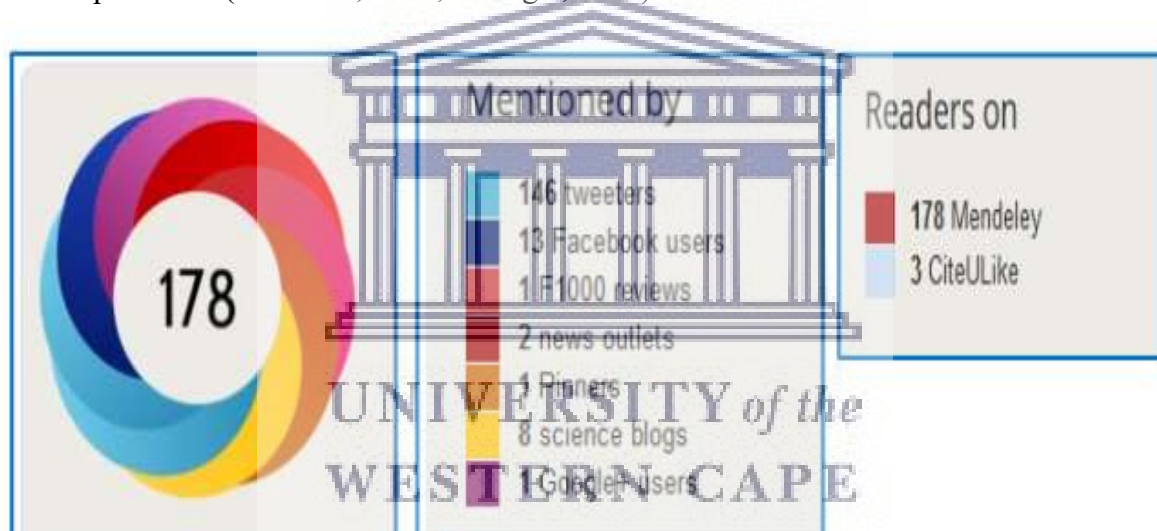


Figure 1: An example of the altmetric donut

(Cave, 2012)

The main providers of altmetric data are websites and platforms such as ImpactStory.org, Plum Analytics.com, ScienceCard.org, Kudos, PeerEvaluation.org, Researchscorecard.com, PloS Impact Explorer, PaperCritic.com, Webometric Analyst, Crowdometer and Readmeter.org (Cave, 2012; Priem, 2014, Erdt et al., 2016).

The four main altmetric providers are defined as follows:

- **Impact Story:** A non-profit web application that gathers traditional metrics and altmetrics, explicitly through uploading the necessary articles, datasets, or other products, to the

application, using Google Scholar, ORCID, or DOI lists. a free-to-use system created as open-source code requiring individual subscriptions to obtain profile data (Lapinski, Piwowar and Priem, 2013; Piwowar and Priem, 2012).

- **Altmetric Explorer:** The explorer enables reports to be generated from altmetric data, and also assesses the social media impact of a research or a journal. This product requires an annual subscription. The primary users of the application are publishers, who add the donut bookmarklet as a graphic on the publisher's journal article pages (Cave, 2012).
- **Plum Analytics:** Allows the uploading of an extensive list of DOIs and generates downloadable content in a variety of data formats. This product is offered as a trial by EBSCO (Liu and Adie, 2013; Jobmann et al., 2014). The data for this application are derived from "usage, mentions, social media, citations, and captures" (Holmberg, 2015a: 112). The citations are derived only from this platform, which incorporates the traditional citation indexes, such as Scopus for the citation count and the field weighted citation count (Beatty, 2017). It provides a robust amount of data to publishers and researchers on the impact of their research, more than traditional metrics allows (Thompson, 2014: 136).
- **Webometric Analyst:** This software is a free program that can be used to conduct analyses for altmetrics, citation analysis, social web analysis and webometrics, including link analysis. The system extracts quantitative data from the web via APIs or through direct downloads from platforms such as Altmetric.com, YouTube, Twitter, Mendeley and others. This application generates network diagrams of collections of websites as well as a time-series of social networks. This software generates and calculates the online impact of large groups of websites that retrieve data from YouTube videos, blogs, and other websites. A web impact report, a link impact report, and a network diagram are the three main reports for web impact assessments that can be created (Thelwall and Sud, 2011; Thelwall, Sud and Wilkinson, 2012; Holmberg and Thelwall, 2014).

The metrics are captured, irrespective of whether the research is viewed, shared or critiqued, which is through usage (e.g., HTML views, PDF downloads), captures (e.g., Bookmarks, readers), mentions (e.g., blog posts, Wikipedia articles, comments, citations), and social media (e.g., user activity on Twitter, Facebook) (Cave, 2012).

Each of these services provides different methods of capturing altmetric data, and when and how the information is obtained. In some instances, unique identifiers are used for research publications, such

as Digital Object Identifiers (DOI), PubMed ID (PMID) or other unique identifiers related to the researcher (e.g., ORCID ID) to search for publications associated with social networks (Barbaro, Gentili and Rebuffi et al., 2014; Peters et al., 2014).

When retrieving information, the Altmetric Explorer identifies only a subset of the DOIs identified by the other services (Plum Analytics, Webometric Analyst and ImpactStory) (Lindsay, 2016). The altmetric impact values obtained from each of the four main analysis tools differ, with Altmetric Explorer providing the least favourable or the lowest impact value scores. As a result, Altmetric Explorer is only suitable for real-time data analysis. Plum Analytics has by far the most metrics available for the most platforms of the data providers studied (Jobmann et al., 2014; Peters et al., 2014). PlumX metrics considers in their analysis research from traditional journals as well as non-peer reviewed sources; therefore, PlumX metrics are not a substitute for traditional metrics. Relatively, PlumX data is to be used in conjunction with traditional metrics such as citations (Williams, 2017; 2019). Altmetrics provides an opportunity for researchers to delve into the innovative tools emerging within scholarly communication. According to Liu and Adie (2013: 157), determining how the information is shared in specific communication channels, may assist in better understanding the usage patterns of these scholarly communication tools making the communication more efficient and thereby driving wider adoption of altmetrics.

2.4.3 Researchers and metrics

The measurement of an individual's scholarly impact has become more widespread. There are a variety of analysis tools for providing measurable data on an individual's research rather than using just a single number to measure or validate a researchers' output, such as the use of the h-index (Hirsch, 2005). The measurement of the research impact is critical in that it has an influence on research in academia, business, and government, and contributes towards better funding and prestige. Many researchers are making their research available online. Thelwall (2008) claims that virtual libraries are creating usage patterns of academic articles because of a large amount of information from researchers and other users. In his comparative study of the methods of web citation data for academic organisations, he states that web-based metrics have limitations in the accuracy of results, though, this does not detract from the contextual results of these metrics.

According to Li, Thelwall and Giustini (2012), researchers are using mainly Mendeley, a free online reference management tool, as it indicates the influence of research from a researcher's level of opinion, by sharing their reading preferences. The early research on altmetrics was mainly about

reference managers, especially Mendeley. Researchers such as Bar-Ilan (2012a) and Priem, Groth, and Taraborelli (2012) corroborate the findings of Li, Thelwall and Giustini (2012) that most of the research publications from Nature, Science, PloS and the Journal of the Association for Information Science and Technology (JASIST) are bookmarked on either Mendeley or CiteULike.

In recent studies, a positive correlation has also been made between reference managers such as Mendeley and CiteULike and Web of Science (WOS) citations (Bar-Ilan, 2012a; Li et al., 2012; Priem, Groth, and Taraborelli., 2012). Twitter is a significant research area for altmetrics researchers, as there is a positive correlation between tweets and higher citations (Eysenbach, 2011). Other areas of research examined, along with reference managers and Twitter, were Wikipedia publications and blogs, as alternative impact analysis tools. The findings are that Mendeley accumulated the highest metrics per publication, more than any other data source, at the time of the study by Zahedi, Costas and Wouters (2014). On average, a Mendeley paper has fourteen readers per review. There have been positive correlations given, indicating that these alternative indicators are not random. That in some way, they are related to scholarly communication, and it provides a measure whereby the alternative indicators behave similarly to citations (Sud and Thelwall, 2014). According to the research produced, alternative indicators correlate with citation counts, positively and significantly through Facebook, Google Plus, Reddit, Pinners, LinkedIn and Blogs (Shema, Bar-Ilan and Thelwall, 2012; Costas et al., 2014; Haustein, Peters et al., 2014; Zahedi, Costas and Wouters, 2014; Sugimoto et al., 2017).

With the expansion of digital learning, altmetrics have emerged as a utilitarian means to assess the impact of scholarly outputs beyond traditional citation count (Cho, 2017). The way we capture the engagement between researcher outputs and third-party services has grown exponentially. Many journals and database platforms are making metrics available, such as the Public Library of Science (PloS), Scopus, Web of Science and Google Scholar (Levine-Clark and Gil, 2009). Once adopted, altmetrics will have a contributing value towards improving the current evaluation systems within higher education and the publishing field. This improvement should change the way we view research from within the country and from a global perspective towards meeting the public need and, thereby, revealing the contributions towards research (Alperin, 2013). Using this method creates an alternative for scholars to generate a new scholarly communication perspective for evaluating scholarly impact.

2.4.3.1 Researchers and social media

In the past, researchers could not immediately know who was interpreting their work or tracking their research. Academic research has become one of the areas impacted by the increasingly rapid growth

of communication networks (Bik and Goldstein, 2013). Publishing for researchers has been pushed online through their interactions with the Internet (Jankowski, 2009). Informal scholarly communication has benefited from the online revolution because of social media, as it is highly regarded as informal communication (Shehata, Ellis and Foster, 2015). Networked researchers are collaborating in a direct manner using the new modes of communication (blogs, Twitter, Facebook). The world wide web, through social media, has given researchers and others opportunities to disseminate or contribute to knowledge and information, in the global research community (UNESCO, 2015b).

According to Ploderer, Howard and Thomas (2010), professionals and celebrities alike promote their work and achievements., formats such as peer-reviewed journals, monographs and conference proceedings are researchers' main preference for disseminating their work.

The use of social media has become a favourite topic for analysing research dissemination. However, formats such as peer-reviewed journals, monographs and conference proceedings are nevertheless researchers' main preference for disseminating their work (Research Information Network et al., 2010; Housewright, Schonfeld and Wulfson, 2013: Online). The dissemination of research via social media has changed the way that researchers interact with collaborators, as they mutually become creators and distributors of their research (Yeong and Abdullah, 2012). Evidence for the effects of making research outputs available through OA shows a positive correlation between the sharing of data and citation counts. Piwowar, Day and Fridsma (2007: 3) found that "cancer clinical trials that shared their data online, were cited more frequently than clinical trials which did not." This development of information sharing, discussing, and retrieving information is outside the traditional channel of scholarly communication.

Although there are researchers who do not use social media, the most active users are within the Humanities and Social Science (HSS) research area (Rowlands et al., 2011). In a study comparing 'citations per paper' versus 'readership per paper', Zahedi, Costas and Wouters (2014) stated that the citations per paper are higher in the sciences, because of higher incorporation within databases such as Web of Science. In comparison, HSS found that the Social Science and Humanities publications received more readership per paper than citations per paper, thereby receiving better 'readership impact' than the traditional 'citations impact'. Research within social sciences, humanities, health, and life sciences show a larger proportion of altmetric scores than publications produced in other research fields.

The adoption of social networking tools is valued among researchers once convinced by their peers. The authors also found that researchers use LinkedIn and Academia.edu to promote a professional presence online. A common barrier to the adoption of Web 2.0 models of scholarly communication (e.g. blogs, social bookmarking, social networking, wikis, podcasts) is the viability of these tools in terms of quality and evaluation (Research Information Network et al., 2010). Also, across several studies, it can be stated that researchers make use of tools such as academic social network sites (ASNS) to form part of their research lifecycle; from identifying research themes and topics to disseminating the research findings (Gu and Widén-Wulff, 2011; Donelan, 2016; Manca and Ranieri, 2017). Italian researchers, according to Manca and Ranieri (2017), use social media to enable researchers to keep up-to-date with research. They also create and maintain networks using social media for collaboration, increasing their research visibility, and thereby increasing their opportunities for tenure and promotion.

Although there are limitations to using social media within the scholarly communication process, researchers are supportive of social media use (Jaring and Bäck, 2017). These developments have created a new way of approaching the research lifecycle, the evaluation of research quality, measurement and peer evaluation (Minocha and Petre, 2012). In a Finnish study, investigators found that there was a growing interest in social networking tools for communication and research practices among humanities and social science researchers (Gu and Widén-Wulff, 2011). Therefore, researchers could benefit from establishing online profiles to enhance the visibility and dissemination of their research and to efficiently track their publications (Carpenter, Cone and Sarli, 2014).

2.4.3.2 Researchers and altmetrics

Researchers are increasingly making themselves and their research available online through various social networking mediums. According to a 2011 study of Twitter use among scholars, only a small percentage of academics used some of the social media such as Twitter and Facebook (Priem et al., 2011: Online). In 2017, a Nature survey indicated that 95% of Science, Technology and Medicine (STM) and HSS researchers used a form of social media, with 50% indicating they use Facebook and 66% indicating they use ResearchGate. These researchers have agreed that it is important to share research online through Facebook and Twitter (Staniland, 2017). The research on the potential of altmetrics identifies the STEM (Science, Technology, Engineering and Mathematics) fields as the predominant users of Altmetric data (Liu and Adie, 2014: Online). Sugimoto and Larivière (2017) suggest that particularly the early career female academics within the chemistry field have benefitted the most from OA journals. In a study compiled by Fraumann (2017), he suggests that among others

surveyed, researchers from the University of Helsinki indicated that altmetrics is an unknown and of low importance. Haustein, Peters and others (2014) conducted a study on a specific scientific community, and the bibliometrician results presented mixed opinions on altmetrics' potential.

Altmetrics as a measure of research is relatively new and therefore, still not standardised or validated (Liu and Adie, 2013: 153-8). Altmetrics offers researchers a way to showcase their research impact. Altmetric indicators and data sources used for evaluation purposes are increasingly being discussed. However, there are few studies on the users of social media platforms and the integration of these platforms into the research environment. To understand the way researchers, use social media tools, and for what purposes, is important in the evaluation of the use of altmetrics. Fernando T Maestro (2015: Online) demonstrates in his guest author post that the use of altmetric data contributes to funding proposals and impact reporting, even before citations are accrued. In an altmetric study by Adie and Roe (2013), they concluded that since 2011 more or less 2.8 million articles have acquired an altmetric indicator, but the information collated, about altmetrics indicator, remains less than those for citations.

Further research confirms that there is a positive relationship between early signal metrics (altmetrics) and later signal metrics (citations) (Brody, Harnad and Carr, 2006; Thelwall et al., 2013; Costas et al., 2014). Researchers are using social networking, altmetrics and research management tools to enable them to do their research analysis. Aung et al., (2017) in a 2017-study explored social media and the usage of correlation with altmetrics. The results of the study show a medium to large correlation, meaning that academics who use social media often tend to use altmetrics. The academic impact is the influence of research on the changes in policy, health promotion, or society.

Researchers studying altmetrics cannot determine how to interpret altmetrics consistently, as there is no measurement for the value of altmetrics. However, in developing an approach towards the use of altmetric data, Robinson-Garcia, van Leeuwen and Rafols,. (2017) have indicated that the new metrics could serve as an indicator of societal impact and public uptake of the research (Erdt et al., 2016; Bornmann, 2017). The research evaluation is driven by the researchers' accountability to institutions, including the government that funds the research. The traditional method of evaluating authors is based on the number of citations of their publications. Subsequently, online researcher profiles, such as blogs, seem a less relevant method for measuring and evaluating the impact of their scholarship (Ponte and Simon, 2011: 149-56). Altmetrics offer a view of publications within social networks, and do not replace traditional publications but rather enhance and supplement them (Procter et al., 2010; Nicholas and Rowlands, 2011; Tenopir, Volentine and King, 2012).

2.4.4 Altmetrics advantages

Although altmetrics is the current ‘buzzword’, it is important to note that it is not a replacement for traditional bibliometrics. The main intention of altmetrics is to support and supplement the citation-based bibliometric analysis. There are six main ways altmetrics improves bibliometric analysis by (a) Timeliness, (b) Lead indicator, (c) Bias, (d) Application, (e) Community uptake, and (f) Broadening of the research scope (Finch 2015).

a) Timeliness

An advantage of altmetrics is that the data are immediately available as opposed to traditional media, such as citations, which take a few years. Wang, Wang and Xu (2013) indicate that a research article can take months to be reviewed. Therefore, there is a significant delay in publishing, which can also cause a possible citation delay as well as slowing the dissemination of knowledge. In a study conducted by Aman (2013), she states that articles without a preprint available may receive a citation on average between three months to more than a year (395 days). In comparison, altmetrics is available in a short timeframe. Furthermore, altmetrics was confirmed as fast, while in comparison, Reddit, Twitter, and Facebook [14 days] are faster sources than Wikipedia, Video and F1000 Prime [six months to a year] (Fang and Costas, 2020).

b) Lead indicator

We can determine that a statistically significant high altmetric score for a research output will lead to a high number of citations for that output (Huang, Wang and Wu, 2018). The measuring of scholarly output outside the realm of journal articles' citation-based data metrics does not benefit from traditional data analysis methods (Zahedi, Costas and Wouters, 2014a). As previously stated, bibliometrics, such as citations and impact factors are lagging indicators, taking many years for the traditional citations to be counted (Thelwall et al., 2013; Wang et al., 2014). One of the main disadvantages of citations is that a reliable measure of information can only be valid after several years (Wang, 2013). Altmetrics allows for the impact of the paper to be made available within days or weeks of being published (Bornmann, 2014a; Cronin et al., 2018; Mohammadi and Thelwall, 2014).

c) Bias

As altmetrics is based upon a variety of sources, it can be established that the biases faced by the traditional metrics can be avoided. Specifically, the avoidance of bias towards only-English journals is documented and indexed by various databases (Mas-Bleda and Thelwall, 2016). There is currently a global North-South research gap, known as the 10/90 gap, as seen in the northern hemisphere, with

Europe and North America receiving the most generous amount of the world's citations. Currently, the global South receives less than 5% of the citations (Pan, Kaski and Fortunato, 2012). It can be determined that there is a bias towards research from lower- and middle-income countries. Bias can arise during the review and publication cycle, especially regarding the quality of the research (Skopec et al., 2020). In their study, McGillivray and de Ranieri (2018) proposed that even the prestige of the institutions from which the research originates can determine the probability of publishing in the journal, *Nature*.

d) Application

In today's research environment, information has developed in a multitude of formats, such as policies, treatments such as products, for instance, datasets, software, blogs and reports (Piwowar, 2013b). The role that altmetrics plays goes beyond the norm of the traditional bibliometrics, which only counts citations in published research.

e) Community uptake

The research produced in academia may result in a change within the broader community, as social media have allowed the research to be shared with the broader community (Munigal, 2017; Schmidt and Gorogh, 2017). Furthermore, community interactions may improve the quality of the research through innovative methods, for instance, altmetrics presents a way to measure societal impact, through Web APIs (Galloway, Pease and Rauh, 2013) and platforms such as Twitter and Mendeley (Konkiel, Piwowar and Priem, 2014).

f) Broadening of research scope/perspective

The main benefit of altmetrics is to measure the impact of research from a broader perspective than traditional metrics (Priem, Groth, Taraborelli, 2012). An advantage would be the transparency of research regarding usage and exposure in scholarly publications (Fausto et al., 2012; Taylor, 2013a). According to Costas, Zahedi and Wouters (2014: Online), there is a 'positive correlation' between altmetrics and traditional metrics and the correlation does have the same effect as 'impact from citations.' Therefore, altmetrics complements the tools already in place for citation analysis. Researchers use citations as the main assessment tool, deriving an opinion from a broader audience, like professionals, government agency and others through the research that is cited (Hammarfelt, 2014). Altmetrics can handle a variety of data sources and data which eventually allow evaluation of information from a variety of publication products, which is not only published in journals (Piwowar and Vision, 2013; Costas et al., 2014). This feature is significant, as journal publications not only "play a role in the evaluation" of information, publications or products (NISO, 2016a:1).

2.4.5 Limitations of altmetrics

Although there are numerous advantages to altmetrics, there are also limitations. The main limitation of altmetrics is that it focuses on the quantity and not the quality of the publication. The latter cannot always be determined by how many times an article is shared or tweeted (Costas, Zahedi, Wouters, 2014: Online). Priem (2014: 277) identified three significant limitations of altmetrics, specifically the “lack of theory, ease of gaming/manipulation, and [the probability of] biases.” The credibility and integrity of research analysis are imperative, as the verified data are significant not just to the academic researcher, but also to funders, policymakers, and publishers (Lin, 2012: Online). However, the technology used, such as the web-based metric applications, are easy to game or to manipulate. This gaming of applications is like Google web search ranking, which is a manipulation of what is counted by the application or adding a reference to a publication by the journal editor. Thus, forcing citations on researchers before they can publish (Priem, Groth, Taraborelli, 2012; Yang and Li, 2016). Therefore, the principal source of data (e.g., policy documents, mainstream media, blogs, online reference managers, peer-review forums, social media, patent citations and other online sources) for altmetric applications should be evaluated to standardise those emerging from different sources. These are the general social networking applications (Twitter and Facebook); the specialised research tools (Mendeley and CiteULike); the publisher platforms (PloS, Scopus, PubMed); and the research output and publishing components (Slideshare and Figshare) (Taylor, 2013b).

2.5 Relationship between traditional metrics and altmetrics

The relationship between altmetrics and traditional metrics, specifically regarding citations, have been examined (Wilsdon, 2016). These studies included whether there is a correlation between traditional metrics and altmetrics (Costas et al., 2014). Altmetrics has arisen as previously discussed as a tool to track and measure other modes of scholarly communication (Heinemann, 2013). Showcasing the high impact factor of a journal does not necessarily illustrate the quality or the importance of the papers therein. Altmetrics can indicate future citations, and many studies have pointed out a correlation between altmetric metrics and citations (Eysenbach, 2011; Wouters and Costas, 2012; Nature Publishing, 2013).

Furthermore, altmetrics provides a new method of detecting the use of research beyond the traditional citation metrics through, tweets, views, downloads, mentions and shares. The diversification of scholarly communication channels has shown that the role of altmetrics in demonstrating attention received for research can complement the current traditional impact evaluation methods based on

citation counts. In citation-based metrics, the citation count is the most commonly used metric to assess the academic impact of an article (Ravenscroft et al., 2017). Researchers have suggested a few bibliometric performance metrics to assess the impact of a single research publication or collection of these. Therefore, the opportunities to improve citation rates can be beneficial for researchers, especially those pursuing tenure and promotion (Cabrera et al., 2017). Although, as previously indicated, citations are accruing slowly. Access counts, are immediate and therefore, can serve as an early indicator of the research impact of a publication (Li and Thelwall, 2012).

Evaluating altmetric citations from the world wide web may indicate an emphasis on a different value of information for applications (such as F1000 labels, Tweets) rather than the use of citations scientifically by researchers. For example, the use of the social reference service (Bibsonomy) by students could indicate that altmetrics would have more educational than scientific impact (Sud and Thelwall, 2014). Altmetrics provides the earliest estimated, non-traditional impact of publications. Therefore, the data could be manipulated or gamed, though reading and processing of data may skew the results. All types of metrics should be noted as being susceptible to manipulation. Publications considered for altmetrics need to be evaluated for manipulation, such as negative critique, spam, or automated mentions on Twitter, or because of comedic or outrageous article titles (Marcus and Oransky, 2011: 449-50; Shema, Bar-Ilan and Thelwall, 2012).

The findings of several authors have indicated that the relationship between altmetrics and citations, specifically the way the journal impact is captured, is flawed, and therefore, altmetrics cannot be used on their own but only in collaboration with citations (Haustein, 2014; Zahedi, Costas and Wouters, 2014a; Erdt et al., 2016; Onyanha, 2017; Ruan et al., 2018). However, according to Fenner (2013), the additional metrics developed by Public Library of Science (PLoS), such as the number of downloads of an article, has more significance than only considering citations. This trait is determined by the fact that the citation rate is of least interest to the PLoS reader, appearing only once in 300 times a PLoS article is viewed online, because of the altmetrics available (Fenner, 2013).

Important to note is that currently there is no standardisation of the metric analysis tool. Despite this, the San Francisco Declaration on Research Assessment (DORA) supports altmetrics and views it as the natural transition from the citation-based analysis, such as the h-index and the journal impact factor (Bladek, 2014; UNESCO, 2015b: Online). The NISO is currently in the process of developing standards and community best practices for the field of altmetrics. (National Information Standards Organization, 2014: Online). Although these standards for altmetrics are still under development, there is no current standard in place for the reporting and use of citation data. However, NISO is currently

on Phase two of their project (National Information Standards Organization, 2014: Online). A study conducted by the European Research Council (ERC) found that their funded projects were starting to take note of the altmetrics (Fraumann, 2017). With this new metric, research needs to be done in knowing how and when to interpret altmetrics for use.

2.6 Gender-based violence research

Gender is described as a concept of socially constructed differences between females and males. Gender encapsulates factors such as age, race and class, influence and, among other things, the roles and behaviours associated with a population in any culture, globally. Gender roles or norms make individuals susceptible to manipulation and stigmatisation, especially of people who do not conform to those norms and behaviours set forth by cultural constructs (World Health Organization, 2018).

“Gender-based violence (GBV) is prevalent internationally and occurs in many forms, including intimate partner violence, rape and coerced sex, child sexual abuse and human trafficking. Such patterns of GBV are a substantial risk factor for poor health, impacting on individuals’ physical, sexual and psychological wellness, as well as their societal and economic well-being” (Baldasare, 2012: Online).

With further regard to defining the concept, according to Krug et al. (2002: 5), violence is “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either result in, or has a high likelihood of resulting in, injury, death, psychological harm, maldevelopment or deprivation.” This term is used for the act of an individual that causes harm or suffering in a physical, sexual, or psychological manner to a woman, girl, man, or boy, specifically based upon their gender. The most prevalent way in which some countries are combating violence against women is by generating legislation and support for those affected by the violence. The definition includes the following areas of abuse and violence: specifically, physical, sexual, psychological/psychosomatic, and economic intimate partner violence; intimate partner femicide; rape and sexual assault; sexual harassment. These forms of abuse also include sub-categories for each area, such as trafficking; forced prostitution or labour; honour killings; forced or child marriages; marital rape and genital injury (Human Sciences Research Council (HSRC), 2014: Online).

2.6.1 Global overview of gender-based violence research

In understanding the severity of GBV and the extent of GBV research internationally, it is pertinent to note that the Millennium Declarations and Millennium Development Goals (Millennium Development Goals, 2000), pledged by countries include various aspects of gender-based violence. The elimination of all forms of violence against women and girls was also adopted as a Sustainable Development Goal (SDG) by 2030 (Kusuma and Babu, 2017). Women around the world, at least at one point in their lives, will experience some form of gender-based violence, as suggested in research (Kerr, 2014: Online). The accessibility of GBV data has increased of late and, since 1995, a hundred or more countries have conducted one or more study surveys on the topic, derived from a growing interest in the issue of violence among vulnerable groups (United Nations Economic and Social Affairs, 2015: 140). The use of “gender-based violence” and “violence against women” are used interchangeably as most of the GBV perpetrators are men. (Bloom, 2008).

According to the global prevalence figure, one in every 35 women in the world has been in some or other relationship, which has resulted in either physical, mental or sexual abuse from an intimate and non-partner sexual violence (World Health Organization, Department of Reproductive Health and Research et al., 2013: Online; World Health Organization, 2016: Online). Researchers in the field of GBV have addressed its extensive and long-term impact, beyond the emotional and physical abuse of the victims. Most often, sexual violence is perpetrated by men against women. According to the statistics globally, South Africa, Australia, Canada, the United States, and Israel contribute between 40 and 70 per cent of female murder victims, because of intimate partner violence (World Health Organization, 2013a, b).



(World Health Organization, 2014a)

Even with the SDG goals set out by the United Nations, resources are still limited, as is an investment in the prevention of all the forms of violence against women and children. The prevalence remains high although, domestic violence and sexual harassment legislation internationally has strengthened over a four-year period, with limited legal protection for sexual violence as a component of domestic violence. According to a study conducted by Taveres and Wodon (2018), the gaps in legislation are specifically found within the Middle East, North Africa and Sub-Saharan Africa. Those countries with appropriate laws may not be implementing them effectively because of poor administration, lack of interventions or poor enforcement to address the issues of domestic violence, domestic economic violence or sexual violence and harassment (Tavares and Wodon, 2018).

Globally, there is a trend to encourage men and boys to fight against GBV (Fulu et al., 2013), which has impacted upon the understanding of diverse forms of GBV going beyond physical and sexual abuse. In a study completed on the profile of GBV research in Europe, investigators found that the research landscape in this area is in constant change (Bradbury-Jones et al., 2017). Individual researchers can raise the profile of GBV research by being more explicit about gender-based violence in their publications (Bradbury-Jones et al., 2017). Bradbury-Jones et al. (2017) concluded that further collaborative studies conducted across Europe and internationally could lead to more effective GBV research.

More research is being commissioned for GBV researchers to provide the necessary evidence in creating effective policies and practices to eliminate the threat that GBV poses to our society.

2.6.2 South African overview of gender-based violence research

In South Africa, violence against women has increased rapidly since 2009. Findings from a cross-sectional study in three South African districts in the Eastern Cape and KwaZulu-Natal, indicated that a large portion of “all men had raped a woman or a girl in their lifetime. Of all the men who were interviewed, half of them had indicated that they have been physically violent to an intimate partner” (Jewkes et al., 2011: 5). The South African government has taken steps to curb violence, such as the Domestic Violence Act 116 (1998), a national plan aimed at ending gender violence and the establishment of a National Council against gender-based violence (Mayosi et al., 2012). Although these steps have been implemented, there is still a high incidence of GBV predominantly against women and girls in South Africa. Therefore, it is important to measure the impact of the research produced by GBV researchers (HSRC, 2014: Online). The measurement of the research impact can involve the area of research and the people, especially women and girls, to ensure that participants

accept the results. This investigation enables us to effectively learn how to make research programmes more effective and efficient (The Global Women's Institute, 2017).

In a comparative study on female homicide and intimate partner violence rates between 1999 and 2009 in South Africa, researchers demonstrated that although the “rates of female homicide per 100,000 women had decreased statistically from 24.7 (95% CI: 17.7, 31.6) to 12.9 (95% confidence interval [CI]: 9.3, 16.5)”, even this figure is five times the global average, and rates of intimate partner femicide had not significantly decreased (Abrahams et al., 2013). These researchers highlighted that the urgency of these figures is to inform policy-driven prevention programs (Abrahams et al., 2012: 3). Violence against women is one of the leading causes of death of women, through femicide, suicide and homicide (Krause, 2011; Abrahams et al., 2012). South Africa is a country where rape-homicide occurs in one out of five female homicides and one in ten child homicides. Reducing this mortality rate through prevention is high on the South African agenda (Abrahams et al., 2017). In South Africa, GBV is highly prevalent, and there is a significant societal and economic impact, which is why it is supposedly so crucial to track research for making a difference.

The research shows that GBV is extremely high in South Africa, as it has five times the global rate of the national intimate partner violence and homicide. With prevalence rates between 12% and 28% within South Africa, the economic impact needs to be measured (Dunkle et al., 2004; Jewkes et al., 2009). Therefore, this should include the societal impact shown in research about GBV produced within the country (Kangas et al., 2014).

2.6.3 Gender-based violence research and metrics

Currently, there are very few studies of scholarly communication and research metrics in the GBV research field. According to Brillhante et al. (2016), South Africa only produced 6% of the world's gender violence research articles between 1982 and 2012. In a recent bibliometric review by Wu et al. (2020), South Africa is sixth on the list of the most productive countries. South Africa has produced 513 publications with an average citation per paper of 29.04. Furthermore, according to that study, Rachel Jewkes of the South African Medical Research Council is one of the top 25 contributors in Intimate Partners Violence Research (Wu et al., 2020). The widespread use of social media and other applications has created more awareness of GBV, thereby increasing accessibility to research and opportunities for information transfer. Social media is a powerful way to reach a greater audience advocating for the prevention of GBV, through media such as YouTube, Twitter, Instagram, Facebook, Podcast, Pinterest (Damodar, 2012). The altmetrics movement has created a demand for understanding

research engagement, especially with measuring and tracking attention to articles and policy documents through social media.

The importance of altmetrics is also shown in the number of research analyses and overviews of any given research subject from multiple authors' perspective (Damodar, 2012: 48-52; Wouters and Costas, 2012; Galloway, Pease and Rauh, 2013: 335-45; Rodgers and Barbrow, 2013; Torres-Salinas, Cabezas-Clavijo and Jiménez-Contreras, 2013: 53-60; Cronin et al., 2018: 307-25; Haustein, 2014: 327-44; Priem, 2014: 263-88). The AAS has shown that the highest number of publications that were shared on Twitter in the Biomedical and Health Sciences field are because of the increasing number of PubMed citations being tweeted (Costas et al., 2014; Haustein, Peters et al., 2014; Sugimoto et al., 2017). There is a substantial amount of GBV-related information on social media (Twitter), which they can showcase tweeting practices and tolerance towards GBV. This information has provided an opportunity for awareness and interventions for government and non-governmental organisations (Purohit et al., 2016). Additionally, according to Gurman, Nichols and Greenberg, (2018), Twitter can provide a virtual safe space for women to share their views on GBV and to advocate for social change. Altmetrics, therefore, could play a fundamental role in the measurement of the impact of health sciences research (Costas et al., 2013).

Research foundations and donor organisations are paying growing attention to how research evidence is communicated and influences policy. Therefore, the value of reporting to relevant funders is paramount and will increase the chances of receiving further or additional funding for GBV research. It is also important that the public receives knowledge and information regarding GBV to support organisational and national campaigns.

2.7 Chapter summary

In this chapter, the literature review on scholarly communication, bibliometrics and altmetrics of this research study is introduced and presented. It encompassed the following areas, the review of scholarly communication, review of open access, bibliometrics, altmetrics, the relationship between traditional metrics and altmetrics, gender-based violence research and gender-based violence research and metrics. In terms of the chapter layout, the theoretical framework is discussed in the following chapter.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1 Introduction

In the previous chapter, the literature review was addressed, and one of the main concepts, scholarly communication, discussed. This concept was seen in relation to OA, which relates to the way we communicate. It has fundamentally changed, because of the introduction and widespread use of the Internet. Furthermore, the use of information technology has enhanced the research community, by enabling multiple-prong dissemination of research results, especially through OA. Although there can be disadvantages and barriers in using social media, researchers have readily adopted the medium within the scholarly lifecycle, thereby enhancing their research for better performance and evaluation. In this chapter, the theoretical framework of this study is addressed.

A theoretical framework is equivalent to the structure of the study. Like the roots support a tree as its foundation, a theoretical framework provides a rationale for the prediction of the relationship among variables of a research study. The theoretical framework of a study, as stated by Ocholla and le Roux, (2011a: 62), is thus “a phenomenon” that “interacts with others” to “broaden our understanding and interpretation of a concept. It serves as the channel that a researcher uses to examine an aspect of his or her research topic. In other words, it elucidates or explains the rationale, justification or basis of the study” (Khan, 2010: Online).

“The nature and purpose of a theoretical framework is an attempt to answer two basic questions: First, what is the problem that the researcher has set out to investigate and answer? Second, why is the specific approach a realistic or feasible solution to the problem? The answers to the research question are derived from the use of one or multiple sources which are explored in the literature review and which, therefore, form an important part of the research proposal or the research study and the theoretical framework” (Ocholla and le Roux, 2011b: 1).

A new scholarly communication framework for the analysis of a researcher’s altmetrics is used as the theoretical framework for this work. Griffin (2013) has indicated that there is no stability and efficiency in the current models within scholarly communication at present.

Scholarly communication involves the creation, exchange, and dispersion of knowledge, within the setting of academic discussion.

The process of scholarly communication includes formal and informal means of communication for researchers (Sawant, 2012: 21). Thorin (2006: 222-3) explains scholarly communication is about:

- Conducting academic research, using informal communications, and developing accurate, research;
- Evaluating research by preparing it for formal research outputs;
- Disseminating the research products in print or electronic format;
- Managing research profiles of individuals and institutions;
- Communicating the research to broader communities.

Changes in the UNISIST models of scholarly communication have impacted on the way publications now appear. The scholarly communication process starts with a research idea and ends, traditionally, with a formal peer-reviewed publication.

During this scholarly communication process, information about the topic may be brainstormed among individual researchers for conferences or seminars, constituting informal communication. There is a difference between formal scholarly communication and informal scholarly communication; the former is perpetual and addresses a larger body of academics in comparison, the latter addresses ephemeral information transmitted to some restricted communities. Formal scholarly communication uses a permanent means of communication through books, journals, and monographs.

The informal scholarly communication includes face-to-face (FtF) discussions, ‘coffee breaks’ at conferences where information is exchanged, sharing of information, opinions, and emails (Mukherjee, 2009). With the ease of using informal digital communication, the process from producer to users is quick access to information. The formal and informal scholarly communication methods have undergone many changes as a result of the web becoming so versatile (Søndergaard, Andersen and Hjørland, 2003: 305). As scholars have increasingly relied on these channels of communication to share and find information, the dividing line between “formal and informal publication” are blurred (Brown, Griffiths and Rascoff, 2007: 3-4). Straddling these two types of scholarly communication methods is a digital scholarship (Borgman, 2007).

Digital scholarship is the paradigm shift from peer review, citations and impacts factor measures, towards how a matter has been impacted upon through social networking media (Smrz and Dytrych, 2011).

Central to the issues about publishing in the research environment, covered within scholarly communication, are numerous topics such as the quality of the articles and peer review, OA, sharing and re-using data and other research products. But the primary focus appears to lie in the increased adoption of online social networking tools (Hahn, 2008; Procter et al., 2010). Academic researchers provide the emphasis and the purpose of scholarly communication. The character and the impact are the two principal ingredients of a scholarly record and, therefore, are measured by both traditional and novel techniques and tools.

According to Borgman (2000b: 412), scholarly communication is the theory of the advancement of information, information needs and the employment of user groups across fields, and the relationship between traditional and non-traditional methods of communication. By implication, it is the cognitive operation of how information is communicated from the researcher to the reader, via various groups such as libraries, publishers, repositories and, lately, through individuals or organisations using social networking media (Mukherjee, 2009). The original scholarly communication model was devised by Garvey and Griffith (1965), describing the process before information technology became a prominent feature of the process. This process was to show the methods researchers used in sharing their research findings with the academic community through formal (journal articles and books) and informal (conference proceedings) methods of communication.

The route of access to this scholarly information was through a system of bibliographic tools (e.g., indexes, abstracting services, retrospective bibliographies).

The steps in the Garvey and Griffith, 1970s model are:

“The earliest reports of research data, research analysis that is completed, the manuscript started, national meetings, the latest reports, the submission of an abstract to the journal, and the publication of an article in a journal” (Garvey et al., 1970: 2).

The United Nations Information System in Science and Technology (UNISIST) 1971 “model of the social system of communication consisted of knowledge originators or producers, intermediaries and users” (Hjørland, Andersen and Søndergaard, 2005: 129). UNISIST is a proposed general model of systems, structures of science and technology, by establishing an organisation of communication

between scientific disciplines or domains (UNISIST, 1971). The model is a sociologically oriented perspective of the activity of scholarly communication and designed to show the “information communication between the knowledge producer and knowledge user” (Søndergaard, Andersen and Hjørland, 2003: 279; Khosrowjerdi, 2011: 359). The focus of the model is on the knowledge producer, through three main categories of information dissemination, which are formal communication, informal communication, and tabular channels. The formal communication method is through published and unpublished work. The informal communication may be in an oral or written form, through personal communication (e.g., emails). Tabular communication channels consist of numerical data. In the original model, it was referred to as an independent channel (Hjørland, Andersen and Søndergaard, 2005). See Figure 2 on the next page.



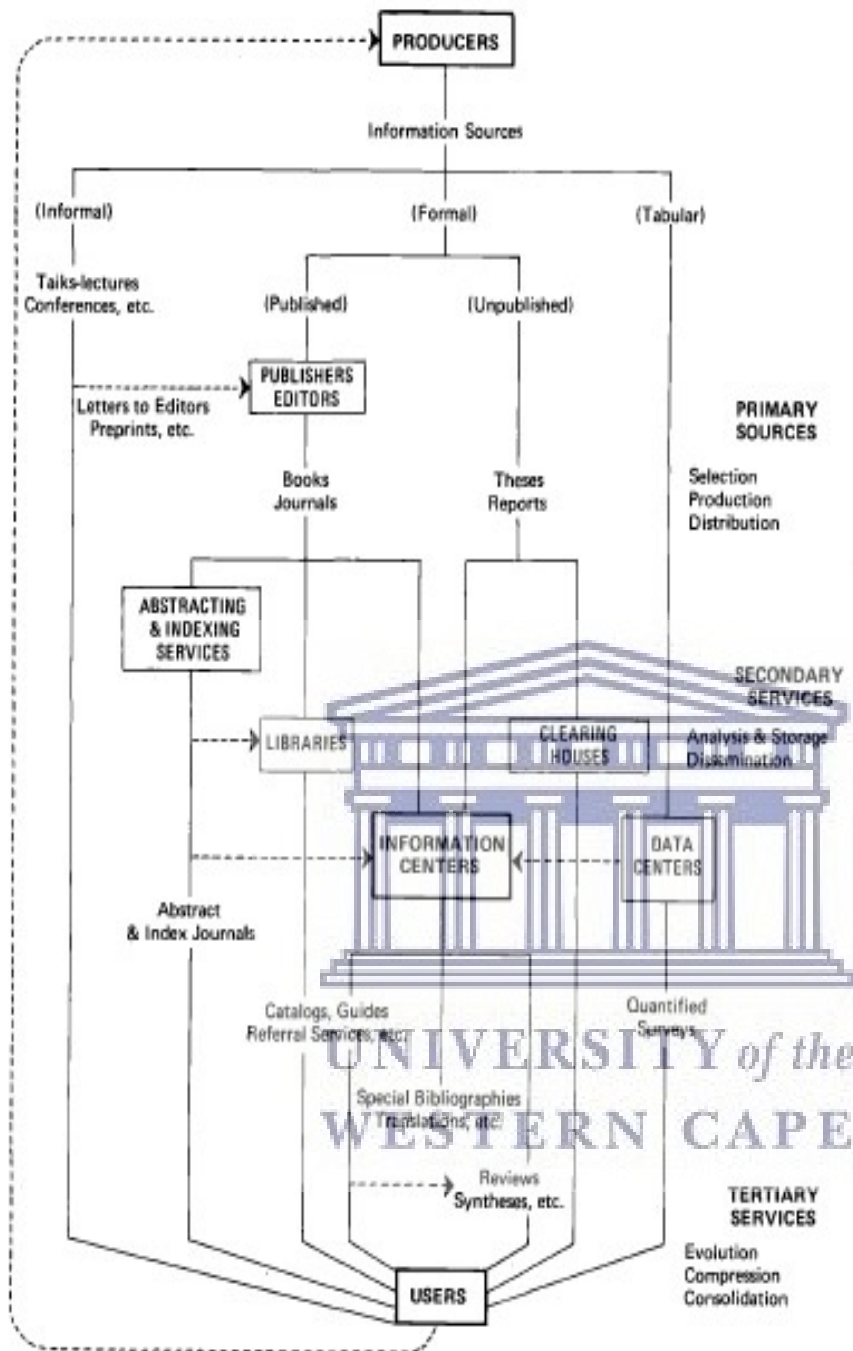


Figure 2: UNISIST model

(UNISIST and UNESCO; 1971)

The UNISIST model, offering a scholarly communication system, was first published in 1971. It was then expanded, updated and re-interpreted by Søndergaard, Andersen and Hjørland (2003), who proposed that it allows the effect of the Internet and the scientific domains and disciplines. The reinterpretation shows that the model of UNISIST was insufficient to meet the current communications that have emerged from the Internet (Björk, 2007). This model places the Internet alongside the full process, from the originator of knowledge to the user. The model is enclosed in a domain, given that different epistemologies emphasise different knowledge sources. See Figure 3 below.

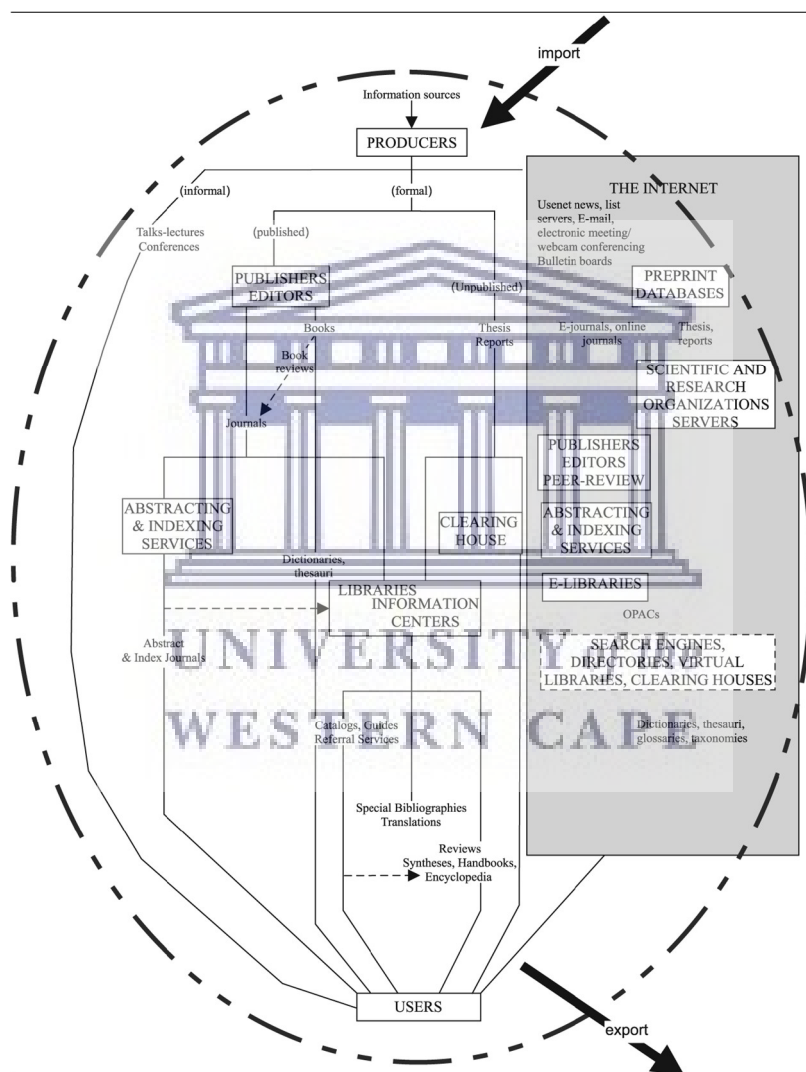


Figure 3: Revising and updating the UNISIST model

(Søndergaard, Andersen and Hjørland, 2003: 305)

There is a limit to the current UNISIST model of scholarly communication in terms of disseminating information, especially within the new spheres of information transferal. The UNISIST model consists of the data-collection process and research analysis, followed by authoring the article, then the publication and dissemination of the article where, finally, it will be stored, archived, and preserved within a research repository (Sawant, 2012: 21-4; Søndergaard, Andersen and Hjørland, 2003: 305). Researchers are calling for greater authority in the publication of their work and rights management. This greater consciousness of freely sharing data, ideas, resources, and tools has culminated in the necessity of current scholarly communication practices to adopt new models of communicating. As pointed out in discussions, the main problems with existing models are that they primarily focus on access and dissemination issues. Digital scholarship has changed the way information and knowledge are discovered and disseminated (Borgman, 2007).

A new model of scholarly communication for the digital scholarship is based on discussions held by the University of Pittsburgh in 2013. The adapted model of scholarly communication is the result of digital practices that incorporate the processes of production, publishing, curation and use of scholarship. The existing model was modified by Professor Stephen Griffin, based on these discussions, and delivered at the Coalition for Networked Information, Spring 2013 Membership Meeting. The adapted model outlines emerging data being incorporated within the scholarly communication process. The adapted model is based on the traditional scholarly communication model of the activity and the workflow stages. The model evolved from a holder of the information to an active partner in the research process. At each stage of the workflow, information flows into and out of the project, thus expediting research and scholarship.

The model allows for the integration of emerging data (such as blogs, social media, repositories) within the workflow, feeding and supplementing each aspect of the process, thereby evolving the process from static to dynamic. The model illustrates capturing a comprehensive record of the research process and production to support the verification and reproduction of research results. The information, knowledge and data are shared through these emerging data and resource infrastructures, see Figure 4 below. This scholarly communication model is the adopted model for this research because it allows us to look at the conversant and discursive web (such as social media, blogs) within the scholarly communication process. The scholarly communications are carried out by using specific channels of communication by academics. The Internet has provided an easier means to provide that communication in the research process.

Current Scholarly Research Workflow and Communication Model

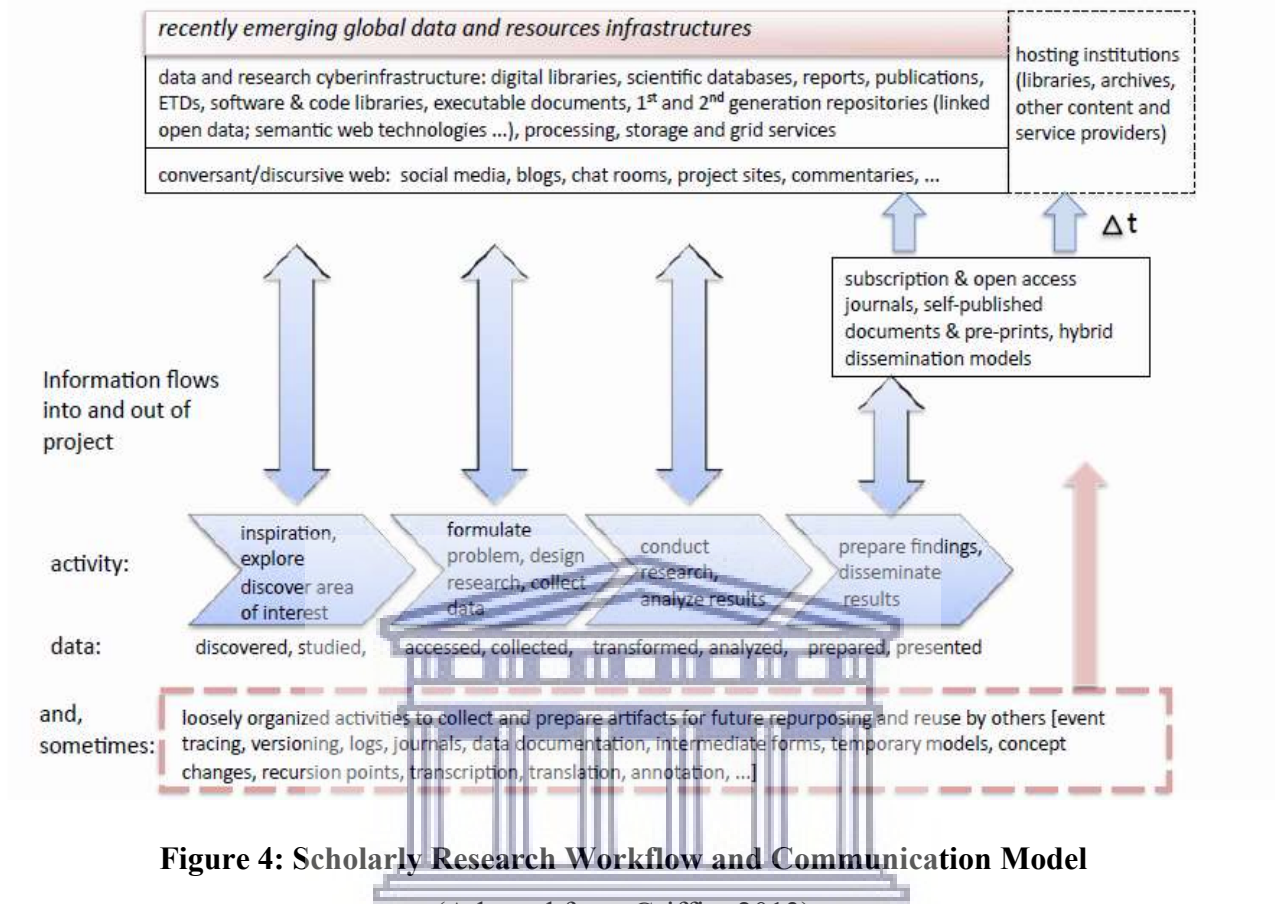


Figure 4: Scholarly Research Workflow and Communication Model

(Adapted from Griffin, 2013)

UNIVERSITY of the
WESTERN CAPE

Griffin's (2015) scholarly communication model accommodates altmetrics and traditional metrics, specifically citations within the model. As suggested, in the research lifecycle, it is termed 're-use' of information by peers and by the researchers themselves as self-citation. This model incorporates the use of OA for increasing societal impact and attention. Open access to scholarly communication is accomplished through OA journals and self-archiving repositories (Chan and Costa, 2005: 143). The process of publishing research in open access has led to greater visibility which, in turn, increases citations' impact, networking and funding opportunities (Mouton and Blanckenberg, 2018). The Griffin-adapted scholarly communication model offers to share research findings throughout the process, ensuring engagement, monitoring, and evaluation by the public or other researchers, which will lead to increased collaboration and impact. According to Griffin (2015: 528), "it reflects the complexity of contemporary scholarship and research-processes, and results that cannot be captured or communicated in printed form," which indicates the necessity of scholarly communication to be reformed. Many researchers, publishers and funding institutions are mandating the changes needed to

incorporate digital media. In general, a set of theories and frameworks to define the altmetrics functions and applications is still lacking.

3.1.1 Application of the Griffin model

The important question is which research approach is considered appropriate. Across these research objectives below, the following Griffin (2015) model was applied.

- To investigate the motivations of GBV researchers for publishing.
- To determine GBV researchers' perceptions about the value of metrics.
- To investigate the level of knowledge of altmetrics analysis among GBV researchers.
- To understand why GBV researchers use altmetrics and how they make use of them.
- To determine the factors used by GBV researchers for selecting a publication channel.
- To determine GBV researchers' opinions of open access.
- To understand how GBV researchers share their research.
- To determine if there is a relationship between traditional metrics and altmetrics.

According to the change in scholarly communication, the six phases of the research workflow include, collection of data and literature, analysis, writing, publishing, and archiving, outreach, and assessment (Kramer and Bosman, 2013). The use of citations and altmetrics is categorised as assessment tools in the research workflow. The Griffin's (2013) adapted Scholarly Research Workflow and Communication Model allows full reporting of research for reproducibility through the ongoing release of information across all the workflow stages of research. Full reporting encompasses resources and artefacts such as datasets, software, event traces, linked media (discursive web) and other resources. This modular workflow allows direct access to data, tools, and other workflow elements such as the assessment workflows. This model was created to ensure the engagement of local researchers for capturing and organising information in the scholarly workflow for reuse and repurposing (Griffin, 2015). The intention and knowledge of the researchers can determine the usage of altmetrics through their actions in the model of scholarly communication workflows.

3.1.2 Quadrants of scientific research

Pasteur's Quadrant is the knowledge and use of a taxonomy framework to categorise academic and scientific research, based on the scale of utility (Stokes, 1997; Swanepoel, 2011). Research is classified according to three categories, tactical research, pure research, or pure applied research. Research has shown that 28% of researchers from multiple fields have classified their research in Pasteur's Quadrant.

Furthermore, a total of 72% of researchers classify their research per Bohr's quadrant (Amara, Olmos-Peñuela and Fernández-de-Lucio, 2019). The figure has been classified for the different motivations for the pursuit of a research topic. The motivation is to either promote human knowledge by seeking a basic understanding or to solve practical problems. The main categories in the four-quadrant concept can be seen in Figure 5. The upper left quadrant (Bohr) comprises the quest for understanding without use, while the upper right quadrant (Pasteur) is the quest for understanding with the consideration for its use. The lower right quadrant (Edison) is the applied goal to understand generally, whereas the lower left quadrant implies research that is neither goal-oriented towards understanding nor for use (Stokes, 2011: 75).

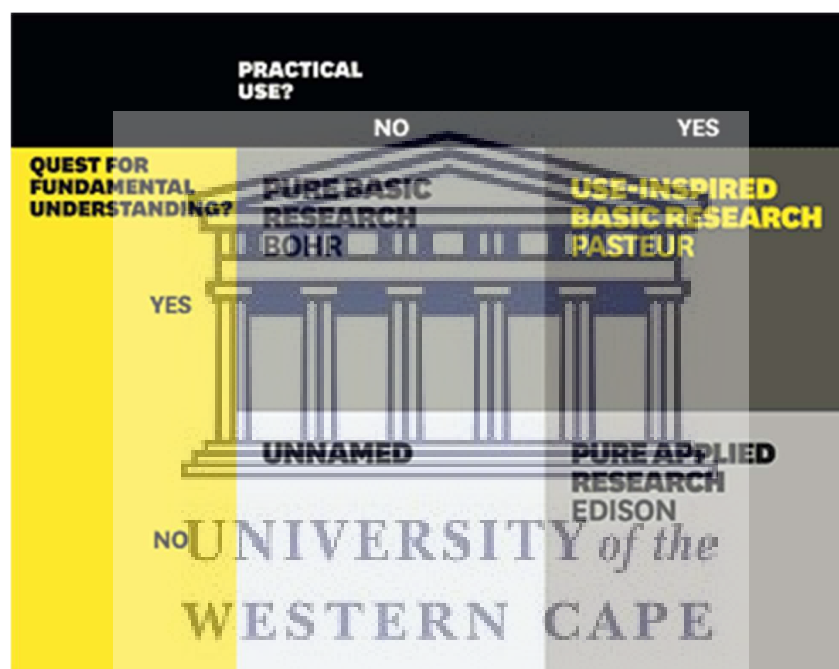


Figure 5: Adapted Pasteur's Quadrant

(Stokes 1997)

3.1.2.1 Application of the Adapted Pasteur's Quadrant

The important question is, which research approach is considered appropriate? Across these research objectives below, the following Adapted Pasteur's Quadrant model (Stokes, 1997) was applied.

- To determine GBV researchers' perceptions about the value of metrics.
- To investigate the level of knowledge of altmetrics analysis among GBV researchers.
- To understand why GBV researchers use altmetrics and how they make use of them.
- To determine GBV researchers' opinions of open access.

The Stokes (1997) model has three main quadrants (Bohr, Pasteur, and Edison), but the focus is on the knowledge (Understanding) and the use of altmetrics (Use) among GBV Researchers. Therefore, the Pasteur's Quadrant allows for the guide to metrics-based investigations of research activities and productivities. The collection of data is approached to demonstrate knowledge and use of altmetrics (Pasteur's Quadrant: Use and Understanding) among GBV Researchers (Figure 6). In this study, it is assumed, as indicated in Chapter 1 that GBV researchers have the knowledge and use of altmetrics, therefore, Pasteur's Quadrant is applied.

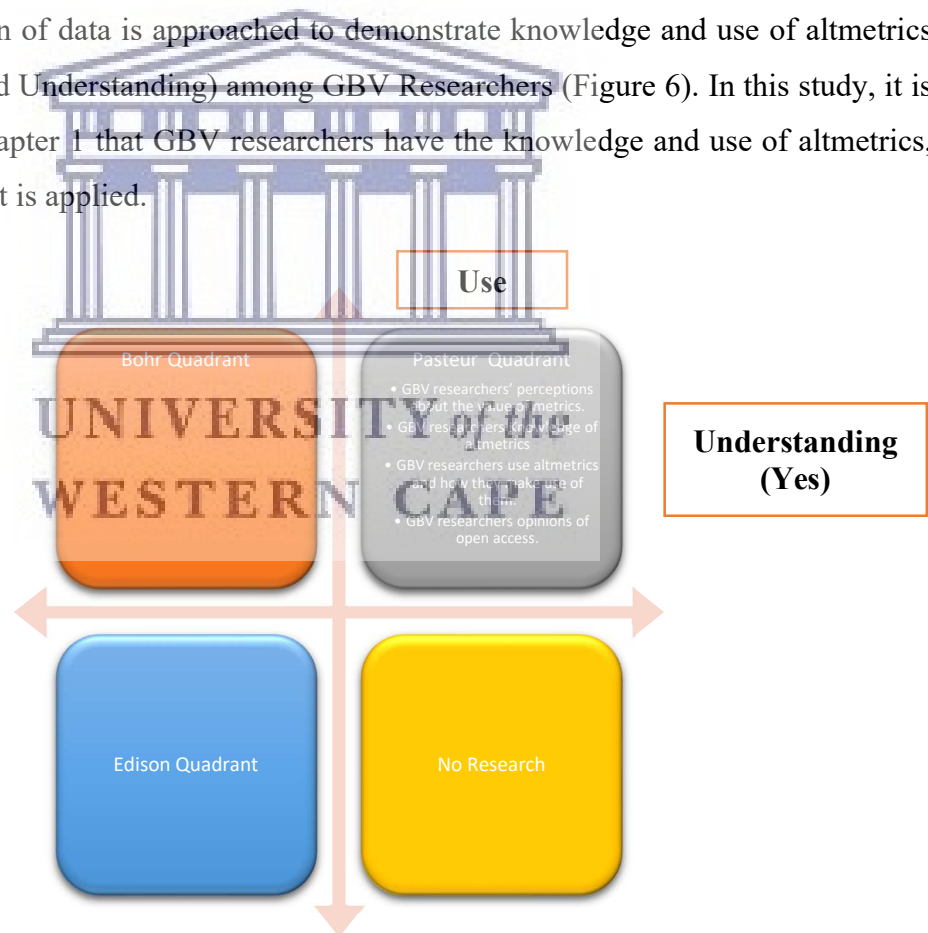


Figure 6: Pasteur's Quadrant

(Author's graphic)

3.2 Theory for scholarly communication and metrics

3.2.1 Citation theory and altmetrics

Finding a theory, a theoretical perspective, for altmetrics is imperative for the discussion and validation of citations. Altmetrics are frequently compared to citations, with their role in research evaluation. It is reasonable to analyse the specific aspects in association with citation theories, as altmetric scores have revealed that attention received by a paper is instantaneous. This timeliness is indicated by information shared on a blog and vlog comments, online news outlets, the number of tweets on the publication and other digital communications, established as a number within coloured doughnut rings at the end of a full-text article available online (Patthi et al., 2017: 16). The altmetric score immediately responds to research articles, reflecting the research and societal interest in findings of the published work. The online attention extracted from the metrics enables the researcher to access information freely available online and shows the research is explained and made accessible at the right time, providing an immense influence (Patthi et al., 2017: 17, 20).

The three main citation theories are the following:

- **The normative theory** is based on the supposition that science is a normative institution governed by internal rewards and sanctions. Therefore, citations will be an indication of intellectual influence, reflecting the norms and values whereby researchers are expected to acknowledge the literature used through citation. Merton states that the Ethos of Science is composed of rules and values relating to science. Thus, there are “four basic norms, namely: communism, universalism, disinterestedness and organised scepticism” (Anderson et al., 2010: 367).
 - Communism is the concept of ‘giving credit where credit is due.’
 - Universalism principally means that, regardless of the scientists’ or researchers’ race, nationality, culture or gender, the research must be evaluated for its value only. Hence, citations would be considered a reward indicating the influence of the research by the citing research or scientist.
 - Disinterestedness norm is where the scientists are not interested in gaining recognition by ‘flattering’ or citing others or themselves.

- Organised scepticism is the objectivity of researchers and scientists to treat new claims with incredulity including their contributions.

(Macfarlane and Cheng, 2008: 73, 74, 78; Haustein, Bowman and Costas, 2016: 381)

- **The social constructivist theory** is that works are “cited for a variety of factors, many of which have nothing to do with intellectual debt,” as explained in the normative theory (Haustein, Bowman and Costas, 2016: 381). Thus, citations would be elements of persuasion to convince others of the goodness of claims. This theory “suggests that there are different motivations for citing behaviour, of many of them influenced by the cognitive style and personality and not necessarily by universalistic reasons” (Haustein, Bowman and Costas, 2016: 382). Thus, we can mention deviations such as the ‘Matthew effect’, the use of citations as persuasion tools, the use of perfunctory or superficial citations, the presence of negative citations, among other things.
- **The concept symbols theory** considers that citations are “symbolic of the idea expressed in the paper” (Sugimoto, 2016: 383). Thus, when the authors are citing, they are associating ideas or concepts with specific documents or articles. In other words, citations are ‘private symbols’ between the research citing and the document that is cited. When documents are repeatedly cited, the document’s significance is then transferred through this repetitive activity. This theory explains why citation-based retrieval and filtering mechanisms make sense as well as citation mapping that offers a science map using citation data (Leydesdorff, 1998; Priem, 2010: Online, Priem, 2014; Sugimoto, 2016: 351-2; Haustein, Bowman and Costas, 2016: 383).

These two theories (normative theory and concept symbols theory) have implications for the use and application of citations in research evaluation, as they would justify (or support the criticism of) citations in evaluating science. Citations are a reward; therefore, it is an indication of the “credibility of a knowledge claim” (Leydesdorff et al., 2016: 12).

In addition to citation theories, according to Haustein, Bowman and Costas (2016), three social theories can be applied:

Attention economics framework was used for the evaluation of popular and emerging social networks. Researchers currently are exposed exponentially to a wide variety of information, leading them to manage and conserve their attention to the research information provided (Falkinger, 2007; Huberman, 2013).

Social capital is traditionally the concept of benefits people can obtain from their social networks. Bourdieu (1986: 248) states that is an “aggregate of actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.”

In most studies, social capital was found to have a positive effect on research performance. Others, such as McFadyen, Semadeni and Cannella (2009), and Gonzalez-Brambila, Veloso and Krackhardt (2013) argued that the relationship had an inverted-u shape, or not all dimensions of social capital had a positive impact.

Impression management is an important framework for the management and development of social relationships. It is the way a social tool is used to create an impression to influence others in a regulating manner, to affect the audience (Goffman, 1959; Gosling, Gaddis and Vazire, 2007).

3.2.1.1 Application of the Haustein, Bowman and Costas theories

The following theories are applied across the research objectives, Haustein, Bowman and Costas (2016); Citation theories, Haustein, Bowman and Costas (2016); and Social theories, Haustein, Bowman and Costas (2016):

- To investigate the motivations of GBV researchers for publishing.
- To determine GBV researchers’ perceptions about the value of metrics.
- To determine the factors used by GBV researchers for selecting a publication channel.
- To understand how GBV researchers share their research.
- To determine if there is a relationship between traditional metrics and altmetrics.

Common citation theories were created to examine social media behaviour for explaining the fundamental foundation of altmetrics (Leyedesdorff, 1998; Haustein, Bowman and Costas, 2016). The correlation between citations and altmetrics is the primary reason why a wide variety of theories such as the normative theory of Merton or social constructivist theory were used (Priem et al., 2010; Priem, 2015). The citation theories are an important theoretical approach to analyse the findings. These theories determine different approaches to research in different ways. For understanding the bibliometric measures, the comparison of the traditional normative theory through to the social constructivist’s theory is used to determine the citation patterns. The application of three theories (social capital, attention economics and impression management) are used for the interpretation of articles receiving the most attention. As journal articles are the most recognised kind of publication,

different theories are applied to particular acts (for example, a) saved in Mendeley, b) mentioned on Twitter, c) cited on a blog).

Therefore, platforms such as Twitter are examined for their use in tweeting or retweeting publications for discussion, whereby the visibility of the research can be increased (Bornmann, 2014c; Costas, Zahedi and Wouters, 2014; Haustein, Bowman and Costas, 2016; Haustein, Costas and Larivière, 2015; Haustein, Larivière, et al., 2014). Thus, the three theories, social capital, attention economics, and impression management, are applied in this research to determine the user's behaviour through online metrics. These theories can focus on different aspects of scholarly communication. Through the social lens, we can see how information is engaged with social networks, specifically, as a social capital generation. The attention economic theory is applied to infer the GBV research has received attention on altmetrics within the scholarly communication landscape. Haustein, Costas and Larivière (2015) indicated that the third theory, impression management, offers ways for academics to maintain their presence online. Therefore, the normative and social constructivist theories are applied in this research for the interpretation of altmetrics data.

3.3 Chapter summary

Without a doubt, there is a necessity to capitalise on the interest in bringing the assessment of research into the twenty-first century, taking advantage of the flexibility and scale of the world wide web. The suitability of the models and theories in this study is indicated in this chapter. The main model used is, the Stephen Griffins' (2013) adapted model of scholarly communication. Most importantly, this PhD study seeks to understand the changing scholarly communication landscape the level of awareness and the usage of bibliometrics and altmetrics among GBV researchers in South Africa. From here, in Chapter 4, the research methods and data to be used in the study are described. The approach and research methods, the analysis of the research data and the collection of research data are discussed.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

In this chapter, the research design and methodology of this study is addressed. A comprehensive approach to this research is necessary to probe the effective use of altmetrics over traditional metrics among GBV researchers. Two phases were selected for gaining information regarding the current use and knowledge by GBV researchers, of altmetrics and traditional metrics. In general, the research methods that can be used in qualitative research include interviews, observations, documentary analysis and discourse analysis (Flick, 2009). Quantitative research methods can include the analysis of numerical data that can be described or explained or to control specific variables to be studied in the research. Only numbers and statistics are collected using structured and validated data collection instruments (Jonker and Pennink, 2010). As defined by Plano Clark and Ivankova, (2015: 59) mixed-methods research (MMR) is the “process of research when researchers integrate quantitative methods of data collection and analysis and qualitative methods of data collection and analysis to understand a research problem.”

Bibliometric analysis is done, using a mixed-methods approach to measure the relationship between traditional metrics and altmetrics. According to Andrés (2009), a bibliometric analysis is defined by applying techniques, either mathematical or statistical, to analyse the patterns that appear in publications and documents. A bibliometric analysis is quantifiable and can examine the knowledge exchange and scientific communication used primarily in the library and information science fields (Ball, 2017). The methods used for bibliometric analysis are to explore the impact a field has on a set of researchers or a journal.

At the same time in the study, the scholarly communication process has been explored, using interviews with GBV researchers. An interview is one of the most frequently used methods to collect data, as it is easier to obtain accurate data or information and direct feedback. The in-depth interview (‘conversations with a purpose’) is appropriate for this study as its structured approach was to obtain as much information as possible from the researcher’s perspective. The approach is conversational to answer the research questions and as a follow up of the bibliometric analysis (McNamara, 2009; Turner, 2010:754-60).

4.2 Research paradigm

All research studies are based on certain underlying philosophical assumptions about what constitutes valid research and which research technique, or method is applicable for the development of knowledge in any given study. A research paradigm is the philosophical and theoretical framework of a discipline wherein theories, laws and generalisations and experiments validating the researcher are created and formulated. Furthermore, according to Morgan (2007: 49), it is a common set of beliefs and agreements shared among scientists about how a problem can be understood and approached. There are four main paradigms, positivism (Quantitative), constructivism (Qualitative), critical (Post Modern) and pragmatic (Mixed Methods). A research paradigm is inherently associated with the concepts of ontology, epistemology and methodology (Makombe 2017:3363-82). The ontology is the what in which a research or investigator approaches and defines truth and reality. Epistemology is the process of how the researcher determined the truth and the reality of the findings and the methodology is the method used to conduct the research.

This study uses the pragmatic paradigm. According to Powell (2011: 884), being a pragmatist is “not to find the truth of reality, the existence of which is perpetually in dispute but to facilitate human problem solving.” Effectively, the pragmatic paradigm is the practical effect of ideas through an MMR methodology. The critical aspects of the design and experiments address problems in real contexts as well as provide solutions to these complex problems (Reeves, 2000: 8). Pragmatism concentrates on whether knowledge is useful; to guide behaviour that produces anticipated outcomes (Tashakkori and Teddlie, 2010; Morgan, 2014:1045-53).

4.3 Research approach

A mixed-method approach has been used, employing qualitative and quantitative research methods. Creswell and Plano Clark (2018: 218) informed the researcher’s understanding of the research approach for this study. Mixed methods by definition is a methodology for conducting research that collects, analyses, and integrates quantitative and qualitative research in a study or a longitudinal study. The purpose of this methodology is to integrate the information to provide a greater understanding of a research problem (Creswell and Plano Clark, 2018).

Additionally, as defined in the Journal of Mixed Methods Research (Fetters and Molina-Azorin, 2019: Online):

“Mixed methods research is defined as research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry.”

4.3.1 Why Mixed Methods Research?

MMR is a methodology with “philosophical assumptions as well as methods of inquiry” (Gunasekare, 2015: 362). As a methodology, it involves collection and analysis of data, with a mixture of both qualitative and quantitative approaches in many phases of the research procedure (Stentz, Plano Clark and Matkin, 2012: 1173, 1175). To define mixed-methods in a study, is that it is a combination of qualitative data collections and analysis with quantitative data collection and analysis, in a single study. The principle is that the “use of quantitative and qualitative approaches, in combination, provides a better [concept] of the research problems than either single approach” (Creswell and Plano Clark, 2007: 18). The two approaches, qualitative and quantitative, are used together to ensure validation of one method verifying the other’s findings, to facilitate analysis of both qualitative and quantitative aspects of a research problem (Dixon-Woods et al., 2004: 2).

Combining the two approaches provides a way to develop or extend theories and also enhance the quantitative output, with the interview data. There are major differences between these two approaches. By combining the two approaches, they mitigate the weaknesses of each other. Preferably they amplify each set of data. This mixed-methods approach gives researchers the potential to achieve methodological triangulation, and thereby improve the accuracy of the research findings by collating different types of data (Buchholtz, 2019: 131-52). Researchers have emphasised that the reasons for combining qualitative and quantitative methodologies within a research approach, were to address different parts of the research question (O’Cathain, Murphy and Nicholl, 2007: 85). Furthermore, Tashakkori and Teddlie (2010: 9) state that the use of MMR is the simultaneous way research can be addressed through multiple methods to confirm research questions in a study.

Bazeley (2015) asserts that researchers adopt the use of mixed methods to provide improved relevance, ensuring their work is more accessible to others and the information, as such, more interesting to the

academic researchers. Neuman (2014: 167) further elaborates that a study containing both approaches tend to be “richer and more comprehensive.”

4.3.2 Characteristics of MMR

Teddlie and Tashakkori (2012: 775) identified a set of core characteristics of MMR (several of which may be considered to be characteristics of any good research):

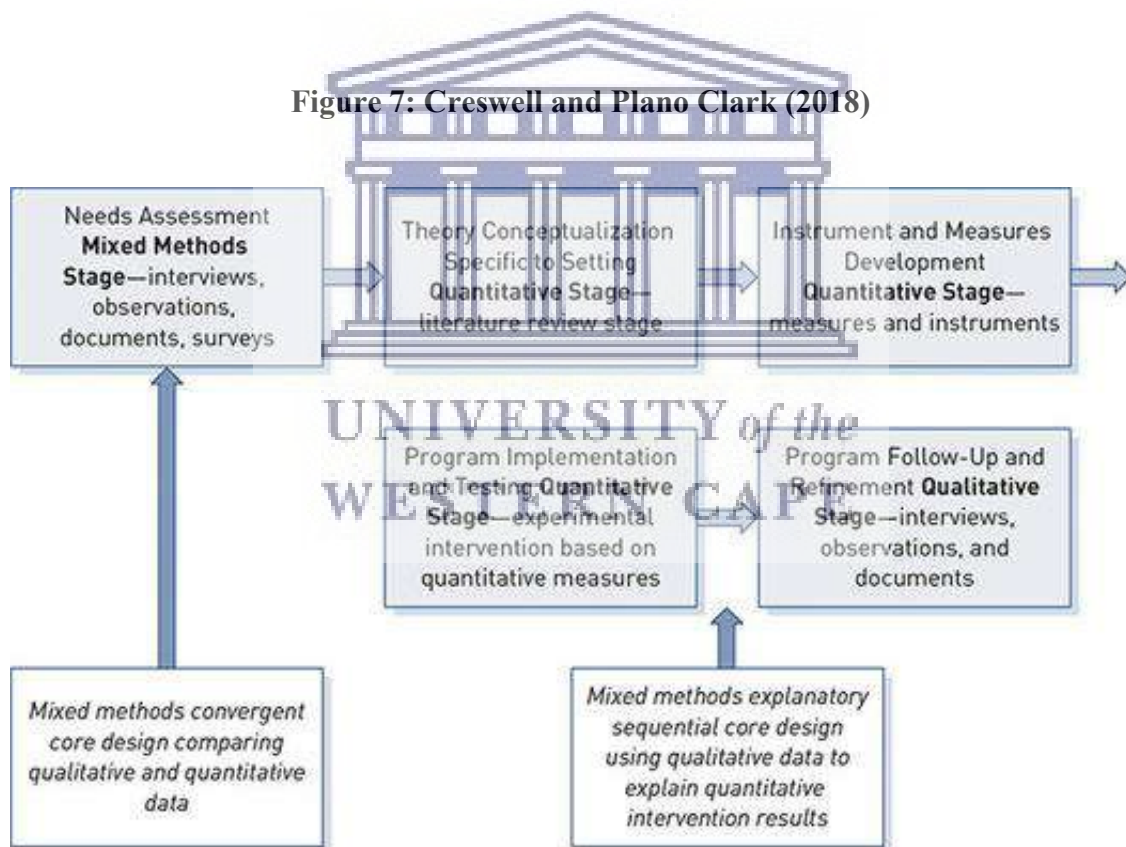
- Methodological eclecticism;
- Paradigm pluralism;
- Iterative, cyclical approach to research;
- Set of basic ‘signature’ research designs and analytical processes;
- Focus on the research question (or research problem) in determining the methods employed within any given study;
- Emphasis on continua rather than a set of dichotomies.
- Emphasis on diversity at all levels of the research enterprise;
- The tendency toward balance and compromise that is implicit within the ‘third methodological community’;
- Reliance on visual representations (e.g., figures, diagrams) and a common notational system.

In Phase 1 of the study, altmetric and bibliometric analyses, using a quantitative method, were done by in-depth examining of documents from Scopus bibliometrics to understand the difference between traditional citation methods and altmetrics. The quantitative aspect of the scores is analysed using MaxStat, a statistical analysis program designed for non-statisticians (Wurl, 2016). Also, the Analysis ToolPak was used to perform additional data analysis (Microsoft Office Support, 2017). Coding of the altmetric and citation metrics was critical in interpreting results. The Plum Analytics tool integrated within Scopus was used to interpret the altmetrics data. The research was also assessed regarding usage, captures, mentions, social media and citations (beyond the Scopus interface). The second phase of the study comprised in-depth interviews of selected GBV researchers. The interviews were conducted using FtF interviews and email interviews. The FtF interviews were recorded with permission and then transcribed and thematically analysed. The data were collected, interpreted and integrated at one or more stages within the research process (Creswell and Plano Clark, 2007: 17). The third phase involved the questionnaire deriving because of minimal responses in the interviews. An electronic questionnaire is to be distributed on the SVRI Listserv.

4.4 Research design

An explanatory sequential mixed-methods design is used, and it involves collecting qualitative data after a quantitative phase to explain or follow up on the quantitative data in more depth. According to Creswell (2014: 38), the process to be followed for this research design is to:

1. collect and analyse quantitative data;
2. examine the results of the quantitative data to a) determine the research that is to be explored in Phase 2, and b) determine the research questions for the study;
3. conduct the qualitative research phase to collect further data to assist in the explanation of the quantitative phase;
4. draw interpretations on how the qualitative results assist in explaining the quantitative results.



Creswell and Plano Clark, (2018: 123)

The strengths of the explanatory sequential design are as follows (Creswell and Plano Clark, 2018: 124):

- a. It provides a straightforward way to describe, implement and report the data.
- b. Combining quantitative and qualitative data makes the research produced more acceptable to quantitative researchers.
- c. MMR is an acceptable method to be used, especially as a second phase emerges after the quantitative phase.
- d. Researchers can produce/develop a new measure, instrument, or variable.

There are also a few challenges indicated by Creswell and Plano Clark (2018: 123) such as the further planning of time to implement the second phase along with the third phase for the variable or instrument development. The quantitative phase should be specified well in advance to provide direction. Furthermore, the sample in Phase 1 should be considerably larger than phase two. Respondents should also be from the same population in both the quantitative and qualitative phases. The skills of the researcher also determine the quality of the research. The quantitative research was bibliometrics in nature, while qualitative research was conducted through interviews.

In the first quantitative phase of the study, the bibliometric analysis collected data from GBV researchers in South Africa to test the measurement of traditional metrics (citation counts) and altmetrics. The second qualitative phase was conducted to determine the degree of altmetrics knowledge among GBV researchers. In Phase 2, the metrics were tentatively explored with GBV researchers in South Africa. The reason for the exploratory Phase 2 is to determine the extent of the use of altmetrics among GBV researchers in South Africa. The third quantitative phase was conducted to determine the level of awareness and the usage of bibliometrics and altmetrics among GBV researchers in South Africa on the SVRI Listserv. The reason for the exploratory Phase 3 is because of a rather low response rate from the interviews that were conducted in Phase 2. Expansion of research among the larger cohort of GBV researchers (SVRI Listserv) was selected to investigate this study's objective.

4.5 Target population

A target population is a group of subjects that researchers wish to generalise, and a subset thereof is the sample (Salkind and Rasmussen, 2008). A sample is defined as a small portion of the population that is selected for a study (Best and Kahn 2006). The target population in this study constituted GBV

researchers (currently publishing) in South Africa. In Phase 1, the sample of the GBV researchers who publish in South African was studied between 2014 and 2017. The total population of the group is undetermined as no known survey has been conducted to determine the total population of GBV researchers. In Phase 2, the second sample for the interviews was drawn from the NRF-rated researchers' list. On the NRF-rated list of 2016, there were 26 rated researchers with GBV specialisation in South Africa. In Phase 3, the targeted audience was the 521 registered GBV Listserv users in South Africa on the prominent SVRI Listserv.

4.5.1 Inclusion criteria

These criteria specify the characteristics that people in the population must possess for inclusion in the study (Patino and Ferreira, 2018: 84). For this study, on selecting participants for the interviews, the inclusion criteria applied were that they had to:

- Have an NRF rating (2016-2017 period)
- Have contributed to the analysed GBV research.
- Have recognised publications within the bibliometric analysis (2013-2016)
- Have published on GBV research
- Be a South African researcher.

4.5.2 Exclusion criteria

These criteria specify the characteristics that excluded a researcher from this study:

- Being a non-South African researcher
- Doing non-South African-based research
- Not publishing on GBV research in South Africa.

The list of researchers included in the interviews was derived from the bibliometric analysis. These researchers were invited through email correspondence to take part in this study. A total of thirty researchers (N=30) was purposively targeted from the 2016 NRF rated list. However, because of the low response rate of the GBV researchers, only nine interviews could be conducted (Appendix E). Ten GBV researchers responded to the interview request; however, one withdrew from the study. Individual interviews were completed, and the semi-structured interview questions were used as a data collection instrument of the researchers (N=9). Of the nine responders, six researchers were

interviewed via email, one researcher face-to-face (N=1), and two responders (N=2) through telephonic interviews.

Table 1: Interviewee descriptors

Date of interview	Coded	Type of interview	Description of interviewee	Type of institution
22 August 2017	GBV Researcher 1	Email	Senior Specialist Scientist	Research Institution
23 August 2017	GBV Researcher 2	Telephone and Email	Executive Research Director	Research Institution
28 August 2017	GBV Researcher 3	Telephone	Senior Lecturer	University
28 August 2017	GBV Researcher 4	Email	Specialist Researcher	Research Institution
27 August 2017	GBV Researcher 5	Email	Research Director	Research Institution
7 October 2017	GBV Researcher 6	Face-to-Face and Email	Lecturer/Consultant	University/Self Employed
14 November 2017	GBV Researcher 7	Email	Research Director	Research Institution/University
23 November 2017	GBV Researcher 8	Email	Research Director	Research Institution
15 November 2017	GBV Researcher 9	Email	Senior Lecturer	University

(Author's table)

The respondents were asked to respond to the questions in the interview guide (see Appendix C). Consent was given to digitally record three (3) of the interviews per the participant breakdown (Table 1). The researcher designed an interview schedule with open-ended and closed questions. The interview questions were informed by the quantitative study and the research objectives.

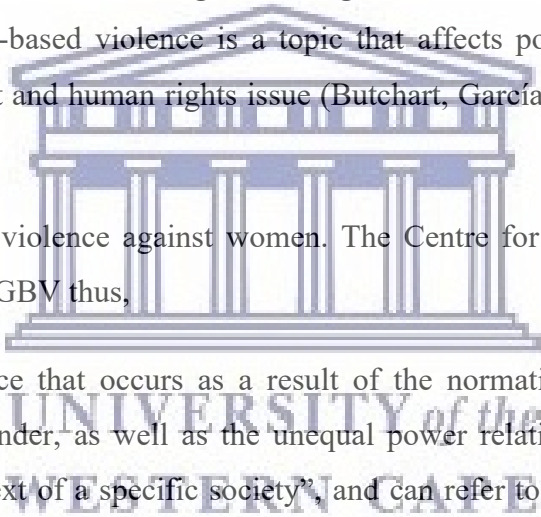
In Phase 3, a questionnaire (Appendix K) was distributed to every subscriber on SVRI Listserv. The researchers were invited through email correspondence to take part in this study. Only three GBV researchers responded to the request. Furthermore, the researcher had experienced challenges

concerning the data collection because of COVID-19 epidemic. The digital divide in South Africa specifically in conducting the study may have contributed to potential participants refusing or simply being unable to participate in the online questionnaire due to i) lack of skills, ii) lack of email access, or other applications, or iii) lack of internet access. Furthermore, GBV researchers were generally preoccupied, since the epidemic prompted an investigation into the impact of COVID-19 on violence against women and girls, mental health, and the livelihoods of South Africans, which emerged as a crisis during the epidemic (Thutloa, 2020: Online).

4.5.3 Population characteristics

Gender and health researchers study not only public health and reproductive health, but also the complexities and perspectives between men and women in the health environment (World Health Organization, 2014b: Online). Within the large area of gender and health research, GBV has been selected as the focus. Gender-based violence is a topic that affects populations globally and is a recognised public health threat and human rights issue (Butchart, García-Moreno and Mikton, 2010: 30157).

GBV is mostly equated with violence against women. The Centre for the Study of Violence and Reconciliation (2016) defines GBV thus,



“used to capture violence that occurs as a result of the normative role expectations associated with each gender, as well as the unequal power relationships between the genders within the context of a specific society”, and can refer to women and girls, as well as men and boys, as victims.”

GBV researchers have an impact on the quality of life for women and children. The researchers targeted for this study, the GBV researchers, put great value on societal impact, given South Africa’s high incidence of violence against women (Mathews, 2004: 4). Researchers, such as Professor Rachel Jewkes, are among the most cited researchers, according to Clarivate Analytics, who states that communicating research findings is critical in preventing GBV (Health Sciences Research Office, 2014: Online). Altmetrics.com scores have shown that the highest percentage of publications shared was in the Biomedical and Health Sciences field through the increasing number of PubMed citations being tweeted (Costas et al., 2014: 30; Haustein, Peters et al., 2014: 656-69). Therefore, altmetrics may play a key role in the measurement of the actual impact of health sciences research, through social media for research dissemination.

4.6 Data collection procedures and methods

A tri-phase study consisted of Phase 1—altmetric and bibliometric analyses, Phase 2—A pilot study of Interviewed GBV Researchers, and Phase 3—An electronic questionnaire to be distributed on the SVRI Listserv.

Phase 1: To determine the difference between altmetrics and traditional metrics, a bibliometrics analysis of publications in the field of GBV was conducted, particularly of South African researchers. The main tool used for the quantitative measurement of research impact was citation counts. Traditional metrics and altmetrics in GBV research are considered in the bibliometric analysis process. The goal was to analyse scientific publications on GBV from South African researchers. The Scopus database accessed from Elsevier was selected to obtain the citation data for each article determined from the bibliometric analysis. Usually, the peak time for citations to be received is over a three-year period after a journal article is published (Moed, 2005). For the period 2013–2016, based on the focused search strategy performed, 3 695 documents were found searching on Scopus, without limiters. Once the search results were limited to additional keywords (see Figure 8) and English-only publications limited to South Africa, 1 648 publications were retrieved. The publications were further limited by publication type, focusing on Original Articles, Reviews and Ahead-of-Print articles, thereby totalling 456 publications. The books, book chapters, book series and errata documents were excluded using the limiters on Scopus.

The publications were limited to these publication types to focus on the main research published within GBV. Each article was verified for its relevance based on the exclusion criteria below:

- Limited to specific types of publications (original articles, reviews, and Ahead of Print)
- Articles of other countries excluded
- No abstract for publication was available
- No research produced about South Africa.
- Articles irrelevant to the GBV research topic.
- Short papers, duplicate articles, non-English and not peer-reviewed articles.

Studies published in journals (indexed in Scopus), and either exclusively or in part, undertaken in South Africa were included. After the above exclusion criteria were established, only 325 articles were shortlisted. Citation searches were carried out for all eligible articles, using Scopus. The overlap and unique citations versus altmetric scores were compared and analysed. Each publication was analysed and reviewed from the authors, journals, geographic placement of the authors, and the year of

publication. The impact factor related to the publication year was obtained for all of the top 30 most cited articles. The citation count was used as an objective aid in the otherwise subjective selection. The bibliometric analysis summarises the research trends, highly cited articles, the subject categories, major journals, active authors, research institutions, and keyword frequencies. The traditional metrics analysis included the citation performance of the journals in which GBV researchers publish.

Consequently, it was important to examine altmetrics against this existing standard. Altmetrics has only been available from Altmetrics.com since 2012/2013 for the analysis of publications. Initially, the widget for Altmetric data for Scopus was to be used. The widget is an application that moves within the sidebar of the Scopus webpage to track mentions of individual papers across social media sites, blogs, media issues, and reference managers (Roemer and Borchardt, 2012: 597). The tool information is from Plum Analytics, which incorporates Altmetric.com data. In response to the Higher Education Funding Council for England, which runs the national assessment exercise and Research Excellence Framework in the United Kingdom, Elsevier created four metrics for altmetrics on the Scopus platform, called Snowball Metrics (Plume, 2014).

As the system changed, a new method for obtaining the altmetric scores was determined by using a free bookmarklet for researchers (Altmetric.com, 2016). For this study, the bookmarklet was used to determine the altmetric scores. A widget on a browser can be used to follow articles individually. This plugin allows for the instantaneous visual of the Altmetric data for any publication with a Digital Object Identifier (Altmetric.com, 2016). As Elmore (2018: 252-5) suggested, the altmetric badges update in real-time to show a) the Altmetric Attention Score, b) the number of mentions per source c) the breadth of attention received.

A bookmarklet is a script or short program that can be installed on a web browser's bookmarks toolbar or in a bookmarks/[favourites] list (Virginia Tech, 2018: Online: para 1). This free browser add-on, called the Altmetric Bookmarklet, allows the researcher to search using either a Digital Object Identifier (DOI) or PubMed identification on a Web page when it was available (Torres-Salinas Robinson-García and Jiménez-Contreras, 2016). It instantly retrieves the article-level metrics from the Altmetric.com database and displays them on a sidebar (Loria, 2013; Trueger et al., 2015). The altmetric data may only appear when data are available for the article. For this study, we have retrieved and evaluated the electronically available data retrospectively. The altmetric explorer fits the needs of this study, which is to find the altmetric indicators for author's publications. More comprehensive analysis of the altmetric data per Konkiel, (2013: Online) is based on how many times an output has been:

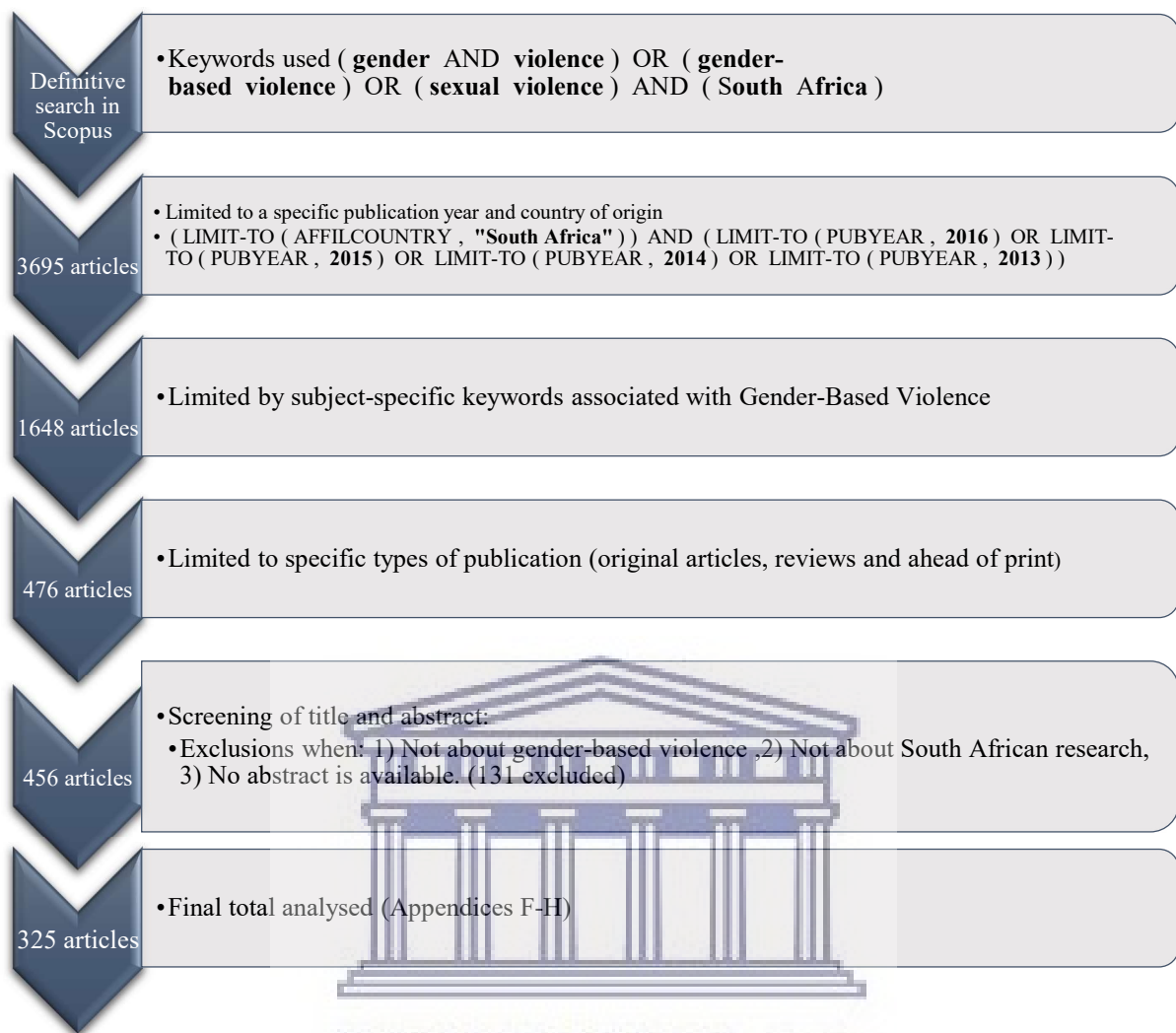
- Viewed (Publisher websites, Dryad)
- Downloaded (Slideshare, publisher websites, Dryad)
- Cited (PubMed, CrossRef, Scopus, Wikipedia, DOI, Web of Science)
- Reused/Adapted (Github)
- Shared (Facebook, Twitter)
- Bookmarked (Mendeley, CiteUlike)
- Commented upon (Twitter, Mendeley, blog).

The altmetric data are collected data from these sources and measured to calculate a final “altmetric number” on the widget. Every 325 publications were checked manually, with 111 articles having no altmetrics score, such as not having a DOI or not being used. Therefore, only a small portion of the journal articles could be measured. The altmetric score and altmetric sources were determined through the Plum Analytics application on Scopus. Therefore, the data were used for determining the information and evaluated for the usage, captures, mentions, social media and citations (beyond the Scopus interface). The 325 articles were listed on Excel, along with the citations and altmetric total scores. In this study, Excel was used to analyse and present data.

The bibliometric analysis was divided into the following categories:

- Number of authors
- Institutions of the authors
- Journal impact factors of the journals
- Year of publication
- The attention received from the different online platforms in association to citation counts.

In this approach to the scholarly communication model, the bibliometric analysis was applied to investigate the dissemination of results and sharing information across social media by the GBV researchers. The research results are presented as an analysis of the quantitative data recorded by the bibliometric analysis. After obtaining all the indicators, the number of citations (traditional impact indicator) was compared to that of mentions in the social media to ascertain whether they were related. The procedure in Figure 8 was descriptive of the process followed to obtain the data and analyse whether there was a relationship between the two variables (See Appendices F-H). Pearson's correlation coefficient and similar statistical tests were conducted, and the respective p values (probability of statistical significance) calculated.



UNIVERSITY of the
WESTERN CAPE

(Author's graphic)

Figure 8: Definitive search strategy

Phase 2: To determine the opinions of GBV researchers on the use of their metrics, whether from traditional metrics or altmetrics, a series of personal in-depth interviews were intended to be conducted among the top 20 GBV researchers, however, this was not achieved. The number of articles, citations or altmetric scores was also used to determine the top-performing researchers. The focus was primarily on senior authorship, which is the first and last authors. The four main interview techniques are FtF, WhatsApp messenger, telephone, and email. An interview is a beneficial data collection instrument, as it permits the interviewees to impart their encounters, dispositions, and convictions in their own words. Interviews are used to obtain a participant's experiences. The main advantages of interviews are that (1) they allow respondents to describe in detail their responses, allowing a real depth of knowledge (King and Horrocks, 2010: 89); (2) The response rate for the questions increases tremendously, as the interviewer can ask all the applicable questions. The main disadvantages of

interviews are that they (1) are time-consuming, (2) require good interviewing skills to obtain quality results, and (3) are an expensive method of data collection (King and Horrocks, 2010: 80; Klenke, 2016: 126). As a result of the growth of new communication forms, such as email and short messaging services, other interview techniques can be used in the qualitative research field. Email interviews were well-suited to this study, as they serve as a good way of producing a rich written account of participants' experiences and knowledge.

There are several advantages and disadvantages of email data collection. Email exchanges between the interviewer and the participant allow the interviewer to overcome geographical barriers, and to gather rich knowledge and information. This interview technique was similar to FtF interviews (Opdenakker, 2006: 1-9; Gibson, 2010). In this study, the interviews began by sending each participant a full list of questions, the participant's rights and privileges enabling them to decide whether they want to participate or not (Doody and Noonan, 2013: 31). The procedure used to collect the data through the interviews was conducted through email interviews, FtF interviews and telephonic interviews. The interviews were semi-structured with a checklist of issues and questions that followed during the session. This method was used to ensure that the interviewees were freely able to discuss their own opinion on the questions raised. Furthermore, if the respondent did not understand a question during the interview, the interviewer could clarify it immediately.

For email interviews, an asynchronous method uses information exchange over a longer period, via email or web postings. A major benefit of using these methods is that there is no time-zone restriction, nor dependence on the recipient's schedule. This first exchange introduced the interviewees to the research study and the interviewer. By communicating with each participant via email, the researcher was able to a) clarify responses, b) request further information on their response. The emails provided a transcript of the interviews for further analysis. Although the interviewer was not physically present in the interviewing context, the researcher was only an email or telephone call away to clear up uncertainties that could arise as the interview guide was emailed to those specific participants. Therefore, they allow for a better discussion of the interview questions presented (Golding, 2014). Although there were disadvantages, people were more willing to communicate via email as opposed to FtF interviews because of scheduling challenges and travel commitments (James and Busher, 2012). The number of follow-up exchanges differed per person in the completion of the data collection.

Face-to-face interviews have always been the main interview technique used in the qualitative research field. Interviews can be graded into the three types namely informal, conversational interview, a general interview guide. Interviews has four approaches that can be used namely, the standardised,

open-ended interview, closed, and the fixed response interview (Kvale, 1996; Opdenakker, 2006; Barratt, 2012). The FtF was conducted with GBV Researcher 6, a copy of the questions was supplied to the interviewee. The interview was conducted in a relaxed atmosphere to ensure the conducive free-flowing conversation and rapport. A predefined time was arranged for the interview, and the questions were asked per the prescribed list. The length of the interview allowed further detailed responses to the more complicated and technical questions. The rapport obtained previously via email allowed for the navigation and the flow of the interview to change depending on the answers supplied (King, Horrocks and Brooks, 2018).

The telephonic interviews for the collection of data, according to Holt, (2010: 115, 120) is regarded as a valid and productive method. Telephonic interviews were conducted with GBV Researcher 2 and GBV Researcher 3. The interviewer scheduled the telephone interviews with each respondent at a time convenient for them. Respondents agreed to the telephonic interviews being recorded digitally. They stated that they would prefer participating in the research study in this way rather than only responding to the questions contained in the interview guide via email. The respondents felt it was more personal as they could discuss their thoughts with the researcher in more detail. These participants were in Pretoria (Gauteng) and Grahamstown (Eastern Cape) and, therefore, not accessible to the researcher for an FtF interview.

The interviewer was able to provide a greater level of anonymity and privacy with the respondents than in an FtF interview (Vogl, 2013). The lack of visual contact between the interviewer and respondent allowed for the interviewer to write down the responses. Thus, once the respondent had finished speaking, the interviewer could follow-up with questions, probes, and prompts (pre-written questions). All the FtF and telephonic interviews were recorded at that point, and then transcribed and sent to the respondents. Statements were amended according to the respondents' comments, and finally, the material was approved by the interviewees.

Phase 3: To determine the awareness of South African GBV researchers on the use of their metrics, whether traditional metrics or altmetrics, a questionnaire was distributed to every subscriber on SVRI Listserv. The total South African researchers subscribed to the Listserv is 521. Interviews were conducted to obtain respondents' detailed views, however, the low response rate from these interviews lead to an additional questionnaire phase that was added to capture supplementary data on GBV researchers.

A questionnaire is a form containing a set of questions, specifically addressed to a statistically significant number of subjects, and is a way of gathering information. Furthermore, it is used to collect statistical information or opinions about people. The Oxford Learners' Dictionary, (2019: Online) defines a questionnaire as a written or printed list of questions to be answered by several people. Leedy and Ormrod, (2016: 187) describe questionnaire research as “acquiring information about one or more groups of people – perhaps about their characteristics, opinions, attitudes, or previous experiences – by asking them questions and tabulating their answers.”

A questionnaire survey is a process by which information is collected by submitting them by email or digital electronic file. Questionnaires that allow respondents to score objects on a scale, usually, a five-point scale of agreement (e.g., the 1-5 Likert scale), use the following prompts/options, a) Strongly disagree, b) Disagree, c) Neither agree nor disagree, d) Agree and e) Strongly agree (Meyers, Gamst and Guarino, 2005: 192; Albert and Tullis, 2013). Many questionnaires often require participants to compose their thoughts or opinions about a matter, or comment on a topic in more depth, or to make suggestions. Questionnaire approaches used in the study are closed-ended questions (quantitative) and open-ended questions (qualitative). An online questionnaire was circulated on the SVRI Listserv. The email questionnaires use push technology, which allows researchers to communicate directly with potential respondents. Email also affords the technical ability to track whether the delivered email questionnaires were opened, responded to, and or deleted as well as if they were undeliverable.

For this study, the questionnaire formed the third phase of the data collection method, and its content was guided by the interviews conducted. The questionnaire was designed to collect a broader response to the research inquiry from the respondents on the SVRI Listserv. The data collecting tool is divided into three sections (see Appendix K).

- Section A: The demographic information of respondents such as level of Internet skill, usage of social media, institutional type.
- Section B: Traditional metrics - this part includes several open-ended and closed-ended questions regarding traditional metrics. The respondents are asked specific questions about the use of these elements as GBV Researchers.
- Section C: This part investigates and identifies the required information regarding altmetrics. The opinions on the usage of these metrics are divided into 18 questions.

A participation request was transmitted via email. The questionnaire was collected using Google Forms. Questionnaires are used widely among researchers when asking questions regarding beliefs,

emotions or attitudes qualitatively between two variables such as altmetrics and researchers (Malhotra and Grover, 1998: 409). As the usage of the Internet increases, society at large uses online communication methods to distribute and collect information from respondents and organisations (Wright, 2005). Web-based research gathers information online through semi-structured interviews, online focus groups, or web-based questionnaires, for research (Roberts, 2015). Respondents are more likely to respond to electronic questionnaires online, as it links two things' individuals currently use most, the Internet and email.

In academic literature, the benefits of web questionnaires have been extensively documented. We tend to reduce the expense of the delivery and administration of the questionnaire and eliminate an interviewer's control (Callegaro, Manfreda and Vehovar, 2015), while respondents can track how and when they will complete the questionnaires (Christian, Parsons and Dillman, 2009; Callegaro, Manfreda and Vehovar, 2015). Furthermore, web questionnaires offer the advantages of relatively easily obtaining large samples relatively easy (Malhotra, 2008; Monzon and Bayart, 2018) as well as increased accuracy of response, as respondents enter their information directly (Durrant and Dorius, 2007).

Questionnaires are accepted as an advantageous method of research analysis, however, there are disadvantages. There are several drawbacks, such as low response rate, the necessity for simple questions, associated bias, and incomplete data submission through online platforms. Another disadvantage of the system would be those who do not have access to the web or are not computer literate and thus, excluded from the sampling (Gillham, 2008; Lavrakas, 2008). O'Leary (2017) has indicated that questionnaires are time-consuming, relatively expensive, and it is difficult to do proper sampling for your study.

4.7 Validity and reliability

In all research validity and reliability are required, as both of these are concerned with the concept of measurement. Validity and reliability are critical in defining and measuring bias and distortion of concepts. Neuman (2014: 212) states that "reliability and validity are salient because constructs in social theory are often ambiguous, diffuse, and not directly observable." He further stated that reliability is consistency and validity is truthfulness. Within quantitative and qualitative methodology, researchers differ in how they establish validity and reliability. Qualitative research is usually not based on standard instrumentation and has a smaller non-randomised sample size. In qualitative research, validity is a positivistic concept, as it is the extent to which credibility, trustworthiness, rigour, and

transferability of research is measured. The goal was to understand the phenomena from the perspectives of the people who experience them, and not so much to generalise their findings (Trochim, 2006: Online). Continuous reflections on the emerging themes in the data as recommended by Creswell and Miller (2000:124-30) provide an example of an explanation that can be used to assure the reader of the rigour of the qualitative-based research study. A modified version of the justification was:

“The intent of this qualitative research is to understand [a particular social situation, event, role, group, or interaction]. This involves an investigative process where the researcher gradually makes sense of a social phenomenon by contrasting, comparing, replicating, cataloguing, and classifying [the object of study] ... The researcher (will) enter the informant’s world and through ongoing interaction, analyze informants' perspectives and meanings.”

The underlying factor is that qualitative research should use the same standard of rigour as quantitative research. The use of multiple methods for the examination of the data can help to corroborate the findings of the research, thereby increasing the validity of the data (Denscombe, 1998). According to Lincoln and Guba (1985: 314), in addition to using multiple methods within qualitative research, member-checking was a crucial component to provide credibility to the research. It consists of confirming the interpretation of the narrative provided by the participants.

Qualitative software such as NVivo and Atlas.Ti can also help assure accuracy. In this thesis, some interviews were recorded or emailed, and after transcribing these returned to the interviewees for their approval of the transcript material. This procedure was to increase the validity and decrease the possibility of using the researcher’s interpretation of the data. The description in the qualitative research process of what was done, how it was done, and why it was done—as well as adherence to the identified criteria for qualitative research—ensure the authenticity and trustworthiness of this research.

Within qualitative research, reliability can be measured through the examination of trustworthiness. The trustworthiness of this research can be ensured by the application of the following criteria: credibility, dependability, authenticity and confirming. Reliability is the ability, in simple terms, to obtain the same answers with the same instruments more than once. Reliability relates to the reproducibility and stability of the data. Bryman and Bell (2011) state that to achieve reliability in research, the results must be consistent. The process of gathering data, along with how subsequent interviews and the questionnaire were done, is described in detail in this chapter. The questionnaire

and the interview questions appear in Appendix C and K of this document. This detail assists other researchers in replicating the study with comparable results.

Quantitative research uses the potential statistical correlation between two or more variables to test the sample data when applied to the total population. Lincoln and Guba (2007) suggest that researchers should approach this by emphasising the relationship between trustworthiness and credibility with internal validity. Internal validity applies when procedures, selected or not, influence the data gathered. External validity applies when the findings can be generalised. Measures have been developed to ensure the validity of research findings in quantitative research.

The type of measure of validity used in this thesis for the interviews is concurrent validity, which is a statistical approach to ensuring validity. Concurrent validity measures the relationship between two variables made with existing measures. The concurrent validity is determined by comparing the scores on the instrument known as altmetrics with the scores on the standard measurement tool, known as a citation and is often measured by using a correlation test. A Pearson correlation coefficient measure is used to obtain reliability and ensures consistency.

The correlation is a

“measure of the relation between two or more variables. The measurement scales used should be at least interval scales, but other correlation coefficients are available to handle other types of data. Correlation coefficients can range from -1.00 to +1.00. The value of -1.00 represents a perfect *negative* correlation, while a value of +1.00 represents a perfect *positive* correlation” (Hill and Lewicki, 2006: 18). A value of 0.00 represents a lack of correlation (Zhu, 2016: 79).

Within quantitative research, the measurement procedure consists of variables. Several statistical tests can be used to examine reliability within quantitative research. These include descriptive statistics, inferential statistics (the Spearman's correlation, the Pearson correlation, Cronbach's alpha, dependent t-test, one-way ANOVA, independent t-test, and the repeated measures ANOVA), and to indicate the confidence level. Furthermore, the interpretation of the information and data differs from each person's individual perspective. Reliability relies upon an instrument being a consistent and stable/static (Creswell, 2008: 159). For the quantitative data, the Pearson correlation and the t-test are used to ensure reliability. A *t*-test has been conducted to examine whether the difference between citations and altmetrics is significantly different from zero. However, the strong relationship between the data presented is skewed (non-parametric data). The skewness is positive, which means that to show the

true relationship, the researcher should tabulate the median (and range). To compare the two variables (non-parametric continuous data) the Shapiro-Wilk test and a Spearman correlation are performed to confirm of the results.

A Shapiro-Wilk (S-W) test looks at the assumption that the sample data are drawn from a normally distributed population (Razali and Wah, 2011). This test verifies the null hypothesis that the data can come from a normally distributed population. The alternate hypothesis is that the data are not normally distributed from the population sampled. Thus, if the results from the analysis of either test are significant (e.g., $p < 0.05$), the option is to reject the null hypothesis. Therefore, the researcher is rejecting the assumption of normality for the distribution of the population. The type of measure of validity used in this thesis for the questionnaires is content validity.

A questionnaire is a predetermined set of questions used to collect data (Kember and Leung, 2008). The main objective of the study questionnaire is to collect relevant information most accurately and appropriately. Therefore, the precision and quality of the questionnaire is a crucial aspect of the research methodology defined as validity and reliability (Mohajan, 2018). Content validity is defined as the “degree to which the instrument fully assesses or measures the construct of interest” (Bolarinwa, 2015). This type of validity indicates the degree to which the items of an instrument is sufficiently representative of the content. It also answers the question of the extent to which the selected sample of an instrument is a comprehensive sample of the content (Zamanzadeh et al., 2015). Through a panel of experts through testing of the questionnaire validity can be established.

According to Radhakrishna (2007), five questions are addressed to ensure validity:

1. Is the questionnaire valid? In other words, is the questionnaire measuring what it intended to measure?
2. Does it represent the content?
3. Is it appropriate for the sample/population?
4. Is the questionnaire comprehensive enough to collect all the information needed to address the purpose and goals of the study?
5. Does the instrument look like a questionnaire?

Through these readability questions, the validity of the questionnaires is enhanced. The establishment of reliability and validity occurred through the following procedures:

- The interviews (Appendix C) are a pilot of the study; they were used as a basis for the questionnaire. The questions in the questionnaire were tested (test-retest reliability) to make

sure that it covers the research questions with regards to content and detail (Bryman and Bell, 2011);

- The questionnaire was accompanied by an introductory letter (Appendix K) introducing the researcher and the subject of the study to respondents;
- The anonymity of participants was protected, allowing them to answer freely (Appendix E).

4.8 Chapter Summary

The purpose of this chapter is to outline the different research approaches available for a social inquiry and to describe the research design chosen for this study. The researcher used mixed methods specified within the bibliometric analysis, interviews, a questionnaire, and the comparison of the two methods (Bibliometrics and Altmetrics). In this chapter, strategies that have been used to ensure the reliability and validity of the study are demonstrated. A description of the bibliometric analysis findings, which are presented, discussed, and interpreted to show whether the hypothesis is determined, follow in Chapter 5.



UNIVERSITY *of the*
WESTERN CAPE

5.1 Presentation of the findings, part 1: bibliometric analysis

In this chapter, the bibliometric analysis findings are presented, discussed, and interpreted to show whether the hypothesis is confirmed, partially confirmed, or not confirmed. As outlined in Chapter 4, a combination of MMR is employed for more comprehensive responses to understand a research problem. The captured data from the qualitative and quantitative research are presented, analysed, described, and interpreted systematically, as the next step of the research process.

In this Part 1 of the data presentation, the documentation and analysis process aims to present data in an intelligible and interpretable form to identify trends and relationships, as per the research objective:

- To determine if there is a relationship between traditional metrics and altmetrics.

The difference between altmetrics and traditional metrics in bibliometric analysis of publications of South African researchers in the field of GBV is provided in Appendices F-H. The main tool used for the quantitative measurement of the impact of publications output was citation counts. Therefore, it is important to compare the altmetrics with this existing standard. For both variables, the research analysis process of the data was descriptively analysed. These statistics are typically used to describe or summarise the data. "It is used as an exploratory method to examine the variables of interest in the analysis, potentially before conducting inferential statistic tests on them." (Statistics Solutions, 2017: Online).

5.1.1 Bibliometrics descriptive analysis

The observations of this study were able to determine that the bibliometric analysis of 325 documents there were a total of 157 journals. The period from which the data were derived was between 2013 and 2016. Per the descriptive analysis, the average citations per document in 2017 was 6.1 (Table 2). Across the entire search results, there were 1 713 authors with their 40 papers that were single-authored and 1 673 multi-authored documents. The research publications produced per author was 0.19. On average, there was 5.3 authors per document and 8.3 co-authors per document. Of the document type of journal articles that were sourced in this search strategy, there were 296 original publications and 29 reviews.

A) Citation analysis

The total publications not cited within the data was 44% of the 325 publications (Table 3). Articles produced in 2013, had a higher ratio of cited content than those published in 2016. On average, based on the mean of the total citations, publications that were published in 2015 received a high portion of citations per paper (Figure 9). In total, there were more publications produced in the GBV research area in 2014.

Table 2: Summary of citation analysis

Year	Total publications	Citations per paper	Max citations	% Non-cited 2017
2013	91	8.7	803	10%
2014	102	3.4	384	27%
2015	88	9.2	783	42%
2016	44	0.5	2	97%
Total	325	6.1	1972	44%

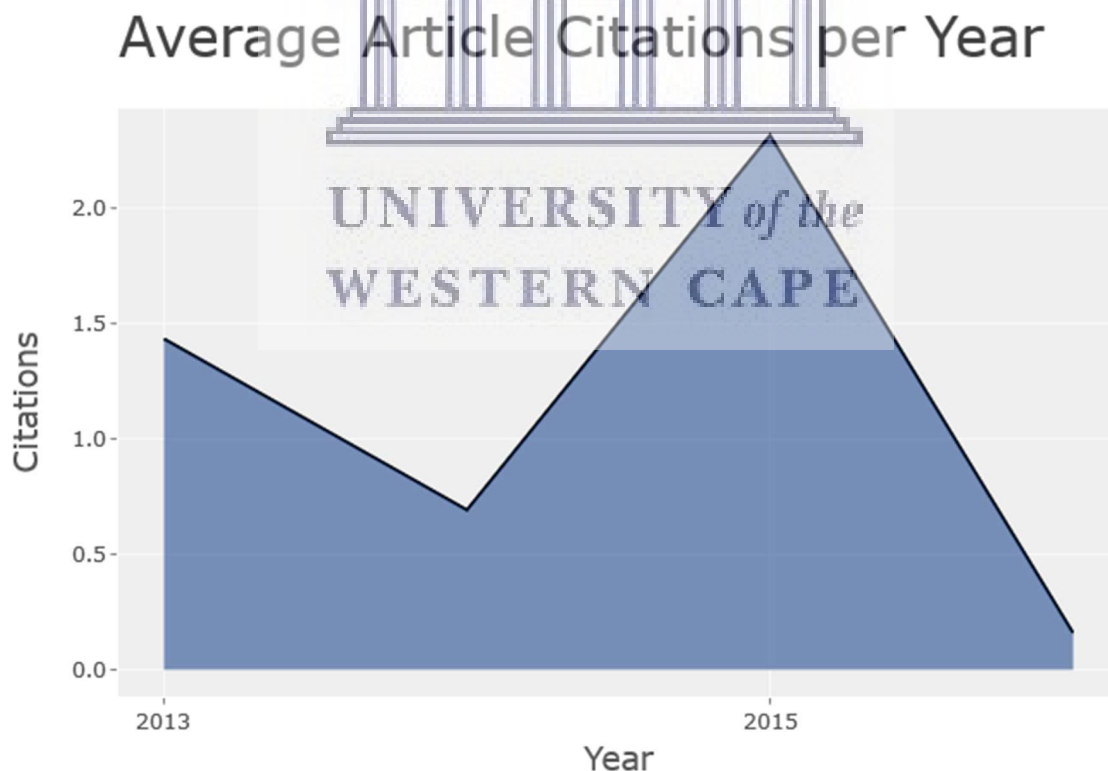


Figure 9: Average citations per year

(Aria and Cucurullo, 2017)

In Table 3, the citation performance is shown of those journals in which GBV researchers are publishing. In this Table, Country, Publisher, Scientific Journal Rankings (SJR), CiteScore, impact factor, Quartile, and h-index are presented. According to the data in Table 3, 11 journals are publishing GBV research papers in the United States. The highest h-index, impact factor, CiteScore, and SJR belong to the New England Journal of Medicine. The most significant point of the citation performance of the journals is that all 13 of the top 25 journals are in the first quartile (Q1). According to Bradford's Law of scattering, this is the way the journals are defined regarding quantity and total articles in a set of specific journals (Kumar and Senthilkumar 2018). The most relevant publications in zone 1 of Bradford's Law was produced in these top five journals (Figure 10), which are, AIDS and Behavior (17 articles), PloS One (11 articles), Culture Health and Sexuality (10 articles), The Lancet (10 articles), and BMC Public Health (7 articles). According to Bradford's Law, there are three zones with 325 articles, with a total of 14 journals in zone 1 that yielded 55 articles.

Table 3: Citation performance of the Journals in which GBV researchers are publishing

Journal title	Country	Publisher	SJR 2018	CiteScore 2018	Impact factor 2018	Quartile	H-index
African Journal of AIDS Research	United Kingdom	Taylor and Francis	0.619	0.96	1.220	Q2	24
AIDS	United States	Lippincott Williams and Wilkins Ltd.	2.706	3.18	4.495	Q1	203
AIDS and Behavior	Netherlands	Springer Publishers	1.825	3.10	2.908	Q1	90
AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	United Kingdom	Taylor and Francis	1.222	2.12	2.105	Q1	88
Best Practice and Research: Clinical Obstetrics and Gynaecology	United Kingdom	Elsevier	1.170	3.03	2.792	Q1	72
BMC Public Health	United Kingdom	BioMed Central	1.382	2.94	2.567	Q2	117
Culture, Health and Sexuality	United Kingdom	Taylor and Francis	1.118	2.33	1.746	Q2	53

Depression and Anxiety	United States	John Wiley and Sons Inc.	2.760	5.32	4.935	Q1	110
Global Health Action	United Kingdom	Taylor and Francis	0.996	1.97	1.817	Q3	33
Global Public Health	United Kingdom	Routledge	0.910	1.74	1.943	Q2	32
Journal of Adolescent Health	Netherlands	Elsevier	2.349	4.01	3.974	Q1	142
Journal of Child and Adolescent Mental Health	United Kingdom	Taylor and Francis	0.255	0.72	None	Q3	14
Journal of Child Sexual Abuse	United Kingdom	Taylor and Francis	0.597	1.58	0.963	Q3	39
Journal of Interpersonal Violence	United States	SAGE Publications	1.173	2.59	3.064	Q1	93
Journal of the Association of Nurses in AIDS Care	United States	Elsevier	0.730	1.29	1.309	Q2	42
Mediterranean Journal of Social Sciences	Italy	MCSER-Mediterranean Center of Social and Educational research	0.135	None	None	Q3	17
Men and Masculinities	United States	SAGE Publications	1.271	2.63	1.923	Q2	49
New England Journal of Medicine	United States	Massachusetts Medical Society	19.524	16.10	70.670	Q1	933
PLoS Medicine	United States	Public Library of Science	6.626	9.12	11.048	Q1	197
PLoS ONE	United States	Public Library of Science	1.100	3.02	2.776	Q2	268
Prevention Science	Netherlands	Kluwer Academic Publishers	1.461	3.10	2.851	Q1	76
Social Work	United States	Oxford University Press	0.785	1.45	1.419	Q2	65

The Lancet	United States	Elsevier	15.871	10.28	59.102	Q1	700
The Lancet Global Health	United Kingdom	Elsevier	7.367	4.51	15.873	Q1	53
Violence Against Women	United States	SAGE Publications	0.903	2.36	1.636	Q1	83

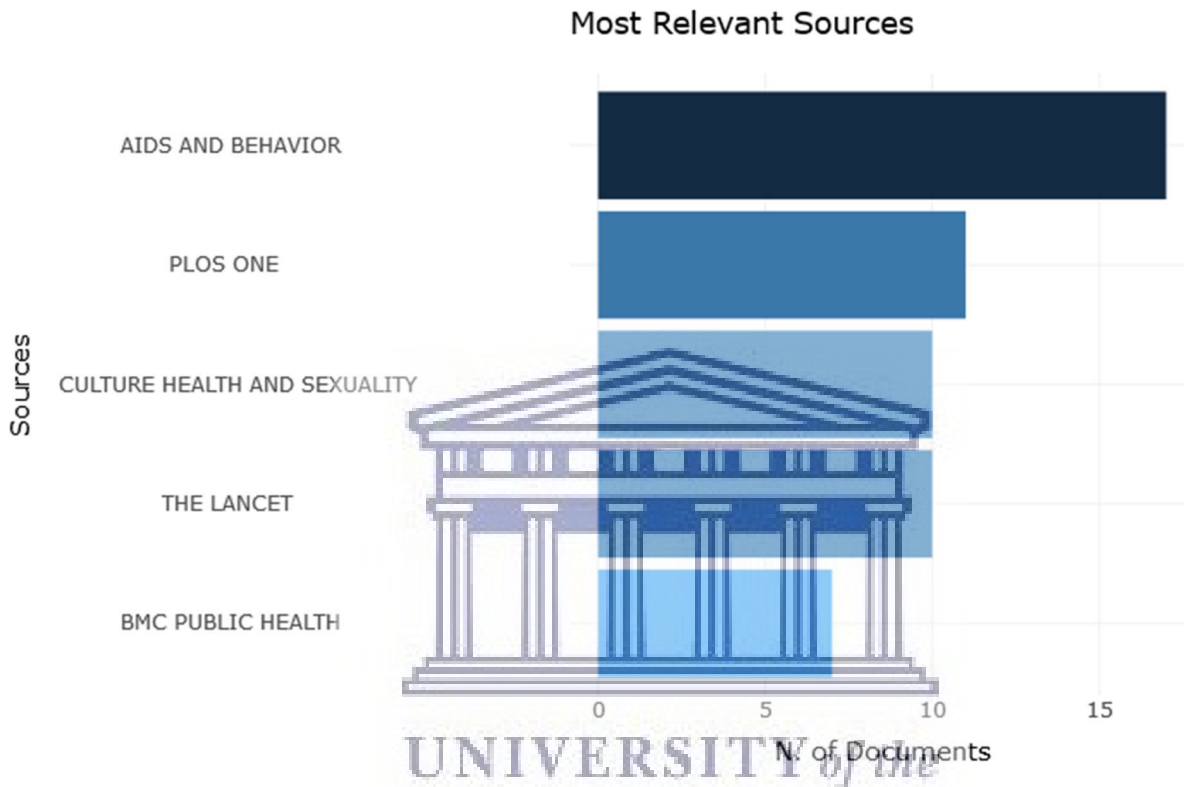


Figure 10: Most relevant journal sources

The citation authorship pattern of the top 25 GBV publications is shown in Table 3. According to the data in Table 3, four GBV publications out of ten have one single author, and six papers are written by more than two authors. In the other words, 60% of GBV publications are written in a group with multiple authors for five or more.

On average, Prof Rachel Jewkes published the most journal articles in this analysis with 24 publications. The other researchers were Prof K Peltzer (17 articles), Prof Soraya Seedat (13), Prof Dan Stein (13) and Prof Naemah Abrahams (12). Across the four years, the total production of articles for 2013 among these researchers, was 38 articles.

Table 4: Top citation authorship pattern of GBV, 2017

Paper title	Authorship pattern	Citations
Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the global burden of disease study 2013	Multiple Authors (712)	513
Global, regional, and national disability-adjusted life years (DALYS) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: quantifying the epidemiological transition	Multiple Authors (500)	76
Global health: injuries	Co-Authors (2)	69
The global prevalence of intimate partner homicide: a systematic review	Co-Authors (7)	67
Prevalence of and factors associated with male perpetration of intimate partner violence: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Co-Authors (4)	45

B) Altmetric analysis

The total publications that do not have an altmetric score within those data, was 34% of the 325 publications. On average, publications that were published in 2015 have received the highest portion of altmetrics score per paper. On average, the Lancet (ten articles) journal received the highest altmetric score, followed by the Lancet Global Health (three articles), Global Public Health (five articles), PloS Medicine (five articles) and New England Journal of Medicine (one article).

Table 5: Summary of altmetric score analysis

Year	Total publications	Altmetric score per paper
2013	91	12
2014	102	7.3
2015	88	30
2016	44	14
Total	325	56

Table 6: Top altmetric authorship pattern of GBV

Paper title	Authorship pattern	Altmetric score
Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the global burden of disease study 2013	Multiple Authors (712)	1279
Global, regional, and national disability-adjusted life years (DALYS) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: quantifying the epidemiological transition	Multiple Authors (500)	597
Prevalence of and factors associated with male perpetration of intimate partner violence: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Co-Authors (4)	489
South African women's conceptualisations of and responses to sexual coercion in relation to hegemonic masculinities	Co-Authors (3)	431
Worldwide prevalence of non-partner sexual violence: a systematic review	Co-Authors (7)	305

According to Plum Analytics for the altmetric breakdown there are five separate categories, Usage, Captures, Mentions, Social Media, and Citations. The metrics are captured irrespective of whether the research is viewed, shared, or critiqued, i.e. through usage (HTML views, PDF downloads), captures (Bookmarks, readers), mentions (blog posts, Wikipedia articles, comments), social media (user activity

on Twitter, Facebook) (Cave, 2013). The data for this analysis only shows the Usage, Captures, Mentions, Social Media metrics in comparison (Figure 11).

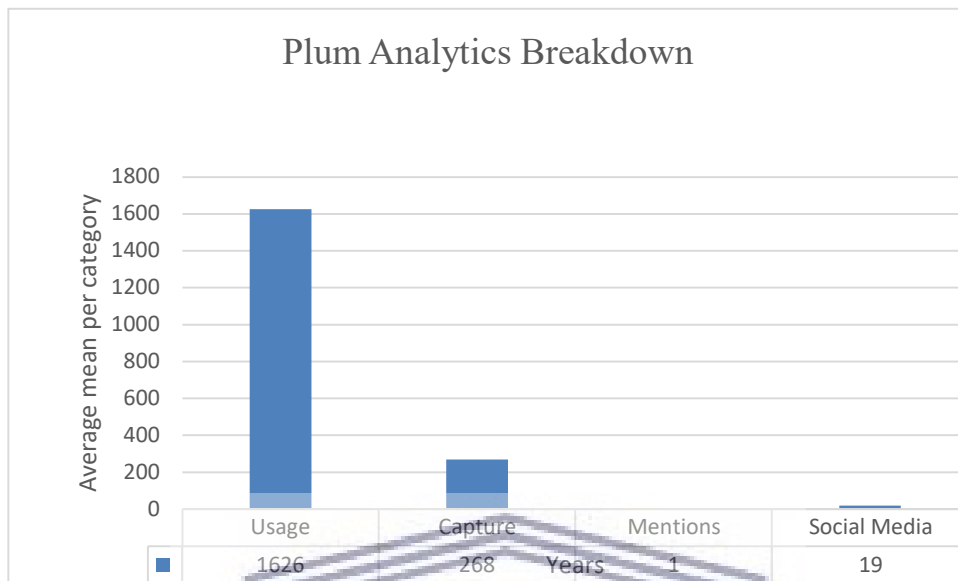


Figure 11: Plum analytics category breakdown

The usage data can be a supplement to the citations, as it is the account of the early interest among researchers to the publications (Chi and Glänzel, 2018). In figures 14 and 15, the usage and captures of the articles in the purposive sample between 2013 and 2016 are shown. The data indicate spikes for 2013 and 2015, years in which several significant articles were published and seem to have attracted more usage (Figure 12).

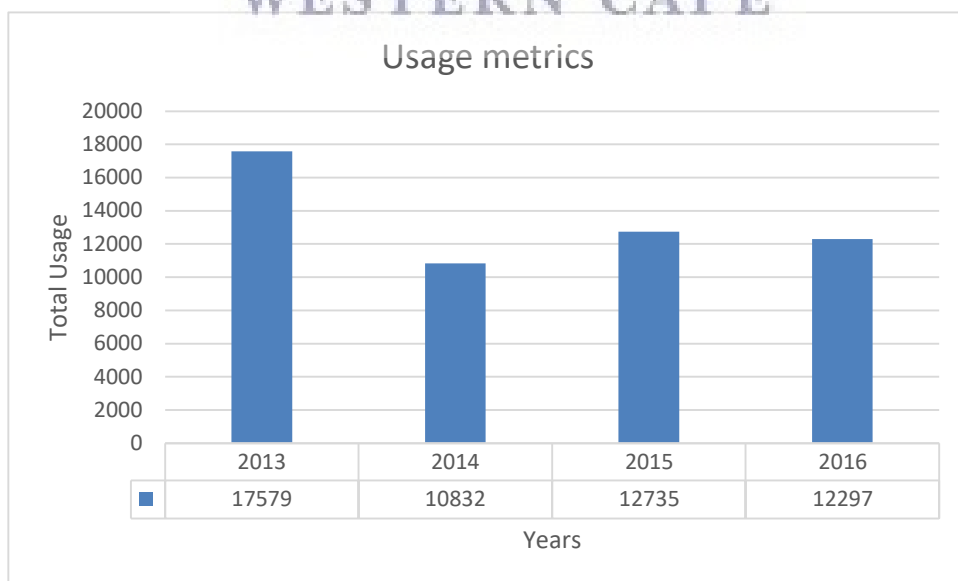


Figure 12: Usage of the articles 2013-2016

However, 2015 shows respectably high capture data (Figure 13) even though there were high citation scores and high altmetric scores in 2013 and 2014, respectively. Therefore, it shows that researchers in 2015 were not just actively viewing the content in 2013 but are actively bookmarking the content on sites in such as Mendeley and CiteULike.

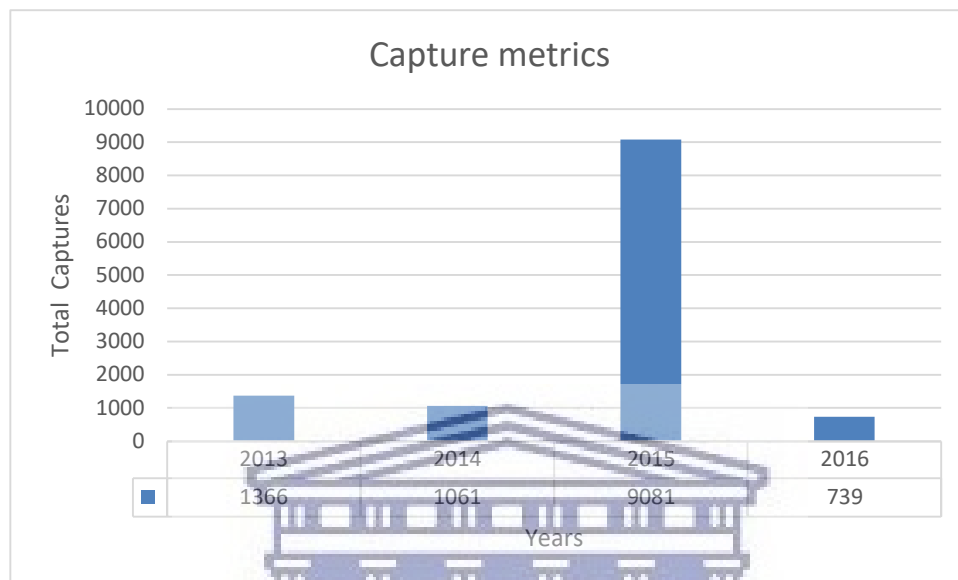


Figure 13: Captures of the articles 2013-2016

The mentions that tracked the individual papers were social media sites, blogs, media issues, and reference managers (Roemer and Borchardt, 2012: 597). As with all the other metrics there was a considerable spike in mentions (Figure 14). One of the topmost mentioned (262) articles has also received respectively the highest citation (513) and altmetric score (1279) published within the Lancet (Naghavi et al., 2015).

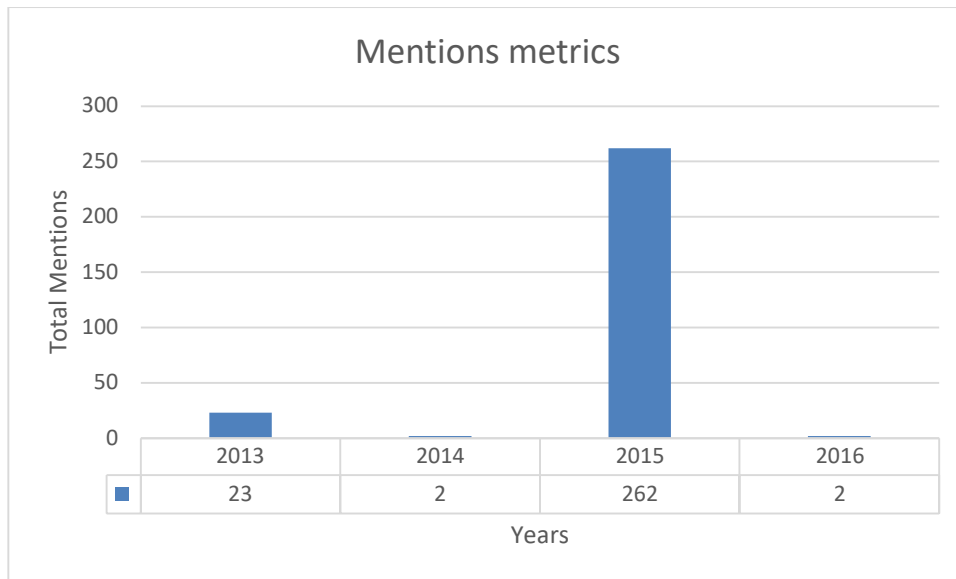
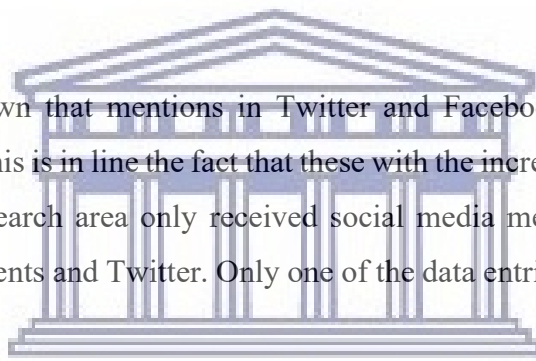


Figure 14: Mentions of the articles 2013-2016

The aggregated data has shown that mentions in Twitter and Facebook (Figure 15) considerably increased in 2013 and 2015. This is in line the fact that these with the increase in usage of these articles. Research data from GBV research area only received social media metrics, which are exclusively derived from Facebook comments and Twitter. Only one of the data entries has been used via click on a Bitly-URL.



UNIVERSITY of the
Social Media metrics
WESTERN CAPE

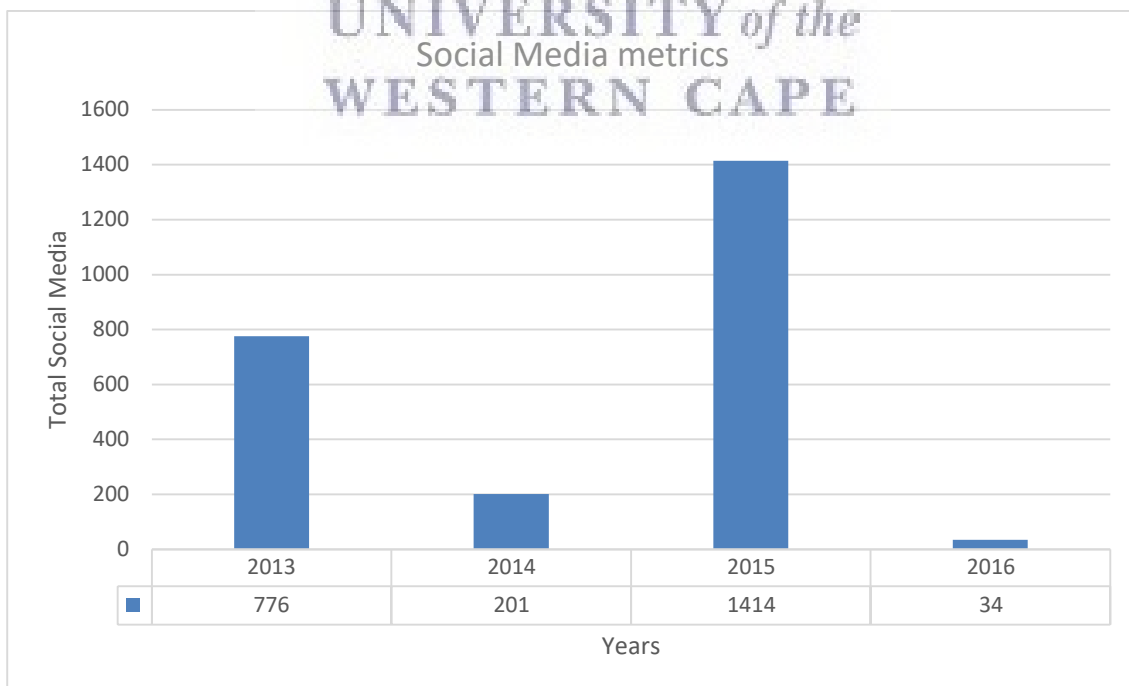


Figure 15: Social media usage of the articles 2013-2016

5.1.2 Relationship between citations and altmetric score

The summary of the data is used to answer the descriptive research question. In Table 7, the descriptive statistics on the two variables, citations and altmetrics score is summarised. This research used Spearman correlation to determine if there is a significant correlation between altmetric score and citations. It should be noted that although the approach is widely used in bibliometric studies, the association analysis in this study provides the easiest first look at how the citations and the altmetric score associates.

Table 7: Summary of numeric/continuous variables

Variable	<i>M</i>	<i>SD</i>	<i>n</i>	Min.	Max.	Skewness	Kurtosis
Citations	6.07	29.62	325	0.00	513.00	15.62	262.98
Altmetrics score	15.64	89.67	325	0.00	1279.00	10.47	128.91

The number for citations (Table 7) ranged from 0.00 to 513.00, with an average of 6.07 ($SD = 29.62$). Skewness and kurtosis were also calculated in Table 7. When the skewness is greater than or equal to 2, or less than or equal to -2, then the variable is asymmetrical about its mean.

“When the skewness is greater than or equal to 2, or less than or equal to -2, then the variable is asymmetrical about its mean. When the kurtosis is greater than or equal to 3, then the variable's distribution is markedly different to a normal distribution in its tendency to produce outliers.” (Westfall and Henning, 2013: 249).

The observations for Altmetric Score (Table 7) ranged from 0.00 to 1279.00, with an average of 15.64 ($SD = 89.67$). Skewness and kurtosis were also calculated in Table 7.

5.1.3 Shapiro-Wilk analysis

Tests are sensitive to the size of the sample; with a large sample, even small deviations from normality will be reported as significant. As a result, both tests should always be used in conjunction with the visual inspection of histograms and skewness and kurtosis measures (Field, 2013).

The results of the Shapiro-Wilk test were significant, $W = 0.19$, $p < .001$. This suggests that a difference is unlikely to have been produced by normal distribution. Thus, normality cannot be assumed. The data show that to reject the null hypothesis as the calculated, W is less than the critical value of W [$w=0.19$, $p=0.001$, critical $w= 0.991213$] (5% significance level) (Statistics Solutions, 2017: Online). The analysis reports significant p -values of 0,001 for the Shapiro-Wilk, meeting the cut-off point of 0,05. In this case the p -value is smaller than the alpha value and the null hypothesis was rejected. In other words, the sample shows a different distribution than a sample that would be normally distributed. A histogram of the distribution of the sampling means shows that the data is not coming from a normal distribution of scores. Therefore, as the data is not normal the use of non-parametric tests are required to analyse the data. The Spearman Rank Correlation was used to determine a correlation between two sets of data in this study.

5.1.4 Spearman correlation analysis

A Spearman correlation analysis was conducted between citations and altmetrics attention score. Cohen's standard was used to evaluate the strength of the relationship, where coefficients “between .10 and .29 represent a small effect size, coefficients between .30 and .49 represent a moderate effect size, and coefficients above .50” indicate a large effect size (Cohen, 1988: 77-81). A Spearman correlation requires that the relationship between each pair of variables does not change direction (Conover and Iman, 1981: 128). This assumption is violated if the points on the scatterplot between any pair of variables appear to shift from positive to negative or negative to a positive relationship. Figure 16 presents the scatterplot of the correlation.

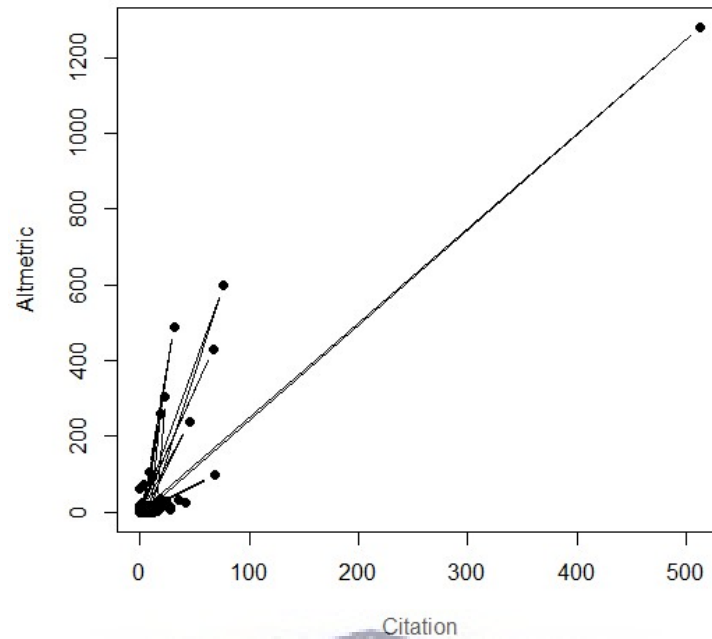


Figure 16. Scatterplot between citations and altmetrics score.

The results have shown that there was a significant positive correlation between citations and altmetrics attention score ($r_s = 0.43, p < .001$). The correlation coefficient between citations and altmetrics attention score was 0.43 indicating a moderate effect size. This indicates that there is a moderated correlation whereby the two metrics has a relationship but no co-dependence. The altmetric score and citations assess different aspects of the scholarship. One concerns the distribution of research outputs through online metrics, and the other relates to how scientists use these research outputs as recorded in their outputs. There have been a few research studies on the relationship between citations and the aggregated altmetric scores (e.g. Costas, et al., 2014; Ezema and Ugwu, 2019). There is a lack of studies on the relationships between citations and normalised altmetric scores or other variations within different disciplines.

5.1.5 Chapter 5, Part 1 Summary

To determine the relationship between the two metrics, based upon the statistical analysis, we can observe that, although there is no statistically significant difference between the two metrics, we can demonstrate that they have a correlation. Both bibliometrics and altmetrics are driven by attention, and they are measures there-of. In conclusion, there is a moderate correlation between GBV citations and altmetrics attention score within scholarly communication in measuring impact. Therefore, the articles with a higher altmetric score had received more citations. This indicates that as citations increase, so

too could one expect the altmetrics score to increase. It is important to note that there is no causal relationship between the results that is shown. This is limitation in the study design.



UNIVERSITY *of the*
WESTERN CAPE

5.2.1 Introduction

In this chapter, the interview findings are presented, interpreted, and discussed to show the user-behaviour of gender-based violence researchers, in relation to altmetrics. After the bibliometric and altmetric analysis, the publications are ranked according to the top altmetric and citation scores. A combination of the top researchers identified in the bibliometric analysis and the NRF rated scientists were selected to be interviewed. The NRF researchers were selected based on their field of research, indicating gender-based violence research and whether there was an overlap of their author profiles within the bibliometric analysis. The intention was to interview twenty top researchers, but after several attempts, only nine were available. The nine interviews consist of two telephone conversations, six email interviews and one FtF interview. Of the 20 researchers selected, one participant cancelled the interview, seven rejected it completely, and 13 participants did not respond to the request of having an interview. Notifications were sent out via email once every two weeks over a four-month period to increase the response rate. The semi-structured interview questions were devised to produce wide-ranging data and information.

The researcher experienced challenges with respect to data collection through email interviews. A portion of the respondents was brief in their responses to some questions, and queries for further elaboration had no result. Additionally, some of the participants took exceptionally long to respond and had to be encouraged to return their response to the researcher. Perhaps the main distinction between the email and FtF interviews was that the first produces a written account and the second produces an oral account. As the research study continued, the researcher had to divert from the original plan and add FtF and telephone interviews and e-communication as a means of data collection. Even though most of the interviewees found the email interviews appropriate for their schedules, three interviewees requested FtF or telephonic interviews. Although a total of 20 interviews were expected, only a comparatively low number (9) was eventually achieved. The most common explanation given for not wanting to participate in the interviews was “lack of awareness or knowledge.” A “lack of time” was the second most common reason given, with “lack of interest” the third. Many respondents, who were selected based on their experience and the findings of the bibliometric/altmetric analysis in Part 1 of Chapter 5, regrettably declined being interviewed.

Herewith are some respondents' quotes on why they refused to be interviewed:

Excerpts from GBV researchers

Lack of knowledge or awareness

- Sexual Violence Research Initiative Researcher 1 (“I am not the best person to complete this survey”)
- University of the Witwatersrand (WITS) Researcher 1 (“This is an interesting and important study. Unfortunately, I won't be able to assist as this is really not an area of expertise and I am not able to answer the questions you pose”)
- WITS Researcher 2 (“I am not a good respondent for your study as I have never heard of altmetrics as a concept”)

Lack of time

- Private Consultant 1 (“Apologies, I had to undergo a procedure yesterday, and start a new job on Monday. I don't think I'll manage to participate at present”)
- University of Stellenbosch Researcher 1 (“I have sympathy with your need for data, but I simply do not have time in the near future to do this”)

Lack of interest

- University of Johannesburg (UJ) Researcher 1 (“Hi I do not wish to participate in this – please stop emailing me”)

The findings of the interviews are divided into four main sections. Section A focuses on the profile of the researchers; B on the researchers' understanding of what altmetrics are; Section C focuses on traditional metrics; Section D examines scholarly communication and E the researchers' perceptions of altmetrics.

5.2.2 Results, analysis, and interpretation

The questions focused on experiences that the interviewees had had in GBV research and the impact and knowledge of altmetrics, as opposed to traditional metrics, within the scholarly communication process.

5.2.2.1 Section A: Profile of the researchers

Participants who were interviewed were mainly female 89% (N=8) and 11% of males (see Table 8). Although women are under-represented in science, technology, engineering, and mathematics (STEM), they are better represented in health, humanities and education, according to Charles and Bradley (2002).

Data	Participants (N)	Percent (%)
Gender		
Male	1	11
Female	8	89
Total	9	100

Table 8: Gender ratio of participants

Most (5 or 55,6%) of the returns were from research institutes or councils (Figure 17). The other types of institutions were historically advantaged (30%), and 11% (1) was from other types of institutions. Although most of the participants were from research institutes or councils, they are affiliated to other institutions. All five participants from research institutes are affiliated to traditionally advantaged institutions with one having an additional affiliation to a historically disadvantaged institution.

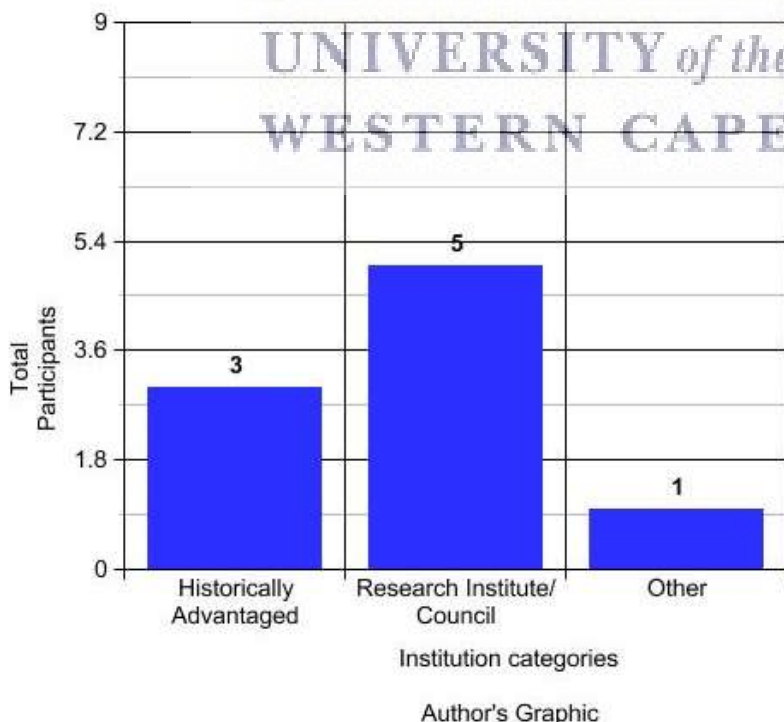


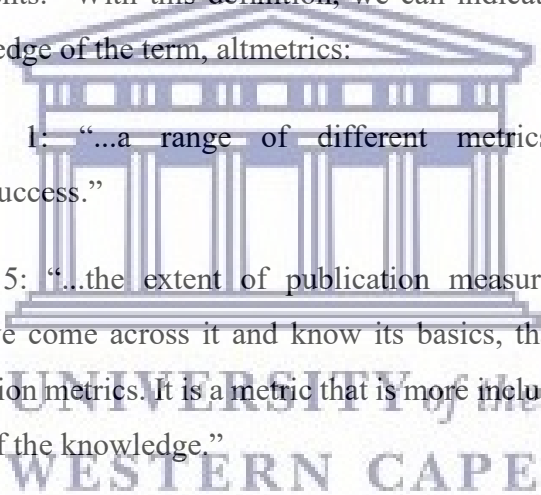
Figure 17: Institutions of participants

5.2.2.2 Section B: What are altmetrics?

Five questions centred on the level of knowledge of altmetrics by the researchers.

Questions B.1 and B.2 asked participants whether they are familiar with or know the term altmetrics. Six (67%) of the nine participants indicated that they did not know the term altmetrics, while three (33%) of them could identify it. As stated in the literature, research on the potential of altmetrics identifies the STEM fields as the predominant users of altmetric data (Liu and Adie, 2014: Online). Similarly, the results indicate that while most GBV researchers in this study have no knowledge, a few had some awareness of altmetrics. For those who were unable to define altmetrics, it was then clarified to them.

Priem et al., (2012a: 1) define altmetrics as the “study of scholarly impact measures based on activity in online tools and environments.” With this definition, we can indicate that the three participants positively showed their knowledge of the term, altmetrics:

- 
- a) GBV Researcher 1: “...a range of different metrics/indicators of measuring article/researcher success.”
 - b) GBV Researcher 5: “...the extent of publication measure to assess the impact of publications. I have come across it and know its basics, that it is an alternative to the common used citation metrics. It is a metric that is more inclusive and not just focussed on the scientific use of the knowledge.”
 - c) GBV Researcher 7: “Yes, I learnt about altmetrics at an engaged scholarship meeting hosted by UCT’s research office. Alternative way to measure the impact of your outputs to the traditional citation indices, used to measure impact of scholarly outputs. It measures impact broader than just your citations, but will also gather data from grey literature, such as newspapers and television, possibly also social media.”

These three participants indicated that altmetrics had some relationship with social media such as Facebook or Twitter, with one indicating that it is about the “extent of publication measure to assess the impact of publications.” The three knowledgeable respondents have a definition that is similar to that in the literature, which defines the concept. The focus is on the underlying factor among all these definitions that online metrics play a key role in measuring the impact of research.

Question B.3 asked respondents to rate their familiarity with altmetrics on a five-point scale, from 1–5, with no knowledge 1 to highly knowledgeable 5. Of the nine respondents, most (5 out of 9) claimed to either have no knowledge of altmetrics or to be unfamiliar with it. Although three respondents selected being somewhat knowledgeable, no respondent claimed to be knowledgeable or highly knowledgeable about altmetrics. Researchers contribute towards the formulation, analysis, and dissemination of knowledge. The use of social media platforms by researchers is considerable (Rowlands et al., 2011; Van Eperen and Marincola, 2011; Tenopir, Volentine and King, 2013). However, within the GBV research community, it seems that there is minimal awareness among their researchers of altmetrics within their institutions.

Question B.4 asked the researchers if they use altmetrics to measure their research impact? Of the nine respondents, only two indicated that they have either used or would use altmetrics for their research impact. One indicated that s/he would use it if it contained components like the h-index. Another respondent indicated that researchers were introduced to altmetrics at their institution. This respondent needed to consider how they could use this new medium in the accreditation process for their department or unit. Primarily, they wanted their grey literature to be measured for impact, which their department could not ascertain through traditional metrics. The respondent was not sure their attempt in the analysis of their grey literature was successful, because of format restrictions. However, s/he indicated that they have used this metric to show that research impact beyond the norm of traditional metrics is available.

The interest in using and analysing altmetric data for measuring research impact, especially societal impact, is growing (Bornmann, 2014b; Thelwall et al., 2016; Haunschild and Bornmann, 2017). Even with this evident knowledge within the literature, many of the respondents indicated that they would not use this metric for their research impact. Through this analysis, it can be determined that the researchers within the GBV community have limited knowledge of altmetrics at present. Following are some respondents' quotes on why they do not use altmetrics to measure research impact:

- GBV Researcher 4 indicated that this form of metric analysis was not needed (**Quotes:** “I have not needed to”).
- GBV Researcher 5 had been made aware of the metric by her librarian. However, other than the librarian, it is not well known within the research community, within their institution (**Quotes:** “I have not given it attention. I have come across it through speaking briefly to a librarian. I have also seen it on webpages of journals. I have been curious but have never had time to give it proper attention. No-one else, other than the work librarian,

has spoken to me about it, so it is not really known by a researcher or my peers,” “I did use traditional metrics when I was doing my NRF rating application, guided by the librarian and NRF guidelines”).

- GBV Researcher 8 stated that s/he had no use nor wanted to use any type of metrics on their research. (**Quotes:** “Do not use it. Unsure,” “I don't use any metrics at all”).
- GBV Researcher 2 stated that s/he does not personally use altmetrics. However, they do use social media metrics for their funders, to show their focus on the research projects that impact on “womens’ lives through policy changes.”
- GBV Researcher 6 stated that s/he had not used altmetrics but had used traditional metrics for their NRF rating application guided by their librarian.

Question B.5 asked if this metric could be used in conjunction with traditional metrics.

Of the nine respondents answering this question, four indicated that they “do not know” if altmetrics could be used in conjunction with traditional metrics. This result of the researchers indicates they had little to no knowledge on the topic altmetrics. GBV Researcher 2 mentioned “no response,” whereas, GBV Researcher 1 indicated that s/he would “maybe” use the metrics in conjunction with each other if altmetrics could measure content similarly to traditional metrics such as the h-index. GBV Researcher 3 indicated “no” as they have ardently stated they have no interest in using metrics in their research. The two respondents (GBV Researchers 6 and 7) who indicated “yes” said that they would use it,

- a) for the research to have a societal impact beyond the norm of academia;
- b) to engage scholarship within their institutions, by developing and promoting new knowledge and for the dissemination and application of knowledge through research translation by academic staff, for the non-academic public (University of Cape Town, 2012);
- c) to cultivate awareness, for evoking discussions in developing social change. These researchers are quoted as saying:

- “Yes, as explained above I would ideally use this as a measure to show how one’s work has reached far beyond the citation by academics, and therefore, has broader relevance to society. This is what the university is now calling ‘engaged scholarship.’ The university is expecting all academic staff to show in their portfolio of work, their impact on society.” (GBV Researcher 7)

- “Yes, significant value in cultivating awareness by evoking discussion. To do activism and social change in order to get the research out there.” (GBV Researcher 6)

5.2.2.3 Section C: Traditional metrics

There are seven questions in this section based on the respondents’ knowledge of traditional metrics.

Question C.1 How do you, as a researcher, define traditional metrics?

There were many (N=7) detailed responses showing that this group knows what traditional metrics are. Traditional metric tools are authoritative and widely recognised by researchers today. These metrics can be found in sources such as Web of Science, Scopus and Google, and they include metrics such as the h-index, citations and JIF (Eysenbach, 2011). The respondents had various sound definitions of traditional metrics. These range from GBV Researcher 1, who stated “I guess the important two are: 1) impact factor of a journal, so if your article gets into a higher impact factor journal, that’s good, no matter how ‘good’ your actual article is, or how widely cited it is; and 2) citations per article, so I look at Google Scholar for that” to that of GBV Researcher 9 indicating the “h-index.” Most of the respondents (N=7) all provided a similar definition of traditional metrics corresponding with the literature.

Excerpts from GBV researchers

- GBV Researcher 2: “Well, it tends to be journal impact factors, numbers of citation and things like h-index and there are a range of others and I do think they have their roles such as the IF has importance of the journal-specific and it is loose in quite a few. But it shows the value of the articles published. The number of citations are [a] much more valuable metric as it is about people using and reading about your work. Irrespective of whether Social Science vs Sciences, as it shows that the citations are key in showing highly cited articles, regardless of field. Citation complication, through systematic reviews and literature reviews, are more highly cited than the original research. As it is important to look at the quality of the research, not just the citations. The problem with h-index is they tell you about the researcher but not about ranking your publications.”
- GBV Researcher 7: “Traditional metrics only measure the impact of your research through the number of citations a published paper receives. It also takes into account the impact factor of the journal to determine the impact of your research.”

- GBV Researcher 8: “Quantitative measures [are] used to evaluate research outputs such as publications.”

Two of the respondents (GBV Researcher 3 and GBV Researcher 6) had completely different responses, in that they both indicated they are not knowledgeable about, nor have any interest in metric analysis. GBV Researcher 6 indicated that without the assistance of a librarian, s/he would not be competent in producing reports. Both researchers are highly knowledgeable within their individual fields and would prefer an analysis undertaken by a qualified librarian within their institutions.

Question C.2 Do you, as a researcher, use traditional metrics to measure your research impact?

Most of the researchers (N=7) indicated that they do use traditional metrics in some way to measure their impact. Academics have been urged to “publish or perish,” as stated in the literature review. Successful publications produced by these researchers, bring acclaim to them and their research institutions, which is quite evident in many of their “Yes” responses to the question.

Four of the seven respondents provided validation to this statement. They indicated that to be deemed a researcher of “scientific excellence” in the South African context, they would need to be rated by the NRF. The respondents further indicated this metric is used for performance reviews, promotion, institutional or departmental performance, and job applications. These researchers consistently noted the prestige associated with having their research evaluated and being compared with their peers in academia.

Besides the traditional measures, such as h-index, JIF and citations, another concept was brought forth, specifically for researcher authorship placement within the publications of their institution. GBV Researcher 9 indicated that s/he does on occasion look at the Google Scholar h-index but does not consistently check. This researcher has an interest in comparisons with other researchers on platforms like ResearchGate. Two of the researchers (GBV Researchers 3 and 4) indicated that they either have no interest or have not needed to use these metrics for their analysis. GBV Researcher 8 stated that s/he is interested in the outcomes of the research rather than in how many times the article is cited.

Question C.3 Why do you measure your research impact?

In responding to this question, some of the researchers have duplicated their responses from the previous question. The three researchers who did so stated that the NRF system is paramount in determining scientific excellence in academia. Two of the respondents (GBV Researchers 1 and GBV

Researcher 8) specified that the reason they measure their research impact is for recognition and success within the scientific community or their field of study. A key statement made by another two researchers (GBV Researcher 1 and GBV Researcher 6) indicated that a researcher must publish or perish. With researchers publishing, there is a return on investment, especially for funders. As publicly funded money, such as the NRF needs to be accounted for.

Grant funders, including the NRF, monitor and evaluate their grant holders to decide where their investment has been most productive. They also mandate that the funded research be made openly accessible. In return, when research is noted for being “good value for money,” greater investment is placed on the grantee enabling proper services for the public affected by the research. Not all the researchers were positive about measuring research impact. One such researcher indicated that they are not interested in measuring their research metrics for any type of analysis. Another indicated that research work is “psychologically draining” and that it is paramount for the researcher’s “self-worth” within the academic field.

Question C.4 How else do you measure your research impact?

Of the nine research respondents, five notably indicated that engagement is important. There has been an increase in end-user engagement within research requirements by grant funders and institutions; national research strategies expect to maximise return on investment, especially within social sciences (Rickinson et al., 2011).

Researchers want their research results to impact on research policy, guidelines, health practices and legislation (Saunders, 2007). The respondents commented as follows:

- GBV Researcher 5: “Research impact can be measured differently. The gold standard in the traditional sense is the citation metric. Another measure is to see how it is used to develop policies, guidelines etc., which may not emerge from a source measured by the traditional citation method.”
- GBV Researcher 2: “For funders, as we work in an environment, to make the argument that we are good value for money and continue to invest in us. To receive greater investment in proper services for women on the ground, prevention programmes, policy changes; and this shows slowly with traditional metrics. Altmetrics would be [an] interim indicator of what is going on. Facebook and Twitter is important to fundamental activities [and] is [an] important way of communication with the wider audience. The people who

read the stuff are most like not the people who would cite you in their articles, as they don't write the journal articles or books.”

The research produced would effectively bring about change by raising awareness, discussing critical issues, and perceptions and behaviours towards the public. Two respondents indicated that the media plays a key role in measuring their impact, especially regarding policy changes, and making a significant impact on the community through interviews on radio and other media.

Other analysis options for research impact that respondents mentioned were:

- National and international collaborations;
- Serving on international bodies and committees;
- Invitations to participate in global research studies;
- Interestingly, only one respondent indicated the use of tools such as ResearchGate and Google Scholar to measure their research impact outside the norm of traditional metrics analysis.

Question C.5 What is your opinion of the traditional metrics used in evaluating scientific research?

Most of the respondents (N=8) agree that traditional metrics play a key role in evaluating scientific research. GBV Researcher 5 said that it “has value as good science is critical.” However, some indicated that these metrics have limitations and can be manipulated or gamed. Besides these limitations, other researchers suggested that the content produced should not just be measured scientifically for their societal impact and intrinsic value. GBV Researcher 4 stated that it is useful to evaluate research on a global scale, but that some researchers, who publish locally, can be missed.

GBV Researcher 2 felt that for utter fairness within the health environment, researchers’ publications should be measured using traditional metrics, such as citations and the h-index, which is a peer-review process within academia. The researcher thought that traditional metrics cannot evaluate stakeholder engagement for analysis of research units within institutions.

Question C. 6 In your opinion what are the benefits or advantages of using traditional metrics?

Traditional metrics consist of impact metrics such the h-index, citations, and the impact factor (Journal Citation Reports). Each category has advantages; however, the researchers collectively do not mention these but indicate the general advantages that traditional metrics provide. Only one respondent indicated the advantage of traditional metrics as showing international research impact. The

researchers' underlying principle is in line with the definition of research impact by Research Councils of the UK, through the UK Economic and Social Research Council (ESRC) toolkit.

“Research impact is the demonstrable contribution that excellent research makes to society and the economy. It embraces all the diverse ways that research-related skills benefit individuals, organisations and nations.” (Pardoe, 2014: 5; Economic and Social Research Council, 2017: par 1)

Three respondents endorsed traditional metrics as a method to be used. They indicated these as highly reputable and well-known established metrics used across the globe. Another advantage, according to the three respondents, is the ability to use these metrics as benchmarking tools. Specifically, GBV Researcher 7 stated that a benefit is to determine “how widely cited your research is among other researchers, and whether it adds value to the academic discourse.” It allows for engagement to determine research quality among peers through a bibliometric analysis. De Filippo and Sanz-Casado (2018) note that collaboration also increases the visibility of research. Therefore, this corroborates GBV Researcher 3, who acknowledged that by using bibliometrics, one could obtain first-class information to enable sounder collaborations for further research. GBV Researcher 2 mentioned that traditional metrics' effectiveness might depend on the environment. This researcher accepts the necessity for the NRF system for scientific excellence within academia, which is particularly for institutions and researchers to “celebrate high impact articles.”

Question C.7 In your opinion what are the barriers or disadvantages of using traditional metrics?

The opening statement of GBV Researcher 1 emphasises that “We all know they are rather flawed, especially impact factors for journals.” Even with this knowledge, this participant previously acknowledged that these metrics lend some credibility to their research work in academia. GBV Researcher 4 reported that there are limitations in having your research reach nationally only. S/he further surmised this is to the detriment of southern hemisphere researchers, as those in the northern hemisphere established and set the standards implemented and used by researchers. A publication's reputation globally is not measured or analysed, but the journal or authors who are measured for quality through the impact factor and the h-index. Using a traditional method is a disadvantage in determining which articles are pertinent to one's research analyses.

Scholarly communication has changed the way we interact with information. Researchers are not all skilled in obtaining their bibliometric analysis, nor do they have the research support to enable them in doing this. GBV Researcher 6 stated that a “specific type of skills and knowledge” is required to

access the metrics. In responding to this question, one of the researchers repeated that scientific research should be measured “in ways that are not just a scientific measure.” Two other researchers (GBV Researchers 2 and 7) also indicated this need for research translation to be measured beyond academic standards through social impact research. GBV Researcher 9 asserted no interest opinion on using traditional metrics.

5.2.2.4 Section D: Scholarly communication

There are nine questions in this section focussing on how the researchers use altmetrics within the scholarly communication process.

Question D.1 What tools do you use to archive your research?

From the answers to this question, it can be determined how researchers exchange their research information and disseminate their research to their peers and the public. Respondents indicated their preferences for archiving their research. The responses ranged from the use of social networking sites for scientists and researchers to online platforms and websites.

Responses veered from the social sphere of sharing information towards traditional ways in which research could be shared and archived, alongside social media methods. Each respondent had at least one or more of the options shown in Figure 18. GBV Researcher 1 clearly used multiple ways of sharing and archiving his/her research. With the seven categories mentioned by many of the respondents, they ensure enhancement and discoverability for managing their online academic profiles (Tyson, 2010; Bell and Crookes, 2016: Online; Carrigan, 2016).

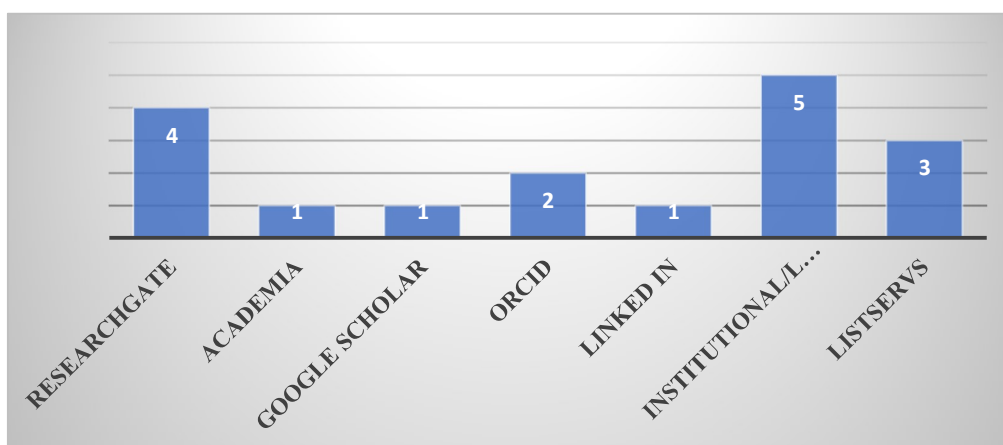


Figure 18: Archiving and sharing of researchers’ information

(Author’s graphic)

ResearchGate and Academia.edu are ASNS that allow for the availability, accessibility, and discoverability of researchers. In this study, the categories ResearchGate, Academia.edu and Google Scholar are mentioned by several of the respondents indicating that they use these for sharing their research. In their study, Batooli, Ravandi and Bidgoli (2016) found that ResearchGate and Google Scholar cover almost the same scholarly content. Nevertheless, early archiving of pre-published articles on ResearchGate increases their visibility and the probability of being cited. Based on the results in this study, the preferences of researchers in using ResearchGate over Google Scholar and Academia.edu can, therefore, be validated.

The principal response to using them is for their research visibility. The ResearchGate platform mainly caters for scientists, researchers, and academics as well as academic institutions specialising in academic processes (Ovadia, 2014).

In a study of 160 researchers from the University of Delhi, 54% of them used ResearchGate more than similar platforms (51% for Academia, 39% for LinkedIn) (Madhusudhan, 2012). Furthermore, van Noorden (2014) conducted a study to determine professional scientists' and engineers' usage of different social networking sites and found that most of the participants were aware of ResearchGate, placing the site second to Google Scholar and ahead of Facebook and LinkedIn. Similar results were observed in the analysis of a study conducted by Muscanell and Utz (2017), as the number of categories listed by the researchers showed they mainly used ResearchGate, LinkedIn and Academia.edu. In their study, they were able to determine that users of ResearchGate find ASNS preferable for sharing their research. ASNS, especially ResearchGate, have been the preferred options for dissemination of researchers, with institutional repositories second (Borrego, 2017). While ResearchGate has been primarily used by physicians and biologists (Natural Sciences and Health Sciences), it is important to note that the network was only second to institutional repositories by GBV researchers (Thelwall and Kousha, 2017).

Most popular with researchers is the use of institutional repositories and library webpages. As discussed in the literature review, a repository is a digital archive enabling an institution to make its research, learning content, theses, and digital collections discoverable and accessible online (Katsirikou, 2011). Björk et al. (2014: 247) concluded in an evaluation of repositories focused on institutions with a high ranking in the SCImago Global League table that “of the 148 most successful institutions, 82% had at least one institutional repository to collect, maintain, and disseminate the institution's intellectual output.”

Listserves are significant routes for sharing research too. Listserves are an application for the distribution of messages to those subscribed to the email list (Kist, 2010: 34-35). Listserves dedicated to GBV research are the SVRI, a global research initiative; and What Works to Prevent Violence Against Women and Girls Programme (What Works) website and listserv. There are numerous international listserves. However, the two most prominent currently used by GBV researchers are SVRI and What Works to Prevent Violence Against Women and Girls Programme. The results from the researchers' interviews indicate that they use other, quite simple, methods for archiving and sharing their content. Three of the researchers (GBV Researchers 5, 6 and 8) stated that, besides listserves, social networking sites and websites, the standard place for archiving research, is on their personal or work computers, shared drives, and external hard drives.

Two researchers (GBV Researchers 5 and 8) also indicated that they use a variety of methods to share their content, such as conference presentations, meetings, and research evidence briefs. Media also play a key role in these two researchers' information-sharing processes. They both use press releases and media requests. Another method would be to share content through journal articles, especially open access journals, presentations to parliament and teaching. The results from the researchers' interviews indicate that they use other, quite simple, methods for archiving their content.

Question D.2 What tools do you use to share your research outside of academia?

In responding to this question, some of the researchers duplicated their responses from the previous question. Ways in which they share their research are via press releases, media requests, presentations to parliament, teaching, meetings, and research evidence briefs. Research engagement with the public and collaborations are acknowledged ways of sharing research outside the conventional scholarly communication channels. The researchers emphasised that the engagement should be with the public or civil society and policymakers. All academics should generate discussions for repackaging research for public use. Alternatively, the researchers emphasised that, through their research, they can produce training documents which can directly affect the communities in which they are used. As one researcher indicated, her research within communities is an "organic, symbiotic relationship." This relationship allows for continuous feedback from the community, directly affecting and contributing towards research adoption. Researchers indicated again the social networking platforms, specifically LinkedIn and ORCID. These two platforms, other than ResearchGate, seem to be the most used for sharing research online.

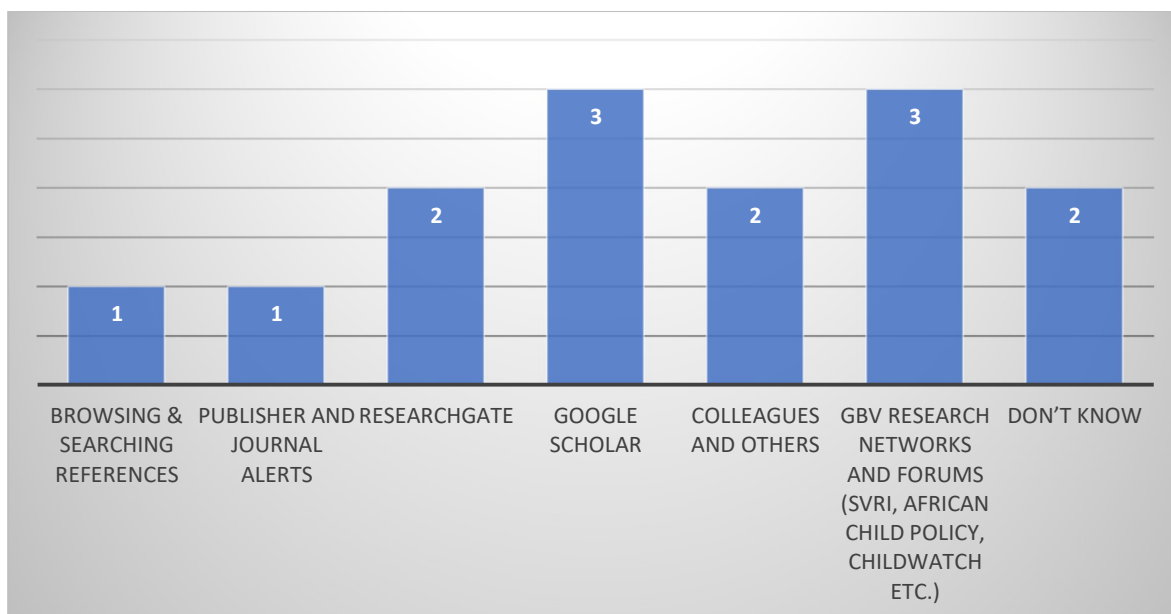
Question D.3 How do you, as a researcher, obtain your alerts and recommendations for your research?

The respondents' multiple answers to this question are noted in Figure 19. The two highest-rated options suggested by the respondents were the use of Google Scholar and some GBV research networks and forums, such as SVRI, African Child Policy, ChildWatch and Gender and Water Alliance research updates. These options provide most of the researchers with their alerts and recommendations in relation to their current and future research. Researchers are very selective as to where they create their research profiles (Trotter et al., 2014). The chosen networks, such as ResearchGate and GBV Forums, provide multiple options for them to share, archive, recommend and alert content to all researchers.

However, with these options, the researchers simultaneously also indicated that they:

- browse and search publications' references;
- subscribe to publisher and journal alerts;
- follow colleagues and other individuals such as policymakers.

These options serve to illustrate that researchers obtain their information from multiple sources. Scientific research can only progress through scientists sharing knowledge among themselves (Warnick and Wojick, 2011). GBV Researcher 6 stated that although s/he obtains information from colleagues, it is supplemented by using GBV research networks. However, these newsletters and listservs may become incessant and invasive as with the multiple submission of research received in one's inbox. It was confirmed in a South African study that researchers share their pre-published research with their colleagues, students and academics in their broader network (Trotter et al., 2014). Two of the participants (GBV Researchers 5 and 8) indicated that they did not know what was meant by the term 'alerts and recommendations.' GBV Researcher 5 misunderstood and presumed that the alert and recommendations were specifically related to notification after you have been cited.



(Author's graphic)

Figure 19: Alerts and recommendations tools used by GBV researchers

Question D.4 When you prepare a manuscript, what types of source do you broadly consult?

Respondents indicated that they use journal articles first and foremost. Two researchers (GBV Researchers 4 and 6) insisted that journals must be peer-reviewed. GBV Researcher 6 clarified that at all costs predatory journals are to be avoided. The search engine Google Scholar is the second most popular resource consulted for preparing a manuscript. Google Scholar indexes full-text articles or metadata of scholarly literature (Halevi, Moed, Bar-Ilan, 2017).

Other sources indicated by the respondents were books and monographs, databases, grey literature, and webpages. The researchers elaborated further on the specific databases they consult, namely EBSCOhost and PubMed. An interesting preference by GBV Researcher 3, was the use of Google Scholar for literature reviews; even though there is access to databases such as EBSCOhost, ScienceDirect and Jstor, they are rarely if ever used by the researcher.

Question D.5 How do you, as a researcher, decide where to publish?

The goal for most researchers is to publish their research findings. As journals are the most favoured space in which to publish, journal selection is a key aspect for academics to ensure the research reaches the most suitable target audience (Björk, Roos and Lauri, 2009; Murphy et al., 2018). The following categorisations show the options researchers have in the process of selecting a journal for submission

of a manuscript, likelihood of manuscript acceptance; journal reputation (impact factor or ranking); journal visibility and potential article impact; likelihood of timely publication; philosophical and ethical issues; how well the journal matches with the topic of interest; journal accessibility; and publication costs (Rousseau, 2002: 420; Thompson, 2007: 59; Knight and Steinbach, 2008: 61, 65, 67, 68, 70).

Of these eight categories, only two were mentioned by the researchers; first, journal reputation. The importance the impact factor plays a critical role for these researchers. Academics are pressured by their research institutions and funders to publish in high-impact-factor journals, which is evident, especially for researchers to obtain grant funding or promotions and in being hired by institutions (Casadevall and Fang, 2014). The second category the researchers mentioned was how well the journal matched the topic of interest of the manuscript. Thus, the respondents look to publish within journals that are within their research area. Although the content meets the respondents' criteria for their research interests, some indicated other rules that guide them. One respondent indicated that s/he has no choice but to publish within the South African Department of Higher Education and Training's approved accredited journals list otherwise, s/he would lose funding. Restrictions also can occur, according to one researcher, because of northern to southern hemisphere bias. Research may not be accepted if it differs from the norm of the northern hemisphere researcher's perspectives. Experienced researchers know the restrictions of specific journals, which may include the requirement of an article's length or whether the journal prefers qualitative or quantitative studies. These can deter researchers from publishing in journals.

Question D.7 What do you think is crucial for the development in scholarly communication?

The research participants stated that OA is the most important part of the scholarly communication process for the coming years, changing the way researchers publish today and in the future. They have suggested that across the board OA is "making research accessible to non-researchers," especially via "research platforms and communities of practice (COPs) globally." Although OA is highly commended, some of the respondents indicated the downside of producing OA publications. Some articles published in OA and freely available online, depend on the researcher, institution or funders paying an article-processing fee, to ensure access is provided to all. GBV Researcher 3 went as far as to suggest that with declining library budgets, access to resources and library collections the move towards OA, is not the only option as it still needs to be paid.

As referenced in section B.5 of this analysis, engaged scholarship is paramount to researchers. The researchers state in this section that they should advance social change, communicating and synthesising content for communities, students, practitioners, and the lay public. GBV Researcher 6 said that altmetrics credibility, within the scholarly communication process, should provide a role in producing necessary discussions on the information.

Another category of concern for one researcher is the peer-review standards, especially regarding the mass production of publications. According to this researcher, the research papers produced are not about quality but quantity. Peer review plays a key role in managing the quality of the papers published in journals. Therefore, for research, systematic reviews need to be of the highest quality and to ensure this, more peer reviewers are needed for the journals.

Question D.8 Should altmetrics be used in conjunction with traditional metrics?

Six of the nine respondents indicated that traditional metrics should be used in conjunction with altmetrics. In comparison to Question B.5's responses to the question asked differently, it appears that there has been a shift in the opinion from the respondents. Many participants initially reported that they did not even know what altmetrics was. For example, a comment used by a respondent was, "I don't know what they are." Therefore, an explanation was required for those participants that did not understand altmetrics. Therefore, this could explain their changed opinions. See Figure 20.

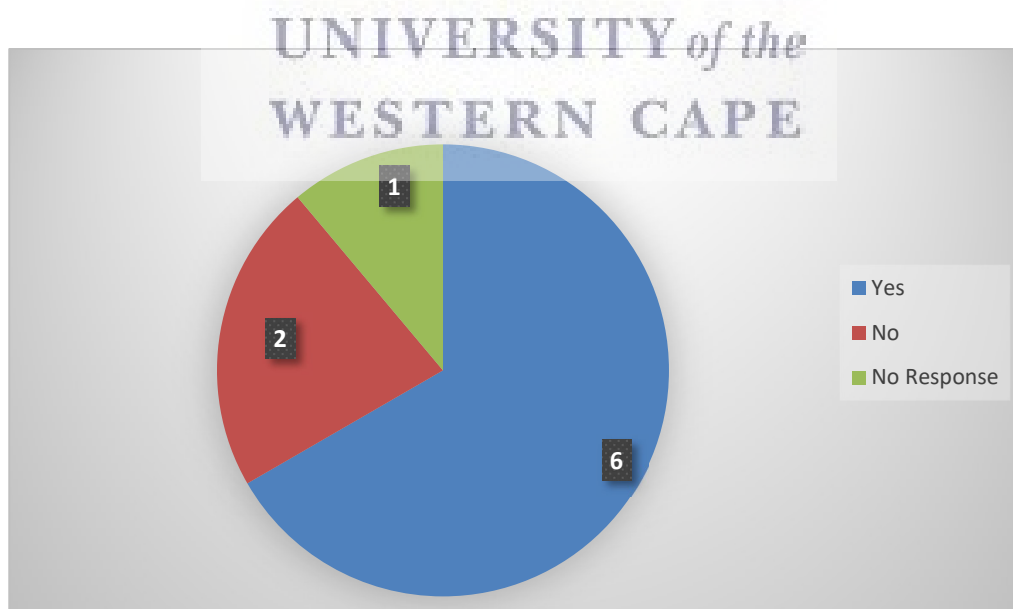


Figure 20: Use of altmetrics with traditional metrics (N=9)

(Author's graphic)

Most of the researchers (N=6) would use altmetrics in conjunction with traditional metrics and use it holistically towards research impact measurement. Three researchers (GBV Researchers 3, 5 and 8) indicated that although they are not totally aware of the complete meaning, they believe it might have a benefit. GBV Researcher 7 stated that s/he has used traditional metrics and altmetrics for public engagement and media outputs, for promotion. The University Research Committee received this well, especially as s/he was able to show impact on a national, regional and an international level. GBV Researcher 2 thought that it could not be a substitute for traditional methods of bibliometric and scientometric analysis. However, s/he indicated that this new metric would be able to assist in analysing and capturing research uptake, regarding research translations, such as the use of policies, reports, and programmes with proof-of-impact. GBV Researcher 6 indicated that the 'blind spots' within traditional metrics could be facilitated with altmetrics. The three respondents (GBV Researchers 1, 4 and 9) who indicated 'no' or had no response were unsure of altmetrics, with one indicating ignorance about what would be achieved by using these two different metrics together.

Question D.9 Are you as a researcher in support of or against the use of open access (OA)?

All the respondents to this question were in favour of OA. They indicated that OA was essential within the scholarly communication process. Online OA journals have grown exponentially in the past few years, creating a vast number of newly named journals through publishers such as PLOS, and BioMed Central. GBV Researcher 1, although positive about OA, emphasised that "now loads of really bad journals [are] emerging, 'predatory' journals that charge and I guess people will get sucked into that a bit." These developments have given rise to journals and publishers who are predatory in nature, specifically for financial gain, rather than science (Beall, 2012). Most of the respondents gave short and concise answers, indicating that they were in favour of OA, especially to allow accessibility to all research produced.

The researchers emphasised that research publications were extremely expensive, because of the subscription models and the article-processing charges for publishing in OA journals. There are multiple disadvantages to OA, especially for lower- to middle-income countries, as specified by one respondent. Although s/he is in favour of OA, the downside was the cost of publishing articles in gold OA and the financial responsibility which befalls the researcher or the institution. Two researchers (GBV Researcher 7 and GBV Researcher 8) emphatically denounced publishing houses for being for-profit. Publishers obtain their profit from the 'free labour' provided by academic researchers and funders. GBV Researcher 1 stated that because of the push for more OA content, new predatory journals have emerged, catching the researchers unawares. These publishers are using highly exploitive

approaches, providing a new model involving fee charges per publication, without essential editing and peer review (Christopher and Young, 2015). Most researchers are not equipped to deal with predatory journals, as they do not have the publication and ethics skills required. This situation is especially evident among early-career researchers, although even more experienced researchers may not be able to distinguish between legitimate and predatory publications (Shamseer et al., 2017).

5.2.2.5 Section E: Researcher's perceptions of altmetrics

In this section, the interviewees were asked eight questions that centred on their perceptions of altmetrics. In total, 67% (N=6) of the respondents in this study shared their ignorance and awareness of altmetrics. Some of these questions could be answered by the participants who indicated that they had knowledge of altmetrics.

Question E.1 Do you, as a researcher, use altmetrics to measure your research impact?

For this question, eight researchers indicated that they had not used altmetrics. These researchers had little or no knowledge of the topic. One respondent answered, 'No Response' altogether. GBV Researcher 2 does not use altmetrics. However, the researcher believed the SVRI and What Works research programmes use social media for their reporting to funders. GBV Researcher 1 stated that using alternative measures for measuring impact, such as altmetrics, would be useful. However, until these new metrics affect their key performance areas, s/he would not be likely to change his/her current methodology, which would require effective structural changes within institutions measuring their research impact or incentive publications.

Question E.2 What are the disadvantages in using these metrics over other metrics available today?

In answer to this question, the participants in this study indicated that, as researchers, they 'Do Not Know' or are 'Unsure' of what the disadvantages are for altmetrics. Although in section A.1 (p 117), three participants reported knowing about altmetrics, but not having enough knowledge to answer this question. GBV Researcher 7 emphatically stated s/he had not even given a thought to what disadvantages there could be for altmetrics.

Question E.3 Would you use altmetrics towards your research evaluation? If yes, please explain specifically what it would be used for and give examples. If no, please explain, why not.

To this question, four researchers indicated 'No.' Three of the participants indicated that as researchers, they 'Do Not Know' or are 'Unsure' of using altmetrics towards their research evaluation, as they do

not know its value. Of the researchers who stated 'No', GBV Researcher 1 responded that this research analysis metric may be easily gamed and is hard to interpret, unlike traditional metrics. Therefore, in the assessment of the metric, s/he thought that organisations would not use it. The researcher (GBV Researcher 1) also believed that there could be an inherent bias in the system, especially in research groups such as SVRI and other large organisations. A paper might be retweeted several times, leading to misleading information regarding the true impact of the publication.

Five of the researchers indicated 'Yes.' Of those who said yes, said that if they understood how to use the metric, they would use it to measure their impact on research because a description of the metric was provided to those who did not know the term. GBV Researcher 6 emphasised that in future s/he would most definitely use altmetrics to be able to measure the return on investment within the communities where s/he works once the research is completed. S/he is quoted as saying that it would be used to "evaluate qualitatively my research is taken up in the community." GBV Researcher 2 stated that "different values [are] provided by different measures." It can be deduced that as with previous answers within the interview questions, altmetrics would bring its own value to metrics analysis.

Question E.4 What is your opinion of the use of altmetrics in the evaluation of scientific research?

Six researchers indicated that they do not have an opinion. The other three researchers (GBV Researchers 2, 6 and 7) indicated that this method of using altmetrics for the evaluation of scientific research would enable assessing the broader impact of research within communities. GBV Researcher 2 indicated that social engagement to ensure return on investment, for research completed, is paramount within the research environment. There is no current way to measure this research uptake, translated from researcher to layperson, and back. However, as one of the researchers said, altmetrics could play a key role in this measurement. GBV Researcher 6 went as far as to say that s/he would use the combination of both traditional metrics and altmetrics, to assist in covering multiple aspects of research impact.

Question E.5 What role does altmetrics play in showing the value of your research visibility?

To this question, five of the nine participants reported that they 'do not understand' as researchers or are 'uncertain' about what the benefits of altmetrics are. GBV Researcher 4 stated that for altmetrics to show value for his/her research visibility, it should show the "regions that would benefit from the research." According to Taylor, (2013b: Online), altmetrics might act as an indicator for future citations and incorporates a 'wider scholarly impact' by increasing visibility and accessibility of publications shared by authors. Furthermore, GBV Researcher 7 stated that this metric requires a

conversation that is critical for researchers today, underlining the return on investment and social engagement with communities, which is currently not measured.

Question E.6 In your opinion, what are the benefits or advantages of using altmetrics?

Seven of the nine participants duplicated their responses from previous ones. GBV Researcher 4 stated that this metric could contribute towards the evaluation of research performance. GBV Researcher 2 reiterated a previous answer.

Question E.7 In your opinion what are the barriers to or disadvantages of using altmetrics?

All nine of the participants in this study duplicated their previous responses to this question. However, GBV Researcher 2 responded differently, saying that it would be a disadvantage of this metric not being able to determine the quality of the information from altmetrics. S/he further noted that not all coverage on social media is positive. There was a risk using this metric because as with citations, it can be manipulated.

Question E.8 Should altmetrics be used in conjunction with traditional metrics?

Even though the concept of altmetrics was explained to the participants who did not understand it, the researchers reiterated previous responses. Of the nine respondents, six researchers said 'Yes', they would use altmetrics with traditional metrics. GBV Researcher 6 stated that s/he would use a combination of traditional metrics and altmetrics to assist in covering multiple aspects of research impact.

5.2.3 Chapter 5, Part 2 summary

In conclusion, although these researchers know about traditional metrics, their knowledge of this new metric, altmetrics, is minimal at best. Although they have little basic knowledge, the respondents seem to be in favour of using this metric for the evaluation of research. Evidence of this is that they repeatedly mentioned the impact of social engagement for them, as researchers. By using current methods of research and having it translated so that the layperson can understand, they as researchers are unable to measure this gaping knowledge gap. The knowledge that can be obtained from these metrics would provide a broader perspective and provide more engaging discussions, going forth. As there is a risk in the current traditional methods used, since they may be gamed, it is important to note that these researchers are willing to take risks to measure the societal impact of their research, whether negative or positive.

CHAPTER 5: PRESENTATION OF THE FINDINGS, PART 3: QUESTIONNAIRE FINDINGS

5.3.1 Introduction

In this part of the chapter, the questionnaire findings are presented, interpreted, and discussed to determine the awareness of South African GBV researchers on the use of their metrics, whether, from traditional metrics or altmetrics. A questionnaire was distributed to every subscriber on SVRI Listserv. The low response rate to the interviews prompted an additional tool, a questionnaire to capture more data from GBV researchers. However, the questionnaire drew only three responses to the listserv.

The findings of the questionnaire are divided into three main sections. Section A focuses on the demographics of the researchers; B focuses on the researchers' understanding of traditional metrics, and Section C focuses on altmetrics.

5.3.2 Results, analysis, and interpretation

The questions focused on experiences that the interviewees had had in GBV research and the impact and knowledge of altmetrics, as opposed to traditional metrics, within the scholarly communication process.

5.3.2.1 Section A: Demographics

The three respondents were all females from 31 to over 50 years old. Females are better represented in health, humanities and education as indicated in Chapter 5, Part 2. (Charles and Bradley, 2002). Institutions represented were two historically advantaged universities and a non-governmental organisation. One researcher indicated that their institution could be historically advantageous and disadvantaged. Two of the respondents were senior researchers, and one occupied a research chair. Their years of experience ranged from 8–12 and 22 years, with their Internet skills level at an expert level. This result correlates positively with the seniority of the respondents.

Respondents had to choose social media tools used by GBV researchers from a given list. Respondent A had an extensive usage of social media, however, only Facebook was used daily, with Blogs, LinkedIn, Mendeley, and YouTube used weekly. This researcher used social media tools, such as Wikipedia and Academic.edu monthly, and none of the others. Respondent B indicated that she had

hardly ever used social media tools except for two, Wikipedia (Monthly) and YouTube (Weekly). Respondent C had the same amount of usage as respondent A of social media, except for using Mendeley daily and Facebook and Publons weekly. This researcher used F1000, Wikipedia and YouTube monthly and none of the others. The four most used tools were Blogs, LinkedIn, YouTube and Mendeley. Differences in the use of social networking sites, such as Mendeley, have been identified in several studies (Sugimoto et al., 2017). The findings concur with other studies that researchers are making use of tools such ASNS to form part of their research lifecycle (Gu and Widén-Wulff, 2011; Donelan, 2016; Manca and Ranieri, 2017).

The next question was to determine the motivation and factors associated with publishing. According to respondents, the main motivation for publishing as a researcher is to gain recognition regarding the quality of their research (Figure 21). There is an obligation, and even, responsibility for researchers to publish their findings in a peer-reviewed journal, which concurs with the literature. Successful publications are acclaimed by researchers and their research institutions (Fry et al., 2009). The categories selected by the respondents are also in line with the literature in the prominence of the impact factor. Respondents indicated that to decide to publish key motives would be a) approved accredited journal lists, and b) impact factors. According to the literature reviewed, South African researchers are seeking to publish in indexed journals (Journal Citation Reports (JCR), Clarivate Analytics) and to publish internationally, especially in those journals with high impact factors (Academy of Science of South Africa, 2006: xxv). See Figure 22.

A.8 What motivates you as a researcher to publish? (You may choose more than one)
3 responses

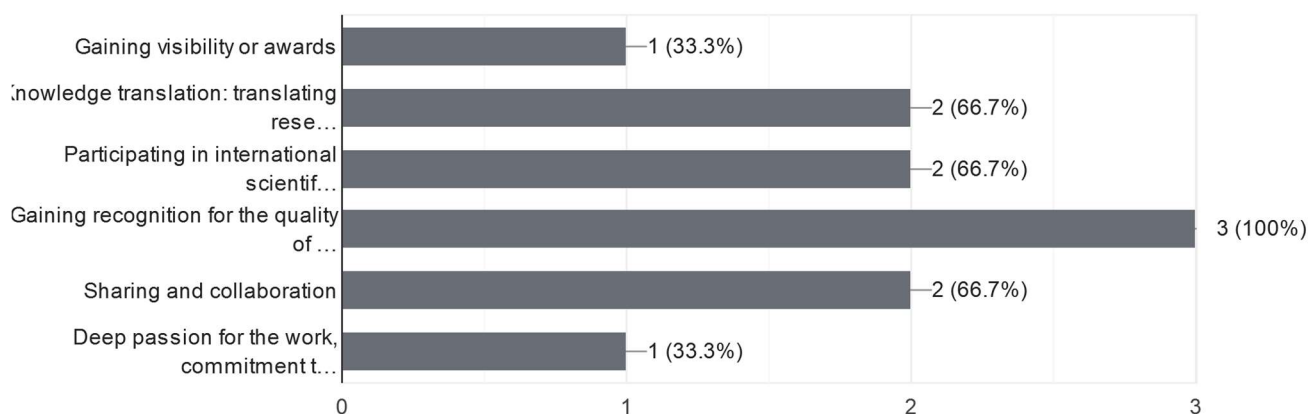


Figure 21: Motivation to publish

A.9 Which of the following factors do you consider when deciding to publish in a particular journal? (You may choose more than one)

3 responses

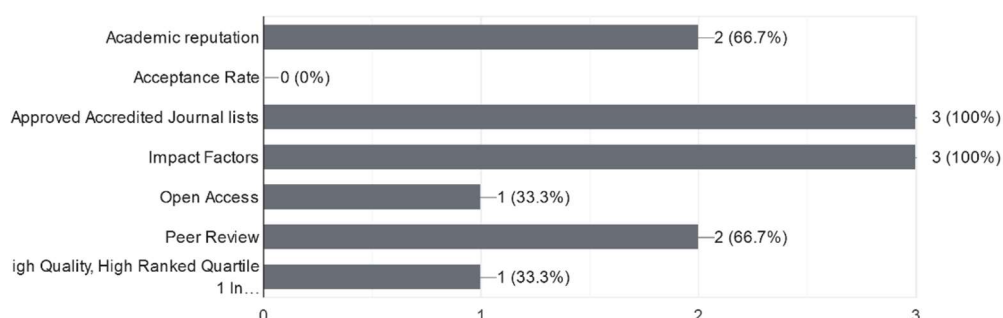


Figure 22: Decision to publish in a journal

Two of the three respondents were conscious of OA. These respondents confirmed that they have been publishing in an OA journal. In future, they would continue to write in an OA journal. They unanimously preferred methods of sharing information by the respondents were a) presentation at conferences, b) networking with other researchers from conferences and meetings. One of the respondents selected all of the options (Appendix K) available for sharing and the promotion of her research, which indicates proficiency in the dissemination of her research through multiple methods. The literature has also stated that academics are likely to find and exchange research findings online with other researchers (Rowlands et al., 2011).

5.3.2.2 Section B: Traditional metrics

These questions centred on the knowledge and aspects of traditional metrics. The first question was to determine the researcher's definition of traditional metrics. All three of the respondents selected different responses shown as follows:

- Respondent A: "Traditional bibliometrics, such as citation counts, journal impact factors, etc., are being used in measuring research impact."
- Respondent B: "It is metrics that measure the number of citations by people other than the authors."
- Respondent C: "Traditional metrics only measure the impact of your research through the number of citations a published paper receives. It also takes into account the impact factor of the journal to determine the impact of your research."

Question B.2 asked about how researchers measure their impact, with four options that were provided covering the most common responses in the literature. All three respondents chose the ‘quality of the research outputs’ as the most important, followed by ‘peer review’ and ‘knowledge translation.’

In B3, respondents were asked to indicate their familiarity with a range of traditional metrics concepts. Respondent A indicated that except for the ‘impact factor’ (moderately familiar), the ‘total number of citations’ (somewhat familiar) and self-citations (somewhat familiar), she was not at all familiar with any of the other metrics. In comparison, the other two respondents were extremely familiar with many of the concepts, except for the ‘journal impact factor quartile’ and ‘SNIP (source normalized impact per paper).’

In B4, the researchers were asked whether they considered traditional metrics when selecting a paper to read. All three responded differently. Respondent A had ‘never’ used traditional metrics in the decision-making process. Respondent B chose ‘rarely’ and C ‘most of the time’ in deciding to use metrics for reading choices. In B5, the aspects of where to publish their research, respondents overwhelmingly preferred a) Relevance to the subject, b) Journal impact factor, and c) Peer Review.

The responses to B.6 indicate that although the JIF is important in deciding where respondents use citations or journal impact factors to decide if an article is worth reading, it does not necessarily cloud the judgment of their decision to read a paper (Respondents A and C). However, respondent B chose the complete opposite option by selecting “most of the time” for using the JIF.

In responses to B.7 to B.10, there was a split response among the respondents. However, two of the respondents (Respondent A and C) we can determine responded the same, though from different perspectives. Respondent A consistently across all the questions indicated, ‘Do Not Know/Cannot answer’ or ‘Never, or Almost never’. Respondent C consistently across all the questions indicated she had used it ‘Most of the time’. In B.7, Respondent B’s response indicated that researchers ‘rarely’ used traditional metrics for their assessments. At the same time, Respondent B never uses citation counts for her performance documentation (question B.8).

In B.9 and B.10, the researchers were asked about using the JIF and h-index for promotion or performance documentation, respectively. The three respondents equally responded differently to these two questions. In B.9, Respondent B and C responded in the opposite with the former indicating that it is ‘rarely’ used, and the latter uses it ‘most of the time’ for their assessments. In B.10, respondents B and C indicated they use the h-index for their performance reviews ‘most of the time’.

B.11 asked respondents' opinion on the use of traditional metrics in the evaluation of scientific research. Respondents A and B concur that the use of traditional metrics 'provides credibility' for their research. Furthermore, respondent A indicated that it also measures their research successes. Respondent C indicated that traditional metrics do not reflect all research impact that can be measured (Figure 23).

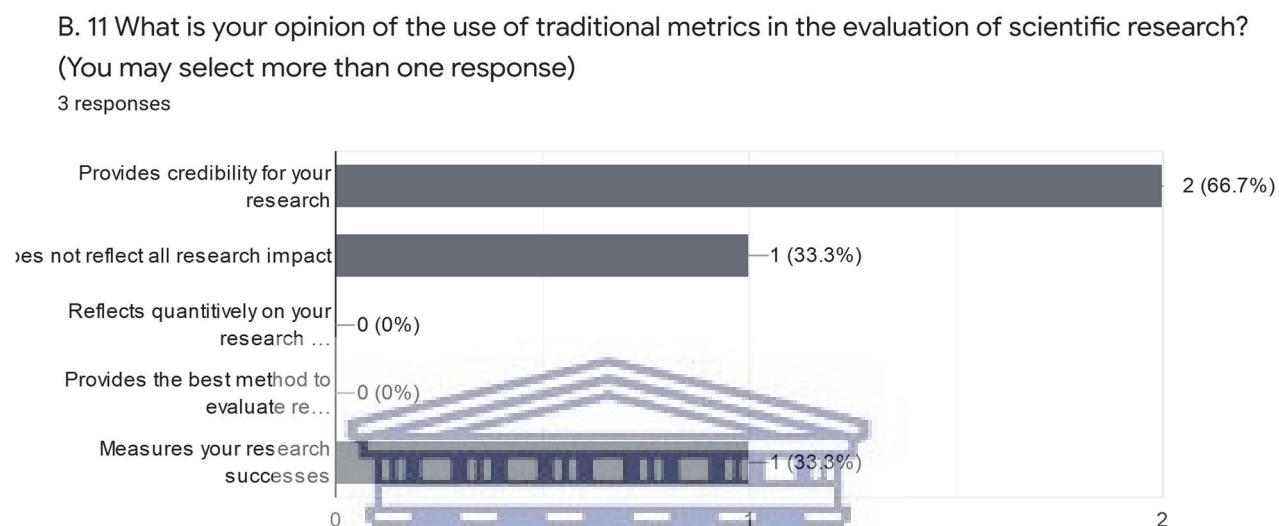


Figure 23: Opinion on the use of traditional metrics

Questions B.12 and B12.1 asked whether the researchers had created any citation alerts. Respondent A had never set up a citation alert, except for ResearchGate. Respondent B set up alerts on Scopus and Google. Respondent C had set up alerts on Google and Web of Science. Question B12.1 had no response regarding any alternative used for citation alerts.

In question B13, the researchers were asked about the purpose of setting up a citation alert. Respondent B chose 'Do not know/cannot answer.' Both Respondents A and C use the alerts to be notified of new articles. Furthermore, Respondent A indicated that it was 'nice to know' about the information that is set up as an alert. In answer to the final question in section B, Respondents A and C both indicated that they would possibly request a librarian or a research officer to include traditional metrics in their research impact analysis. Respondent B would 'definitely not' use a research officer or a librarian.

5.3.2.3 Section C: Altmetrics

Question C.1 asked respondents to rate their awareness of altmetrics using a five-point scale, from no awareness (1) to extremely aware (5). Two out of three respondents claimed to either have no awareness of altmetrics or be unfamiliar with altmetrics. Respondent C had some awareness of altmetrics. The growing usage of social media and other technologies has expanded GBV knowledge, through exposure to data and incentives for information sharing. Social networking is a powerful tool to attract a wider audience for the awareness of GBV through outlets such as YouTube, Twitter, Instagram, LinkedIn, Podcasts, and Pinterest (Damodar, 2012).

Question C.2 asked respondents to choose a definition of altmetrics that comes closest to their understanding. All three respondents answered differently:

- Respondent A: ‘Do not know/cannot answer.’
- Respondent B: ‘Altmetric is a system that tracks the attention that research outputs receive online.’
- Respondent C: ‘Altmetrics, or alternative citation metrics, provides researchers and scholars with new ways to track influence across a wide range of media and platforms.’

Question C.3 asked respondents their opinion on the use of altmetrics for showing societal impact. Two of the three respondents indicated that they, as researchers ‘Do not know/cannot answer.’ However, Respondent C indicated that it is ‘moderately important’.

Because none of the respondents had used altmetrics, they could not answer question C.4 that asked about data providers for altmetrics. Question C.5 asked how often altmetric counts were used in promotion or performance reviews. Respondents B and C indicated ‘never or rarely,’ while Respondent A indicated ‘Do not know/cannot answer.’ Question C.6 asked respondents about comparisons of citation counts and altmetric counts in research impact. Respondents A and B ticked ‘Do not know/cannot answer,’ while Respondent C chose ‘would not be important.’

In question C.7, respondents were asked whether altmetric counts would influence them to read a publication. Respondent C indicated ‘sometimes,’ while Respondents A and B indicated ‘Do not know/cannot answer’.

Question C.8 asked respondents if they would possibly request a librarian or a research officer to include altmetrics in their research impact analysis. Respondent A and C chose ‘Do not know/cannot answer.’ Respondent B selected she would ‘definitely not’ use a research officer or a librarian.

C.9 was an open-end request for final comments. Respondent C maintained that ResearchGate would be the most helpful for the presentation of research to colleagues. Also, PsyArXiv is used as a preprint repository for making early research accessible. For research translation, she found that the website “The Conversation” was important for a general audience.

5.3.3 Chapter 5, Part 3 summary

Although there was a minimal response (N=3) to the questionnaire, the findings confirmed that researchers know about traditional metrics, and their awareness of altmetrics is negligible. Two out of the three respondents would not use altmetrics for their promotions or performance review.



DISCUSSION AND INTERPRETATION OF THE RESEARCH FINDINGS

6. Introduction

In this chapter, the findings are discussed and interpreted to show the use of altmetrics, as opposed to traditional metrics, among GBV researchers within South Africa. In the bibliometric analysis, a moderate relationship between GBV citations and altmetrics attention score within scholarly communication in measuring impact was found. Therefore, as the articles' citations increase, so too could one expect the altmetrics score to increase which indicates that as citations increase, so does the altmetrics score. Although, it is important to note that there is no causal relationship between the results that are shown. As the scholarly communication landscape has evolved, there has been a need to understand the user and the metrics involved in the research environment (Van Eperen and Marincola, 2011; Bik and Goldstein, 2013).

6.1 Profile of GBV Researchers

The participants in this study consisted of GBV Researchers within South Africa. The majority of participants (11 out of 12) were female from research institutes, non-governmental organisations, and historically advantaged institutions.

6.2 Summary of the findings

The aim of this study is to answer the question, "Within the changing scholarly landscape, to what extent are GBV researchers in South Africa aware of and do they use bibliometrics and altmetrics?"

The sub-questions of the study derived from the main research question are:

- What motivates GBV researchers to do research?
- What factors (e.g., impact factors, approved lists, open access) do GBV researchers consider when selecting a publication channel?
- What is the opinion among GBV researchers of open access in research?
- How are researchers sharing their research information?
- Which metrics are GBV researchers using to measure their research impact?

- What are GBV researchers' perceptions about the value of metrics?
- What is the level of knowledge among GBV researchers of altmetrics?
 - Do the GBV researchers use altmetrics to measure their research impact? If not, why not?
- Do the different metrics measure similar or different impacts?

The order of the discussion for this chapter follows the order of the research questions of this study.

6.3 Findings of the main research question

The primary question was to investigate to what extent GBV researchers were aware of and used bibliometrics and altmetrics, within the changing scholarly landscape in South Africa. In this section, the sub-questions are discussed.

6.3.1 What motivates GBV researchers to do research?

In line with the findings, obtaining recognition for the quality of the research primarily motivate researchers to publish. Furthermore, the motivation for the researchers is that it is produced, visible and accountable as contributions towards their institution and society. Research accountability and visibility to all stakeholders (government through to the public) is a key motivation for the researchers. According to Mabe (2015) and Mabe and Amin (2002), 70% of researchers who publish in journals are based within a university. In the bibliometric analysis of the current study, research produced by GBV researchers shows that it has been cited by other researchers, of which some of the publications have received high citations. According to the normative theory, the citations are incentives in the scientific framework that signify reasonable cognitive and academic influence (Anderson et al., 2010: 367). Whether the research produced receives positive or negative attention, it is being shared through altmetrics, for example, social media and other avenues. The interview responses in the current study indicated that knowledge translation, and the visibility of research, is paramount for the exchange of information between researchers and the public. The principle of 'communism' in normative theory applied here, indicates that the GBV researchers prefer to share their knowledge freely to improve society (Macfarlane and Cheng, 2008: 73). The Canadian Institutes of Health Research, (2016: Online) define knowledge translation as a process of "synthesis, dissemination, exchange and application of knowledge." The scholarly communication lifecycle model developed by Griffin (2015) follows successive stages of the scientific research methods, which are clearly distinguished and universally adopted, and has been accepted as the norm by GBV Researchers. Because of the flow of scientific

research, it is agreed that the model showcases the acceleration and re-use of online information, which provides an avenue of visibility for their research. Regarding the visibility of research, the literature states that OA creates and enhances scholarship, and therefore, shows a benefit for scholarly content and products to be made accessible to all (Tennant et al., 2016). The researchers in the interviews stated that they would advance social change, communication, and synthesis of content for communities, students, practitioners, and the lay public. For one researcher, the credibility of altmetrics within the scholarly communication process could provide a role in producing necessary discussions on the information.

Research produced has the potential to influence decision-making processes, policy, and practice changes. Therefore, it could, bridge a gap between the crude research produced in the academic literature and policy, effectively creating impact for change throughout the research process (Tripathy et al., 2017). The literature states that there is a benefit to being able to measure a response to a publication immediately (Allen et al., 2013; Barbaro, Gentili and Rebuffi et al., 2014). A demonstration is, respondents publishing their papers on an academic, social networking platform, such as ResearchGate. According to Roemer and Borchardt, (2015: 103), there are categories associated with altmetrics, which are:

- a. metrics focused on an individual's contributions;
- b. metrics focused on the venues that produce the individual contribution;
- c. metrics of author output over a specified time;
- d. metrics that are the focus of a group or institution over any given time.

This question clearly outlines the scholarly contributions made by researchers and scholars, particularly those associated with the categories (a) and (d). In this study, the relationship between the researchers and how they use their research showed they have an interest in their work and the contribution they make toward their institution and society.

Most, if not all, of the publications analysed in the documentation, received citations. Researchers in the study emphasised, across the board, the spur to producing top research, in today's research environment, is to remain competitive. Competition is validated by the literature, where Féron and Crowley, (2003) state that science and higher education policies have moved towards incentives for monitoring research performance. Based on the traditional method of evaluating authors on the number of citations for their publications, researcher online profiles such as blogs, for measuring and evaluating them on the impact of their scholarship, seem the least relevant method (Ponte and Simon,

2011). Aksnes and Rip (2009) state that there are three issues in relation to researchers' experiences with regards to citations. The issues related to the quality of the paper, the visibility of the research and fairness within the research environment.

Furthermore, it has been emphasised by the questionnaire respondents, gaining recognition for the quality of their research is important. The main motivation, as a researcher for publishing, is in gaining recognition for the quality of their research. Key motivations for choosing journals are a) Approved accredited journal lists, and b) Impact factors.

The research opportunity to have increased citation rates, impacts advantageously on the researcher. The respondents in the study were better able to explain and define traditional metrics than altmetrics. They were able to define the concept emphatically and confirmed it to be the measurement of their research through journal impact factors and citations. Most of the GBV researchers, who were interviewed, indicated that they used traditional metrics. These metrics are familiar to researchers for citations, journal impact factors and the h-index for the measurement of research impact. In general, the databases associated with these metrics are Web of Science (Clarivate Analytics), Scopus (Elsevier), or Google Scholar (Jasco, 2008; Crotty, 2017; Fraumann, 2017).

Two researchers indicated that they were not knowledgeable about metrics in general. They each stated that metrics were of no interest to them in any way, as this is not the focus for producing research. This view is in line with the normative theory's 'disinterestedness' because of interest in gaining recognition (Macfarlane and Cheng, 2008: 73). In this study, researchers indicated that they would receive limited or even no funding if they did not publish within prescribed journals. For this reason, some of the researchers interviewed perceived the process of bibliometric analysis of their research ambivalently.

One of the researchers affirmed not knowing where to begin with producing a bibliometric report, with assistance from a librarian. This affirmation resonates with a Canadian study (Thuna and King, 2017) in which two scientists negatively expressed their opinions about impact metrics, one stating that it is not a way to address the research in its entirety. The second scientist stated that it is not the "net worth as a researcher." Researchers are encouraged to produce research at a high productivity rate, specifically for career advancement, which is a result of the 'publish or perish' attitude, where productivity is more important than 'breakthrough research.'

In most of the responses from the researchers regarding why they use traditional metrics, it is significant to note that the four main areas they indicate as validation for its use are, a) performance reviews; b) promotion; c) institutional or departmental performance; and d) career advancement or job

applications. These researchers stated that there is prestige associated with their research being evaluated, as they evidently attain further accolades when being compared to one another bibliometrically. Researchers indicated that authorship placement within publications is a critical decision. Specifically, important, is that researchers within South African higher education facilities receive an annual subsidy from the Department of Higher Education and Training. This subsidy is based upon research output from the institutions. These subsidies are linked to the number of citations and a weighted average of the citation impact (Harley et al., 2016). The South African NRF rating system is essential for the recognition of researchers, based upon specific criteria for the evaluation and rating.

Academic excellence is the way research is shown to be of great investment value to an institution. The respondents indicated that they only measure their research impact for validation within the scientific community of their field of study. The phrase ‘publish or perish’ was used by the respondents to indicate that in today’s research environment, they have to continually publish to be recognised nationally and internationally as established researchers in their field. The respondents further asserted that research funders play a critical role, especially regarding publicly funded projects. This research is evaluated and monitored for greater investment, enabling research to prosper in society. Some researchers were not positive in their outlook on the measurement of their research being analysed.

One respondent went so far as to say that producing research is “draining” and places a measurement of self-worth on researchers within academic society. They mentioned that research engagement is essential in the measurement of their research impact that is especially emphasised by those whose research is funded. The return on investment for institutions is important (Rickinson et al., 2011). The researchers indicated that they wanted the research to impact on research policy, guidelines, and legislation.

The researchers’ opinions on the use of traditional metrics in the affirmation of their research vary. They acknowledged that there are associated limitations for the metrics. Specific emphasis is placed on the manipulation and gaming of tools such as the JIF and the h-index. The researchers interviewed state that the evaluation of research relates to the establishment of an international evaluation level, which is to the detriment of research that is only published in local journals. They indicated, alongside the literature, that the metrics, especially the impact factors, are flawed. Even with these researchers indicating all the barriers associated with traditional metrics, they would still use the metrics for their research impact measurement. With the many criticisms and limitations that citations receive, it is still the standard measure of impact within academic institutions (Rau et al., 2018). The NRF epitomises

research and scientific excellence. The respondents indicated the acceptance of these metrics used by institutions such as the NRF, for the measurement of their ‘high impact’ research, which contributes to South Africa’s Knowledge Economy Index.

The skills required to acquire the information for bibliometric analysis are not well known by the researchers interviewed. Some of the respondents indicated that to obtain their traditional metrics analyses, they require specialised librarians.

6.3.2 What factors do GBV researchers consider when selecting a publication channel?

The factors considered by GBV researchers were impact factors, approved lists, and open access. GBV researchers consider two specific factors when selecting a publication process, which specifically were the journal reputation (impact factor or ranking) and how well the journal matches the topic of interest. Specific aspects influence the selection criteria of GBV researchers. The context associated with these researchers within their research field is driven by their knowledge and the influence which the institutions have on them. The journal reputation is paramount to most institutions, as this communicates the quality of research, which correlates with the impact factor based on citations received. Assessments for promotions and cash incentives for the researchers encourage them to continue publishing in high-impact-factor publications. This push for high-impact journals is in line with criteria set forth by the South African Department of Higher Education and Training’s approved accredited journals list. For the researchers to obtain grant funding and promotion, and hiring of researchers within institutions, this measure is then used by all tertiary institutions. The value for researchers and institutions is seen in the fact that the higher the JIF is, the more citations a publication receives.

Therefore, the researchers indicated that they have no choice but to use internal guidelines in implementing their research for publishing. The “impression management” theory is a social method used to build perceptions to persuade others in a regulatory way (Goffman, 1959; Gosling, Gaddis and Vazire, 2007). The impression that is given by GBV researchers to the value of specific journals indicates they seek to preserve their worth in the eyes of other researchers and institutions.

The second factor that influences GBV researchers in selecting publication channels is by matching topics and the journal’s scope. A researcher may still, in some instances, select a journal that matches the topic of interest. The journal selection can impact further on a researcher’s career within academia,

as it affects their citations and thereby their h-index. For better evaluations and bibliometrics, participants in this study selected a publication channel that would benefit them in producing high-quality research, along with the race for research funding and incentives. It can be determined that journals with a high impact factor, such as the Lancet publications, or the New England Journal of Medicine, are widely respected and receive more visibility. Authors, especially within the medical research field, tend to target particular journals for their research, assisting in the promotion of their published work (Williams, 2018). Even knowing the way researchers select journals, the National Advisory Council on Innovation (2017: 27) advised that research publication production for South Africa is on the increase. However, it has not translated into scientific innovation progress for the South African economy. The medical and health sciences and the social sciences respectively present 23.4% and 14.4% of publication production.

The top ten most cited or highly scored journals are *The Lancet*, *New England Journal of Medicine*, *The Lancet Global Health*, *Prevention Science*, *Men and Masculinities*, *Depression and Anxiety*, *Best Practice and Research: Clinical Obstetrics and Gynaecology*, and *Plos Medicine*, *AIDS*, and *Journal of Adolescent Health*. The two areas, highly cited and highly scored, are depicted in Tables 9 and 10. The top five journals in each of the two metrics are similar, and preference shown by the GBV researchers in their publishing habits is for international journals (Table 11).

Among the publications analysed in the bibliometrics analysis (Figure 10 and Table 3), the trend for GBV researchers in South Africa is to use international journals. However, among the topmost published journals used by GBV researchers are two South African ones, the *Journal of Child and Adolescent Mental Health* and *Social Work*. The papers retrieved in the bibliometric analysis have shown that the highest altmetric and citation scores were health sciences journals (See Appendices F-H). The attention economic theory (Haustein, Bowman and Costas, 2016), is applied to infer that the GBV research has received attention on altmetrics within the scholarly communication landscape. The results have shown that articles from 2015 received more attention on average than the years before. The usage has shown that there was early interest among researchers in the GBV Research publications. They were consistently engaged in and accessing the information through tools such as Mendeley and CiteULike. Mendeley users are students, postdocs, and researchers and as such it is assumed that Mendeley readership counts reflect interest by a researcher audience beyond the community of citing authors (Haustein, Larivière, et al., 2014).

Table 9: Top five cited journals

<i>Name of Journal</i>	ISSN	Impact factor	International/Local
<i>The Lancet</i>	1406-7360	53,254	International
<i>New England Journal of Medicine</i>	2847-9300	72,406	International
<i>Prevention Science</i>	1389-4986	2,570	International
<i>The Lancet Global Health</i>	2214-109X	17,686	International
<i>Men and Masculinities</i>	1097184X	1,308	International

(Author's graphic)

Table 10: Top five altmetric scored journals

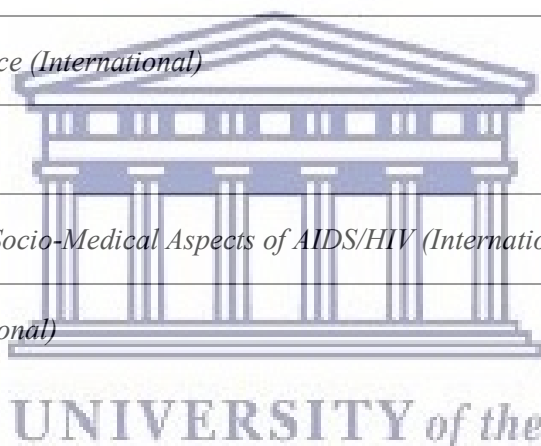
<i>Name of Journal</i>	ISSN	Impact factor	International/Local
<i>The Lancet</i>	1406-7360	53,254	International
<i>The Lancet Global Health</i>	2214-109X	17,686	International
<i>New England Journal of Medicine</i>	2847-9300	72,406	International
<i>PloS Medicine</i>	1549-1277	11,862	International
<i>Journal of Adolescent Health</i>	1054-139X	3,974	International

(Author's graphic)

Table 11: Journals in which GBV researchers publish most often

<i>Journal</i>	Total
<i>AIDS and Behavior (International)</i>	16
<i>PLoS ONE (International)</i>	11
<i>Culture, Health and Sexuality (International)</i>	10
<i>The Lancet (International)</i>	10
<i>BMC Public Health (International)</i>	7
<i>Journal of Child and Adolescent Mental Health (South Africa)</i>	7
<i>Journal of Interpersonal Violence (International)</i>	7
<i>Social Work (South Africa)</i>	7
<i>AIDS Care-Psychological and Socio-Medical Aspects of AIDS/HIV (International)</i>	6
<i>Global Health Action (International)</i>	6

(Author's graphic)



6.3.3 What is GBV researchers' opinion of open access in research?

Research participants have stated that OA is the most important part of the scholarly communication process for the coming years. They suggested that across the board, OA was “making research accessible to non-researchers.” Some articles published under OA, and freely available online, depend on the researcher, institution or funders paying the article-processing charge.

Griffin's (2015) scholarly communication model incorporates the use of OA for increasing societal impact and attention. Open access scholarly communication is accomplished through OA journals and self-archiving repositories (Chan and Costa, 2005: 143). The Griffin adapted scholarly communication model offers sharing research findings throughout the process (2015). Through open research, it ensures that there is engagement, monitoring, and evaluation of research results throughout the research process. Pasteur's Quadrant model (Stokes, 1997) is applied, as it meets the characteristics associated with scholarly communication. The research has shown the deliberate

engagement and use of OA by GBV Researchers. These researchers recognised that it is becoming increasingly important, nationally, and internationally, to conduct research which is published in OA journals.

OA journals have grown exponentially in the past few years, creating a vast number of new-named journals through publishers such as PLOS. These developments have given rise to journals and publishers which are predatory in nature, specifically for financial gain, rather than science (Beall, 2012). Most scholars are not prepared to work with unethical journals because they do not have the requisite publishing and ethical skills required.

6.3.4 How are researchers sharing their research information?

The knowledge exchange among (GBV) researchers was multipronged. The knowledge exchange process that has occurred has effectively created a way in which these researchers can receive feedback on their publications. The norm associated with the scholarly communication process is that the dissemination of the research had become the final stage of information and knowledge exchanged between the research and academia. OA has resulted in new avenues through which research can be shared in multiple ways of the process, from development and creation to the re-use and archiving of data.

Very few respondents share their research online unless it is in an OA journal. From the interviews, two respondents confirmed that information sharing, through the emerging open data resources for promotional and funder representations, shows a benefit for their research profiles. The survey respondents unanimously preferred methods of sharing information through, a) presentations at conferences and b) networks with other researchers at conferences and meetings.

Griffin (2015: 550) mentioned that traditional scholarly communication “reflects the complexity of contemporary scholarship and research processes and results that cannot be captured or communicated in printed form.” This statement indicates the need for scholarly communication to be reformed. Many researchers, publishers and funding institutions are mandating the changes needed to incorporate digital media. OA, according to all respondents, has an important role to play. The findings show that the researchers interact in the process, specifically through three areas:

- i) disseminating the research products in print or electronic format, indicated by the respondents as the Department of Higher Education journal’s list, use of impact-factored journals and niche journals for this area of research, such as Men and Masculinities;

- ii) managing research profiles of individuals and institutions, such the researcher's emphasis on the use of ResearchGate, LinkedIn, Academia.edu, Google Scholar and ORCID;
- iii) communicating the research to broader communities through listservs and newsletters.

The expedition of access to research and scholarship is essential in the exchange of research information and disseminating research to their peers and the public. Some respondents have indicated that through sharing on online platforms and the ASNS, the discoverability of their research drive interest and discussions, especially for their grey literature. Kerchhoff (2017) confirmed that publications from PLAAS that receive social media activity have the potential for societal and research impact. The findings in this study confirmed the 'Matthew effect' of the social constructivist theory, implying that there is a cumulative advantage where the researcher's probability of increased citations can occur (Haustein, Bowman and Costas 2016: 381-383). In this study, confirmation is that there is a moderate relationship between citations and altmetrics.

The GBV researchers emphasised the role that research funding plays in examining the societal and research impact that their research and publications have received. Government and academia have adopted OA, open data, and open science programmes to ensure the community, and particularly funders can examine the return on investment. Publications, in the form of journal articles, are the preferred method of dissemination of research. The other examples of publications mentioned were books and monographs, databases, grey literature, and webpages.

The GBV researchers in this study support the critical role that OA plays in making research available, specifically for access, use and dissemination to research platforms and COPs globally. Furthermore, they support the move towards OA and its derivatives, as it can assist in enhanced visibility within the research community.

6.3.5 Which metrics are GBV researchers using to measure their research impact?

Respondents emphasised that they use traditional metrics for measuring their research impact. They indicated that it provides credibility for their research and can measure a researcher's success. At the time of the interviews none of the GBV respondents were using altmetrics to measure their impact. Although they were not able to define altmetrics, the researchers indicated that the value of altmetrics could become necessary for the measurement of their research impact. Even with the probability of misleading information being produced by altmetrics, from multiple tweets from related institutions

and groups, it is necessary to measure the broader research impact. The translation of knowledge for the layperson would be fundamental in the measurement of social engagement.

These GBV researchers support the perception that increasing visibility and accessibility, through publications, provides a broader scholarly impact. Research on engagement with communities is not measured, and this metric could provide an indication of conversations that would be critical for researchers. These additional metric analyses of research are significant. Incorporating the Griffin model (2015) allows information to flow in and out of a research project at each stage, thus allowing for feedback during the process. With the researcher playing an active role throughout the process, emerging data from social media and blogs allow research translation to take place. This method of engagement among peers and the layperson can, therefore, be measured for research impact. The GBV researchers in this study supported the idea of research analysis metrics to be combined for better evaluations. Altmetrics combined with traditional metrics would be more beneficial in providing a broader analysis of the research and societal impact. Franck (2002: 3) stated there is a fundamental difference between the attention a publication may receive for research productivity and publications that have no significant value for research. It can be assumed that as attention to research increases, the overall advancement of science and research can increase. Even with the minimal knowledge of altmetrics by the respondents, it is noted in the findings that GBV research does receive altmetric scores.

The findings suggest that there is a relationship between GBV citations and altmetrics, within scholarly communication, in measuring impact. The bibliometric analysis (Appendix H) of the top articles showed that similar articles received high citations and altmetric scores. The scholarly communication model considers the academic author as the originator of knowledge. The attention that the publications receive from their altmetric scores may indicate that the research produced could be a valuable contribution to society. The comparison between the two metrics shows that citations address the attention received from a scientific perspective, while altmetrics indicates multiple sources providing different sorts kinds of attention. The findings suggest that, while most respondents in this study were not using altmetrics, because they were not aware of them, their research is being tweeted, blogged, and more. That does not mean that all the attention received may not indicate actual knowledge. However, it can indicate awareness of the literature produced (Kortelainen et al., 2017). Therefore, there is an interest, whether positive or negative, in their results or the proposed outcomes from their research.

6.3.5.1 What are GBV researchers' perceptions about the value of metrics?

The findings suggest a positive outlook for the researchers on using metrics for their research. The perception is that altmetrics, in collaboration with other traditional metrics, may provide value for further measurement of research impact from knowledge translated for social engagement. Accordingly, use-inspired research can be conceptual, in which the researchers can perceive themselves or their organisation as more knowledgeable, able to share the results with others or form a new opinion about a metric or an issue (Stokes, 1997). In total, 67% of the respondents in this study shared their ignorance and awareness of altmetrics. The respondents have a positive outlook on the use of altmetrics for their analyses. In comparison, the respondents are knowledgeable of traditional metrics. Although the findings from this research have shown that there is lower awareness of altmetrics than of traditional metrics among the respondents, some of the researchers mentioned that they would adopt and incorporate these new metrics. Researchers have further indicated, in the findings, that the metrics provide a way to showcase their research. In this study, the respondents used traditional metrics as the primary method to determine the value of a researcher.

The JIF has been used as a measurement of quality for journals, determining the value of the researchers (Marks et al., 2013). As the literature suggests, a researcher's worth is not less if the publication receives minimal or no citations (Pan and Fortunato, 2014), which is evident in the document analysis that research published remains uncited. According to a study conducted by Nature, publications that remain uncited are being read by other researchers. This matter is substantiated in the current study given that GBV research without any citations, has received altmetric scores indicating the use of the information through social media (Van Noorden, 2017).

It is assumed that more collaborators on an article increase the visibility of the publication. Social capital theory is traditionally the concept of benefits people can obtain from their social networks (Haustein, Bowman and Costas, 2016), and social capital generation is strategic in the production of research. The social capital theory has shown that interactions such as collaboration are also relevant factors.

The more authors on the paper, the more researchers become aware of the publication and search, share or comment on it. Therefore, this study has proven that association for the top publication of multiple-authored high altmetric counts and citations is evident (Chen, 2012; Haustein, Costas and Larivière, 2015). Citations are a reward or recognition from their peers for the value of their research. The normative citation theory specifically addresses two main concepts that emerged from the data

analysis, specifically Universalism and Disinterestedness. These two norms state that citations are considered a reward, showing the value of research produced by a researcher; and some researchers show they are not interested in the value of citations as recognition for their work (Macfarlane and Cheng, 2008: 69). The analysis of the findings suggests that there are universalism and disinterestedness among the respondents. As mentioned in the interview analysis, two respondents ardently stated they have no interest in using metrics in their research. Research, as suggested by these respondents, is integrated as a reward system to generate further research, through incentives. Recognition of scientific excellence and academic reward is an essential part of the South African research context. The respondents indicated that for their performance reviews, promotion, institutional or departmental performance, and job applications, it is consistently seen that the prestige associated with having their research evaluated and being compared with their peers in academia, is a validation of research excellence. The perception is that altmetrics, in collaboration with other traditional metrics, may provide value for further measurement of research impact from knowledge translated for social engagement.

6.3.6 What is the level of knowledge among GBV researchers of altmetrics?

In terms of the research question, knowledge about altmetrics was found to be extremely limited. As discussed in Chapter 5, eight (67%) and thus, most of the respondents had not used nor known about altmetrics. Four of the 12 participants knew the term. The assumption in this study as indicated in Chapter 1, is that GBV researchers have the knowledge and use of altmetrics, therefore based on this Pasteur's Quadrant cannot be applied (Stokes, 1997). However, based on the implication that there is a "quest for understanding" and "considerations of practical use" of altmetrics by GBV researchers, we can determine that there is a need for this metric (Stokes, 1997). Holmberg, (2015b: 69) states that altmetrics, as a part of the open science movement, still lacks enough incentive for researchers to adopt and assimilate it.

Another hindrance in its adoption and knowledge is the confusion surrounding the technologies and multiple platforms; and the culture of change and the adoption of these technologies, which differ across society for communicating and measuring research (Tattersall, 2016). The change in these processes will need to be embraced by the academic researcher community.

The Griffin scholarly communication model "reflects the complexity of contemporary scholarship and research processes, and results that cannot be captured or communicated in printed form" (Griffin, 2015: 550). The participants, furthermore, indicated that, in some way, social media plays a critical

role in the measurement of research impact. This fact is emphasised by a researcher indicating that, through such metrics, the engaged scholarship is enabled among them. The literature has further suggested that researchers are the catalysts for, and the providers and users of scholarly communication (Dash et al., 2015), which can indicate that some researchers would be knowledgeable about the metric. Within the scholarly and academic exchange, these processes are affected by new technology and the information skills of users. Regarding new tools or concepts available to researchers, unless, as indicated in the interviews, they are prompted by librarians or other professionals, they would be unaware.

This research has determined that the information on altmetrics is cumbersome and supplied in multiple formats and platforms, ensuring that misconceptions arise among users of the technology and software. A researcher, in the past few years, especially has had to adapt and change research methods, which is mainly because of research being affected by open science and OA movements. The information communicated by the GBV researcher interviews illustrates that researchers, in general, are the drivers of knowledge and are fundamental to driving change within institutions.

Therefore, although those interviewed had minimal to no knowledge of altmetrics, it can be determined that through consistent exposure to institutions and other colleagues, their knowledge base of the concept of altmetrics may increase (Nosek and Bar-Anan, 2012; Holmberg, 2015a, 2015b; Logan, 2017). Two researchers who participated in this research indicated they would use altmetrics for measuring their research impact. Research impact, specifically measure how much research of one researcher, is used by others in their field. GBV Researchers ensure an accurate evaluation of the use of altmetrics by considering its broader effect as an evaluation criterion. They have shown that they are keen to adopt new concepts, especially in measuring their research impact on society. The conclusion reached from the research is that, within the GBV research field sampled, there is little to no knowledge about altmetrics. Still, some of the respondents are prepared to engage in the use of altmetrics to affect societal change.

6.3.6.1 Do the GBV researchers use altmetrics to measure their research impact? If not, why not?

Most of the GBV researchers do not use altmetrics for measuring their research impact. Altmetrics are a means of measurement of societal impact that most researchers (eight out of twelve) within this study do not understand, nor have they made use of thereof in any capacity. GBV researchers indicated that they are aware of social media tools, with the more established researchers occasionally

using webpages and services, such as Google Scholar and ResearchGate. From the altmetrics and bibliometric analyses, it is evident that GBV research and researchers in South Africa have an active online presence or visibility on academic, social networking sites. Through altmetrics, this can impact on the attention received for their articles. Some of the researchers interviewed were indicated having no interest in the use of altmetrics at the time of the study. However, this may be because of the GBV researchers having little to no knowledge of the concept. Therefore, Pasteur's model (Stokes, 1997) cannot be applied, as they do not use altmetrics for their research impact.

6.3.7 Do the different metrics measure similar or different impacts?

Metrics discussed in the study were traditional metrics and altmetrics. In traditional metrics, citations are the measurement of impact or the quality of research. Altmetrics suggests an alternative impact, measured on social media and other sources. These are an indication of, a) societal impact (Bornmann, 2014c), b) early research impact (Eysenbach, 2011), and c) attention, visibility, practical and educational use (Mohammadi and Thelwall, 2014; Zahedi, Costas, and Wouters, 2014), while others have argued that they have only shown a way to increase visibility (Taylor, 2013b: Online). Although a publication may not have been cited highly by a researcher's peers, it could have received a good altmetrics score. There is a connection between altmetrics and future citations, as shown in studies (Priem, Piwowar and Hemminger, 2012; Thelwall et al., 2013). Altmetrics should not be used solely for the evaluation of researchers, but as an aid for measuring the value of research within communities and the public. One of the greatest advantages of altmetrics is that they reach the global community, outside the researchers' institution.

The papers analysed in the bibliometric analysis received many high citations, in comparison to the altmetric scores. The bibliometric analysis has shown a similarity between the two metrics, specifically regarding the publications that received high citations (see Appendices F-H). like Thelwall (2018), a result was found that articles with high citations also matched the same ones that received high altmetric scores. Multi-authored research publications were found to have a considerable advantage in obtaining citations. This matter has been proven in the study, as the articles that received the most citations from the bibliometric analysis have three or more authors with two of the articles having 100 authors in the author string (see Appendices F-H). The literature (Lange, 2001; Glänzel and Thijs, 2004; Sooryamoorthy, 2009; Chen, 2012) validates the findings, as only three of the top twelve articles analysed have two or fewer authors, with one researcher constantly appearing in most of them.

The data analysis has shown that the collated altmetric data correlate with citations. There is a relationship between GBV citations and altmetrics within scholarly communication, in measuring impact. The research process has been adapted, through multiple options, to share information through social media. Two studies that were recently conducted on the relationship “between altmetrics and traditional measures of dissemination, in health-professions education,” found that there was a positive correlation between several altmetrics outlets and citations (Patthi et al., 2017: 16; Maggio et al., 2018: 241).

Altmetrics can capture non-traditional disseminated data, such as the attention generated on social media and other such platforms. Therefore, altmetrics is accessible earlier and enables researchers and others to evaluate the societal impact of scholarly research publications, almost exactly when the research is published. Online activity through the promotion of research and academic engagement increases and complements future citation rates (Ravenscroft et al., 2017). Patthi et al. (2017: 20) comment further that altmetrics should work in conjunction with citations, even with the latter receiving more attention for performance evaluation in academia.

The interviews confirmed that altmetrics should be used in conjunction with traditional metrics and used holistically in research impact measurement. The ability to show impact nationally, regionally, and internationally, as one researcher indicated, is a driver for the use of both metrics in conjunction. Technology has enabled the measurement and evaluation of ‘impact’ factors, leading to the understanding that traditional metrics and altmetrics will have a greater influence on research in future (Konkiel, Sugimoto and Williams, 2016; Tattersall, 2016; O’Beirne, 2017).

The findings illustrate that they do have a relationship, which measures or creates similar impacts within GBV research, which is in line with the ‘Matthew’s effect’ (Macfarlane and Cheng, 2008: 73; Haustein, Bowman and Costas, 2016: 382). It should be expected, for example, that when a journal article is referenced by other researchers using altmetrics, this interest in the paper is also likely to be cited, captured, mentioned, and shared (Twitter, Facebook and Mendeley).

Altmetrics, as complementary to traditional metrics, has the potential for the measurement of the true value and impact of research. From the statistical analysis, it is evident that, although there is no statistically significant difference between the two metrics, they are similar. Therefore, in this study, this relationship can be determined from the analysis, suggesting that as the citations increase, the altmetric scores tend to increase along with showing there is a moderate effect between traditional metrics (citations) and altmetrics attention score. In this study, the attention economy theory (Haustein, Bowman and Costas, 2016) has been demonstrated. Based on the verified findings,

analysed GBV research can attract a similar number of citations and altmetric scores. The associated influence between these two metrics suggests that attention is received equally between altmetrics and citations. Therefore, the different metrics measure or create similar impacts.

6.4 Chapter summary

Comparatively speaking, the research produced by the data analysis was shown to have value across traditional metrics and altmetrics. Thus, validating the use of these two metrics together, provided a better reflection of the research produced in academic and socially effective ways to provide the return on investment of research. Therefore, research published in peer-reviewed publications as a formal or electronic pre-publication is not the end of the scholarly communication process. In the next chapter, the summary, conclusions, and recommendations are addressed.



CHAPTER 7

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

In the previous chapter, findings regarding the research questions of the study were interpreted and discussed. The purpose of this study was to investigate, within the changing scholarly communication landscape, the level of awareness and the usage of bibliometrics and altmetrics among GBV researchers in South Africa. In the present chapter, a discourse of whether the research objectives have been met is given. Finally, conclusions are drawn, and recommendations made for future research.

7.2 Meeting objectives of the study

The objectives of the study were to:

- investigate the motivations of GBV researchers for publishing;
- determine GBV researchers' perceptions of the value of metrics;
- determine the factors used by GBV researchers for selecting a publication channel;
- determine GBV researchers' opinions of Open Access;
- understand how GBV researchers share their research;
- investigate the level of knowledge of altmetrics analysis among GBV researchers;
- understand why GBV researchers use altmetrics and how they make use of these;
- determine if there is a relationship between traditional metrics and altmetrics.

This section concludes the study based on the objectives as follows:

1) GBV researchers' motivations for publishing

GBV researchers play a major role in the academic research environment. According to the findings, publishing as a researcher is primarily motivated by obtaining recognition for the quality of their research. Researchers are encouraged to produce research at a high productivity rate, specifically for career advancement. Among researchers, the four main areas they indicate as validation for its use are, performance reviews, promotion, institutional or departmental performance, and career advancement or job applications. In this study, researchers indicated that they would receive limited or even no funding if they did not publish within prescribed journals. Furthermore, the motivation for the

researchers is that it is produced, visible and accountable as contributions towards their institution and society.

2) GBV researchers' perception of the value of metrics

For researchers to remain competitive, they indicated that the production of high impact research is greatly emphasised by institutions. Most of the GBV researchers are knowledgeable about the use and types of traditional metrics. The value of a researcher is based on the recognition received for research excellence. To measure their research impact currently, they indicated that traditional metrics are used for their performance reviews, promotion, institutional or departmental performance, and job applications. There are limitations, such as reduced funding faced by researchers specifically, if they do not conform to publishing in prescribed journals. They further acknowledged that publishing is for recognition in academia for scientific excellence. The GBV researchers indicated that the traditional metrics they use are the norm, such as the h-index, JIF, and citations. Moreover, authorship placement in a citation is of cardinal importance, as first authors are regarded more highly. Some of the GBV researchers emphasised the research outcomes more, even with most of them indicating that they use traditional metrics. These researchers have a positive outlook on the use of altmetrics for their analyses. The researchers in this study acknowledge dissatisfaction with the use of traditional metrics, especially h-indexes and impact factors. Though they are well acquainted with using traditional metrics, the GBV researchers agree that traditional methods are inadequate for a true measurement of the research impact for the institutions, community and the funders involved. The measurement of engaged scholarship is motivation for the use of altmetrics as measurement of their research impact.

Accordingly, once the credibility of altmetrics within the scholarly communication process has been established and accepted, it will provide the way forward and provide further discussions on research that has been produced. The respondents have indicated that the use of this metric would address the blind spots currently observed in traditional metrics. Therefore, it can be concluded that although GBV researchers do not currently use altmetrics at present, their perception of the metric is positive.

3) Factors used by GBV researchers for selecting a publication channel

The GBV researchers in this study, emphasised that the measurement of their research performance is mainly the use of traditional metrics, which include the h-index, journal impact factors, and citations. These metrics are also used for their performance reviews, promotion, institutional or organisational results, and career advancement or job applications. When choosing a publishing process, GBV researchers consider two specific factors, journal prestige (impact factor or ranking) and how well the

journal reflects the subject of interest. There are unique elements that significantly impact the GBV researchers' eligibility criteria.

4) GBV researchers' opinions of open access

In this report, it can be determined that GBV researchers have endorsed the vital role that OA plays in making research accessible on a global scale, primarily for access, use, and dissemination of research. Also, they advocate the drive towards OA and its derivatives, as they can further improve their visibility within the research community. From the findings in this study, the GBV researchers indicated that they are in favour of OA. However, they have reservations specifically regarding article processing charges and predatory publications and publishers.

5) Understanding how GBV researchers share the research

According to findings in this study, the GBV researchers indicated that the interaction among researchers and the public or civil society and policymakers, is essential for exchanging research information. The findings show that the researchers interact in the process, specifically through three areas, for disseminating the research outputs, managing research profiles of individuals and institutions, and sharing of research with society. In sharing research information and disseminating work to their colleagues and the public, the expedition of access to research and scholarship is significant. Some of the respondents' preferred methods of sharing information were, a) presentations at conferences, and b) networking with other researchers at conferences and meetings. The researchers have exchanged and shared their research on ORCID; ResearchGate; Google Scholar; Institutional Repositories, and Listservs.

6) GBV Researchers' knowledge and competencies regarding altmetrics

Factors such as the onset of the digital age and the emergence of OA have changed the way researchers enhance scholarship. Though researchers have used some form of metrics to measure and monitor their output, there is constantly new knowledge and skills that benefit them, and their institutions and country. Researchers are the catalysts for, as well as the providers and users of scholarly communication, therefore, a change in these processes will need to be embraced by the academic researcher community. These technological changes have pushed the dissemination of information through new avenues, and traditional metrics are understood to be limited. The new altmetrics allow for further measurement of research impact, and researchers, in general, need to understand this changing landscape of research communication.

However, in this study, we can determine that GBV researchers have little to no notion of the concept of altmetrics. These researchers reported more familiarity with traditional metrics of research impact, such as citation counts, h-indexes, and journal impact factors. Within scholarly and academic exchange, these processes are affected by new technology and the information skills of users. Although they had little to no knowledge of the concepts, it can be determined that their unintentional exposure to the concept during the interviews has kindled their interest in altmetrics. This research has indicated the need for the knowledge and information gap to be filled between GBV researchers and new metrics, as it pertains to research impact.

7) *Effectively, how are GBV researchers using altmetrics?*

GBV research respondents in this study used altmetrics in a limited way within the scholarly communication process. Despite them having little to no knowledge of the term *altmetrics*, they interacted with the scholarly communication process. Respondents disseminate information in print and electronic format, sharing information through online profiles of individual researchers and institutions, and through listservs and newsletters. The researchers are keen for the adoption of this metric to evaluate their research on a societal level better. The discoverability and visibility of GBV research create social capital, by driving interest and discussions among their peers and the public. The emphasis among the GBV researchers is on their departmental, institutional and research impact through three areas affecting social change, societal impact, engaged scholarship, and awareness cultivation. Evaluating and monitoring research through knowledge translation to society is of value. The GBV researchers would specifically use this metric to measure the return on investment. The dissemination of information through knowledge translation can measure the research impact from the researchers to the public. Even with their inadequate/deficient knowledge of altmetrics, they have been influenced to use this metric in future.

8) *Relationship between traditional metrics and altmetrics for research impact analysis*

Even with the GBV researchers unable to define altmetrics, they ultimately support the move towards OA and the ability to enhance research visibility in the research community. GBV researchers agree that traditional metrics and altmetrics should be used in conjunction to ensure a holistic approach to research evaluation. GBV researchers are encouraged by the ability to show impact nationally, regionally, and internationally. Therefore, the use of both metrics in conjunction should be encouraged. The relationship between traditional metrics and altmetrics can be viewed in citations addressing attention from the scientific perspective, while altmetrics are indications of multiple

sources of social media attention. The GBV research analysed in Phase 1 of this study, showed there was a moderate relationship between citations and altmetrics within scholarly communication in measuring impact. When a GBV article citation is reported, there is an indication that as citations increase, one could also expect the altmetrics' score to increase. Consequently, GBV research that is analysed using traditional metrics and altmetrics equally has shown there is a relationship within scholarly communication.

7.3 Recommendations

Based on the conclusions, I would like to make the following recommendations for further research:

- This present study only focused on GBV researchers within South Africa. The recommendation would be to complete an international study on GBV researchers worldwide to determine their knowledge base of altmetrics.
- A longitudinal study could be conducted later, as the research can easily be continued in a few years and would provide longitudinal accounts on the use of altmetrics among GBV researchers.
- Future studies may include a comparison between different research groups such as natural versus social science researchers or a comparison between established researchers and emerging, young researchers within the academic sphere.
- Because of the limited data retrieved from the interviews and survey, further exploration of this study in the future to address any changes that may have occurred is suggested.
- Conducting a similar study in future with a larger sample size is suggested to determine the differences that may have occurred in this demographic group of researchers.
- Further evaluation of the altmetrics, with an emphasis on the breakdown of the people, institutions and other groups sharing the research publication[s] calls for a future study.
- Last but not the least, the use of altmetrics in policymaking for future evaluations is recommended for future study.

7.4 Conclusion and Summary

The study has been summarised and concluded in this chapter and provided recommendations for future research. The results of the study confirm that the awareness, level of knowledge, and use of altmetrics among GBV researchers is minimal to low since most of them who were interviewed had had no exposure to the terminology of altmetrics. Given the importance GBV researchers have indicated of altmetrics providing feedback on their social impact, in this study, their positive attitude towards altmetrics has shown that they have an interest in these new metrics. There is a need for guidance, and training on altmetrics for this study's population to support their research evaluations. The limitations of this study have been discussed in Chapter 1. Recommendations for possible future research have also been suggested.



REFERENCES

- Abacı A. Scientific competition, impact factor, and altmetrics. *The Anatolian Journal of Cardiology*. 2017;18(5):313.
- Abbott A, Cyranoski D, Jones N, Maher B, Schiermeier Q, Van Noorden R. Metrics: Do metrics matter? *Nature*. 2010;465(7300):860-2.
- Abrahams N, Mathews S, Jewkes R, Martin L, Lombard C. Every eight hours: Intimate femicide in South Africa 10 years later! Cape Town: South Africa Medical Research Council; 2012 p. 1-4.
- Abrahams N, Mathews S, Lombard C, Martin L, Jewkes R. Sexual homicides in South Africa: A national cross-sectional epidemiological study of adult women and children. *Plos One*. 2017;12(10): e0186432.
- Abrahams N, Mathews S, Martin LJ, Lombard C, Jewkes R. Intimate Partner Femicide in South Africa in 1999 and 2009. *PLoS Medicine*. 2013;10(4):e1001412.
- Academy of Science of South Africa. Report on a Strategic Approach to Research Publishing in South Africa. The Academy of Science of South Africa. 2006.
- Adie E, Roe W. Altmetric: enriching scholarly content with article-level discussion and metrics. *Learned Publishing*. 2013;26(1):11-7.
- Agyeman EA, Bilson A. Research focus and trends in nuclear science and technology in Ghana: A bibliometric study based on the INIS database. *Library Philosophy and Practice*. 2015; 1212:1-16.
- Akhtar J. Issue of open access and predatory journals. *Journal of the College of Physicians and Surgeons Pakistan*. 2015;25(5):313-4.
- Aksnes D, Rip A. Researchers' perceptions of citations. *Research Policy*. 2009;38(6):895-905.
- Aksnes DW. Citations and their use as indicators in science policy: studies of validity and applicability issues with a particular focus on highly cited papers. [Thesis]. [Enschede, the Netherlands]: University of Twente, 2005. 193 p.
- Aksnes DW, Langfeldt L, Wouters P. Citations, Citation Indicators, and Research Quality: An Overview of Basic Concepts and Theories. *SAGE Open*. SAGE Publications; 2019 Jan 7;9(1):215824401982957.
- Albert W, Tullis T. *Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics*. Elsevier Science; 2013.

Alhoori H. How to Identify Specialized Research Communities Related to a Researcher's Changing Interests. JCDL '16 Proceedings of the 16th ACM/IEEE-CS on Joint Conference on Digital Libraries. New York: ACM; 2016. p. 239-40.

Ahoori H, Furuta R. Understanding the Dynamic Scholarly Research Needs and Behavior as Applied to Social Reference Management. In: Gradmann S, Borri F, Meghini C, Schuldt H, editors. Research and Advanced Technology for Digital Libraries. Berlin, Heidelberg: Springer; 2011. p. 169-78.

Alhoori H, Furuta R. Can social reference management systems predict a ranking of scholarly venues? In: Aalberg T, Papatheodorou C, Dobрева M, Tsakonas G, Farrugia CJ, editor. Research and Advanced Technology for Digital Libraries: Lecture Notes in Computer Science. Berlin/Boston, Germany: Springer International Publishing; 2013. p. 138-43.

Alhoori H, Furuta R. Do altmetrics follow the crowd or does the crowd follow altmetrics? IEEE/ACM Joint Conference on Digital Libraries. 2014.

Alhoori H, Furuta R. Recommendation of scholarly venues based on dynamic user interests. Journal of Informetrics. 2017;11(2):553-63.

Alhoori H, Furuta R, Tabet M, Samaka M, Fox E. Altmetrics for Country-Level Research Assessment. In: Tuamsuk K, Jatowt A, Rasmussen E, editors. The Emergence of Digital Libraries – Research and Practices. International Conference on Asian Digital Libraries 2014 Lecture Notes in Computer Science. Springer; 2014; 8839:59-64.

Allen H, Stanton T, Di Pietro F, Moseley G. Social media release increases dissemination of original articles in the clinical pain sciences. Plos One. 2013;8(7): e68914.

Alperin J. Ask not what altmetrics can do for you, but what altmetrics can do for developing countries. Bulletin of the American Society for Information Science and Technology. 2013;39(4):18-21.

Altmetric.com. Bookmarklet for researchers [Internet]. Altmetric. 2016 [cited 6 March 2017]. Available from: <https://www.altmetric.com/products/free-tools/bookmarklet/>

Aman V. The potential of preprints to accelerate scholarly communication - A bibliometric analysis based on selected journals. arXiv.org. 2013 Jun 20;1306.4856.

Amara N, Olmos-Peñuela J, Fernández-de-Lucio I. Overcoming the “lost before translation” problem: An exploratory study. Research Policy. 2019; 48(1):22-36.

Anderson M, Ronning E, De Vries R, Martinson B. Extending the Mertonian norms: Scientists' subscription to norms of research. The Journal of Higher Education. 2010;81(3):366-93.

Andrés A. Measuring academic research: how to undertake a bibliometric research. 1st ed. Cambridge: Chandos Publishing; 2009.

Antelman K. Do open-access articles have a greater research impact? College and Research Libraries. 2004;65(5):372-82.

- Aram Donabedian D, Carey J. Pirates and librarians: Big media, technology, and the role of liberal education. *Library Philosophy and Practice*. 2011; 557:15.
- Aria M, Cuccurullo C. bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*. 2017;11(4):959-75.
- Aung H, Erdt M, Theng Y. Awareness and usage of altmetrics: A user survey. *Proceedings of the Association for Information Science and Technology*. 2017;54(1):18-26.
- Baldasare A. Gender-based violence: Focus on Africa [Internet]. SAI-DC.com. 2012 [cited 5 June 2015]. Available from: <http://sai-dc.com/wp-content/uploads/2014/05/GBV-Literature-Review.pdf>
- Ball R. *Introduction to bibliometrics: new development and trends*. Cambridge, MA: Chandos Publishing, an imprint of Elsevier; 2017.
- Banks D. *The Birth of the Academic Article: Le Journal des Sçavans and the Philosophical Transactions, 1665–1700*. Sheffield: Equinox Publishing; 2018.
- Barbaro A, Gentili D, Rebuffi C. Altmetrics as new indicators of scientific impact. *Journal of the European Association for Health Information and Libraries*. 2014;10(1):3-6.
- Bar-Ilan J. JASIST@mendeley – altmetrics.org ACM Web Science Conference 2012 Workshop [Internet]. Altmetrics.org. 2012a [cited 11 November 2015]. Available from: <http://altmetrics.org/altmetrics12/bar-ilan/>
- Bar-Ilan J. JASIST 2001–2010. *Bulletin of the American Society for Information Science and Technology*. John Wiley and Sons, Ltd; 2012b Aug 1;38(6):24-8.
- Bar-Ilan J, Haustein S, Peters I, Priem J, Shema H, Terliesner J. Beyond citations: Scholars' visibility on the social Web. arXiv preprint. 2012;1205.5614.
- Barnes C. The use of altmetrics as a tool for measuring research impact. *Australian Academic and Research Libraries*. 2015;46(2):121-34.
- Barratt MJ. The efficacy of interviewing young drug users through online chat. *Drug and Alcohol Review*. 2012 Jun 1;31(4):566-72.
- Batooli Z, Ravandi SN, Bidgoli MS. Evaluation of Scientific Outputs of Kashan University of Medical Sciences in Scopus Citation Database based on Scopus, ResearchGate, and Mendeley Scientometric Measures. *Electronic Physician*; 2016 Feb 25;8(2):2048-56.
- Bazeley P. Mixed methods in management research: Implications for the field. *Electronic Journal of Business Research Methods*. 2015;13(1):27-35.
- Beall J. Predatory publishers are corrupting open access. *Nature*. 2012;489(7415):179.
- Beatty S. How to explore, compare and track journal citation impact with CiteScore metrics | Elsevier Scopus Blog [Internet]. Blog.scopus.com. 2017 [cited 14 December 2017]. Available from: <https://blog.scopus.com/posts/how-to-explore-compare-and-track-journal-citation-impact-with-citescore-metrics>

- Bell K, Crookes P. Enhancing Your discoverability and impact by managing your online academic profile [Internet]. Kenton Bell anti-violence activist and researcher. 2016 [cited 16 December 2017]. Available from: <https://kentonville.com/profile-workshop/>
- Berlin Declaration of Open Access [Internet]. Openaccess.mpg.de. 2003 [cited 9 April 2014]. Available from: <http://openaccess.mpg.de/Berlin-Declaration>
- Best JW, Kahn J V. Research in Education. Boston: Pearson/Allyn and Bacon; 2006.
- Bik H, Goldstein M. An introduction to social media for scientists. PLoS Biology. 2013;11(4): e1001535.
- Björk B-C, Laakso M, Welling P, Paetau P. Anatomy of green open access. Journal of the Association for Information Science and Technology. 2014 Feb;65(2):237-50.
- Björk B. A model of scientific communication as a global distributed information system. InformationR. 2007;12(2):307-55.
- Björk B, Roos A, Lauri M. Scientific journal publishing: Yearly volume and open access availability. Information Research. 2009;14(1):391.
- Björk BC, Solomon D. Article processing charges in OA journals: relationship between price and quality. Scientometrics. 2015; 103(1):373-385.
- Björneborn L, Ingwersen P. Toward a basic framework for webometrics. Journal of the American Society for Information Science and Technology. 2004;55(14):1216-27.
- Bladek M. DORA: San Francisco Declaration on Research Assessment (May 2013). College and Research Libraries News. 2014;75(4):191-6.
- Bloom S. Violence Against Women and Girls: A Compendium of Monitoring and Evaluation Indicators. Washington, DC: USAID; 2008.
- Bloom T, Ganley E, Winker M. Data access for the open access literature: PLOS's Data Policy. PLoS Biology. 2014;12(2): e1001797.
- Bolarinwa O. Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. Nigerian Postgraduate Medical Journal. 2015;22(4):195-201.
- Borgman C. From Gutenberg to the global information infrastructure. Cambridge, Mass.: MIT Press; 2000a.
- Borgman C. Digital libraries and the continuum of scholarly communication. Journal of Documentation. 2000b;56(4):412-30.
- Borgman C. Scholarship in the digital age: Information, infrastructure, and the Internet. Cambridge, Mass.: MIT Press; 2007.
- Bornmann L. Measuring the societal impact of research. EMBO reports. 2012;13(8):673-6.

- Bornmann L. Do altmetrics point to the broader impact of research? An overview of benefits and disadvantages of altmetrics. *Journal of Informetrics*. 2014a;8(4):895-903.
- Bornmann L. Is there currently a scientific revolution in Scientometrics? *Journal of the Association for Information Science and Technology*. 2014b;65(3):647-8.
- Bornmann L. Validity of altmetrics data for measuring societal impact: A study using data from Altmetric and F1000Prime. *Journal of Informetrics*. 2014c;8(4):935-50.
- Bornmann L. Usefulness of altmetrics for measuring the broader impact of research. *Aslib Journal of Information Management*. 2015;67(3):305-19.
- Bornmann L. Measuring impact in research evaluations: a thorough discussion of methods for, effects of and problems with impact measurements. *Higher Education*. 2017;73(5):775-87.
- Bornmann L, Daniel H. What do we know about the h index? *Journal of the American Society for Information Science and Technology*. 2007;58(9):1381-5.
- Bornmann L, Daniel H. The state of h index research. Is the h index the ideal way to measure research performance? *EMBO reports*. 2008a;10(1):2-6.
- Bornmann L, Daniel H. What do citation counts measure? A review of studies on citing behavior. *Journal of Documentation*. 2008b;64(1):45-80.
- Bornmann L, Leydesdorff L. The validation of (advanced) bibliometric indicators through peer assessments: A comparative study using data from InCites and F1000. *Journal of Informetrics*. 2013;7(2):286-91.
- Bornmann L, Marx W. How good is research really? *EMBO reports*. 2012;14(3):226-30.
- Bornmann L, Marx W. The journal impact factor and alternative metrics. *EMBO reports*. 2016;17(8):1094-7.
- Bormann L, Mutz R. Growth rates of modern science: A bibliometric analysis based on the number of publications and cited references. *Journal of the Association for Information Science and Technology*. 2015;66(11):2215-22.
- Borrego Á. Institutional repositories versus ResearchGate: The depositing habits of Spanish researchers. *Learned Publishing*. 2017 Jul;30(3):185-92.
- Bourdieu P. The Forms of Capital. In: Richardson J, editor. *Handbook of theory and research for the sociology of education*. Westport, CT: Greenwood: Greenwood; 1986. p. 241-58.
- Bowman JD. Predatory Publishing, Questionable Peer Review, and Fraudulent Conferences. *American Journal of Pharmaceutical Education*. American Journal of Pharmaceutical Education. 2014 Dec 15;78(10):176.
- Bradbury-Jones C, Appleton JV, Clark M, Paavilainen E. A Profile of Gender-Based Violence Research in Europe: Findings From a Focused Mapping Review and Synthesis. *Trauma, Violence, & Abuse*. 2017;20(4):470-83. DOI: 10.1177/1524838017719234.

Branin J, Case M. Reforming scholarly publishing in the sciences: A librarian perspective. *Chart: Notices of the AMS*. 1998;45(4):475-86.

Brembs B, Button K, Munafò M. Deep impact: unintended consequences of journal rank. *Frontiers in Human Neuroscience*. 2013;7.

Brembs B. Prestigious Science Journals Struggle to Reach Even Average Reliability. *Frontiers in human neuroscience*. *Frontiers in Human Neuroscience*. 2018 Feb 20;12:37.

Brilhante A, Moreira G, Vieira L, Catrib A. Um estudo bibliométrico sobre a violência de gênero. *Saúde e Sociedade*. 2016;25(3):703-15.

Brody T, Harnad S, Carr L. Earlier Web usage statistics as predictors of later citation impact. *Journal of the American Society for Information Science and Technology*. 2006;57(8):1060-72.

Brown L, Griffiths R, Rascoff M. *University publishing in a digital age*. [New York]: [Ithaka]; 2007.

Bryman A, Bell E. *Business Research Methods*. 3rd ed. Oxford: Oxford University Press; 2011.

Buchholtz N. *Planning and Conducting Mixed Methods Studies in Mathematics Educational Research*. *Compendium for Early Career Researchers in Mathematics Education*. Springer; 2019. p. 131-52.

Butchart A, García-Moreno C, Mikton C. *World Health Organization. Preventing intimate partner and sexual violence against women taking action and generating evidence*. Geneva: World Health Organization; 2010. p. 301-57.

Cabrera D, Vartabedian BS, Spinner RJ, Jordan BL, Aase LA, Timimi FK. More than likes and tweets: creating social media portfolios for academic promotion and tenure. *Journal of Graduate Medical Education*. 2017 Aug;9(4):421-5.

Callegaro M, Manfreda KL, Vehovar V. *Web Survey Methodology*. SAGE Publications; 2015.

Canadian Institutes for Health Research (CIHR). More about knowledge translation at CIHR [Internet]. Canadian Institutes for Health Research. 2016 [cited 6 September 2018]. Available from: <http://www.cihr-irsc.gc.ca/e/29418.html#2>

Careless J. Altmetrics 101: A primer. *Information Today*. 2013;30(2):1-36.

Carpenter C, Cone D, Sarli C. Using publication metrics to highlight academic productivity and research impact. *Academic Emergency Medicine*. 2014;21(10):1160-72.

Carrigan M. *Social media for academics*. London: Sage; 2016.

Casadevall A, Fang F. Causes for the Persistence of Impact Factor Mania. *mBio*. 2014;5(2):e00064-14.

Cave R. Overview of the altmetrics landscape. Accentuate the positive: Charleston Conference 2012, West Lafayette, Indiana: Purdue University Press. 2012.

Centre for the Study of Violence and Reconciliation (CSVr). Gender-Based Violence (GBV) in South Africa: A Brief Review. Braamfontein; 2016.

Chan L, Costa S. Participation in the global knowledge commons. *New Library World*. 2005;106(3/4):141-63.

Charles M, Bradley K. Equal but separate? A cross-national study of sex segregation in higher education. *American Sociological Review*. 2002;67(4):573.

Chen C. Predictive effects of structural variation on citation counts. *Journal of the American Society for Information Science and Technology*. 2012;63(3):431-449.

Chi PS, Glänzel W. Comparison of citation and usage indicators in research assessment in scientific disciplines and journals. *Scientometrics*. 2018;116(1):537-54

Cho J. A comparative study of the impact of Korean research articles in four academic fields using altmetrics. *Performance Measurement and Metrics*. 2017;18(1):38-51.

Christian LM, Parsons NL, Dillman DA. Designing Scalar Questions for Web Surveys. *Sociological Methods and Research*. SAGE Publications Inc; 2009 Feb 1;37(3):393-425.

Christopher M, Young K. Awareness of “predatory” open-access journals among prospective veterinary and medical authors attending scientific writing workshops. *Frontiers in Veterinary Science*. 2015; 2:22.

Clarivate Analytics. Essential Science Indicators - Clarivate [Internet]. Clarivate Analytics. 2018 [cited 5 March 2018]. Available from: <https://clarivate.com/products/essential-science-indicators/>

Cocchio C, Awad N. The scholarly merit of social media use among clinical faculty. *Journal of Pharmacy Technology*. 2014;30(2):61-8.

Cohen J. Statistical power analysis for the behavioral sciences. 2nd ed. Hillsdale, N.J.: L. Erlbaum Associates; 1988.

Colledge L. Snowball metrics recipe book: Standardised research metrics – by the sector, for the sector. Netherlands: Elsevier Ltd; 2017.

Conover W, Iman R. Rank Transformations as a Bridge Between Parametric and Nonparametric Statistics. *The American Statistician*. 1981;35(3):124.

Costas R, Zahedi Z, Wouters P. Do altmetrics correlate with citations? Extensive comparison of altmetric indicators with citations from a multidisciplinary perspective. arXiv preprint arXiv. 2014;14014321.

Costas R, Calero-Medina C, Waltman L, Wouters P. The relationship between the performance of editorial board members and the impact of scientific journals: an exploratory analysis. 18th

International Conference on Science and Technology Indicators. Berlin, Germany: European Network of Indicator Designers (ENID); 2013. p. 87-9.

Craswell G, Poore M. Writing for academic success. London: SAGE Publications Ltd; 2012.

Creaser C. 4 - Scholarly communication and access to research outputs. In: Baker D, Evans WBT-L and S, editors. Chandos Information Professional Series. Chandos Publishing; 2011. p. 53–66.

Creswell J. Educational research: planning, conducting, and evaluating quantitative and qualitative research. Upper Saddle River, N.J: Pearson/Merrill Prentice Hall; 2008.

Creswell JW. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. SAGE Publications; 2014.

Creswell J, Miller D. Determining validity in qualitative inquiry. Theory into practice. 2000;39(3):124-30.

Creswell J, Plano Clark V. Designing and Conducting Mixed Methods Research. Thousand Oaks, Calif.: SAGE Publications; 2007.

Creswell JW, Plano Clark VL. Designing and conducting mixed methods research. SAGE Publications, Ltd; 2018.

Cronin B, Sugimoto C, Bar-Ilan J, Shema H, Thelwall M. Bibliographic References in Web 2.0. In: Cronin B, Sugimoto C, editors. Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact. Cambridge, MA: MIT Press; 2018. p. 307–25.

Crotty D. Other Metrics: beyond the Impact Factor. European Heart Journal. 2017;38(35):2646-7.

Damodar A. The rise of 'great potential': Youth activism against gender-based violence. Harvard International Review. 2012;34(2):48-52.

Das A, Satija M, Mishra S. Scholarly communication. Open Access for Researchers, 1. Paris: United Nations Educational, Scientific, and Cultural Organization; 2015.

Deepika J, Mahalakshmi G. Journal Impact Factor: A Measure of Quality or Popularity? 5th Indian International Conference on Artificial Intelligence. Tumkur, India: IICAI; 2011. p. 1138-57.

Denscombe M. The good research guide: for small-scale social research projects. Philadelphia Pa: Open University Press; 1998.

De Filippo D, Sanz-Casado E. Bibliometric and Altmetric Analysis of Three Social Science Disciplines. Frontiers in Research Metrics and Analytics. 2018; 3:34.

Diodati VP, Gellatly P. Dictionary of bibliometrics. Hoboken: Taylor and Francis; 2013.

Dixon-Woods M, Agarwal S, Young B, Jones D, Sutton A. Integrative approaches to qualitative and quantitative evidence. London: Health Development Agency; 2004.

Domestic Violence Act No. 116 of 1998 and Regulations. Johannesburg, South Africa: Government Printers.; 1998.

Donato H. Traditional and alternative metrics: The full story of impact. *Revista Portuguesa de Pneumologia*. 2014;20(1):1-2.

Donelan H. Social media for professional development and networking opportunities in academia. *Journal of Further and Higher Education*. 2016;40(5):706-29.

Doody O, Noonan M. Preparing and conducting interviews to collect data. *Nurse Researcher*. 2013;20(5):28-32.

Dunkle KL, Jewkes RK, Brown HC, Yoshihama M, Gray GE, McIntyre JA, et al. Prevalence and patterns of gender-based violence and revictimization among women attending antenatal clinics in Soweto, South Africa. *American Journal of Epidemiology*. 2004 Aug 1;160(3):230-9.

Durrant MB, Dorius CR. Study Abroad Survey Instruments: A Comparison of Survey Types and Experiences. *Journal of Studies in International Education*. SAGE Publications Inc; 2007 Mar 1;11(1):33-53.

Economic and Social Research Council. What is impact?: Impact toolkit - Economic and Social Research Council [Internet]. *Esrc.ac.uk*. 2017 [cited 18 December 2017]. Available from: <http://www.esrc.ac.uk/research/impact-toolkit/>

Egghe L. Expansion of the field of informetrics: Origins and consequences. *Information Processing and Management*. 2005;41(6):1311-6.

Egghe L. Theory and practise of the g-index. *Scientometrics*. 2006;69(1):131-52.

Egghe L. From h to g: the evolution of citation indices. *Research Trends*. 2007;1(6): Online.

Elmore SA. The Altmetric Attention Score: What Does It Mean and Why Should I Care? *Toxicologic Pathology*. SAGE Publications Inc; 2018 Feb 15;46(3):252-5.

Erdt M, Nagarajan A, Sin S, Theng Y. Altmetrics: an analysis of the state-of-the-art in measuring research impact on social media. *Scientometrics*. 2016;109(2):1117-66.

Evans P, Krauthammer M. Exploring the use of social media to measure journal article impact. *AMIA Annual Symposium proceedings AMIA Symposium*. 2011; 2011:374-81.

Eysenbach G. The open access advantage. *Journal of Medical Internet Research*. 2006;8(2): e8.

Eysenbach G. Can tweets predict citations? Metrics of social impact based on twitter and correlation with traditional metrics of scientific impact. *Journal of Medical Internet Research*. 2011;13(4): e123.

Ezema IJ, Ugwu CI. Correlating research impact of library and information science journals using citation counts and altmetrics attention. *Information Discovery and Delivery*. 2019;47(3):143-53.

- Falkinger J. Attention economies. *Journal of Economic Theory*. 2007;133(1):266-94.
- Fang Z, Costas R. Studying the accumulation velocity of altmetric data tracked by Altmetric.com. *Scientometrics*. 2020; 123:1077-101.
- Fausto S, Machado F, Bento L, Iamarino A, Nahas T, Munger D. Research Blogging: Indexing and Registering the Change in Science 2.0. *PLoS ONE*. 2012;7(12): e50109.
- Féron E, Crowley J. From research policy to the governance of research? A theoretical framework and some empirical conclusions. *Innovation: The European Journal of Social Science Research*. 2003;16(4):369-93.
- Fenner M. What Can Article-Level Metrics Do for You?. *PLoS Biology*. 2013;11(10): e1001687.
- Fenner M. Altmetrics and Other Novel Measures for Scientific Impact. In: Bartling S, Friesike S, editors. *Opening Science: The Evolving Guide on How the Internet is Changing Research, Collaboration and Scholarly Publishing*. New York: Springer International Publishing; 2014. p. 179-89.
- Fetters MD, Molina-Azorin JF. In This Issue: Introducing Virtual Special Issues, Advances in Paradigms, Mixed Methods Crossover Analysis, and Social Network Analysis in Mixed Methods Research. *Journal of Mixed Methods Research*. SAGE Publications; 2019 Dec 10;14(1):3-5.
- Field A. *Discovering statistics using IBM SPSS statistics*. New York: Sage Publications; 2013.
- Finch A. Altmetrics in research evaluation: strengths, weaknesses and the Australian picture [Internet]. *Inorms2016.org*. 2015 [cited 11 March 2017]. Available from: <http://www.inorms2016.org/d/presentations/Thursday/Stream 2/Thur 105 1215 Finch.pdf>
- Flick U. *An introduction to qualitative research*. Los Angeles: Sage Publications; 2009.
- Franck G. The scientific economy of attention: A novel approach to the collective rationality of science. *Scientometrics*. 2002;55(1):3-26.
- Frass W, Cross J, Gardner V. Taylor and Francis Open Access Survey June 2014. Taylor and Francis/Routledge. 2014. p. 1-35.
- Fraumann G. Valuation of altmetrics in research funding [Master's Degree Programme in Research and Innovation in Higher Education (MARIHE) M. Sc. (Admin.)]. University of Tampere; 2017.
- Fry J, Dis CO, Creaser C, Johnson W, Summers M, Lisu SW, et al. Communicating knowledge : How and why researchers publish and disseminate their findings; Supporting paper 2: Report of focus groups findings. Report. London, United Kingdom; 2009.
- Fulu E, Warner X, Miedema S, Jewkes R, Roselli T, Lang J. Why do some men use violence against women and how can we prevent it? Quantitative findings from the united nations multi-country study on men and violence in Asia and the Pacific [Internet].

Partners4prevention.org. 2013 [cited 9 November 2015]. Available from:
<http://www.partners4prevention.org/sites/default/files/resources/p4p-report.pdf>

Galloway L, Pease J, Rauh A. Introduction to altmetrics for Science, Technology, Engineering, and Mathematics (STEM) Librarians. *Science and Technology Libraries*. 2013;32(4):335-45.

Ganapathiraju M, Orii N. Research prioritization through prediction of future impact on biomedical science: A position paper on inference-analytics. *GigaScience*. 2013;2(1):3.

Garfield E. Citation indexes for science: A new dimension in documentation through association of ideas. *Science*. 1955;122(3159):108-11.

Garfield E. The history and meaning of the journal impact factor. *JAMA*. 2006;295(1):90-93.

Garvey W, Griffith B. Scientific communication: The dissemination system in psychology and a theoretical framework for planning innovations. *American Psychologist*. 1965;20(2):157-64.

Garvey W, Lin N, Nelson C, Tomita K. Information exchange associated with national scientific meetings in relation to the general process of communication in science. The role of the national meeting in scientific and technical communication. Baltimore: Johns Hopkins University Center for Research in Scientific Communication; 1970. p. 1-47.

Gauch S, Bluemel C. Altmetrics Status Quo: OPENing UP new methods, indicators and tools for peer review, impact measurement and dissemination of research results. OpenUP Deliverable D5.1. 2017. [Internet]. Openup 2020. 2015 [cited 11 November 2015]. Available from: http://openup-h2020.eu/wp-content/uploads/2017/01/OpenUp-Deliverable_D5.1_Altmetrics-status-quo.pdf

Gavgani V, Abbasi F. Citation Based Indicators in Evaluation of Quality and Performance of Research and Researchers. In: Khosrow-Pour M, editor. *Encyclopedia of Information Science and Technology*. 3rd ed. Hershey, PA, USA: IGI Global; 2015. p. 6556.

Gibson L. Using email interviews. *Other Realities*, Morgan Centre (part of the National Centre for Research Methods). Manchester; 2010.

Giglio VJ, Luiz OJ. Predatory journals: fortify the defences. *Nature*. 2017;544(7651):416-. DOI: 10.1038/544416a

Gillham B. *Developing a Questionnaire*. London: Bloomsbury Publishing; 2008.

Gilliland A. LibGuides: Open Access and Scholarly Communications: Introduction [Internet]. [Guides.lib.unc.edu](https://guides.lib.unc.edu). 2017 [cited 7 March 2018]. Available from: <https://guides.lib.unc.edu/open-access-and-scholarly-communications>

Glänzel W, Gorraiz J. Usage metrics versus altmetrics: confusing terminology? *Scientometrics*. 2015;102(3):2161-4.

Glänzel W, Thijs B. Does co-authorship inflate the share of self-citations? *Scientometrics*. 2004;61(3):395-404.

Goffman E. *The Presentation of Self in Everyday Life*. Garden City, N.Y.: Doubleday; 1959.

- Goglio V. One size fits all? A different perspective on university rankings. *Journal of Higher Education Policy and Management*. 2016;38(2):212-26.
- Golding B. *Asynchronous email interviewing: A qualitative data collection method*. SAGE Research Methods Cases. London, UK: SAGE Publications, Ltd; 2014.
- Gonzalez-Brambila C, Veloso F, Krackhardt D. The impact of network embeddedness on research output. *Research Policy*. 2013;42(9):1555-67.
- Görögh E, Vignoli M, Gauch S, Blümel C, Kraker P, Hasani-Mavriqi I et al. Opening up new channels for scholarly review, dissemination, and assessment. *Proceedings of the 13th International Symposium on Open Collaboration*. New York: ACM; 2017. p. 6.
- Gosling S, Gaddis S, Vazire S. Personality impressions based on Facebook profiles. *International Conference on Weblogs and Social Media [Internet]. International AAAI Conference on Web and Social Media (ICWSM)*. 2007 [cited 20 June 2016]. Available from: <http://www.icwsm.org/papers/3--Gosling-Gaddis-Vazire.pdf>
- Greenhow C, Robelia B, Hughes J. Learning, teaching, and scholarship in a digital age. *Educational Researcher*. 2009;38(4):246-59.
- Greenwood DC. Reliability of journal impact factor rankings. *BMC Medical Research Methodology*. 2007;7(1):48.
- Griffin S. Scholarly communication - New models for digital scholarship workflows [Internet]. *Educause*. 2013 [cited 7 August 2014]. Available from: <https://www.cni.org/news/new-podcasts-digital-scholarship-workflows-copyright-review-mgt-system>
- Griffin S. Libraries in the digital age: Technologies, innovation, shared resources and new responsibilities. In: Cantoni L, Danowski J, editors. *Communication and Technology*. Berlin/Boston, Germany: De Gruyter Mouton; 2015. p. 527-52.
- Groves K. Scholarly Communication. Association of Research Libraries® (ARL®) [Internet]. *ARL.org*. 2018 [cited 22 February 2018]. Available from: http://www.arl.org/focus-areas/scholarly-communication#.Wo_aoOeYPIV
- Gu F, Widén-Wulff G. Scholarly communication and possible changes in the context of social media. *The Electronic Library*. 2011;29(6):762-76.
- Gunasekare U. Mixed research method as the third research paradigm: A literature review. *International Journal of Science and Research (IJSR)*. 2015;4(8):361-5.
- Gurman T, Nichols C, Greenberg E. Potential for social media to challenge gender-based violence in India: a quantitative analysis of Twitter use. *Gender and Development*. 2018;26(2):325-39.
- Hahn K. Talk about talking about new models of scholarly communication. *The Journal of Electronic Publishing*. 2008;11(1):1-9.
- Halevi G, Moed H, Bar-Ilan J. Suitability of Google Scholar as a source of scientific information and as a source of data for scientific evaluation—Review of the Literature. *Journal of Informetrics*. 2017;11(3):823-34.

Hall C, Kent A. UNISIST model and knowledge domains. *Encyclopaedia of Library and Information Science*. 1st ed. New York: CRC Press; 2005. p. 129-35.

Hammarfelt B. Using altmetrics for assessing research impact in the humanities. *Scientometrics*. 2014;101(2):1419-30.

Harley Y, Huysamen E, Hlungwani C, Douglas T. Does the DHET research output subsidy model penalise high-citation publication? A case study. *South African Journal of Science*. 2016; 112 (5/6):1-3.

Harris M, Macinko J, Jimenez G, Mullachery P. Measuring the bias against low-income country research: an Implicit Association Test. *Globalization and Health*. 2017;13(1):80.

Harvey LA. Impact Factor: a crude yardstick which does not measure influence or impact on clinical practice. *Spinal Cord*. 2017;55(9):799.

Hassan S, Imran M, Gillani U, Aljohani N, Bowman T, Didegah F. Measuring social media activity of scientific literature: an exhaustive comparison of scopus and novel altmetrics big data. *Scientometrics*. 2017;113(2):1037-57.

Haug CJ. Peer-Review Fraud--Hacking the Scientific Publication Process. *The New England Journal of Medicine*. 2015;373(25):2393-5.

Haunschild R, Bornmann L. How many scientific papers are mentioned in policy-related documents? An empirical investigation using Web of Science and Altmetric data. *Scientometrics*. 2017;110(3):1209-16.

Haustein S. Readership metrics. In: Cronin B, Sugimoto C, editors. *Beyond bibliometrics: Harnessing multi-dimensional indicators of performance*. Cambridge, Massachusetts: The MIT Press; 2014.

Haustein S, Bowman T, Costas R. Interpreting 'altmetrics': Viewing acts on social media through the lens of citation and social theories. In: Sugimoto C, Cronin B, editors. *Theories of Informetrics and Scholarly Communication*. Berlin, Boston: De Gruyter Mouton; 2016. p. 372-406.

Haustein S, Costas R, Larivière V. Characterizing social media metrics of scholarly papers: The effect of document properties and collaboration patterns. *Plos One*. 2015;10(3): e0120495.

Haustein S, Larivière V, Thelwall M, Amyot D, Peters I. Tweets vs. Mendeley readers: How do these two social media metrics differ? *IT - Information Technology*. 2014;56(5):207-15.

Haustein S, Peters I, Sugimoto C, Thelwall M, Larivière V. Tweeting biomedicine: An analysis of tweets and citations in the biomedical literature. *Journal of the Association for Information Science and Technology*. 2014;65(4):656-69.

Health Sciences Research Office. University of the Witwatersrand. Professor Jewkes named among the "Highly Cited Researchers" by Thomson Reuters. [Internet]. Annual Report: University of the Witwatersrand. 2014 [cited 11 June 2015]. Available from: <https://www.wits.ac.za/media/wits-university/faculties-and-schools/health-sciences/research-entities/documents/HSRO%20ANNUAL%20REPORT%202014.%20Final.pdf>

Heinemann MK. On Metrics. *Thoracic and Cardiovascular Surgeon*. 2013;61(05):377-8.

Hill T, Lewicki P. *Statistics: Methods and applications: A comprehensive reference for science, industry, and data mining*. [Tulsa, Okla.]: StatSoft Inc; 2006. p. 18.

Hirsch J. An index to quantify an individual's scientific research output. *Proceedings of the National Academy of Sciences*. 2005;102(46):16569-72.

Hjørland B, Andersen J, Søndergaard TF. UNISIST model and knowledge domains. In: Drake M, editor. *Encyclopaedia of library and information science: First Update Supplement*. 2nd ed. New York: Taylor and Francis; 2005. p. 129-35.

Holmberg K. *Altmetrics for information professionals: Past, Present and Future*. 1st ed. Waltham: Chandos; 2015a.

Holmberg K. Section 2 - the present. In: Holmberg K, editor. *Altmetrics for information professionals*. Waltham: Chandos Publishing; 2015b. p. 55-104.

Holmberg K, Thelwall M. Disciplinary differences in Twitter scholarly communication. *Scientometrics*. 2014;101(2):1027-42.

Holt A. Using the telephone for narrative interviewing: a research note. *Qualitative Research*. SAGE Publications; 2010 Feb 1;10(1):113-21.

Houghton JW. Economic Implications of Alternative Publishing Models: Self-archiving and Repositories. *LIBER Quarterly*. 2010 Feb 9;19(3-4):275.

Housewright R, Schonfeld R, Wulfson K. *US Faculty Survey 2012* [Internet]. Ithaka. 2013 [cited 11 January 2015]. Available from: <https://apo.org.au/sites/default/files/resource-files/2013-04/apo-nid34295.pdf>

Huang W, Wang P, Wu Q. A correlation comparison between Altmetric Attention Scores and citations for six PLOS journals. *PLoS ONE*. 2018;13(4):0194962.

Huberman B. Social Computing and the Attention Economy. *Journal of Statistical Physics*. 2012;151(1-2):329-39.

Human Sciences Research Council (HSRC). *Literature Review for the development of a National Strategic Plan to end Gender Based Violence in South Africa (2014-2019)* [Internet]. SANAC Women's Sector. 2015 [cited 11 January 2015]. Available from: <http://sanacws.org.za/resources/literature-review-for-development-of-an-nsp-for-gbv/>

Iribarren-Maestro I, Lascrain-Sánchez M, Sanz-Casado E. The use of bibliometric techniques in evaluating social sciences and humanities. In: Åström F, Danell R, Larsen B, Schneider J, editors. *Celebrating scholarly communication studies a festschrift for Olle Persson at his 60th birthday*. Leuven, Belgium: International Society for Scientometrics and Informetrics.; 2009. p. 25-38.

Jacob B, Lefgren L. The impact of research grant funding on scientific productivity. *Journal of Public Economics*. 2011;95(9-10):1168-77.

Jacso P. As we may search: Comparison of major features of the Web of Science, Scopus, and Google Scholar citation-based and citation-enhanced databases. *Current Science-Bangalore*. 2005;89(9):1537-47.

Jacso P. Testing the calculation of a realistic h-index in Google Scholar, Scopus, and Web of Science for F. W. Lancaster. *Library Trends*. 2008;56(4):784-815.

Jain AK. Impact factor: Measure of quality of research publication. *Indian Journal of Orthopaedics*. 2011;45(4):289-90.

James N, Busher H. Internet interviewing. *The SAGE Handbook of Interview Research: The Complexity of the Craft*. 2nd ed. SAGE Publications, Inc., Thousand Oaks, California, 2012.

Jankowski N. *E-Research: Transformation in scholarly practice*. Routledge Advances in Research Methods. 1st ed. New York: Routledge; 2009.

Jaring P, Bäck A. How Researchers Use Social Media to Promote their Research and Network with Industry. *Technology Innovation Management Review*. Ottawa: Talent First Network; 2017;7(8): Online.

Jewkes RK, Sikweyiya Y, Morell R, Dunkle K. *Understanding Men's Health and Use of Violence: Interface of rape and HIV in South Africa*. Pretoria: South African Medical Research Council; 2009.

Jewkes R, Sikweyiya Y, Morrell R, Dunkle K. Gender inequitable masculinity and sexual entitlement in rape perpetration South Africa: Findings of a cross-sectional study. *PLoS ONE*. 2011;6(12): e29590.

Jobmann A, Hoffmann C, Künne S, Peters I, Schmitz J, Wollnik-Korn G. Altmetrics for large, multidisciplinary research groups: Comparison of current tools. *Bibliometrie – Praxis und Forschung*. 2014;3(1):1-19.

Jonker J, Pennink B. *The Essence of Research Methodology: A Concise Guide for Master and PhD Students in Management Science*. 1st ed. Berlin: Springer; 2010. p. 65-6.

Kangas A, Haider H, Fraser E, Browne E. *Gender: Topic Guide*. Revised ed. Browne E, editor. Birmingham, UK: GSDRC, University of Birmingham; 2014.

Katsirikou A. Open access to STM information: Trends, Models and Strategies for Libraries. Volume 153 of IFLA publications, International Federation of Library Associations and Institutions, Berlin: De Gruyter Saur; 2011.

Kelly C, Jennions M. The h index and career assessment by numbers. *Trends in Ecology and Evolution*. 2006;21(4):167-70.

Kember D, Leung DYP. Establishing the validity and reliability of course evaluation questionnaires. *Assessment and Evaluation in Higher Education*. Taylor and Francis; 2008;33(4):341-53.

Kerchhoff G. Measuring the impact of research outputs from the Institute for Poverty, Land and Agrarian Studies (PLAAS) on the scholarly domain and in social media, 1995-2015 [Masters in Library and Information Studies]. University of Cape Town, Library and Information Studies Centre (LISC); 2017.

Kerr S. WITNESS Embarks on Campaign to Combat Gender-Based Violence [Internet]. Gender-Based Violence. Witness.org.; 2014 [cited 2020 Jan 11]. p. Online. Available from: <https://gbv.witness.org/witness-embarks-campaign-combat-gender-based-violence>

Khan R. Developing the theoretical and social framework. Lecture J199. [Internet]. Scribd. 2010 [cited 27 May 2016]. Available from: <https://www.scribd.com/user/30514485/patrisya123>

Khosrowjerdi M. Designing a viable scientific communication model: VSM approach. Library Hi Tech. 2011;29(2):359-72.

King N, Horrocks C. Interviews in qualitative research. London: Sage Publications; 2010.

King N, Horrocks C, Brooks J. Interviews in Qualitative Research. SAGE Publications; 2018.

Kist W. The socially networked classroom: Teaching in the new media age. Thousand Oaks, Calif.: Corwin Press; 2010.

Klenke K. Qualitative research in the study of leadership. 2nd ed. Bingley, UK: Emerald Publishing; 2016.

Knight LV, Steinbach TA. Selecting an appropriate publication outlet: A comprehensive model of journal selection criteria for researchers in a broad range of academic disciplines. International Journal of Doctoral Studies. 2008; 3:59-79.

Konkiel S. Robust Altmetrics as a Framework for Measuring Item Usage and Researcher Impact in Institutional Repositories [Internet]. Columbus, OH (US): Library and Information Technology Association; 2012 p. 1. Available from: http://eprints.rclis.org/20009/1/skonkiel_LITA_3x5.pdf

Konkiel S. Altmetrics A 21st-Century Solution to Determining Research Quality. Online Searcher. 2013;37(4):11-5.

Konkiel S, Piwowar H, Priem J. The imperative for open altmetrics. The Journal of Electronic Publishing. 2014;17(3):1-12.

Konkiel S. Altmetric-supported research: 2017 in review [Internet]. Altmetric.com. 2017 [cited 2019 Sep 1]. p. Online. Available from: <https://www.altmetric.com/blog/2017-research/>

Konkiel S, Sugimoto C, Williams S. The use of altmetrics in promotion and tenure. Educause Review. 2016;51(2): Online.

Kortelainen T, Katvala M, Länsman A. Attention and altmetrics. Information Research. 2017;22(1):1626.

Kramer B, Bosman J. Innovations in scholarly communication - global survey on research tool usage. *F1000Research*. 2016;5(692): 8414.1.

Krause K. Global burden of armed violence 2011: Lethal encounters. Cambridge: Cambridge University Press; 2011.

Krug E, Mercy J, Dahlberg L, Zwi A. The world report on violence and health. *The Lancet*. 2002;360(9339):1083-8.

Kumar S, Senthilkumar R. Application of Bradford's law of scattering on research publication in Astronomy and Astrophysics of India. *Library Philosophy and Practice*. 2018: 2037.

Kusuma YS, Babu BV. Elimination of violence against women and girls as a global action agenda. *Journal of injury and violence research*. Kermanshah University of Medical Sciences; 2017 Jul;9(2):117-21.

Kvale S. Interviews: an Introduction to Qualitative Research Interviewing. Oaks Calif: Sage Publications; 1996.

Kwok R. Research impact: Altmetrics make their mark. *Nature*. 2013;500(7463):491-3.

Lange L. Citation counts of multi-authored papers - First-named authors and further authors. *Scientometrics*. 2001;52(3):457-70.

Lapinski S, Piwowar H, Priem J. Riding the crest of the altmetrics wave: How librarians can help prepare faculty for the next generation of research impact metrics. *College and Research Libraries News*. 2013;74(6):292-300.

Larivière V, Kiermer V, MacCallum C, McNutt M, Patterson M, Pulverer B, Swaminathan S, Taylor S, Curry S. A simple proposal for the publication of journal citation distributions. *bioRxiv*; 2016: 062109; DOI: 10.1101/062109

Larivière V, Lozano G, Gingras Y. Are elite journals declining? *Journal of the Association for Information Science and Technology*. 2014;65(4):649-55.

Larivière V, Sugimoto CR. The Journal Impact Factor: A Brief History, Critique, and Discussion of Adverse Effects. *Springer Handbook of Science and Technology Indicators*. Netherlands: Springer, Cham; 2019. p. 3–24.

Lavrakas PJ. *Encyclopedia of Survey Research Methods*. SAGE Publications; 2008.

Leedy PD, Ormrod JE. *Practical research: planning and design*. Boston: Pearson; 2016.

Lee AT., Simon CA. Publication incentives based on journal rankings disadvantage local publications. *South African Journal of Science*. 2018;114(9/10): a0289.

Leiden University Centre for Science and Technology Studies. CWTS Leiden ranking [Internet]. CWTS B.V. 2018 [cited 6 January 2018]. Available from: <http://www.cwtsbv.nl/>

Levine-Clark M, Gil E. A comparative analysis of social sciences citation tools. *Online Information Review*. 2009;33(5):986-96.

Leydesdorff L. Theories of citation? *Scientometrics*. 1998;43(1):5-25.

Leydesdorff L, Bornmann L, Comins J, Milojević S. Citations: Indicators of Quality? The Impact Fallacy. *Frontiers in Research Metrics and Analytics*. 2016;1(1): e00001.

Li X, Thelwall M. F1000, Mendeley and traditional bibliometric indicators. *Proceedings of the 17th International Conference on Science and Technology Indicators* [Internet]. 2012 [cited 27 October 2016]. p. 451-551. Available from: https://www.researchgate.net/publication/236001315_F1000_Mendeley_and_traditional_bibliometric_indicators

Li X, Thelwall M, Giustini D. Validating online reference managers for scholarly impact measurement. *Scientometrics*. 2012;91(2):461-71.

Lin J. A case study in anti-gaming mechanisms for altmetrics: PLoS ALMs and DataTrust – Altmetrics.org [Internet]. *altmetrics12: ACM Web Science Conference 2012 Workshop*. 2012 [cited 12 August 2015]. Available from: <http://altmetrics.org/altmetrics12/lin/>

Lincoln Y, Guba E. Establishing Trustworthiness. *Naturalistic Inquiry*. Beverly Hills, Calif.: Sage Publications; 1985.

Lincoln YS, Guba EG. *Naturalistic inquiry*. Naturalistic inquiry. Beverly Hills Calif.: Sage Publications; 2007.

Lindsay, JM. PlumX from Plum Analytics: Not just altmetrics. *Journal of Electronic Resources in Medical Libraries*, 2016;13(1):8-17.

Liu J, Adie E. New perspectives on article-level metrics: Developing ways to assess research uptake and impact online. *Insights: The UKSG Journal*. 2013;26(2):153-8.

Liu J, Adie E. Realising the potential of altmetrics within institutions. *Ariadne* [Internet]. 2014 [cited 21 May 2015];72. Available from: <http://www.ariadne.ac.uk/issue72/liu-adie>

Logan C. We can shift academic culture through publishing choices. *F1000Research*. 2017; 6:518.

Loria P. Impact beyond metrics: Telling your research impact story [Internet]. *Slideshare.net*. 2013 [cited 8 March 2017]. Available from: <https://www.slideshare.net/patloria/research-impact-beyond-metrics>

Mabe M. (Electronic) journal publishing. In: Anderson R, editor. *The e-resources management handbook* [Internet]. Witney, UK: The Charleston Company; 2015: 55-66 [cited 27 October 2015]. Available from: <http://www.uksg.org/sites/uksg.org/files/28-Mabe-3CVJFQPLKKEMJ3W0.pdf>

Mabe M, Amin M. Dr Jekyll and Dr Hyde: Author-reader asymmetries in scholarly publishing. *Aslib Proceedings*. 2002;54(3):149-57.

Macfarlane B, Cheng M. Communism, universalism and disinterestedness: Re-examining contemporary support among academics for Merton's scientific norms. *Journal of Academic Ethics*. 2008;6(1):67-78.

Madalli D. Concepts of openness and open access. Open for researchers. Paris, France: United Nations Educational, Scientific, and Cultural Organization; 2015. p. 68.

Madhusudhan M. Use of social networking sites by research scholars of the University of Delhi: A study. *The International Information and Library Review*. 2012;44(2):100-13

Maestro F. How I use altmetrics in my research proposals: a researcher's account [Internet]. *Altmetric.com*. 2015 [cited 26 January 2020]. Available from: <https://www.altmetric.com/blog/usingaltmetrics/>

Maggio L, Leroux T, Meyer H, Artino A. Exploring the relationship between altmetrics and traditional measures of dissemination in health professions education. *bioRxiv* [Internet]. 2018 [cited 18 February 2018]. Available from: <http://biorxiv.org/content/early/2018/02/13/260059.abstract>

Makombe G. An expose of the relationship between paradigm, method and design in research. *Qualitative Report*. 2017;22(12):3363-82.

Malhotra MK, Grover V. An assessment of survey research in POM: from constructs to theory. *Journal of Operations Management*. Elsevier; 1998 Jul;16(4):407-25.

Malhotra N. Completion time and response order effects in web surveys. *Public opinion quarterly*. Oxford University Press; 2008;72(5):914-34.

Mañana-Rodríguez J. A critical review of SCImago Journal and Country Rank. *Research Evaluation*. 2015;24(4):343-54.

Manca S, Ranieri M. Networked scholarship and motivations for social media use in scholarly communication. *The International Review of Research in Open and Distributed Learning*. 2017;18(2):123-38.

Marcus A, Oransky I. The paper is not sacred. *Nature*. 2011;480(7378):449-50.

Marks M, Marsh M, Schroer T, Stevens T. Misuse of journal impact factors in scientific assessment. *Traffic*. 2013;14(6):611-2.

Mas-Bleda A, Thelwall M. Can alternative indicators overcome language biases in citation counts? A comparison of Spanish and UK research. *Scientometrics*. 2016;109(3):2007-30.

Mathews S. Every six hours a woman is killed by her intimate partner: A national study of female homicide in South Africa. Tygerberg: Gender and Health Research Group, South African Medical Research Council; 2004.

Mayosi B, Lawn J, van Niekerk A, Bradshaw D, Abdool Karim S, Coovadia H. Health in South Africa: Changes and challenges since 2009. *The Lancet*. 2012;380(9858):2029-43.

McFadyen M, Semadeni M, Cannella A. Value of strong ties to disconnected others: Examining knowledge creation in biomedicine. *Organization Science*. 2009;20(3):552-64.

McGillivray B, de Ranieri E. Uptake and outcome of manuscripts in Nature journals by review model and author characteristics. *Research Integrity and Peer Review*. 2018;3(1):5.

McGuigan GS, Russell RD. The Business of Academic Publishing: A Strategic Analysis of the Academic Journal Publishing Industry and its Impact on the Future of Scholarly Publishing. *E-JASL: The Electronic Journal of Academic and Special Librarianship*. 2008;9(3): Online.

McNamara C. General guidelines for conducting interviews. Minneapolis, Minnesota: Authenticity Consulting, LLC.; 2009.

Melero R. Altmetrics – A complement to conventional metrics. *Biochemia Medica*. 2015;25(2):152-60.

Meyers LS, Gamst G, Guarino AJ. *Applied multivariate research: design and interpretation*. London: SAGE; 2005.

Microsoft Office Support. Use the analysis toolpak to perform complex data analysis. London, UK: Microsoft Office Support; 2017.

Millennium Development Goals [Internet]. United Nations Development Programme. 2000 [cited 13 February 2015]. Available from: http://www.undp.org/content/undp/en/home/sdgoverview/mdg_goals.html

Minocha S, Petre M. *Handbook of social media for researchers and supervisors*. United Kingdom: The Open University; 2012.

Misteli T. Eliminating the impact of the impact factor. *The Journal of Cell Biology*. 2013;201(5):651-2.

Moed HF. *Citation Analysis in Research Evaluation*. Springer Netherlands; 2005.

Mohajan HK. Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*. Editura Fundației România de Măine; 2018;7(1):23-48.

Mohammadi E, Thelwall M. Assessing non-standard article impact using F1000 labels. *Scientometrics*. 2013;97(2):383-95.

Mohammadi E, Thelwall M. Mendeley readership altmetrics for the social sciences and humanities: Research evaluation and knowledge flows. *Journal of the Association for Information Science and Technology*. 2014;65(8):1627-38.

Monzon A, Bayart C. Workshop Synthesis: Web-based surveys, new insight to address main challenges. *Transportation Research Procedia*. 2018; 32:167-73.

Morgan DL. Paradigms Lost and Pragmatism Regained: Methodological Implications of Combining Qualitative and Quantitative Methods. *Journal of Mixed Methods Research*. 2007;1(1):48-76.

Morgan DL. *Pragmatism as a paradigm for social research*. Qualitative Inquiry. SAGE Publications Sage CA: Los Angeles, CA; 2014;20(8):1045-53.

Mounce R. Open access and altmetrics: Distinct but complementary. *Bulletin of the American Society for Information Science and Technology*. 2013;39(4):14-7.

Mouton J, Blanckenberg J. How well is South African science doing. *Sci Byte@SciSTIP* [Internet]. 2018 [cited 31 August 2018]. Available from: https://www.sun.ac.za/english/Documents/newsclips/SciBytes@SciSTIP_02.pdf

Moylan EC, Kowalczyk MK. Why articles are retracted: a retrospective cross-sectional study of retraction notices at BioMed Central. *BMJ Open*. 2016 Nov 23;6(11): e012047.

Mukherjee B. Scholarly communication: A journey from print to web. *Library Philosophy and Practice* [Internet]. 2009 [cited 2 April 2016];8. Available from: <http://digitalcommons.unl.edu/libphilprac/nhttp://digitalcommons.unl.edu/libphilprac/285>

Munigal A. *Scholarly communication and the publish or perish pressures of academia*. Hershey, USA: IGI Global; 2017.

Murphy L, Kraus C, Lotfipour S, Gottlieb M, Langabeer J, Langdorf M. Measuring Scholarly Productivity: A Primer for Junior Faculty. Part III: Understanding Publication Metrics. *Western Journal of Emergency Medicine*. 2018 Oct 18;19(6):1003–11.

Muscannell N, Utz S. Social networking for scientists: An analysis on how and why academics use ResearchGate. *Online Information Review*. 2017;41(5):744-59.

Naghavi M, Wang H, Lozano R, Davis A, Liang X, Zhou M, et al. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet*. 2015;385(9963):117-71.

National Advisory Council on Innovation. 2016 South African Science, Technology and Innovation (STI) Indicators [Internet]. Johannesburg, ZA: Dept of Science and Technology; 2017. Available from: <http://www.naci.org.za/wp-content/uploads/2017/09/South-African-Science-Technology-and-Innovation-Indicators-2016-web.pdf>

National Information Standards Organization. Alternative metrics Initiative phase 1 [Internet]. National Information Standards Organization.org. 2014 [cited 6 June 2014]. Available from: http://www.niso.org/apps/group_public/download.php/13809/Altmetrics_project_phase1_white_paper.pdf

National Information Standards Organization. NISO Alternative Assessment Metrics (Altmetrics) Initiative [Internet]. Niso.org. 2015 [cited 22 October 2015]. Available from: <https://www.niso.org/standards-committees/altmetrics>

National Information Standards Organization. NISO RP-25-2016 Outputs of the NISO Alternative Assessment Metrics Project | NISO website [Internet]. Niso.org. 2016a [cited 14 July 2017]. Available from: <https://www.niso.org/publications/rp-25-2016-altmetrics>

National Information Standards Organization. NISO RP-25-201x-1: Altmetrics Definitions and Use Cases-A Recommended Practice of the National Information Standards Organization [Internet]. NISO.org. 2016b [cited 28 July 2016]. Available from: https://groups.niso.org/apps/group_public/download.php/16268/NISO%20RP-25-201x-1,%20Altmetrics%20Definitions%20and%20Use%20Cases%20-%20draft%20for%20public%20comment.pdf

National Research Foundation. NRF Rated Researchers [Internet]. www.nrf.ac.za. 2016 [cited 7 May 2016]. Available from: https://www.nrf.ac.za/information-portal/nrf-rated-researchers?qt-nrf Rated Researchers_tabs=1#qt-nrf Rated Researchers_tabs

Nature Editorial. Not-so-deep impact. *Nature*. 2005;435(7045):1003-4.

Nature Publishing. The maze of impact metrics. *Nature*. 2013 Oct 16;502(7471):271.

Neuman W. *Social research methods: Qualitative and quantitative approaches*. 8th ed. Essex, UK: Pearsons; 2014.

Nicholas D, Boukacem-Zeghmouri C, Rodríguez-Bravo B, Xu J, Watkinson A, Abrizah A, et al. Where and how early career researchers find scholarly information. *Learned Publishing*. 2017;30(1):19-29.

Nicholas D, Rowlands I. Social media use in the research workflow. *Information Services and Use*. 2011;31(1-2):61-83.

Nosek B, Bar-Anan Y. Scientific utopia: I. Opening scientific communication. *Psychological Inquiry*. 2012;23(3):217-243.

Oancea A. Buzzwords and values: The prominence of 'impact' in UK research policy and governance. *Research Trends*. 2013;33.

O'Beirne R. *Academic libraries, open access and digital scholarship – A Delphi study* [Doctor of Education]. University of Sheffield.; 2017.

O'Cathain A, Murphy E, Nicholl J. Why, and how, mixed methods research is undertaken in health services research in England: A mixed methods study. *BMC Health Services Research*. 2007;7(1):85.

O'Leary Z. *The Essential Guide to Doing Your Research Project*. SAGE Publications; 2017.

O'Neill J. The significance of an impact factor: Implications for the publishing community. *Learned Publishing*. 2000; 13:105-9.

Ocholla D, le Roux J. Conceptions and misconceptions of theoretical frameworks in Library and Information Science Research. *Mousaion*. 2011a;19(2):61-74.

Ocholla D, le Roux J. Conceptions and misconceptions of theoretical frameworks in Library and Information Science Research. 6th Biennial Prolissa Conference, [Internet]. Pretoria; 2011b [cited 18 February 2018]. p. 1-11. Available from: <https://pdfs.semanticscholar.org/91d3/c375a42ce9527d41583c7859715c255af697.pdf>

Onyancha O. Altmetrics of South African Journals: Implications for Scholarly Impact of South African Research. *Publishing Research Quarterly*. 2017;33(1):71-91.

Opdenakker R. Advantages and disadvantages of four interview techniques in qualitative research. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*. 2006;7(4): Online.

- Oppenheim C, Greenhalgh C, Rowland F. The future of scholarly journal publishing. *Journal of Documentation*. 2000;56(4):361-98.
- Ovadia S. ResearchGate and Academia.edu: Academic social networks. *Behavioral and Social Sciences Librarian*. 2014;33(3):165-9.
- Owens B. Academia gets social. *The Lancet*. 2015;384(9957):1834-1835.
- Oxford University Press. Citation [Internet]. *Oxford Dictionaries*. Oxford, UK: Oxford University Press; 2014 [cited 18 March 2014]. Available from: <http://www.oxforddictionaries.com/definition/english/citation>
- Pan R, Fortunato S. Author impact factor: Tracking the dynamics of individual scientific impact. *Scientific Reports*. 2014;4(1):4880.
- Pan RK, Kaski K, Fortunato S. World citation and collaboration networks: uncovering the role of geography in science. *Scientific reports*. 2012 Dec 29;2(1):902.
- Pardoe S. Research impact unpacked? A social science agenda for critically analyzing the discourse of impact and informing practice. *SAGE Open*. 2014;4(2):215824401452977.
- Patino CM, Ferreira JC. Inclusion and exclusion criteria in research studies: definitions and why they matter. *Jornal brasileiro de pneumologia : publicacao oficial da Sociedade Brasileira de Pneumologia e Tisiologia*. Sociedade Brasileira de Pneumologia e Tisiologia; 2018 Apr;44(2):84.
- Patthi B, Prasad M, Gupta R, Singla A, Kumar JK, Dhama K, Ali I, Niraj LK. Altmetrics – A collated adjunct beyond citations for scholarly impact: a systematic review. *Journal of Clinical and Diagnostic Research*. 2017;11(6): ze16-ze20.
- Penner O, Pan R, Petersen A, Kaski K, Fortunato S. On the predictability of future impact in science. *Scientific Reports*. 2013;3(1):3052.
- Perneger T. Relation between online “hit counts” and subsequent citations: Prospective study of research papers in the BMJ. *BMJ*. 2004;329(7465):546-7.
- Peters I, Jobmann A, Eppelin A, Hoffmann C, Künne S, Wollnik-Korn G. Altmetrics for large, multidisciplinary research groups: A case study of the Leibniz Association. *Libraries in the Digital Age (LIDA) Proceedings [Internet]*. 2014 [cited 23 February 2015];13. Available from: <http://ozk.unizd.hr/proceedings/index.php/lida/article/viewFile/162/138>.
- Piro FN, Sivertsen G. How can differences in international university rankings be explained? *Scientometrics*. 2016 Dec 2;109(3):2263-78.
- Piwowar H. Introduction altmetrics: What, why and where? *Bulletin of the American Society for Information Science and Technology*. 2013a;39(4):8-9.
- Piwowar H. Altmetrics: Value all research products. *Nature*. 2013b;493(7431):159.
- Piwowar H, Day R, Fridsma D. Sharing Detailed Research Data Is Associated with Increased Citation Rate. *PLoS ONE*. 2007;2(3): e308.

Piwowar H, Priem J. Impact Story [Internet]. Impactstory.org. 2012 [cited 23 February 2015]. Available from: <https://impactstory.org/>

Piwowar H, Priem J, Larivière V, Alperin JP, Matthias L, Norlander B, et al. The state of OA: a large-scale analysis of the prevalence and impact of Open Access articles. *PeerJ*. 2018 Feb 13;6: e4375.

Piwowar H, Vision T. Data reuse and the open data citation advantage. *PeerJ*. 2013;1: e175.

Plano Clark VL, Ivankova NV. *Mixed Methods Research: A Guide to the Field*. SAGE Publications; 2015.

Ploderer B, Howard S, Thomas P. Collaboration on social network sites: Amateurs, professionals and celebrities. *Computer Supported Cooperative Work (CSCW)*. 2010;19(5):419-55.

Plume A. Impact of science: The need to measure [Internet]. Elsevier Connect. 2014 [cited 15 March 2017]. Available from: <https://www.elsevier.com/connect/impact-of-science-the-need-to-measure>

Ponte D, Simon J. Scholarly communication 2.0: Exploring researchers' opinions on web 2.0 for scientific knowledge creation, evaluation and dissemination. *Serials Review*. 2011;37(3):149-56.

Powell A. Review of bystander approaches in support of preventing violence against women. Carlton: Victorian Health Promotion Foundation (VicHealth); 2011.

Pradhan P, Dora M. Altmetrics: An Alternative viewpoint to assess scholarly research impact. *International Journal of Dissemination and Technology*. 2015;5(2):123-30.

Priem J. I like the term #articlelevelmetrics, but it fails to imply *diversity* of measures. Lately, I'm liking #altmetrics. [Internet]. Twitter. 2010 [cited 20 August 2015]. Available from: <https://twitter.com/jasonpriem/status/25844968813>

Priem J. Beyond the paper. *Nature*. 2013;495(7442):437-40.

Priem J. Altmetrics. In: Cronin B, Sugimoto C, editors. *Beyond bibliometrics: Harnessing multi-dimensional indicators of performance*. Cambridge, MA: MIT Press; 2014. p. 263-88.

Priem J, Costello K, Dzuba T. First-year graduate students just wasting time? Prevalence and use of Twitter among scholars. *Metrics 2011 Symposium on Informetric and Scientometric Research* [Internet]. Maryland, USA: Association for Information Science and Technology; 2011 [cited 12 October 2015]. Available from: <http://jasonpriem.org/self-archived/5uni-poster.png>. 2011.

Priem J, Groth P, Taraborelli D. The Altmetrics Collection. *PLoS ONE*. 2012a;7(11): e48753.

Priem J, Hemminger B. *Scientometrics 2.0*. *First Monday*. 2010;15(7):2874.

Priem J, Hemminger B. Decoupling the scholarly journal. *Frontiers in Computational Neuroscience*. 2012; 6:19.

Priem J, Piwowar H, Hemminger B. Altmetrics in the wild: Using social media to explore scholarly impact. arXiv. 2012;12034745: 1-23.

Priem J, Taraborelli D, Groth P, Neylon C. Altmetrics: A manifesto – altmetrics.org [Internet]. Altmetrics.org. 2010 [cited 20 August 2015]. Available from: <http://altmetrics.org/manifesto/>

Procter R, Williams R, Stewart J, Poschen M, Snee H, Voss A et al. Adoption and use of Web 2.0 in scholarly communications. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 2010;368(1926):4039-56.

Purohit H, Banerjee T, Hampton A, Shalin V, Bhandutia N, Sheth A. Gender-based violence in 140 characters or fewer: A #BigData case study of Twitter. *First Monday*. 2016;21(1):5190.

Pyne R, Emery C, Lucraft M, Pinck A. The Future of Open Access Books: Findings From A Global Survey of Academic Book Authors. [Internet]. Figshare.com. 2019 [cited 2020 Mar 6]. p. Online. Available from: <https://figshare.com/s/a11075d04d333dba4ee0>

Radhakrishna RB. Tips for developing and testing questionnaires/instruments. *Journal of Extension*. 2007;45(1):1TOT2.

Rau H, Goggins G, Fahy F. From invisibility to impact: Recognising the scientific and societal relevance of interdisciplinary sustainability research. *Research Policy*. 2018;47(1):266-76.

Rauhvargers A. Where are the global rankings leading us? An analysis of recent methodological changes and new developments. *European Journal of Education*. 2014;49(1):29-44.

Ravenscroft J, Liakata M, Clare A, Duma D. Measuring scientific impact beyond academia: An assessment of existing impact metrics and proposed improvements. *PLOS ONE*. 2017;12(3): e0173152.

Razali N, Wah Y. Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*. 2011;2(1):21-33.

Reeves TC. Enhancing the worth of instructional technology research through “design experiments” and other development research strategies. *International Perspectives on Instructional Technology Research for the 21st Century*. 2000; 27:1-15.

Research Information Network, Procter R, Williams R, Stewart J. If you build it, will they come? How researchers perceive and use web 2.0. London: Research Information Network; 2010.

Reznik-Zellen R. Benchmarking with SciVal in scholarly communication and research services [Internet]. *Libraryconnect.elsevier.com*. 2016 [cited 6 March 2018]. Available from: https://libraryconnect.elsevier.com/sites/default/files/LCN_Reznik-Zellen_April-25-2016.pdf

Rickinson M, Sebba J, Edwards A. Improving research through user engagement. New York: Routledge; 2011.

Roberts LD. Ethical issues in conducting qualitative research in online communities. *Qualitative Research in Psychology*. 2015;12(3):314-25.

Robinson-Garcia N, van Leeuwen T, Rafols I. Using almetrics for contextualised mapping of societal impact: From hits to networks. *Science and Public Policy*. 2017; 9:19.

Rodgers E, Barbrow S. A look at altmetrics and its growing significance to research libraries. Ann Arbor, Michigan, USA: University of Michigan University Library.; 2013.

Roemer R, Borchardt R. From bibliometrics to altmetrics: A changing scholarly landscape. *College and Research Libraries News*. 2012;73(10):596-600.

Roemer R, Borchardt R. *Meaningful Metrics: A 21st century librarian's guide to bibliometrics, altmetrics, and research impact*. 1st ed. Chicago, IL: Association of College and Research Libraries, a division of the American Library Association; 2015.

Rousseau R. *Journal Evaluation: Technical and Practical Issues*. *Library Trends*. 2002;50(3):418-39.

Rousseau R, Egghe L, Guns R. *Becoming Metric-Wise: A Bibliometric Guide for Researchers*. Cambridge, MA: Elsevier Science; 2018.

Rowlands I, Nicholas D, Russell B, Canty N, Watkinson A. Social media use in the research workflow. *Learned Publishing*. 2011;24(3):183-195.

Rowley J, Johnson F, Sbaifi L, Frass W, Devine E. Academics' behaviors and attitudes towards open access publishing in scholarly journals. *Journal of the Association for Information Science and Technology*. 2017 May;68(5):1201-11.

Ruan Q, Chen A, Cohen J, Singhal D, Lin S, Lee B. Alternative metrics of scholarly output. *Plastic and Reconstructive Surgery*. 2018;141(3):801-9.

Salkind NJ, Rasmussen K. *Encyclopedia of educational psychology*. Thousand Oaks, Calif.: Sage Publications; 2008.

San Francisco Declaration on Research Assessment. Declaration on Research Assessment (DORA). [Internet]. Declaration on Research Assessment (DORA). 2012 [cited 15 December 2014]. Available from: <https://sfdora.org/>

Sandström U, van den Besselaar P. Quantity and/or Quality? The Importance of Publishing Many Papers. *PloS one*. Public Library of Science. 2016 Nov 21;11(11): e0166149.

Saunders L. *Educational research and policy-making exploring the border country between research and policy*. New York: Routledge; 2007.

Sawant S. Transformation of the scholarly communication cycle. *Library Hi Tech News*. 2012;29(10):21-4.

Schmidt B, Gorogh E. New toolkits on the block: peer review alternatives in scholarly communication. In: Chan L, Loizides F, ed. *Expanding Perspectives on Open Science: Communities, Cultures and Diversity in Concepts and Practices: Proceedings of the 21st International Conference on Electronic Publishing*. Amsterdam, Netherlands: IOS Press; 2017. p. 62-74.

- Schubert A, Glänzel W. Cross-national preference in co-authorship, references and citations. *Scientometrics*. 2006;69(2):409-28.
- Seglen PO. Citation rates and journal impact factors are not suitable for evaluation of research. *Acta Orthopaedica Scandinavica*. 1998;69(3): 224-9.
- Severin A, Egger M, Eve MP, Hürlimann D. Discipline-specific open access publishing practices and barriers to change: an evidence-based review. *F1000Research*. 2018 Dec 11; 7:1925.
- Shamseer L, Moher D, Maduekwe O, Turner L, Barbour V, Burch R et al. Potential predatory and legitimate biomedical journals: can you tell the difference? A cross-sectional comparison. *BMC Medicine*. 2017;15(1):28.
- Shehata A, Ellis D, Foster A. The impact of information and communication technologies on informal scientific communication. *Library Review*. 2015;64(6/7):428-45.
- Shema H, Bar-Ilan J, Thelwall M. Research blogs and the discussion of scholarly information. *Plos One*. 2012;7(5): e35869.
- Shen C, Björk B. 'Predatory' open access: A longitudinal study of article volumes and market characteristics. *BMC Medicine*. 2015;13(1):230.
- Simons M. *Academic library metamorphosis and regeneration*. Lanham, MD: Rowman and Littlefield Publishers; 2017.
- Sivertsen G. Unique, but still best practice? The Research Excellence Framework (REF) from an international perspective. *Palgrave Communications*. 2017; 3:17078.
- Skopec M, Issa H, Reed J, Harris M. The role of geographic bias in knowledge diffusion: a systematic review and narrative synthesis. *Research Integrity and Peer Review*. 2020;5(1):2.
- Smrz P, Dytrych J. Towards new scholarly communication: A case study of the 4a framework. *CEUR Workshop Proceedings*. 2011; 721:59-70.
- Søndergaard T, Andersen J, Hjørland B. Documents and the communication of scientific and scholarly information. *Journal of Documentation*. 2003;59(3):278-320.
- Sooryamoorthy R. Do types of collaboration change citation? Collaboration and citation patterns of South African science publications. *Scientometrics*. 2009;81(1):177-93.
- Spier R. The history of the peer-review process. *Trends in Biotechnology*. 2002;20(8):357-8.
- Staniland M. How do researchers use social media and scholarly collaboration networks (SCNs): Of Schemes and Memes Blog [Internet]. *Blogs.nature.com*. 2017 [cited 2020 Mar 9]. p. Online. Available from: <http://blogs.nature.com/ofschemasandmemes/2017/06/15/how-do-researchers-use-social-media-and-scholarly-collaboration-networks-scns>
- Statistics Solutions. *Intellectus statistics - Statistical analysis software for students, universities, and businesses* [Internet]. Statistics Solutions. 2017 [cited 28 November 2017]. Available from: <http://ssp.statisticssolutions.com/>

Stentz J, Plano Clark V, Matkin G. Applying mixed methods to leadership research: A review of current practices. *The Leadership Quarterly*. 2012;23(6):1173-83.

Stokes D. *Pasteur's quadrant: Basic science and technological innovation*. Washington (D.C.): Brookings institution; 1997.

Sud P, Thelwall M. Evaluating altmetrics. *Scientometrics*. 2014;98(2):1131-43.

Sugimoto C. *Theories of informetrics and scholarly communication*. 3rd ed. Berlin/Boston, Germany: de Gruyter Mouton; 2016.

Sugimoto C, Larivière V. Altmetrics: broadening impact or amplifying voices? *ACS Central Science*. 2017;3(7):674-6.

Sugimoto C, Work S, Larivière V, Haustein S. Scholarly use of social media and altmetrics: A review of the literature. *Journal of the Association for Information Science and Technology*. 2017;68(9):2037-62.

Swanepoel M. *Scholarly communication: The quest for Pasteur's Quadrant*. 32nd Annual IATUL Conference [Internet]. Warsaw, Poland: Purdue University; 2011 [cited 18 June 2016]. Available from: <http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1917&context=iatul>

Tananbaum G. *Article-level metrics: A SPARC primer*. Washington, DC: SPARC: The Scholarly Publishing and Academic Resources Coalition; 2013. [cited 2013 Oct 25]. p. 15. Available from: <http://www.sparc.arl.org/bm~doc/sparc-alm-primer.pdf>.

Tattersall A. *Altmetrics: A practical guide for librarians, researchers and academics*. 1st ed. London: Facet Publishing; 2016.

Tashakkori A, Teddlie C. *SAGE Handbook of Mixed Methods in Social and Behavioral Research*. 2nd ed. Thousand Oaks, California: SAGE Publications, Inc; 2010.

Tavares P, Wodon Q. *Ending violence against women and girls: Global and regional trends in women's legal protection against domestic violence and sexual harassment* [Internet]. World Bank. 2018 [cited 11 March 2018]. Available from: <http://www.worldbank.org/en/research/publication/ending-violence-against-women-and-girls-global-and-regional-trends-in-womens-legal-protection-against-domestic-violence-and-sexual-harassment>

Taylor M. Value of bibliometrics: The challenges of measuring social impact using altmetrics. *Research Trends*. 2013a;33(June):11-5.

Taylor M. Exploring the boundaries: How altmetrics can expand our vision of scholarly communication and social impact. *Information Standards Quarterly*. 2013b;25(2):27.

Teddlie C, Tashakkori A. common "core" characteristics of mixed methods research. *American Behavioral Scientist*. 2012;56(6):774-88.

Tennant J, Waldner F, Jacques D, Masuzzo P, Collister L, Hartgerink C. The academic, economic and societal impacts of Open Access: An evidence-based review. *F1000Research*. 2016; 5:632.

Tenopir C, Allard S, Douglass K, Aydinoglu A, Wu L, Read E et al. Data Sharing by scientists: Practices and perceptions. PLoS ONE. 2011;6(6): e21101.

Tenopir C, Volentine R, King D. Scholarly reading and the value of academic library collections: Results of a study in six UK universities. Insights: the UKSG journal. 2012;25(2):130-49.

Tenopir C, Volentine R, King D. Social media and scholarly reading. Online Information Review. 2013;37(2):193-216.

The Global Women's Institute. Gender-Based Violence Research, Monitoring, and Evaluation with Refugee and Conflict-Affected Populations. Washington, D.C., United States; 2017.

Thelwall M, Haustein S, Larivière V, Sugimoto C. Do altmetrics work? Twitter and ten other social web services. PLoS ONE. 2013;8(5): e64841.

Thelwall M, Kousha K. ResearchGate articles: Age, discipline, audience size, and impact. Journal of the Association for Information Science and Technology. 2017 Feb;68(2):468-79.

Thelwall M, Kousha K, Dinsmore A, Dolby K. Alternative metric indicators for funding scheme evaluations. Aslib Journal of Information Management. 2016;68(1):2-18.

Thelwall M, Sud P. A comparison of methods for collecting web citation data for academic organizations. Journal of the American Society for Information Science and Technology. 2011;62(8):1488-97.

Thelwall M, Sud P, Wilkinson D. Link and co-inlink network diagrams with URL citations or title mentions. Journal of the American Society for Information Science and Technology. 2012;63(4):805-16.

Thompson J. Implementing web-scale discovery services: a practical guide for librarians. Lanham, MD: Rowan and Littlefield; 2014.

Thompson P. How to choose the right journal for your manuscript. Chest. 2007;132(3):1073-6.

Thorin S. Global changes in scholarly communication. eLearning and Digital Publishing. In: Ching H, Poon P, Mc Naught C, editors. eLearning and Digital Publishing. Netherlands: Springer; 2006. p. 221-40.

Thuna M, King P. Research impact metrics: A faculty perspective. Partnership: The Canadian Journal of Library and Information Practice and Research. 2017;12(1):1-25.

Thutloa, A. South African Medical Research Council champions research for health amidst COVID-19. 2020. [Cited 2020 May 22]. Available from: <https://www.samrc.ac.za/media-release/south-african-medical-research-council-champions-research-health-amidst-covid-19>

Torres-Salinas D, Cabezas-Clavijo Á, Jiménez-Contreras E. Altmetrics: New indicators for scientific communication in web 2.0. Comunicar. 2013;21(41):53-60.

Torres-Salinas D, Robinson-García N, Jiménez-Contreras E. Can we use altmetrics at the institutional level? A case study analysing the coverage by research areas of four Spanish

universities. arXiv preprint: Paper accepted for the STI 2016 Conference held in Valencia, September 14-16. 2016;1606.00232.

Tracz V, Lawrence R. Towards an open science publishing platform. *F1000Research*. 2016; 5:130.

Tripathy J, Bhatnagar A, Shewade H, Kumar A, Zachariah R, Harries A. Ten tips to improve the visibility and dissemination of research for policy makers and practitioners. *Public Health Action*. 2017;7(1):10-4.

Trochim WMK. Qualitative Validity [Internet]. *Research Methods Knowledge Base*. 2006 [cited 2016 Jul 1]. p. 8–10. Available from: <http://www.socialresearchmethods.net/kb/qualval.htm>

Trotter H, King T, Gray E, Willmers M, Kell C. Seeking impact and visibility: scholarly communication in Southern Africa. South Africa: African Minds Publishers; 2014.

Trueger N, Thoma B, Hsu C, Sullivan D, Peters L, Lin M. The altmetric score: A new measure for article-level dissemination and impact. *Annals of Emergency Medicine*. 2015;66(5):549-53.

Turner D. Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report*. 2010;15(3):754-60.

Tyson W. Pitch perfect: Communicating with traditional and social media for scholars, researchers, and academic leaders. Sterling, Va.: Stylus Pub.; 2010.

UNESCO. Open access for researchers, module 1: Scholarly communications. 1st ed. Paris, France: United Nations Educational, Scientific and Cultural Organization; 2015a.

UNESCO. Open access for researchers, module 4: Research evaluation metrics. 1st ed. Paris, France: United Nations Educational, Scientific and Cultural Organization; 2015b.

UNISIST, UNESCO. UNISIST: Study report on the feasibility of a world science information system. Paris: UNESCO; 1971.

United Nations Economic and Social Affairs. The world's women 2015: Trends and statistics. New York: United Nations; 2015. p. 139-45.

University of Cape Town. Social responsiveness policy framework, Senate 14 [Internet]. UCT.ac.za. 2012 [cited 18 February 2018]. Available from: <https://www.uct.ac.za/downloads/uct.ac.za/about/policies/SocialResponsivenessPolicyFramework.docx>

University of the Western Cape (UWC). Policy on Research Ethics. Cape Town: University of the Western Cape; 2014. p. 1-33.

Van Eperen L, Marincola F. How scientists use social media to communicate their research. *Journal of Translational Medicine*. 2011;9(1):199.

Van Noorden R. Online collaboration: Scientists and the social network. *Nature*. 2014; 512(7513):126-9.

Van Noorden R. Biochemist questions peer review at UK funding agency. *Nature* [Internet]. 2015 [cited 15 September 2015]; Available from: <http://www.nature.com/news/biochemist-questions-peer-review-at-uk-funding-agency-1.16479>.

Van Noorden R. The science that's never been cited. *Nature*. 2017;552(7684):162-4.

Van Raan A. Properties of journal impact in relation to bibliometric research group performance indicators. *Scientometrics*. 2012;92(2):457-69.

Vakil C. Predatory journals: Authors and readers beware. *Canadian family physician/Medecin De Famille Canadien*. 2019;65(2):92-4.

Vaughan L, Shaw D. Bibliographic and web citations: What is the difference? *Journal of the American Society for Information Science and Technology*. 2003;54(14):1313-22.

Virginia Tech. Bookmarklets [Internet]. [Assist.vt.edu](https://www.assist.vt.edu/web-accessibility/testing-tools/bookmarklets.html). 2018 [cited 2 May 2018]. Available from: <https://www.assist.vt.edu/web-accessibility/testing-tools/bookmarklets.html>

Vogl S. Telephone Versus Face-to-Face Interviews: Mode Effect on Semistructured Interviews with Children. *Sociological Methodology*. SAGE Publications Inc; 2013 Aug 1;43(1):133-77.

Wang J. Citation time window choice for research impact evaluation. *Scientometrics*. 2013;94(3):851-72.

Wang X, Cui Y, Li Q, Guo X. From attention to citation, what and how does altmetrics work? *arXiv*. 2014; 1409:4269.

Wang X, Wang Z, Xu S. Tracing scientist's research trends realtimely. *Scientometrics*. 2013;95(2):717-29.

Warnick W, Wojick D. A missing policy: Capacity building for sharing scientific knowledge. 2011 Atlanta Conference on Science and Innovation Policy. IEEE [Internet]. 2011 [cited 16 February 2018]. Available from: <https://ieeexplore.ieee.org/document/6064493/metrics#metrics>

West R, Stenius K, Kettunen T. Use and Abuse of Citations. In: Stenius K, Babor TF, Pates R, Mioviský M, O'Reilly J, Candon P, editors. *Publishing Addiction Science*. Ubiquity Press; 2017. p. 191-206.

Westfall P, Henning K. *Understanding advanced statistical methods*. Boca Raton, Florida: CRC Press; 2013.

Widén G. 10 - New modes of scholarly communication: implications of Web 2.0 in the context of research dissemination. In: Dewey BIBT-TRL for the GKS, editor. *Chandos Information Professional Series*. Chandos Publishing; 2010. p. 133-46.

Williams A. Altmetrics: an overview and evaluation. *Online Information Review*. 2017;41(3):311-317.

Williams A. Exploring the utility of an emerging altmetric platform: a SWOT analysis of Plum Analytics. *Digital Library Perspectives*. 2019;35(3/4):193-204.

Williams S. How to maximize your study's visibility by choosing the right journal. *Discover the future of research* [Internet]. Wiley.com. 2018 [cited 4 August 2018]. Available from: <https://hub.wiley.com/community/exchanges/discover/blog/2018/01/24/how-to-maximize-your-study-s-visibility-by-choosing-the-right-journal>

Wilsdon J. *The Metric Tide: Independent Review of the Role of Metrics in Research Assessment and Management*. London, United Kingdom: Sage Publications; 2016.

World Health Organisation. Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence [Internet]. World Health Organisation. 2013a [cited 15 March 2015]. Available from: http://www.who.int/reproductivehealth/publications/violence/VAW_infographic.pdf?ua=1.

World Health Organization. Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence [Internet]. World Health Organization. 2013b [cited 15 March 2018]. Available from: <http://www.who.int/reproductivehealth/publications/violence/9789241564625/en/>

World Health Organization, Department of Reproductive Health and Research, London School of Hygiene and Tropical, South African Medical Research Council. WHO | Global and regional estimates of violence against women [Internet]. Geneva, World Health Organisation. 2013 [cited 15 March 2015]. Available from: <http://www.who.int/reproductivehealth/publications/violence/9789241564625/en/>

World Health Organization. Violence against women: Global picture health response. [Internet]. World Health Organization. 2014a [cited 15 March 2015]. Available from: http://www.who.int/reproductivehealth/publications/violence/VAW_infographic.pdf?ua=1

World Health Organization. Sexual and reproductive health. [Internet]. 2014b [cited 2014 Nov 15]. Available from: <http://www.who.int/reproductivehealth/topics/violence/en>

World Health Organization. Violence against women: Intimate partner and sexual violence against women [Internet]. World Health Organization. 2016 [cited 9 April 2016]. Available from: <http://www.who.int/mediacentre/factsheets/fs239/en/>

World Health Organization. Gender: Gender Equity Rights. [Internet]. World Health Organization. 2018 [cited 11 March 2018]. Available from: <http://www.who.int/gender-equity-rights/understanding/gender-definition/en>

Wouters P, Costas R. Users, narcissism and control – Tracking the impact of scholarly publications in the 21 st century [Internet]. Analysis and Policy Observatory (APO). 2012 [cited 12 February 2013]. Available from: <http://apo.org.au/node/28603>

Wright KB. Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication*. John Wiley and Sons, Ltd; 2005 Apr 1;10(3): tb00259. x.

Wu T, Yang X. Electronic word of mouth in online social networks. 2010 Second International Conference on Communication Systems, Networks and Applications. 2010; 11572017: 249-53.

Wu Y, Chen J, Fang H, Wan Y. Intimate Partner Violence: A Bibliometric Review of Literature. International Journal of Environmental Research and Public Health. 2020;17(15):5607.

Wurl O. MaxStat: Tool for scientific data analysis. Germany: MaxStat Software; 2016.

Xia J. Positioning Open Access Journals in a LIS Journal Ranking. College and Research Libraries. 2012;73(2):12.

Yang SQ, Li L. Chapter 12 - Altmetrics and Research Support. In: Yang SQ, Li L, editors. Emerging Technologies for Librarians: Chandos Publishing; 2016. p. 225-47.

Yeong C, Abdullah B. Altmetrics: The right step forward. Biomedical Imaging and Intervention Journal. 2012;8(3): e15.

Yudkevich M, Altbach P, Rumbley L. The global academic rankings game: Changing institutional policy, practice, and academic life. New York: Routledge; 2016.

Zahedi Z, Costas R, Wouters P. How well developed are altmetrics? A cross-disciplinary analysis of the presence of 'alternative metrics' in scientific publications. Scientometrics. 2014;101(2):1491-513.

Zhang X, Estoque RC, Xie H, Murayama Y, Ranagalage M. Bibliometric analysis of highly cited articles on ecosystem services. PloS one. Public Library of Science. 2019 Feb 11;14(2): e0210707.

Zahedi Z, Fenner M, Costas R. How consistent are altmetrics providers? Study of 1000 PLOS ONE publications using the PLOS ALM, Mendeley and Altmetric.com APIs. ACM Web Science Conference 2014 Workshop. Bloomington, Indiana: Altmetrics.org; 2014. p. 4-6.

Zahedi Z, Haustein S. On the relationships between bibliographic characteristics of scientific documents and citation and Mendeley readership counts: A large-scale analysis of Web of Science publications. Journal of Informetrics. 2018;12(1):191-202.

Zamanzadeh V, Ghahramanian A, Rassouli M, Abbaszadeh A, Alavi-Majd H, Nikanfar A-R. Design and Implementation Content Validity Study: Development of an instrument for measuring Patient-Centered Communication. Journal of Caring Sciences. 2015 Jun 1;4(2):165-78.

Zhu W. $p < 0.05$, < 0.01 , < 0.001 , < 0.0001 , < 0.00001 , < 0.000001 , or < 0.0000001 Journal of Sport and Health Science. 2016;5(1):77-9.

Appendix A: Letter of information: Interviews



UNIVERSITY of the
WESTERN CAPE



16 December 2019

Dear Sir/ Madam,

My name is Natasha Langdown, a PhD student in the Department of Library and Information Science at University of the Western Cape, in Cape Town, South Africa. The interviews are part of my research for my PhD thesis. The topic of my research project is **“Bibliometric and Altmetric awareness and usage amongst Gender-Based Violence (GBV) researchers in South Africa”**.

The aim of this study is to investigate, within the changing scholarly communication landscape, the level of awareness and the usage of bibliometrics and altmetrics among GBV researchers in South Africa. I have a variety of questions that I want to ask you about your research and the value of using metrics for measuring impact.

I am therefore requesting South Africa gender-based violence (GBV) researchers to please participate in this interview. As no names are required, your identity will remain anonymous. If you agree to participate, please read and confirm your participation by ticking the consent box. As the consent form indicates, your participation is completely voluntary, your identity remains anonymous, your responses will be kept confidential, and you are free to withdraw from the study at any time.

If you have any questions or concerns or wish to know more about this study, please contact me, Natasha Langdown at nlangdow@mrc.ac.za or you could contact my supervisor Prof Sandy Zinn at szinn@uwc.ac.za.

Your participation in this study is greatly appreciated.

Kind regards,
Natasha Langdown

If you have questions about your role as a research participant, you could also contact:

University of the Western Cape

Office of the Director: Research (Research and Innovation Division)

Private Bag X17 Bellville 7535

Tel: (021) 959 2988 / 2948

Email: research-ethics@uwc.ac.za

Department of Library and
Information Science University of the
Western Cape
Private Bag X17 Bellville 7535 South
Africa
T: +27 (0)21 959 2137/2349
F: +27 (0)21 959 3659
jcalvertwood@uwc.ac.za/szinn@uwc.ac.za

Appendix B: Consent Form: Interviews



Consent Form

University of the Western Cape

Research Project
“BIBLIOMETRIC AND ALTMETRIC AWARENESS AND USAGE AMONGST GENDER-BASED VIOLENCE (GBV) RESEARCHERS IN SOUTH AFRICA”

Researcher: Natasha Langdown

Please initial box

1. I confirm that I have read and understand the information sheet explaining the above research project and I have had the opportunity to ask questions about the project.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. (If I wish to withdraw I may contact the lead research at anytime)
3. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the reports or publications that result for the research.
4. As a participant in this research, I will not discuss or divulge information to others, or the researcher, outside of this interview.
5. I agree to have the interview audio-recorded.
6. I agree that the data collected from me can be used in future research.
7. I agree to take part in the above research project.

Name of Participant <i>(or legal representative)</i>	Date	Signature
Name of person taking consent <i>(If different from lead researcher)</i>	Date	Signature
Lead Researcher <i>(To be signed and dated in presence of the participant)</i>	Date	Signature

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only.

Researcher:

Ms Natasha Langdown

 PHD Student

 021 9380470
nlangdow@mrc.ac.za

Supervisor:

Sandy Zinn, PHD

 Associate Professor
 University of the Western
 Cape | Department of Library &
 information Science
[27 21 9592349](tel:27219592349) |
szinn@uwc.ac.za

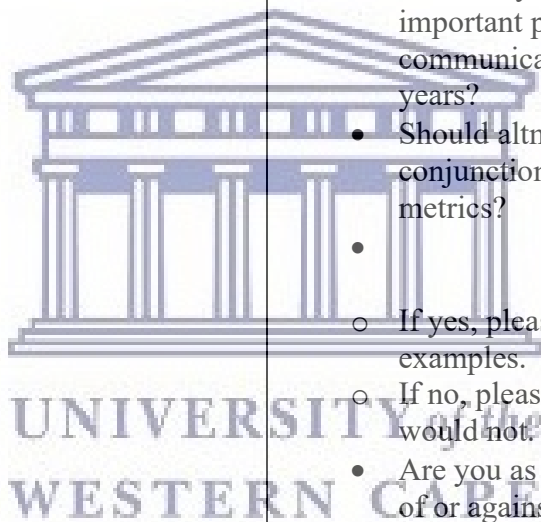
HOD:

Lizette King, PHD
 Head of Department
 University of the Western
 Cape | Department of Library &
 information Science
[27 21 9592535](tel:27219592535)
lking@uwc.ac.za

Appendix C: Questions in relation to interview questions

Research Questions	Interview Questions
<ul style="list-style-type: none"> • What is the degree of knowledge among gender and health (GBV) researchers about altmetrics? 	<ul style="list-style-type: none"> • Do you know the term “altmetrics”? • How would you explain your understanding of the term? • On a scale of 1–5, with 1 being no knowledge and 5 being highly knowledgeable, how familiar are you as a researcher with altmetrics? • Do you as a researcher use altmetrics to measure your research impact? <ul style="list-style-type: none"> ○ If yes, please explain and give examples. ○ If no, please explain why you have not. • Would this metric be used in conjunction with traditional metrics?
<ul style="list-style-type: none"> • What are the traditional metrics used by GBV researchers to measure their research impact? 	<ul style="list-style-type: none"> • How do you as a researcher define traditional metrics? • Do you as a researcher use traditional metrics to measure your research impact? <ul style="list-style-type: none"> ○ If yes, please explain and give examples. ○ If no, please explain, why you have not. • Why do you measure your research impact? • How else do you measure your impact as a researcher? • What is your opinion of the traditional metrics used in evaluating scientific research? • In your opinion what are the benefits or advantages of using traditional metrics? • In your opinion what are the barriers or disadvantages of using traditional metrics?

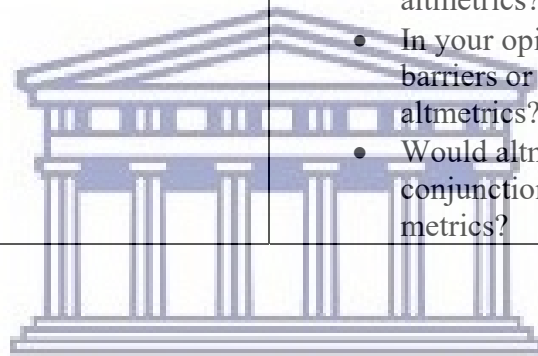
<ul style="list-style-type: none"> • How are GBV researchers using altmetrics within the scholarly communication process? ○ When do researchers themselves consult altmetrics? ○ What aspects do researchers consider when selecting a publication channel? ○ How are researchers exchanging their research information? 	<ul style="list-style-type: none"> • What tools do you use to archive your research? • What tools do you use to share your research outside of academia? • How do you as a researcher obtain your alerts and recommendations? • What tools/sites do you use to analyse your research data? • When you prepare a manuscript, what types of sources do you broadly consult? • How do you as a researcher decide where to publish? • What do you think is the most important part of scholarly communication in the coming years? • Should altmetrics be used in conjunction with traditional metrics? • ○ If yes, please explain why and give examples. ○ If no, please explain, why you would not. • Are you as a researcher in support of or against the use of open access? ○ If yes, please explain why and give examples. ○ If no, please explain, why you are not in support.



<ul style="list-style-type: none"> • What are the GBV researchers' perceptions about the value of altmetrics? 	
<ul style="list-style-type: none"> ○ Do they use altmetrics to measure their research impact, If not why? ○ What are the motivations behind the use of altmetrics? 	<ul style="list-style-type: none"> • Do you as a researcher use altmetrics to measure your research impact? ○ If yes, please explain and give examples. ○ If no, please explain, why you have not.

- How effective are they in measuring the research impact among researchers studying GBV researchers in South Africa?

- What are the disadvantages in using these metrics over other metrics available today?
- Would you use altmetrics towards your research evaluation?
- If yes, please explain specifically what it would be used for and give examples.
- If no, please explain, why not.
- What is your opinion on the use of altmetrics in the evaluation of scientific research?
- What role does altmetrics play in showing the value of your research visibility?
- In your opinion what are the benefits or advantages of using altmetrics?
- In your opinion what are the barriers or disadvantages of using altmetrics?
- Would altmetrics be used in conjunction with traditional metrics?



UNIVERSITY *of the*
WESTERN CAPE

Appendix D: Approval obtained from the UWC Ethics Committee



OFFICE OF THE DIRECTOR: RESEARCH RESEARCH AND INNOVATION DIVISION

Private Bag X17, Bellville 7535
South Africa
T: +27 21 959 4111/2948
F: +27 21 959 3170
E: research-ethics@uwc.ac.za
www.uwc.ac.za

10 March 2020

Ms N Langdown
Library and Information Sciences
Faculty of Arts

Ethics Reference Number: HS 20/1/5

Project Title: Bibliometric and Altmetric awareness and usage among Gender-Based Violence (GBV) researchers in South Africa

Approval Period: 05 March 2020 – 05 March 2023

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report by 30 November each year for the duration of the project.

The Committee must be informed of any serious adverse event and/or termination of the study.

A handwritten signature in black ink that reads 'Josias'.

*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*

NHREC REGISTRATION NUMBER - 130416-049

Appendix E: Interviewee Breakdown

DATE OF INTERVIEW	CODED	TYPE OF INTERVIEW	DESCRIPTION OF INTERVIEWEE	TYPE OF INSTITUTION
22 August 2017	GBV Researcher 1	Email	Senior Specialist Scientist	Research Institution
23 August 2017	GBV Researcher 2	Telephone and Email	Executive Research Director	Research Institution
28 August 2017	GBV Researcher 3	Telephone	Senior Lecturer	University
28 August 2017	GBV Researcher 4	Email	Specialist Researcher	Research Institution
27 August 2017	GBV Researcher 5	Email	Research Director	Research Institution
7 October 2017	GBV Researcher 6	Face-to-Face and Email	Lecturer/Consultant	University/ Self Employed
14 November 2017	GBV Researcher 7	Email	Research Director	Research Institution/University
23 November 2017	GBV Researcher 8	Email	Research Director	Research Institution
15 November 2017	GBV Researcher 9	Email	Senior Lecturer	University

Appendix F: Top Altmetric Scores

Year	Document Title	Authors	Journal Title	Volume	Issue	Citation	Altmetric	
						2617	5083	
2015	Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013	Naghavi M., Wang H., Lozano R., Davis A., Liang X., Zhou M., Vollset S.E., Abbasoglu Ozgoren A., Abdalla S., Abd-Allah F., Abdel Aziz M.I., Abera S.F., Aboyans V., Abraham B., Abraham J.P., Abuabara K.E., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M.E., Achoki T., Adelekan A., Ademi Z., Adofo K., Adou A.K., Adsuar J.C., Armlöv J., Agardh E.E., Akena D., Al Khabouri M.J., Alasfoor D., Albittar M., Alegretti M.A., Aleman A.V., Alemu Z.A., Alfonso-	The Lancet	385	9963	513	1279	1
2015	Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: Quantifying the epidemiological transition	R.M., Foreman K.J., Ozgoren A.A., Abd-Allah F., Abera S.F., Aboyans V., Abraham J.P., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M., Achoki T., Ackerman I.N., Ademi Z., Adou A.K., Adsuar J.C., Afshin A., Agardh E.E., Alam S.S., Alasfoor D., Albittar M.I., Alegretti M.A., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali R., Alla F., Allebeck P., Almazroa M.A., Alsharif U., Alvarez E., Alvis-Guzman N., Amare A.T., Ameh E.A., Amiri H., Ammar W.,	The Lancet	386	10009	76	597	2
2013	Prevalence of and factors associated with non-partner rape perpetration: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Jewkes R., Fulu E., Roselli T., Garcia-Moreno C.	The Lancet Global Health	1	4	31	489	3
2013	The global prevalence of intimate partner homicide: A systematic review	Stockl H., Devries K., Rotstein A., Abrahams N., Campbell J., Watts C., Moreno C.G.	The Lancet	382	9895	67	431	4
2014	Worldwide prevalence of non-partner sexual violence: A systematic review	Abrahams N., Devries K., Watts C., Pallitto C., Petzold M., Shamu S., Garcia-Moreno C.	The Lancet	383	9929	23	305	5
2015	Human rights violations against sex workers: Burden and effect on HIV	Decker M.R., Crago A.-L., Chu S.K.H., Sherman S.G., Seshu M.S., Buthelezi K., Dhaliwal M., Beyrer C.	The Lancet	385	9963	19	261	6
2013	Prevalence of and factors associated with male perpetration of intimate partner violence: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Fulu E., Jewkes R., Roselli T., Garcia-Moreno C.	The Lancet Global Health	1	4	45	237	7
2015	From work with men and boys to changes of social norms and reduction of inequities in gender relations: A conceptual shift in prevention of violence against women and girls	Jewkes R., Flood M., Lang J.	The Lancet	385	9977	8	105	8
2013	Global health: Injuries	Norton R., Kobusingye O.	New England Journal of	368	18	69	97	9

2015	Addressing violence against women: A call to action	Garcia-Moreno C., Zimmerman C., Morris-Gehring A., Heise L., Amin A., Abrahams N., Montoya O., Bhate-Deosthali P., Kilonzo N., Watts C.	The Lancet	385	9978	11	92	10
2014	(How) Can We Reduce Violence Against Women by 50% over the Next 30 Years?	Jewkes R.	PLoS Medicine	11	11	3	72	11
2016	Intimate Partner Violence and Depression Symptom Severity among South African Women during Pregnancy and Postpartum: Population-Based Prospective Cohort Study	Tsai A.C., Tomlinson M., Comulada W.S., Rotheram-Borus M.J.	PLoS Medicine	13	1	0	60	12
2015	Combination HIV prevention for female sex workers: What is the evidence?	Bekker L.-G., Johnson L., Cowan F., Overs C., Besada D., Hillier S., Cates W.	The Lancet	385	9962	19	34	13
2013	Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: A propensity-score-matched case-control study	Cluver L., Boyes M., Orkin M., Pantelie M., Molwena T., Sherr L.	The Lancet Global Health	1	6	35	31	14
2015	Male sex workers: Practices, contexts, and vulnerabilities for HIV acquisition and transmission	Baral S.D., Friedman M.R., Geibel S., Rebe K., Bozhinov B., Diouf D., Sabin K., Holland C.E., Chan R., Caceres C.F.	The Lancet	385	9964	24	29	15
2014	A systematic review of interventions for preventing adolescent intimate partner violence	De Koker P., Mathews C., Zuehl M., Bastien S., Mason Jones A.J.	Journal of Adolescent Health	54	1	15	25	16
2015	Mistreatment of Women in Childbirth: Time for Action on This Important Dimension of Violence against Women	Jewkes R., Penn-Kekana L.	PLoS Medicine	12	6	2	25	17
2013	Improving Positive Parenting Skills and Reducing Harsh and Abusive Parenting in Low- and Middle-Income Countries: A Systematic Review	Knerr W., Gardner F., Cluver L.	Prevention Science	14	4	42	25	18
2013	Prevalence of Consensual Male-Male Sex and Sexual Violence, and Associations with HIV in South Africa: A Population-Based Cross-Sectional Study	Dunkle K.L., Jewkes R.K., Mardock D.W., Sikweyiya Y., Morrell R.	PLoS Medicine	10	6	15	22	19
2014	An analysis of early developmental trauma in social anxiety disorder and posttraumatic stress disorder	Bishop M., Rosenstein D., Bakelaar S., Seedat S.	Annals of General Psychiatry	13	1	1	21	20
2016	Physical, emotional and sexual adolescent abuse, victimisation in South Africa: Prevalence, incidence, perpetrators and locations	Meinck F., Cluver L.D., Boyes M.E., Loring-Voysey H.	Journal of Epidemiology and Community Health	70	9	0	19	21
2014	Intimate partner violence after disclosure of HIV test results among pregnant women in Harare, Zimbabwe	Shamu S., Zarowsky C., Shefor L., Fummenan M., Abrahams N.	PLoS ONE	9	10	12	19	22
2014	A Qualitative Exploration of Researcher Trauma and Researchers' Responses to Investigating Sexual Violence	Coles J., Astbury J., Dartnall E., Limjerwala S.	Violence Against Women	20	1	6	17	23
2015	Intimate partner violence and engagement in HIV care and treatment among women: A systematic review and meta-analysis	Hatcher A.M., Smout E.M., Turan J.M., Christofides N., Stockl H.	AIDS	29	16	5	17	24
2013	Intimate Partner Femicide in South Africa in 1999 and 2009	Abrahams N., Mathews S., Martin L.J., Lombard C., Jewkes R.	PLoS Medicine	10	4	15	16	25
2015	Risk and Protective Factors for Physical and Sexual Abuse of Children and Adolescents in Africa: A Review and Implications for Practice	Meinck F., Cluver L.D., Boyes M.E., Mhlongo E.L.	Trauma, Violence, and Abuse	16	1	9	16	26
2014	How adolescents perceive their communities: A qualitative study that explores the relationship between health and the physical environment	Mmari K., Lantos H., Brahmhatt H., Delany-Moretwe S., Lou C., Acharya R., Sangowawa A.	BMC Public Health	14	1	6	16	27
2013	Is Ukuthwala Another Form of 'Forced Marriage'?	Monyane C.	South African Review of Sociology	44	3	4	16	28
2013	Human rights abuses and collective resilience among sex workers in four African countries: A qualitative study	Scorgie F., Vasey K., Harper E., Richter M., Nare P., Maseko S., Chersich M.F.	Globalization and Health	9	1	17	16	29

2014	Stepping Stones and Creating Futures intervention: Shortened interrupted time series evaluation of a behavioural and structural health promotion and violence prevention intervention for young people in informal settlements in Durban, South Africa	Jewkes R., Gibbs A., Jama Shai N., Willan S., Misselhorn A., Mushingam M., Washington L., Mbatha N., Skiweyiya Y.	BMC Public Health	14	1	6	15	30
2015	Alcohol Use, Partner Violence, and Depression: A Cluster Randomized Controlled Trial Among Urban South African Mothers Over 3 Years	Rotheram-Borus M.J., Tomlinson M., Roux I.L., Stein J.A.	American Journal of Preventive Medicine	49	5	4	15	31
2014	Effects of hazardous and harmful alcohol use on HIV incidence and sexual behaviour: A cohort study of Kenyan female sex workers	Chersich M.F., Bosire W., King'ola N., Temmerman M., Luchters S.	Globalization and Health	10	1	9	13	32
2013	Internet-based early intervention to prevent posttraumatic stress disorder in injury patients: Randomized controlled trial	Mouthaan J., Sijbrandij M., De Vries G.-J., Reitsma J.B., Van De Schoot R., Goslings J.C., Luitse J.S.K., Bakker F.C., Gersons B.P.R., Olff M.	Journal of Medical Internet Research	15	8	18	13	33
2014	Drinking before and after pregnancy recognition among South African women: The moderating role of traumatic experiences	Choi K.W., Ablner L.A., Watt M.H., Eaton L.A., Kalichman S.C., Skinner D., Pieterse D., Sikkema K.J.	BMC Pregnancy and Childbirth	14	1	9	12	34
2015	Child and adolescent suicide attempts, suicidal behavior, and adverse childhood experiences in South Africa: A prospective study	Cluver L., Orkin M., Boyes M.E., Sherr L.	Journal of Adolescent Health	57	1	5	12	35
2013	Impact of a Gender-Transformative HIV and Antiviolence Program on Gender Ideologies and Masculinities in Two Rural, South African Communities	Dworkin S.L., Hatcher A.M., Colvin C., Peacock D.	Men and Masculinities	16	2	28	12	36
2014	Hidden harms: Women's narratives of intimate partner violence in a microbicide trial, South Africa	Stadler J., Delany-Moretlwe S., Palanee T., Rees H.	Social Science and Medicine	110		7	12	37
2013	"Money talks, bullshit walks" interrogating notions of consumption and survival sex among young women engaging in transactional sex in post-apartheid South Africa: A qualitative enquiry	Zembe Y.Z., Townsend L., Thorson A., Ekstrom A.M.	Globalization and Health	9	1	15	12	38
2013	Sexual violence against women: The scope of the problem	Darnall E., Jewkes R.	Best Practices and Research: Clinical Obstetrics and Gynaecology	27	1	27	11	39
2014	Female genital mutilation and intimate partner violence in the Ivory Coast	Peltzer K., Pengpid S.	BMC Women's Health	14	1	3	11	40
2014	The African women's protocol and sexual rights	Durojaye E., Murungi L.N.	International Journal of Human Rights	18		0	10	41
2013	Social context and drivers of intimate partner violence in rural Kenya: Implications for the health of pregnant women	Hatcher A.M., Romito P., Odero M., Bukusi E.A., Onono M., Turan J.M.	Culture, Health and Sexuality	15	4	15	10	42
2014	Association between parental psychopathology and suicidal behavior among adult offspring: Results from the cross-sectional South African Stress and Health survey	Atwoli L., Nock M.K., Williams D.R., Stein D.J.	BMC Psychiatry	14	1	2	9	43
2014	Bullying Victimization, Internalising Symptoms, and Conduct Problems in South African Children and Adolescents: A Longitudinal Investigation	Boyes M.E., Bowes L., Cluver L.D., Ward C.L., Badcock N.A.	Journal of Abnormal Child Psychology	42	8	4	9	44
2013	Emergency nurses' experiences of caring for survivors of intimate partner violence	Van der Wath A., van Wyk N., Janse van Rensburg E.	Journal of Advanced Nursing	69	10	5	9	45
2015	Women's experiences leaving abusive relationships: a shelter-based qualitative study	Baholo M., Christofides N., Wright A., Sikweyiya Y., Shai N.J.	Culture, Health and Sexuality	17	5	0	8	46
2014	Early adolescent pregnancy increases risk of incident HIV infection in the eastern cape, south africa: A longitudinal study	Christofides N.J., Jewkes R.K., Dunkle K.L., Nduna M., Shai N.J., Sterk C.	Journal of the International AIDS Society	17		9	8	47

2014	Challenges with couples, serodiscordance and HIV disclosure: Healthcare provider perspectives on delivering safer conception services for HIV-affected couples, South Africa	Crankshaw T.L., Mindry D., Munthre C., Letsoalo T., Maharaj P.	Journal of the International AIDS Society	17		10	8	48
2014	Men value their dignity': Securing respect and identity construction in urban informal settlements in South Africa	Gibbs A., Sikweyiya Y., Jewkes R.	Global Health Action	7	1	12	8	49
2014	Gender inequality and the use of maternal healthcare services in rural sub-Saharan Africa	Adjiwanou V., LeGrand T.	Health and Place	29		2	7	50
2013	Addressing childhood trauma in a developmental context	Gregorowski C., Seedat S.	Journal of Child and Adolescent Mental Health	25	2	1	7	51
2014	Bidirectional links between HIV and intimate partner violence in pregnancy: Implications for prevention of mother-to-child transmission	Hatcher A.M., Woollett N., Pallitto C.C., Mokoatle K., Stockl H., MacPhail C., Delany-Moretlwe S., Garcia-Moreno C.	Journal of the International AIDS Society	17		11	7	52
2015	Women struggles and large-scale diamond mining in Marange, Zimbabwe	Muchadenyika D.	Extractive Industries and Society	2	4	0	7	53
2013	Mental health, childhood abuse and HIV sexual risk behaviour among university students in Ivory Coast	Peltzer K., Pengpid S., Tiembre I.	Annals of General Psychiatry	12	1	6	7	54
2015	Stigma, sexual health, and human rights among women who have sex with women in Lesotho	Poteat T.C., Logie C.H., Adams D., Mthopeng T., Lebona J., Letsie P., Baral S.	Reproductive Health Matters	23	46	0	7	55
2014	Spousal violence in sub-Saharan Africa: Does household poverty-wealth matter?	Paimwuye S.O., Odimegwu C.	Reproductive Health	11	1	1	6	56
2015	Relationships Between Familial HIV/AIDS and Symptoms of Anxiety and Depression: The Mediating Effect of Bullying Victimization in a Prospective Sample of South African Children and Adolescents	Boyes M.E., Gluver L.D.	Journal of Youth and Adolescence	44	4	2	6	57
2015	Maladaptive coping mediates the influence of childhood trauma on depression and PTSD among pregnant women in South Africa	Choi K.W., Sackema K.J., Velloza J., Marais A., Jose C., Stein D.J., Watt M.H., Jaska J.A.	Archives of Women's Mental Health	18	5	2	6	58
2016	BSAFER: A Web-based intervention for drug use and intimate partner violence demonstrates feasibility and acceptability among women in the emergency department	Choo E.K., Zlotnick C., Strong D.R., Squires D.D., Fape C., Mellor M.J.	Substance Abuse	37	3	0	6	59
2014	Prevalence and health impact of intimate partner violence and non-partner sexual violence among female adolescents aged 15-19 years in vulnerable urban environments: A multi-country study	Decker M.R., Peitzmeier S., Okunige A., Acharya R., Ojengbede O., Covarrubias L., Gao E., Cheng Y., Delany-Moretlwe S., Brahmabhatt H.	Journal of Adolescent Health	55	6	10	6	60
2014	Relationship factors and trajectories of intimate partner violence among South African women during pregnancy and the postpartum period	Groves A.K., McNaughton-Reyes H.L., Foshee V.A., Moodley D., Maman S.	PLoS ONE	9	9	0	6	61
2016	The lived experiences of street children in Durban, South Africa: Violence, substance use, and resilience	Hills F., Meyer-Weitz A., Asante K.O.	International Journal of Qualitative Studies on Health and Well-being	11		0	6	62
2013	Knowledge and confidence of South African health care providers regarding post-rape care: A cross-sectional study	Jina R., Jewkes R., Christofides N., Loots L.	BMC Health Services Research	13	1	1	6	63
2014	The harm of Male-on-Female rape: A response to David Benatar	Kelland L.	Journal of Interpersonal Violence	29	15	1	6	64
2016	Couples living with and around alcohol abuse: A study of a farmworker community in the Cape Winelands, South Africa	Lesch E., Adams A.R.	Social Science and Medicine	156		0	6	65
2013	[The epidemiology of child homicides in South Africa, Épidémiologie des homicides d'enfants en Afrique du Sud]	Mathews S., Abrahams N., Jewkes R., Martin L.J., Lombard C.	Bulletin of the World Health Organization	91	8	13	6	66
2013	Sexual HIV risk behaviour and associated factors among pregnant women in Mpumalanga, South Africa	Peltzer K., Mlambo G.	BMC Pregnancy and Childbirth	13		3	6	67

2014	Promoting sexual and reproductive health among adolescents in southern and eastern Africa (PREPARE): Project design and conceptual framework	Aaro L.E., Mathews C., Kaaya S., Katahoire A.R., Onya H., Abraham C., Klepp K.-I., Wubs A., Eggers S.M., De Vries H.	BMC Public Health	14	1	3	5	68
2014	Fear of the perpetrator: A major reason why sexual assault victims delayed presenting at hospital	Adefolalu A.O.	tropical Medicine and International Health	19	3	1	5	69
2013	Trauma and posttraumatic stress disorder in South Africa: Analysis from the South African Stress and Health Study	Atwoli L., Stein D.J., Williams D.R., McLaughlin K.A., Petukhova M., Kessler R.C., Koenen K.C.	BMC Psychiatry	13		14	5	70
2014	Cash plus care: Social protection cumulatively mitigates HIV-risk behaviour among adolescents in South Africa	Juver L.D., Orkin F.M., Boyes M.E., Sherr L.	AIDS	28	3	18	5	71
2016	Relationship Power and Sexual Violence Among HIV-Positive Women in Rural Uganda	Conroy A.A., Tsai A.C., Clark G.M., Boum Y., Hatcher A.M., Kawuma A., Hunt P.W., Martin J.N., Bangsberg D.R., Weiser S.D.	AIDS and Behavior	20	9	0	5	72
2014	Adolescents' Beliefs About Forced Sex in KwaZulu-Natal, South Africa	De Vries H., Eggers S.M., Jinabhai C., Meyer-Weitz A., Sathiparsad R., Taylor M.	Journal of Sexual Behavior			2	5	73
2016	Sexual behaviour of women in rural South Africa: A descriptive study	Dubbink J.H., Van Der Feltz L., McIntyre J.A., Mbambazela N., Jobson G.A., Ouburg S., Morre S.A., Struthers H.E., Peters R.P.H.	BMC Public Health	16	1	0	5	74
2014	The relationship between attending alcohol serving venues nearby versus distant to one's residence and sexual risk taking in a South African township	Eaton L.A., Kalichman S.C., Pitpitan E.V., Cain D.N., Watt M.H., Sikkema K.J., Skinner D., Pieterse D.	Journal of Behavioral Medicine	37	3	2	5	75
2016	Tackling gender inequalities and intimate partner violence in the response to HIV: moving towards effective interventions in Southern and Eastern Africa	Gibbs A.	Journal of AIDS Research	15	2	0	5	76
2016	Social support, sexual violence, and transactional sex among female transnational migrants to South Africa	Giorgio M., Townsend E., Zembe Y., Gutmacher S., Kapadia F., Cheyip M., Mathews C.	American Journal of Public Health	106	6	0	5	77
2015	The shrinking world of girls at puberty: Violence and gender-divergent access to the public sphere among adolescents in South Africa	Hallman K.K., Kenworthy N.J., Diers J., Swan N., Devnarain B.	Global Public Health	10	3	2	5	78
2015	Type and severity of intimate partner violence and its relationship with PTSD in HIV-infected women	Mod F., Spies G., Seedat S.	Psychology, Health and Medicine	20	6	1	5	79
2014	The challenges of research on violence in post-conflict Bougainville	Jewkes R., Sikweyiya Y., Jama-Shai N.	The Lancet	383	9934	1	5	80
2015	Feasibility of an HIV/STI Risk-Reduction Program for Incarcerated Women Who Have Experienced Interpersonal Violence	Johnson J.E., Peabody M.E., Wechsberg W.M., Rosen R.K., Fernandes K., Zlotnick C.	Journal of Interpersonal Violence	30	18	2	5	81

2014	Cumulative traumas and risk thresholds: 12-month ptsd in the world mental health (WMH) surveys	Karam E.G., Friedman M.J., Hill E.D., Kessler R.C., McLaughlin K.A., Petukhova M., Sampson L., Shahly V., Angermeyer M.C., Bromet E.J., De Girolamo G., De Graaf R., Demyttenaere K., Ferry F., Florescu S.E., Haro J.M., He Y., Karam A.N., Kawakami N., Kovess-Masfety V., Medina- Mora M.E., Browne M.A.O., Posada-Villa J.A., Shalev A.Y., Stein D.J., Viana M.C., Zarkov Z., Koenen K.C.	Depression and Anxiety	31	2	28	5	82
2014	Sexual risk behavior, alcohol use, and social media use among secondary school students in informal settlements in Cape Town and Port Elizabeth, South Africa	Kaufman Z.A., Braunschweig E.N., Feeney J., Dringus S., Weiss H., Delany-Moretwe S., Ross D.A.	AIDS and Behavior	18	9	4	5	83
2016	Diagnosis and disclosure of HIV status: Implications for women's risk of physical partner violence in the postpartum period	Maman S., Groves A.K., Lighton Reyes H.L., Moodley D.	Journal of Acquired Immune Deficiency Syndromes	72	5	0	5	84
2016	Intimate partner violence as a factor associated with risky sexual behaviours and alcohol misuse amongst men in South Africa	Mthembu J.C., Khan G., Mabaso M.L.H., Simbayi L.C.	AIDS Care: Psychological and Socio-Medical Aspects of AIDS/HIV	28	9	0	5	85
2015	Forced sex, rape and sexual exploitation: attitudes and experiences of high school students in South Kivu, Democratic Republic of Congo	Heederhwa M., Harris G.	Health and Sexuality	17	3	1	5	86
2015	Histories of forced sex and health outcomes among Southern African lesbian and bisexual women: A cross-sectional study	Sandfort T., Frazer M.S., Matebeni Z., Reddy V., Southey-Swartz I.	BMC Women's Health	15	1	2	5	87
2013	Gender and racial stereotyping in rape coverage: An analysis of rape coverage in a South African newspaper, Grocott's Mail	Bonnes S.	Feminist Media Studies	13	2	5	4	88
2014	Association between childhood adversities and long-term suicidality among South Africans from the results of the South African Stress and Health study: A cross-sectional study	Bruwer B., Govender R., Bishop M., Williams E.N., Stein D.J., Seedat S.	BMJ Open	4	6	3	4	89
2014	A systematic review of the effects of poverty deconcentration and urban upgrading on youth violence	Cassidy T., Inglis G., Wiysonge C., Matzopoulos R.	Health and Place	26		3	4	90
2013	Experiences of sexual relationships of young black women in an atmosphere of coercion	Cluver F., Elkonin D., Young C.	Sahara J	10	1	1	4	91
2016	The question of "the black lesbian": monstrous, ideal and fictitious postapartheid citizen	de Robillard B.	Safundi	17	1	0	4	92
2015	The Wife of Bath's ideal marriage and late medieval ideas about the domestic sphere	Knoetze R.	Scrutiny2	20	2	0	4	93
2015	Alcohol Use and Transactional Sex among Women in South Africa: Results from a Nationally Representative Survey	Agni S., Christofides N., Johnson S., Weiner R.	PLoS ONE	10	12	0	4	94
2015	Risk and Protective Factors for Physical and Emotional Abuse Victimization amongst Vulnerable Children in South Africa	Meinck F., Cluver L.D., Boyes M.E., Ndhlovu L.D.	Child Abuse Review	24	3	6	4	95
2014	Association between traumatic events and post-traumatic stress disorder: Results from the ESEMED-Spain study	Olaya B., Alonso J., Atwoli L., Kessler R.C., Vilagut G., Haro J.M.	Epidemiology and Psychiatric Sciences	24	2	2	4	96
2014	Sexual behaviour among HIV-infected new mothers in South Africa 3-12 months after delivery	Peltzer K.	AIDS Care- Psychological and Socio-Medical Aspects of AIDS/HIV	26	2	1	4	97

2014	Reported physical and sexual abuse in childhood and adult HIV risk behaviour in three African countries: Findings from project accept (HPTN-043)	Richter L., Komarek A., Desmond C., Celentano D., Morin S., Sweat M., Chariyalertsak S., Chingono A., Gray G., Mbwambo J., Coates T.	AIDS and Behavior	18	2	10	4	98
2013	Intersecting epidemics among pregnant women: Alcohol use, interpersonal violence, and hiv infection in South Africa	Russell B.S., Eaton L.A., Petersen-Williams P.	Current HIV/AIDS Reports	10	1	12	4	99
2015	The invisibility of men in South African violence prevention policy: National prioritization, male vulnerability, and framing prevention	van Niekerk A., Tonsing S., Seedat M., Jacobs R., Ratele K., McClure R.	Global Health Action	8	1	0	4	100
2015	Epidemiology of posttraumatic stress disorder: Prevalence, correlates and consequences	Atwoli L., Stein D.J., Koenen K.C., McLaughlin K.A.	Current Opinion in Psychiatry	28	4	4	3	101
2015	Rape and the Straw Man: A Response to Lindsay Kelland	Benatar D.	Journal of Interpersonal Violence	30	19	0	3	102
2015	Sexual HIV risk among substance-using female commercial sex workers in Durban, South Africa	Carney T., Petersen Williams P.M., Pluddemann A., Parry C.D.	Journal of AIDS Research	14	2	1	3	103
2015	Rethinking HIV prevention to prepare for oral PrEP implementation for young African women	Celum C.L., Delany-Moretlwe S., McConnell M., Van Rooyen H., Bekker L.-G., Kuth A., Lukusi E., Desmond C., Morton J., Baeten J.M.	Journal of the International AIDS Society	18		8	3	104
2015	Women's approval of domestic physical violence against wives: Analysis of the Ghana demographic and health survey	Doku D.F., Asante K.O.	BMC Women's Health	15	1	0	3	105
2014	Exploring the relationships among food insecurity, alcohol use, and sexual risk taking among men and women living in South African townships	Eaton L.A., Cain D.N., Pitpitani E.M., Carey K.B., Carey M.P., Mehloakulu M., Simbaya L.C., Mwaba K., Kalichman S.C.	Journal of Primary Prevention	35	4	2	3	106
2013	High risk sexual behaviors are associated with sexual violence among a cohort of women in Durban, South Africa	Gaffoor Z., Wandu L., Daniels B., Ramjee G.	BMC Research Notes	6	1	2	3	107
2013	What do young people think makes their relationships good? Factors associated with assessments of dating relationships in South Africa	A. Jewkes R., Mathews R., C.	Health and Sexuality	15	9	4	3	108
2015	Reconstructing masculinity? A qualitative evaluation of the Stepping Stones and Creating Futures interventions in urban informal settlements in South Africa	Gibbs A., Jewkes R., Sikweyiya Y., Willan S.	Health and Sexuality	17	2	6	3	109
2015	Sustained High HIV Incidence in Young Women in Southern Africa: Social, Behavioral, and Structural Factors and Emerging Intervention Approaches	Harrison A., Colvin C.J., Kuo C., Swartz A., Lurie M.	Current HIV/AIDS Reports	12	2	5	3	110
2015	Mediators of interpersonal violence and drug addiction severity among methamphetamine users in Cape Town, South Africa	Hobkirk A.L., Watt M.H., Green K.T., Beckham J.C., Skinner D., Meade C.S.	Addictive Behaviors	42		1	3	111
2015	Impact of exposure to intimate partner violence on CD4+ and CD8+ T cell decay in HIV infected women: Longitudinal study	Jewkes R., Dunkle K., Jama-Shai N., Gray G.	PLoS ONE	10	3	2	3	112
2015	Relationship between single and multiple perpetrator rape perpetration in South Africa: A comparison of risk factors in a population-based sample	Jewkes R., Sikweyiya Y., Dunkle K., Morrell R.	BMC Public Health	15	1	1	3	113
2013	Health consequences of sexual violence against women	Jina R., Thomas L.S.	Best Practice and Research: Clinical Obstetrics and Gynaecology	27	1	13	3	114

2016	The development and validation of the Indian Family Violence and Control Scale	Kalokhe A.S., Stephenson R., Kelley M.E., Dunkle K.L., Paranjape A., Solas V., Karve L., Del Rio C., Sahay S.	PLoS ONE	11	1	0	3	115
2014	HIV risk among pregnant teenagers with a history of interpersonal violence	Kuo C.C., Zlotnick C., Raker C., Tzilos G., Phipps M.G.	Journal of Aggression, Maltreatment and Trauma	23	7	0	3	116
2013	The Contribution of Emotional Partners to Sexual Risk Taking and Violence among Female Sex Workers in Mombasa, Kenya: A Cohort Study	Luchters S., Richter M.L., Bosire W., Nelson G., Kingola N., Zhang X.-D., Temmerman M., Chersich M.F.	PLoS ONE	8	8	8	3	117
2016	Effects of PREPARE, a Multi-component, School-Based HIV and Intimate Partner Violence (IPV) Prevention Programme on Adolescent Sexual Risk Behaviour and IPV: Cluster Randomised Controlled Trial	Mathews C., Eggers S.M., Townsend L., Aaro L.E., de Vries P.J., Mason-Jones A.J., De Koker P., McClinton Appollis T., Mtshizana Y., Koech J., Wubs A., De Vries H.	AIDS and Behavior	20	9	0	3	118
2015	So now i'm the man': Intimate partner femicide and its interconnections with expressions of masculinities in South Africa	Jewkes S., Jewkes R., Abrahams N.	British Journal of Criminology	55	1	2	3	119
2013	Taking feminist activism online: reflections on the 'Keep Saartjie Baartman Centre Open' e-campaign	Mudavanhu S., Radloff J.	Gender and Development	21	2	1	3	120
2015	Social and structural factors associated with vulnerability to HIV infection among young adults in South Africa	Naidoo P., Chirinda W., Mchunu G., Swartz S., Anderson J.	Journal of Epidemiology, Health and Medicine	20	3	0	3	121
2015	High rates of homicide in a rural South African population (2000-2008): Findings from a population-based cohort study	Otiemo G., Marinda E., Tanser F.	Bulletin of the World Health Organization Health Metrics	13	1	1	3	122
2015	Health risk behaviour among in-school adolescents in the Philippines: Trends between 2003, 2007 and 2011, a cross-sectional study	Peltzer K., Pengpid S.	International Journal of Environmental Research and Public Health	13	1	2	3	123
2013	Bullying and its associated factors among school-aged adolescents in Thailand	Pengpid S., Peltzer K.	The Scientific World Journal	2013		3	3	124
2014	Men (and Women) as "Sellers" of Sex in Alcohol-Serving Venues in Cape Town, South Africa	Pitsofiri T., Kaitumana S.C., Eaton L.A., Watt M.H., Sikkema K.J., Skinner D., Pridemore D., Cain D.	Prevention Science	15	3	5	3	125
2015	Help-Seeking After Domestic Violence: The Critical Role of Children	Rasool S.	Journal of Interpersonal Violence	31	9	0	3	126
2014	Intimate Partner Violence Among Adolescents in Cape Town, South Africa	Russell M., Cupp P.K., Jewkes R.K., Gevers A., Mathews C., LeFleur-Bellerose C., Small J.	Prevention Science	15	3	10	3	127
2015	Intentional injury and violence in Cape Town, South Africa: An epidemiological analysis of trauma admissions data	Schuurman N., Cinnamon J., Walker B.B., Fawcett V., Nicol A., Hameed S.M., Matzopoulos R.	Global Health Action	8	1	3	3	128
2014	Depression and resilience in women with HIV and early life stress: Does trauma play a mediating role? A cross-sectional study	Spies G., Seedat S.	BMJ Open	4	2	8	3	129
2016	When nurses are also patients: Intimate partner violence and the health system as an enabler of women's health and agency in Johannesburg	Sprague C., Woollett N., Parpart J., Hatcher A.M., Sommers T., Brown S., Black V.	Global Public Health	11	1-2	0	3	130
2013	A brief intervention for drug use, sexual risk behaviours and violence prevention with vulnerable women in South Africa: A randomised trial of the Women's Health CoOp	Wechsberg W.M., Jewkes R., Novak S.P., Kline T., Myers B., Browne F.A., Carney T., Lopez A.A.M., Parry C.	BMJ Open	3	5	9	3	131

2016	Human rights violations among men who have sex with men in Southern Africa: Comparisons between legal contexts	Zahn R., Grosso A., Scheibe A., Bekker L.-G., Ketende S., Dausab F., Ipinge S., Beyrer C., Trapance G., Baral S.	PLoS ONE	11	1	0	3	132
2014	Association between exposure to traumatic events and anxiety disorders in a post-conflict setting: A cross-sectional community study in South Sudan	azi T., Lien L., Eide A., Swartz L., Hauff E.	BMC Psychiatry	14	1	10	2	133
2014	Perpetration of physical and sexual abuse and subsequent fathering of pregnancies among a cohort of young South African men: A longitudinal study	Christofides N.J., Jewkes R.K., Dunkle K.L., McCarty F.A., Shai N.J., Nduna M., Sterk C.E.	BMC Public Health	14	1	1	2	134
2014	Effects of a community intervention on HIV prevention behaviors among men who experienced childhood sexual or physical abuse in four African settings: Findings from NIMH project accept (HPTN 043)	Daniels J., Komarek A., Makusha T., Van Heerden A., Gray G., Chingono A., Mbwambo J.K.K., Coates T., Richter L.	PLoS ONE	9	6	1	2	135
2014	Silence, nostalgia, violence, poverty... : What does 'culture' mean for South African sexuality educators?	DePalma R., Francis D.	Sex, Health and Sexuality	16	5	1	2	136
2013	Men who report recent male and female sex partners in Cape Town, South Africa: An understudied and underserved population	Eaton L.A., Pitpitan E.V., Kalichman S.C., Sikkema K.J., Skinner D., Watt M.H., Pieterse D.	Journal of Sexual Behavior	42	7	5	2	137
2013	Illegal yet developmentally normative: A descriptive analysis of young, urban adolescents' dating and sexual behaviour in Cape Town, South Africa	Govers A., Mathews C., Cupp P., Russell M., Jewkes R.	PLOS International Health and Human Rights	13	1	2	2	138
2016	Measuring Men's Gender Norms and Gender Role Conflict/Stress in a High HIV-Prevalence South African Setting	Gottert A., Barrington C., Pettifor A., McNaughton-Reyes H.L., Maman S., MacPhail C., Kahn K., Selin A., Twine R., Lippman S.A.	AIDS and Behavior	20	8	0	2	139
2013	Associations between perceptions of school connectedness and adolescent health risk behaviors in south african high school learners	Govender K., Naicker S., Meyer Weitz A., Farmer J., Ndlovu A., Penfold W.L.	Journal of School Health	83	9	5	2	140
2014	Intimate partner violence among rural South African men: alcohol use, sexual decision-making, and partner communication	Stehler A.M., Colvin C., Ndlovu N., Dworkin S.L.	Sex, Health and Sexuality	16	9	8	2	141
2014	A cross-sectional study on the effect of post-rape training on knowledge and confidence of health professionals in South Africa	Jina R., Jewkes R., Christofides N., Loots L.	International Journal of Gynecology and Obstetrics	126	2	2	2	142
2016	The dangers of educated girls and women	John V.M.	Education, Citizenship and Social Justice	11	2	0	2	143
2014	Uneven and Still Insufficient: South African Police Services' Station-Level Compliance With Sexual Offences Laws	Keehn E., Stemple L., Sanger C., Peacock D.	Feminist Criminology	9	2	0	2	144
2014	Intimate partner violence: Associations with low infant birthweight in a South African birth cohort	Koen N., Wyatt G.E., Williams J.K., Zhang M., Myer L., Zar H.J., Stein D.J.	Metabolic Brain Disease	29	2	6	2	145
2013	In the wake of violence: Enacting and witnessing hope among people	Kotze E., Hulme T., Geldenhuys T., Weingarten K.	Family Process	52	3	7	2	146
2014	The independent associations of recorded crime and perceived safety with physical health in a nationally representative cross-sectional survey of men and women in New Zealand	Lovasi G.S., Goh C.E., Pearson A.L., Breetzke G.	BMJ Open	4	3	5	2	147
2015	Relationship power, communication, and violence among couples: Results of a cluster-randomized HIV prevention study in a South African township	Minnis A.M., Doherty I.A., Kline T.L., Zule W.A., Myers B., Carney T., Wechsberg W.M.	International Journal of Women's Health	7		2	2	148

2013	No association between cumulative traumatic experiences and sex in risk for posttraumatic stress disorder among human immunodeficiency virus-positive adults	Morris T., Naidoo P., Cloete K.J., Harvey J., Seedat S.	Journal of Nervous and Mental Disease	201	6	1	2	149
2013	Ethnic differences in alcohol and drug use and related sexual risks for HIV among vulnerable women in Cape Town, South Africa: Implications for interventions	Myers B., Kline T.L., Browne F.A., Carney T., Parry C., Johnson K., Wechsberg W.M.	BMC Public Health	13	1	9	2	150
2015	Traumatic dissociation as a predictor of posttraumatic stress disorder in South African female rape survivors	Bothling J., Lammers K., Martin L., Seedat S.	Medicine (United States)	94	16	0	2	151
2016	Factors Contributing to Sexual Violence at Selected Schools for Learners with Mild Intellectual Disability in South Africa	Nyokangi D., Phasha N.	Journal of Applied Research in Intellectual Disabilities	29	3	0	2	152
2014	Responses to and Resources for Intimate Partner Violence: Qualitative Findings From Women, Men, and Service Providers in Rural Kenya	Odero M., Hatcher A.M., Bryant C., Onono M., Romito P., Bukusi E.A., Turan J.M.	Journal of Interpersonal Violence	29	5	5	2	153
2013	Co-occurring psychosocial problems and HIV risk among women attending drinking venues in a South African township: A syndemic approach	Pitpan E.V., Kalichman S.C., Eaton L.A., Cain D., Sikkema K.J., Watt M.H., Skinner D., Pieterse D.	Journal of Behavioral Medicine	45	2	15	2	154
2014	Experiences of Violence and Association with Decreased Drug Abstinence Among Women in Cape Town, South Africa	Reed E., Myers B., Novak S.P., Browne F.A., Wechsberg W.M.	AIDS and Behavior	19	1	2	2	155
2013	Intimate partner violence during pregnancy in Zimbabwe: A cross-sectional study of prevalence, predictors and associations with HIV	Shanu S., Abrahams N., Mowsoy C., Shefer T., Lemmerman M.	Tropical Medicine and International Health	18	6	8	2	156
2016	Exposure to violence and psychological well-being over time in children affected by HIV/AIDS in South Africa and Malawi	Skeen S., Macedo A., Tomlinson M., Henseis J.S., Sherr L.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	28		0	2	157
2014	Clinical and neuropsychological predictors of posttraumatic stress disorder	Suliman S., Stein D.J., Seedat S.	Medicine (United States)	93	22	0	2	158
2016	Intimate partner violence and forced migration during pregnancy: Structural constraints to women's agency	Turan J.M., Hatcher A.M., Romito P., Mangone E., Durojaiye M., Odero M., Camlin C.S.	Global Public Health	11	1-2	0	2	159
2014	Resilience and post-traumatic stress disorder in the acute aftermath of rape: A comparative analysis of adolescents versus adults	VanDerWalke S., Suliman L., Lammers K., Seedat S.	Journal of Child and Adolescent Mental Health	26	3	0	2	160
2016	Emergency nurses' ways of coping influence their ability to empower women to move beyond the oppression of intimate partner violence	VanDerWalke S., Van Wyk N., Van Rensburg E.J.	African Journal of Primary Health Care and Family Medicine	8	2	0	2	161
2015	Does forgiveness mediate the impact of school bullying on adolescent mental health?	Van Rensburg E.J., Raubenheimer J.	Journal of Child and Adolescent Mental Health	27	1	0	2	162
2015	Adapting an evidence-based HIV behavioral intervention for South African couples	Wechsberg W.M., El-Bassel N., Carney T., Browne F.A., Myers B., Zule W.A.	Substance Abuse: Treatment, Prevention, and Policy	10	1	2	2	163
2013	Substance use, gender inequity, violence and sexual risk among couples in Cape Town	Wechsberg W.M., Myers B., Reed E., Carney T., Emanuel A.N., Browne F.A.	Journal of Interpersonal Violence, Health and Sexuality	15	10	16	2	164
2013	Efficacy of SISTA South Africa on sexual behavior and relationship control among isiXhosa women in South Africa: Results of a randomized-controlled trial	Wingood G.M., Reddy P., Lang D.L., Saleh-Onoya D., Braxton N., Sifunda S., DiClemente R.J.	Journal of Acquired Immune Deficiency Syndromes	63	1	7	2	165
2013	Prevalence of HIV infection among survivors of sexual assault at presentation in Hospital	Adefolalu A.O.	Tropical Doctor	43	3	0	1	166
2014	Caregiver-youth communication about sex in South Africa: The role of maternal child sexual abuse history	Anthony E.R., Hipp T.N., Darnell D.A., Armistead L., Cook S.L., Skinner D.	Journal of Child Sexual Abuse	23	6	0	1	167

2015	Adolescents' and adults' experiences of being surveyed about violence and abuse: A systematic review of harms, benefits, and regrets	Appollis T.M., Lund C., De Vries P.J., Mathews C.	American Journal of Public Health	105	2	4	1	168
2015	Association between witnessing traumatic events and psychopathology in the South African Stress and Health Study	Atwoli L., Platt J., Williams D.R., Stein D.J., Koenen K.C.	Social Psychiatry and Psychiatric Epidemiology	50	8	0	1	169
2013	Untangling the lion's tale: Violent masculinity and the ethics of biography in the 'curious' case of the apartheid-era policeman Donald card	Bank L., Bank A.	Journal of Southern African Studies	39	1	3	1	170
2013	Is younger really safer? A qualitative study of perceived risks and benefits of age-disparate relationships among women in Cape Town, South Africa	Beauclair R., Delva W.	PLoS ONE	8	11	6	1	171
2013	Gender, relationship dynamics and South African girls' vulnerability to sexual risk	Bhana D., Anderson B.	African Journal of AIDS Research	12	1	4	1	172
2015	Responding to Men's Violence Against Women Partners in Post-apartheid South Africa: On the Necessity of Identification Across Identity's Intersections	F.A., Gordon S.F.	British Journal of Criminology	55	6	0	1	173
2015	Expurgating the monstrous: An analysis of the South African Daily Sun's coverage of gang rape	Boshoff P., Prinsloo J.	Feminist Media Studies	15	2	0	1	174
2016	Framing the problem of rape in South Africa: Gender, race, class and state histories	Buiten D., Naidoo K.	Current Sociology	64	4	0	1	175
2014	From knowledge to action: Participant stories of a population health intervention to reduce gender violence and HIV in three southern African countries	Cameron M., Cokeroff A., Watchigo G.W., Marokoane N., Laetsang D., Andersson N.	AIDS Care- Psychological and Socio-Medical Aspects of AIDS/HIV	26	12	0	1	176
2013	Firearm injuries to children in Cape Town, South Africa: Impact of the 2004 Firearms Control Act	Campbell N.M., Colville J.G., Heyde Y.V.D., van A.B.V.	African Journal of Surgery	51	3	3	1	177
2014	Drinking in the context of life stressors: A multidimensional coping strategy among south African Women	Choi K.W., Watt M.H., Macfarlane J.C., Sikkema K.J., Skinner D., Pieterse D., Kalichman S.C.	Substance Use and Misuse	49	1-2	8	1	178
2014	The role of mental health in primary prevention of sexual and gender-based violence	Gevers A., Dartnall E.	Global Health Action	7	1	3	1	179
2014	Protective Factors and HIV Risk Behavior Among South African Men	Heeren G.A., Jearn L.D., O'Leary A., Jemmott III J.B., Ndwane Z., Mtose X.	AIDS and Behavior	18	10	1	1	180
2016	Do not forget the boys – gender differences in children living in high HIV-affected communities in South Africa and Malawi in a longitudinal, community-based study	Hensels L.S., Shen E., Skeen S., Macedo A., Roberts K.J., Tomlinson M.	AIDS Care- Psychological and Socio-Medical Aspects of AIDS/HIV	28		0	1	181
2014	The Management of Unwanted Pregnancy Among Women in Nairobi, Kenya	Izugbara C., Egesa C.	International Journal of Sexual Health	26	2	2	1	182
2015	HIV prevalence correlates with high-risk sexual behavior in Ethiopia's regions	iyon C.R., Tsoumanis A., Schwartz I.S.	PLoS ONE	10	10	1	1	183
2013	Where are the men? Targeting male partners in preventing mother-to-child HIV transmission	oo K., Makin J.D., Forsyth B.W.C.	AIDS Care- Psychological and Socio-Medical Aspects of AIDS/HIV	25	1	10	1	184
2013	Posttraumatic stress symptoms among adults caring for orphaned children in HIV-endemic South Africa	Kuo C., Reddy M.K., Rio D., Cluver L., Stein D.J.	AIDS and Behavior	17	5	2	1	185
2013	Retrospective review of trends in assaults and seclusion at an acute psychiatric ward over a 5-year period	ackhoff M., Jordaan E., Swart Y., Cloete K.J., Koen L., Niehaus D.J.H.	Journal of Psychiatric and Mental Health Nursing	20	8	2	1	186
2015	Domestic violence legislation for development, peace and security in nigeria	Madu J.C.	African Security Review	24	3	0	1	187
2013	The 39-item child exposure to community violence (CECV) scale: Exploratory factor analysis and relationship to PTSD symptomatology in trauma-exposed children and adolescents	L., Revington N., Seedat S.	International Journal of Behavioral Medicine	20	4	4	1	188

2014	The Western Cape Government's new Integrated Provincial Violence Prevention Policy Framework: Successes and challenges	Los R., Myers J.E.	sion and Violent Behavior	19	6	3	1	189
2015	Increase of perceived frequency of neighborhood domestic violence is associated with increase of women's depression symptoms in a nationally representative longitudinal study in South Africa	Meffert S.M., McCulloch C.E., Neylan T.C., Gandhi M., Lund C.	al Science and Medicine	131		1	1	190
2014	Community empowerment and involvement of female sex workers in targeted sexual and reproductive health interventions in Africa: A systematic review	Moore L., Chersich M.F., Steen R., Reza-Paul S., Dhana A., Vuylsteke B., Lafort Y., Scorgie F.	Globalization and Health	10	1	6	1	191
2014	Perceived need for substance use treatment among young women from disadvantaged communities in Cape Town, South Africa	Myers B., Kline T.L., Doherty I.A., Carney T., Wechsberg W.M.	BMC Psychiatry	14	1	5	1	192
2013	Prevalence and factors associated with depressive symptoms among young women and men in the Eastern Cape Province, South Africa	Nduna M., Jewkes R.K., Mkhle K.L., Jama Shai N.P., Colman I.	Journal of Child and Adolescent Mental Health	25	1	1	1	193
2014	Alcohol Use, Sexual Relationship Power, and Unprotected Sex Among Patrons in Bars and Taverns in Rural Areas of North West Province, South Africa	Mokosi S., Rich E.P., Morojele N.K.	AIDS and Behavior	18	11	4	1	194
2015	Associations between psychosocial factors and incidence of sexually transmitted disease among South African adolescents	O'Leary A., Jemmott J.B., Jemmott L.S., Teitelman A., Heeren G.A., Nkwane Z., Leard L.D., Lewis D.A.	Sexually Transmitted Diseases	42	3	1	1	195
2015	Traumatic experiences, posttraumatic stress symptoms, depression, and health-risk behavior in relation to injury among University of Nairobi students in Kenya	Othman C.J., Okoth R., Pelizer K., Pengpid S., Malla L.O.	International Journal of Psychiatry in Medicine	50	3	0	1	196
2015	Rape Survivors' Experiences of the Silent Protest: Implications for Promoting Healing and Resilience	Padmanabhanunni A., Edwards D.	Qualitative Health Research	26	6	0	1	197
2013	"The paper that you have in your hand is my freedom": Migrant domestic work and the sponsorship (Kafala) system in Lebanon	Pande A.	Journal of International Migration Review	47	2	4	1	198
2013	Sexual risk, serostatus and intimate partner violence among couples during pregnancy in Rural South Africa	Peltzer K., Jones D., Weiss S.M., Villar-Loubet O., Shikwane E.	AIDS and Behavior	17	2	7	1	199
2013	Mental health, partner violence and HIV risk among women with protective orders against violent partners in Vhembe district, South Africa	Pengpid S., Peltzer K.	African Journal of Psychiatry	6	6	2	1	200
2014	Casper, crebis and the knegt: Rape, homicide and violence in the eighteenth-century rural western cape	Penn N.	African Historical Journal	66	4	0	1	201
2016	The role of fortitude in relation to exposure to violence among adolescents living in lower socio-economic areas in South Africa	Pretorius T.B., Padmanabhanunni A., Campbell J.	Journal of Child and Adolescent Mental Health	28	2	0	1	202
2014	Implementing intimate partner violence care in a rural sub-district of South Africa: A qualitative evaluation	, Zweigenthal V., Joyner K.	Global Health Action	7	1	4	1	203
2016	Prevalence and risk factors for intimate partner violence among grade 8 learners in urban South Africa: Baseline analysis from the Skhokho supporting success cluster randomised controlled trial	Shamu S., Gevers A., Mahlangu B.P., Shai P.N.J., Chirwa E.D., Jewkes R.K.	International Health	8	1	2	1	204
2016	High-frequency intimate partner violence during pregnancy, postnatal depression and suicidal tendencies in Harare, Zimbabwe	Shamu S., Zarowsky C., Roelens K., Temmerman M., Abrahams N.	General Hospital Psychiatry	38		0	1	205
2016	'They can't report abuse, they can't move out. They are at the mercy of these men': exploring connections between intimate partner violence, gender and HIV in South African clinical settings	Sprague C., Hatcher A.M., Woollett N., Sommers T., Black V.	Gender, Health and Sexuality	18	5	0	1	206
2013	Predictors of acute stress disorder severity	Suliman S., Troeman Z., Stein D.J., Seedat S.	Journal of Affective Disorders	149	1-3	4	1	207

2014	Safety-related moderators of a parent-based HIV prevention intervention in south Africa	Tarantino N., Goodrum N., Armistead L.P., Cook S.L., Skinner D., Toefy Y.	Journal of Family Psychology	28	6	0	1	208
2013	Political transition and sexual and gender-based violence in South Africa, Kenya, and Zimbabwe: A comparative analysis	K., Masinjila M., Bere E.	Gender and Development	21	3	1	1	209
2014	Correlates of sexual risk among sexual minority and heterosexual South African youths	Thurston I.B., Dietrich J., Bogart L.M., Otway K.N., Sikkema K.J., Nkala B., Gray G.E.	American Journal of Public Health	104	7	4	1	210
2015	Family resilience resources in coping with child sexual abuse in South Africa	Vermeulen T., Greeff A.P.	Journal of Child Sexual Abuse	24	5	1	1	211
2013	HIV knowledge and sexual risk behavior among pregnant couples in South Africa: The partnerplus project	Villar-Loubet O.M., Cook R., Chakhtoura N., Peltzer K., Weiss S.M.,	AIDS and Behavior	17	2	9	1	212
2015	Experiences of Forced Sex Among Female Patrons of Alcohol-Serving Venues in a South African Township	Watt M.H., Sikkema K.J., Abler L., Vellozo J., Eaton L.A., Kalichman S.C., Skinner D., Pieterse D.	Journal of Interpersonal Violence	30	9	2	1	213
2015	Intimate partner violence, relationship power inequity and the role of sexual and social risk factors in the production of violence among young women who have multiple sexual partners in a peri-urban setting in South Africa	Zembe Y.Z., Townsend L., Thorson A., Silberschmidt M., Ekstrom A.M.	PLoS ONE	10	11	1	1	214
2013	Sexual abstinence and HIV knowledge in school-going adolescents with intellectual disabilities and non-disabled adolescents in Nigeria	Aderemi T.J., Pillay B.J.	Journal of Child and Adolescent Mental Health	25	2	2	0	215
2015	A framework for the leadership of youth victims of violence to wellness	Ahanonu E.L., Jooste K.	Africa Journal of Nursing and Midwifery	17		0	0	216
2016	Review of sexuality studies in Africa: Setting a new post-2015 research agenda	Akinyemi J.O., De Wet N., Odimegwu C.O.	African Journal of Reproductive Health	20	1	0	0	217
2013	South African Sexual Assault Survivors' Experiences of Post-Exposure Prophylaxis and Individualized Nursing Care: A Qualitative Study	Arend E., Maw A., de Swardt C., Denny L.A., Roland M.	Journal of the Association of Nurses in AIDS Care	24	2	1	0	218
2016	High prevalence of depression symptomatology among adolescents in Soweto, South Africa associated with being female and cofactors relating to HIV transmission	Barhufimwa B., Dietrich J., Closson K., Samji H., Cescon A., Nkala B., Davis H., Hogg R.S., Kanda A., Gray G., Miller C.L.	Emerging Infectious Diseases	11	3	0	0	219
2015	Police reaction to the male victim of domestic violence in South Africa: case study analysis	Barkhuizen M.	Police Practice and Research	16	4	0	0	220
2015	Hope: A new approach to understanding structural factors in HIV acquisition	Barnett T., Seelye J., Levin J., Katongole J.	Global Public Health	10	4	2	0	221
2014	Relationship between constructions of masculinity, health risk behaviors and mental health among adolescent high school boys in Durban, South Africa	Terfield C., Reardon C., Govender K.	International Journal of Men's Health	13	2	0	0	222
2015	When caring is not enough: The limits of teachers' support for South African primary school-girls in the context of sexual violence	Bhana D.	International Journal of Educational Development	41		3	0	223
2013	Untold history with a historiography: A review of scholarship on afrikaner women in South African history	Blignaut C.	African Historical Journal	65	4	0	0	224
2014	Correlates of sexual activity versus non-activity of incoming first-year students at a South African university	Bot R.J., Vergnani T., Jacobs J.J.	Journal of AIDS Research	13	1	2	0	225
2016	Sexual Relations between British Soldiers and Boer Women: A Methodological Approach	Boje J.	South African Historical Journal	68	2	0	0	226
2016	Education and income imbalances among married couples in Malawi as predictors for likelihood of physical and emotional intimate partner violence	Bonnes S.	Violence and Victims	31	1	0	0	227
2014	Domestic violence and gendered socio-economic rights: An agenda for research and activism?	Bonthuys E.	South African Journal on Human Rights	30	1	0	0	228

2015	The second wave of violence scholarship: South African synergies with a global research agenda	Bowman B., Stevens G., Eagle G., Langa M., Kramer S., Kiguwa P., Nduna M.	al Science and Medicine	146		2	0	229
2015	Bridging risk and enactment: The role of psychology in leading psychosocial research to augment the public health approach to violence in South Africa	Bowman B., Stevens G., Eagle G., Matzopoulos R.	African Journal of Psychology	45	3	1	0	230
2016	The experience of non-offending caregivers following the disclosure of child sexual abuse: Understanding the aftermath	V., Cartwright D.J., Collings S.J.	African Journal of Psychology	46	1	0	0	231
2014	Children and adolescents treated for post-traumatic stress disorder at the Free State Psychiatric Complex	Calitz F.J.W., de Jongh N.J., Horn A., Nel M.L., Joubert G.	African Journal of Psychiatry	20	1	1	0	232
2014	Profile of rape victims referred by the court to the free state Psychiatric Complex, 2003 - 2009	Calitz F.J.W., de Ridder L., Gericke N., Pretorius A., Smit J., Joubert G.	African Journal of Psychiatry	20	1	1	0	233
2013	Madness and defence: Interventions with sexually abused children in a low-income South African community	Capri C.	European Journal of Psychotherapy and Counselling	15	1	0	0	234
2013	The relationship between substance use and delinquency among high-school students in Cape Town, South Africa	Carney T., Myers B.J., Louw J., Lombard C., Flisher A.J.	Journal of Adolescence	36	3	13	0	235
2014	From esther to kwezi: Sexual violence in South Africa after twenty years of democracy	Claassens L.J., Gouws A.	International Journal of Public Theology	8	4	2	0	236
2015	Rape victim assessment: Findings by psychiatrists and psychologists at Weskoppies Hospital	Coetzee K., Lippi G.	African Journal of Psychiatry	21	1	0	0	237
2013	Development and preliminary validation of a screen for interpersonal childhood trauma experiences among school-going youth in Durban, South Africa	Cooper S.J., Valjee S.R., Penning S.L.	Journal of Child and Adolescent Mental Health	25	1	4	0	238
2013	Awareness campaigns as survival tools in the fight against gender-based violence in peri-urban communities of bulawayo in zimbabwe	Crook G., Lungu W., Musarurwa C.	Jamba: Journal of Disaster Risk Studies	5	2	0	0	239
2015	A Public Health Approach to Address the Mental Health Burden of Youth in Situations of Political Violence and Humanitarian Emergencies	de Jong J.T.V.M., Berekmoes L.H., Kohrt B.A., Song S.J., Tol W.A., Reiss R.	International Psychiatry Reports	17	7	1	0	240
2014	Childhood in exile: The agency of second-generation exiles seeking refuge from apartheid	De Sas Kropiwnicki Z.O.	Refuge	30	1	1	0	241
2014	Pre-registration nursing students' perceptions and experiences of violence in a nursing education institution in South Africa	De Vries T., Mayer P.M., Khalil D.	Education in Practice	14	6	0	0	242
2014	Black adolescents experiences of domestic violence in South Africa: A Solution Focused Group Therapy intervention approach	Diale B.M.	Mediterranean Journal of Social Sciences	5	16	0	0	243
2015	The contribution of different forms of violence exposure to internalizing and externalizing symptoms among young South African adolescents	du Plessis B., Kaminer D., Hardy A., Benjamin A.	Child Abuse and Neglect	45		2	0	244
2013	Engaging with intergroup prejudice in victims of violent crime/attack	Eagle G., Benn M., Fletcher T., Sibisi H.	Peace and Conflict	19	3	0	0	245
2013	Continuous traumatic stress: Expanding the lexicon of traumatic stress	Eagle Prof. G., Kaminer D.	Peace and Conflict	19	2	11	0	246
2015	Men value their dignity': Securing respect and identity construction in urban informal settlements in South Africa	A., Sikweyiya Y., Jewkes R.	Global Health Action	8	1	0	0	247
2013	Differences in the association between childhood trauma and BMI in black and white South African women	Ke J.H., Forbes J., Stein D.J.	African Journal of Psychiatry (South Africa)	16	3	2	0	248
2016	"Then you are a man, my son": Kipling and the Zuma rape trial	Graham L.	Comparative Studies of Asia, Africa and the Middle East	36	2	0	0	249

2014	Prevalence, Rates and Correlates of Intimate Partner Violence Among South African Women During Pregnancy and the Postpartum Period	Groves A.K., Moodley D., McNaughton-Reyes L., Martin S.L., Foshee V., Maman S.	Maternal and Child Health Journal	19	3	1	0	250
2014	How Theory Shapes Practice: Approaches to Woman Abuse and Child Abuse in South Africa	Hanson S., Patel L.	British Journal of Social Work	44	8	0	0	251
2015	Economic inequality as a source of interpersonal violence: Evidence from Sub-Saharan Africa and south Africa	Harris G., Vermaak C.	African Journal of Economic and Management Sciences	18	1	2	0	252
2014	Re-focusing the gender lens: Caregiving women, family roles and HIV/AIDS vulnerability in Lesotho	Harrison A., Short S.E., Tuoaane-Nkhasi M.	AIDS and Behavior	18	3	9	0	253
2014	Mandatory reporting of child abuse in South Africa: Legislation explored	Hendricks M.	South African Medical Journal	104	8	1	0	254
2014	Framing of school violence in the South African printed media - (mis)information to the public	Jacobs L.	South African Journal of Education	34	1	4	0	255
2013	Management of physical child abuse in South Africa: Literature review and children's hospital data analysis	Janssen T.L., van Dijk M., Al Malki I., van As A.B.	Paediatrics and International Child Health	33	4	2	0	256
2015	Genito-anal injury patterns and associated factors in rape survivors in an urban province of South Africa: A cross-sectional study	Jina R., Jewkes R., Vetten L., Christofides N., Sigsworth R., Loots L.	BMC Women's Health	15	1	0	0	257
2014	Quality of care for intimate partner violence in South African Primary Care: A qualitative study	Joyner K., Mash B.	Violence and Victims	29	4	0	0	258
2013	Exposure to violence across multiple sites among young South African adolescents	Kaminer D., du Plessis B., Hardy A., Benjamin A.	Peace and Conflict	19	2	9	0	259
2013	Gender patterns in the contribution of different types of violence to posttraumatic stress symptoms among South African urban youth	Kaminer D., Hardy A., Heath K., Mosdell J., Bawa U.	Child Abuse and Neglect	37	5	10	0	260
2014	African adolescent males and rape in the Eastern Cape, South Africa: A need for sexuality education	Kiswana J.G., Davo X., Gqumani P.	Mediterranean Journal of Social Sciences	5	10	2	0	261
2015	"Go back and tell them who the real men are!" gendering our understanding of Kibera's post-election violence	Kihato C.W.	International Journal of Conflict and Violence	9	1	1	0	262
2013	Prevalence and risk factors of attempted suicide in adult war-affected population of Eastern Uganda	Kinyanda E., Weiss H.A., Mughemera M., Obwango-Mangen T., Ngabirano E., Kajungu R., Kagugube J., Muhwezi W., Maron P., Patel V.	Crisis	34	5	1	0	263
2015	Part 3: Medico-legal documentation practical completion of pages 2 and 3 of the J88 form	J.M., Brits H., Botes J.	African Family Practice	57	1	0	0	264
2014	Part 2: Medico-legal documentation Practical completion of pages 1 and 4 of the J88 form	Kotze J.M., Brits H., Monatisa M.S., Botes J.	South African Family Practice	56	6	0	0	265
2014	Emotional Dysregulation and Risky Sex Among Incarcerated Women with a History of Interpersonal Violence	Kuo C., Johnson J., Rosen R.K., Wechsberg W., Gobin R.L., Reddy M.K., Peabody M., Zlotnick C.	Women and Health	54	8	2	0	266
2014	Violence against women in South Africa	Langa-Mlambo L., Soma-Pillay P.	Obstetrics and Gynaecology Forum	24	2	0	0	267
2015	Reviewing gender-based violence against women and HIV/AIDS as intersecting issues	Leburu G., Phetlho-Thekisho N.	Social Work (South Africa)	51	3	0	0	268
2015	Accessing sexual and reproductive health information and services: A mixed methods study of young women's needs and experiences in Soweto, South Africa	Lince-Deroche N., Hargey A., Holt K., Shochet T.	African Journal of Reproductive Health	19	1	0	0	269
2014	She's not a victim! she's my wife! Intimate partner violence: Fuelled by dangerous perpetrator attitudes	Londt M.	Work (South Africa)	50	4	0	0	270

2013	Negotiating heteronormativity: Exploring South African bisexual women's constructions of marriage and family	Lynch I., Maree D.J.F.	Feminism and Psychology	23	4	1	0	271
2015	Performing identity': A narrative analysis of young people's talk of intimate partner violence	Marais A.	Narrative Inquiry	25	2	0	0	272
2016	Intimate partner violence in early adolescence: The role of gender, socioeconomic factors and the school	Mason-Jones A.J., De Koker P., Eggers S.M., Mathews C., Temmerman M., Leye E., de Vries P.J., de Vries H.	African Medical Journal	106	5	0	0	273
2013	Exploring mental health adjustment of children post sexual assault in South Africa	Mathews S., Abrahams N., Jewkes R.	Journal of Child Sexual Abuse	22	6	4	0	274
2016	A Psychosocial Understanding of Child Sexual Abuse Disclosure Among Female Children in South Africa	Mathews S., Hendricks N., Abrahams N.	Journal of Child Sexual Abuse	25	6	0	0	275
2013	Screening and brief intervention for intimate partner violence among antenatal care attendees at primary healthcare clinics in Mpumalanga province, South Africa	Mathews S., Peltzer K., Habil	South African Journal of Obstetrics and Gynaecology	19	2	1	0	276
2014	Violence in South African schools: Perceptions of communities about a persistent problem	Mgijima M.N.	Mediterranean Journal of Social Sciences	5	14	0	0	277
2014	The rhetoric of rape: An extended note on apologism, depoliticisation and the male gaze in Ndou v S	Modiri J.M.	African Journal on Human Rights	30	1	1	0	278
2015	Male Partner Influence on Women's HIV Prevention Trial Participation and Use of Pre-exposure Prophylaxis: the Importance of "Understanding"	Montgomery B.T., van der Shaeten A., Stadler J., Hartmann M., Magazi B., Mathebula T., Laborde N., Soro-Torres L.	AIDS and Behavior	19	5	3	0	279
2014	Domestic violence in South Africa: Women and children under siege?	Moriri N.	Mediterranean Journal of Social Sciences	5	20	0	0	280
2013	Hegemonic Masculinity: Reviewing the Gendered Analysis of Men's Power in South Africa	Morrell R., Jewkes R., Lindegger G., Hamlal V.	African Review of Sociology	44	1	13	0	281
2015	An assessment of the constitutional, legislative and judicial measures against harmful cultural practices that violate sexual and reproductive rights of women in South Africa	Mubangizi J.C.	Journal of International Women's Studies	16	3	0	0	282
2013	Perceptions of child discipline and its contributions to child abuse in a low-income community in Nairobi, Kenya	Muganyizi M.A., Ngunjiri R., Mboori-Ngacha D., Rutherford G.W.	Paediatrics and International Child Health	33	4	2	0	283
2016	'A Girl Who Gets Pregnant or Spends the Night with a Man is No Longer a Girl': Forced Marriage in the Eastern Democratic Republic of Congo	Mulumeoderhwa M.	Sexuality and Culture	20	4	0	0	284
2013	Girlfriends, sex and violence: The attitudes and reported behaviours of adolescent males in a south african township	Mulumeoderhwa M., Harris G.	Work (South Africa)	49	2	0	0	285
2014	The life experiences of adolescent sexual offenders: Factors that contribute to offending behaviours	Naidoo L., Sewpaul V.	Work (South Africa)	50	1	1	0	286
2014	Gender, power and sexuality among youth on the streets of Durban: Socio-economic realities	Osthus I.S., Sewpaul V.	International Social Work	57	4	0	0	287
2014	Domestic violence against women and HIV vulnerability in Nigeria	Oyekale A.S.	Mediterranean Journal of Social Sciences	5	20	0	0	288
2015	Depressive symptoms and social demographic, stress and health risk behaviour among university students in 26 low-, middle- and high-income countries	Peltzer K., Pengpid S.	International Journal of Psychiatry in Clinical Practice	19	4	0	0	289
2013	Mental health consequences of intimate partner violence in Vhembe district, South Africa	Peltzer K., Pengpid S., McFarlane J., Banyini M.	General Hospital Psychiatry	35	5	9	0	290
2013	Evaluation of the effectiveness of protection orders for female victims of intimate partner violence in vhembe district of South Africa	Peltzer K., Pengpid S., McFarlane J., Banyini M.	Journal of Psychology in Africa	23	3	1	0	291
2016	Intimate partner violence victimization and associated factors among male and female university students in 22 countries in Africa, Asia and the Americas	Pengpid S., Peltzer K.	African Journal of Reproductive Health	20	1	0	0	292

2014	Sexual assault and other types of intimate partner violence in women with protection orders in Vhembe district, South Africa	Pengpid S., Peltzer K.	Violence and Victims	29	5	0	0	293
2013	Mental health and HIV sexual risk behaviour among University of Limpopo students	Pengpid S., Peltzer K., Skaal L.	South African Journal of Psychiatry	19	2	3	0	294
2014	Perpetration, revictimization, and self-injury: Traumatic reenactments of child sexual abuse in a nonclinical sample of south african adolescents	Penning S.L., Collings S.J.	Journal of Child Sexual Abuse	23	6	2	0	295
2013	Heavy drinking and interpersonal violence at and around different alcohol outlets in the North West Province, South Africa	Phetlho-Thekiso N., Ryke E.H., Strydom H.	Work (South Africa)	49	1	0	0	296
2016	Who should own abuse? The nature of, and factors associated with, wife-battering	Phokojoe-Niboye M.	South African Review of Sociology	47	2	0	0	297
2013	Gender-based violence, alcohol use, and sexual risk among female patrons of drinking venues in Cape Town, South Africa	Pitpitan E.V., Kalichman S.C., Eaton L.A., Cain D., Sikkema K.J., Skinner D., Watt M.H., Pieterse D.	Journal of Behavioral Medicine	36	3	6	0	298
2015	The influence of social constructions of family on abused women's help-seeking after domestic violence	Rasool S.	African Review of Sociology	46	4	0	0	299
2015	Trends in HIV risk behaviour of incoming first-year students at a south African university: 2007–2012	Retief J., Jacobs J., Vergnani T.	Sahara J	12	1	0	0	300
2015	Some challenges in policing domestic violence	Retief R., Green S.	Social Work (South Africa)	51	1	0	0	301
2016	Exploring the Impact of Childhood Abuse on HIV Social and Attitudinal Factors Among Adults With and Without this History in Sub-Saharan Africa: Findings from NIMH Project Accept (HPTN043)	Richter L., Makusha T., Komarek A., Daniels J., Coates T.	AIDS and Behavior	20	4	0	0	302
2013	The prevalence of intimate partner violence in the family: A systematic review of the implications for adolescents in Africa	Roman N.V., Frantz J.M.	Family Practice	30	3	11	0	303
2013	Sexual partnership types as determinant of HIV risk in South African MSM: An event-level cluster analysis	T. Yi H., Knox J., Reddy V.	AIDS and Behavior	17	1	10	0	304
2014	Psychological research and South Africa's violence prevention responses	Seedat M., Van Niekerk A., Suffla S., Ratele K.	African Journal of Psychology	44	2	3	0	305
2013	Opportunities and obstacles to screening pregnant women for intimate partner violence during antenatal care in Zimbabwe	Temmerman M., Zarowsky	Journal of Reproductive, Maternal, Infant, and Child Health	15	5	2	0	306
2015	[The role of substance abuse in domestic violence: A social work perspective, Die rol van alkohol-en dwelmmisbruik by vrouemishandeling: N Maatskaplikewerk-perspektief]	Slabbert I.	Tydskrif vir Geesteswetenskappe	55	4	0	0	307
2013	Types of domestic violence experienced by women in abusive relationships	Slabbert L., Green S.	Social Work (South Africa)	49	2	1	0	308
2015	Serious, Violent Young Offenders in South Africa: Are They Life-Course Persistent Offenders?	Souverein F.A., Ward C.L., Visser I., Burton P.	Journal of Interpersonal Violence	31	10	2	0	309
2016	South African women's conceptualisations of and responses to sexual coercion in relation to hegemonic masculinities	E., Buikema R., Cooper D.	Global Public Health	11	1-2	0	0	310
2016	Women handling of domestic violence in rural township of Alice in South Africa	Tanga P.T., Gutura P.	Anthropologist	23	3	0	0	311
2013	Open globe injuries in patients seen at Groote Schuur Hospital, Cape Town, South Africa	Toit N.D., Mustak H., Levetan C.	South African Journal of Surgery	51	3	1	0	312
2014	Silent no more: Sexual violence in conflict as a challenge to the worldwide church	Tombs D.	Acta Theologica	34	2	0	0	313
2013	Screening and diagnostic considerations in childhood post-traumatic stress disorder	Van Den Heuvel L.L., Seedat S.	Neuropsychiatry	3	5	2	0	314
2014	Racing risk, gendering responsibility: A qualitative study of how South African students talk about sexual risk and responsibility	Van Der Riet M., Nicholson T.J.	Journal of AIDS Research	13	4	0	0	315

2014	Selves' in contradiction: Power and powerlessness in South African shelter residents' narratives of leaving abusive heterosexual relationships	van Schalkwyk S., Boonzaier F., Gobodo-Madikizela P.	Feminism and Psychology	24	3	0	0	316
2014	Creative Arts Therapy as treatment for child trauma: An overview	van Westrhenen N., Fritz E.	Arts in Psychotherapy	41	5	2	0	317
2015	Two male nurses' experiences of caring for female patients after intimate partner violence: A South African perspective	nyk N., van der Wath A.	Contemporary Nurse	50	1	0	0	318
2014	Depressive symptoms, burnout and the impact of events in non-professional volunteer counselors in Durban, South Africa	Vawda N.B.M.	African Journal of Psychiatry (South Africa)	17	2	0	0	319
2013	Coping behaviour, posttraumatic growth and psychological well-being in women with childhood sexual abuse	Walker-Williams H.J., Van Eeden C., Van Der Merwe K.	Psychology in Africa	23	2	0	0	320
2014	Shared and unique predictors of antisocial and substance use behavior among a nationally representative sample of South African youth	R., Gardner F., Cluver L.	Journal of Interpersonal and Violent Behavior	19	6	3	0	321
2015	Safety and security in schools in KwaZulu-Natal	White C.J., Gina J.M., Coetzee I.E.M.	Educational Studies	41	5	0	0	322
2015	Social Cognition Variables and Victimization as Predictors of Sexual Debut Among Adolescents in South Africa and Tanzania: A Multi-group SEM Analysis	Wubs A.G., Aaro L.E., Kaaya S., Onya H., Mathews C.	AIDS and Behavior	19	12	0	0	323
2013	Associations between attitudes toward violence and intimate partner violence in South Africa and Tanzania	Wubs A.G., Aaro L.E., Mathews C., Onya H.E., Mbwanje J.	Journal of Interpersonal and Violent Behavior	28	2	0	0	324
2015	Risk of sexual violence: Perspectives and experiences of women in a hospital in the Democratic Republic of Congo	Zihindula G., Maharaj P.	American Journal of Community Health	40	4	0	0	325



UNIVERSITY *of the*
WESTERN CAPE

Appendix G: Top Citation Scores

Publication Year	Document Title	Authors	Journal Title	Volume	Issue	Citation		Altmetric
						2617	5083	
2014	Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013	Naghavi M., Wang H., Lozano R., Davis A., Liang X., Zhou M., Vollset S.E., Abbasoglu Ozgoren A., Abdalla S., Abd-Allah F., Abdel Aziz M.I., Abera S.F., Aboyans V., Abraham B., Abraham J.P., Abuabara K.E., Abubakar I., Abu-Raddad L.J., Abu-Murray C.J.L., Barber R.M., Foreman K.J., Ozgoren A.A., Abd-Allah F., Abera S.F., Aboyans V., Abraham J.P., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M., Achoki T., Ackerman I.N., Ademi Z., Adou A.K., Adsuar J.C., Afshin A., Agardh E.E., Alam S.S., Alasfoor D., Albittar M.I., Alegretti M.A., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali R., Alla F., Allebeck P., Almazroa M.A., Alsharif U., Alvarez E., Alvis-Guzman N., Amare A.T., Ameh E.A., Amini H., Ammar W., Anderson H.R., Anderson B.O., Antonio C.A.T., Anwar P., Arnlov J., Arsenijevic V.S.A., Artaman A., Asghar R.J., Assadi R., Atkins L.S., Avila M.A., Awual B., Bachman V.F., Badawi A., Bahit M.C., Balakrishnan K., Banerjee A., Barker-Collo S.L., Barquera S., Barregard L., Barroero L.H., Basu A., Basu S., Basulaiman M.O., Beardsley J., Bedi N., Beghi E., Bekele T., Bell M.L., Benjet C., Bennett D.A., Bensenor I.M., Benzian H., Bernabe E., Bertozzi-Villa A., Beyene T.J., Bhalra N., Bhalla A., Bhutta Z.A.,	The Lancet	385	9963	513	1279	1
2014	Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: Quantifying the epidemiological transition	Murray C.J.L., Barber R.M., Foreman K.J., Ozgoren A.A., Abd-Allah F., Abera S.F., Aboyans V., Abraham J.P., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M., Achoki T., Ackerman I.N., Ademi Z., Adou A.K., Adsuar J.C., Afshin A., Agardh E.E., Alam S.S., Alasfoor D., Albittar M.I., Alegretti M.A., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali R., Alla F., Allebeck P., Almazroa M.A., Alsharif U., Alvarez E., Alvis-Guzman N., Amare A.T., Ameh E.A., Amini H., Ammar W., Anderson H.R., Anderson B.O., Antonio C.A.T., Anwar P., Arnlov J., Arsenijevic V.S.A., Artaman A., Asghar R.J., Assadi R., Atkins L.S., Avila M.A., Awual B., Bachman V.F., Badawi A., Bahit M.C., Balakrishnan K., Banerjee A., Barker-Collo S.L., Barquera S., Barregard L., Barroero L.H., Basu A., Basu S., Basulaiman M.O., Beardsley J., Bedi N., Beghi E., Bekele T., Bell M.L., Benjet C., Bennett D.A., Bensenor I.M., Benzian H., Bernabe E., Bertozzi-Villa A., Beyene T.J., Bhalra N., Bhalla A., Bhutta Z.A.,	The Lancet	386	10009	76	597	2
2013	Global health: Injuries	Norton R., Kobusingye O.	New England Journal of Medicine	368	18	69	97	3
2014	The global prevalence of intimate partner homicide: A systematic review	Stockl H., Devries K., Rotstein A., Abulhaim N., Campbell J., Watts G., Moreno C.G.	The Lancet	382	9895	67	431	4
2013	Prevalence of and factors associated with male perpetration of intimate partner violence: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Fulu E., Jewkes R., Roselli T., Garcia-Moreno C.	The Lancet Global Health	1	4	45	237	5
2013	Improving Positive Parenting Skills and Reducing Harsh and Abusive Parenting in Low- and Middle-Income Countries: A Systematic Review	Knerr W., Gardner F., Cluver L.	Prevention Science	14	4	42	25	6
2014	Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: A propensity-score-matched case-control study	Cluver L., Boyes M., Orkin M., Pantelie M., Molwena T., Sherr L.	The Lancet Global Health	1	6	35	31	7
2015	Prevalence of and factors associated with non-partner rape perpetration: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Jewkes R., Fulu E., Roselli T., Garcia-Moreno C.	The Lancet Global Health	1	4	31	489	8
2016	Impact of a Gender-Transformative HIV and Antiviolence Program on Gender Ideologies and Masculinities in Two Rural, South African Communities	Dworkin S.L., Hatcher A.M., Colvin C., Peacock D.	Men and Masculinities	16	2	28	12	9
2014	Cumulative traumas and risk thresholds: 12-month ptsd in the world mental health (WMH) surveys	Karam E.G., Friedman M.J., Hill E.D., Kessler R.C., McLaughlin K.A., Petukhova M., Sampson L., Shahly V., Angermeyer M.C., Bromet E.J., De Girolamo G., De Graaf R., Demeytenaere K., Ferry F., Florescu S.E., Haro J.M., He Y., Karam A.N., Kawakami N., Kovess-Masfety V., Medina-Mora M.E., Browne M.A.O., Posada-Villa J.A., Shalev A.Y., Stein D.J., Viana M.C., Zarkov Z., Koenen K.C.	Depression and Anxiety	31	2	28	5	10
2015	Sexual violence against women: The scope of the problem	Dartnall E., Jewkes R.	Best Practice and Research: Clinical Obstetrics and Gynaecology	27	1	27	11	11
2013	Male sex workers: Practices, contexts, and vulnerabilities for HIV acquisition and transmission	Baral S.D., Friedman M.R., Geibel S., Rebe K., Bozhinov B., Diouf D., Sabin K., Holland C.E., Chan R., Caceres C.F.	The Lancet	385	9964	24	29	12

2014	Worldwide prevalence of non-partner sexual violence: A systematic review	Abrahams N., Devries K., Watts C., Pallitto C., Petzold M., Shamu S., Garcia-Moreno C.	The Lancet	383	9929	23	305	13
2015	Combination HIV prevention for female sex workers: What is the evidence?	Bekker L.-G., Johnson L., Cowan F., Overs C., Besada D., Hillier S., Cates W.	The Lancet	385	9962	19	34	14
2015	Human rights violations against sex workers: Burden and effect on HIV	Decker M.R., Crago A.-L., Chu S.K.H., Sherman S.G., Seshu M.S., Buthelezi K., Dhaliwal M., Beyrer C.	The Lancet	385	9963	19	261	15
2013	Cash plus care: Social protection cumulatively mitigates HIV-risk behaviour among adolescents in South Africa	Cluver L.D., Orkin F.M., Boyes M.E., Sherr L.	AIDS	28	3	18	5	16
2014	Internet-based early intervention to prevent posttraumatic stress disorder in injury patients: Randomized controlled trial	Mouthaan J., Sijbrandij M., De Vries G.-J., Reitsma J.B., Van De Schoot R., Goslings J.C., Luitse J.S.K., Bakker F.C., Gersons B.P.R., Olff M.	Journal of Medical Internet Research	15	8	18	13	17
2015	Human rights abuses and collective resilience among sex workers in four African countries: A qualitative study	Scorgie F., Vasey K., Harper E., Richter M., Nare P., Maseko S., Chersich M.F.	Globalization and Health	9	1	17	16	18
2014	Substance use, gender inequity, violence and sexual risk among couples in Cape Town	Wechsberg W.M., Myers B., Reed E., Carney T., Emanuel A.N., Browne F.A.	Culture, Health and Sexuality	15	10	16	2	19
2013	Intimate Partner Femicide in South Africa in 1999 and 2009	Abrahams N., Mathews S., Martin L.J., Lombard C., Jewkes R.	PLoS Medicine	10	4	15	16	20
2015	A systematic review of interventions for preventing adolescent intimate partner violence	De Koker P., Mathews C., Zuch M., Bastien S., Mason-Jones A.J.	Journal of Adolescent Health	54	1	15	25	21
2016	Prevalence of Consensual Male-Male Sex and Sexual Violence, and Associations with HIV in South Africa: A Population-Based Cross-Sectional Study	Dunkle K.L., Jewkes R.K., Murdock D.W., Sikweyiya Y., Morrell R.	PLoS Medicine	10	6	15	22	22
2015	Social context and drivers of intimate partner violence in rural Kenya: Implications for the health of pregnant women	Hatcher A.M., Romito P., Odero M., Bukusi E.A., Onono M., Turan J.M.	Culture, Health and Sexuality	15	4	15	10	23
2015	Co-occurring psychosocial problems and HIV risk among women attending drinking venues in a South African township: A syndemic approach	Bipattan L.V., Kalichman S.C., Eaton L.A., Cain D., Sikkema K.J., Watt M.H., Skinner D., Pieterse D.	Annals of Behavioral Medicine	45	2	15	2	24
2014	"Money talks, bullshit walks" interrogating notions of consumption and survival sex among young women engaging in transactional sex in post-apartheid South Africa: A qualitative enquiry	Zembe Y.Z., Townsend L., Thorson A., Ekstrom A.M.	Globalization and Health	9	1	15	12	25
2013	Trauma and posttraumatic stress disorder in South Africa: Analysis from the South African Stress and Health Study	Atwoli L., Stein D.A., Williams D.R., Mclaughlin K.A., Petukhova M., Kessler R.C., Koenen K.C.	BMC Psychiatry	13		14	5	26
2015	The relationship between substance use and delinquency among high-school students in Cape Town, South Africa	Carney T., Myers B.J., Louw L., Lombard C., Fisher A.J.	Journal of Adolescence	36	3	13	0	27
2015	Health consequences of sexual violence against women	Jina K., Thomas L.S.	Best Practice and Research: Clinical Obstetrics and Gynaecology	27	1	13	3	28
2015	[The epidemiology of child homicides in South Africa. Epidemiologie des homicides d'enfants en Afrique du Sud]	Mathews S., Abrahams N., Jewkes R., Richter M., Lombard C.	Bulletin of the World Health Organization	91	8	13	6	29
2013	Hegemonic Masculinity: Reviewing the Gendered Analysis of Men's Power in South Africa	Morrell R., Jewkes R., Lindegger G.	South African Review of Sociology	44	1	13	0	30
2014	Men value their dignity': Securing respect and identity construction in urban informal settlements in South Africa	Gibbs A., Sikweyiya Y., Jewkes R.	Global Health Action	7	1	12	8	31
2013	Intersecting epidemics among pregnant women: Alcohol use, interpersonal violence, and hiv infection in South Africa	Russell B.S., Eaton L.A., Petersen-Williams P.	Current HIV/AIDS Reports	10	1	12	4	32
2014	Intimate partner violence after disclosure of HIV test results among pregnant women in Harare, Zimbabwe	Shamu S., Zarowsky C., Shefer T., Temmerman M., Abrahams N.	PLoS ONE	9	10	12	19	33
2016	Continuous traumatic stress: Expanding the lexicon of traumatic stress	Eagle Prof. G., Kaminer D.	Peace and Conflict	19	2	11	0	34
2016	Addressing violence against women: A call to action	Garcia-Moreno C., Zimmerman C., Morris-Gehring A., Heise L., Amin A., Abrahams N., Montoya O., Bhat-Deosthali P., Kilonzo N., Watts C.	The Lancet	385	9978	11	92	35
2013	Bidirectional links between HIV and intimate partner violence in pregnancy: Implications for prevention of mother-to-child transmission	Hatcher A.M., Woollett N., Pallitto C.C., Mokoale K., Stockl H., MacPhail C., Delany-Moretwe S., Garcia-Moreno C.	Journal of the International AIDS Society	17		11	7	36
2014	The prevalence of intimate partner violence in the family: A systematic review of the implications for adolescents in Africa	Roman N.V., Frantz J.M.	Family Practice	30	3	11	0	37
2015	Association between exposure to traumatic events and anxiety disorders in a post-conflict setting: A cross-sectional community study in South Sudan	Ayazi T., Lien L., Eide A., Swartz L., Hauff E.	BMC Psychiatry	14	1	10	2	38
2015	Challenges with couples, serodiscordance and HIV disclosure: Healthcare provider perspectives on delivering safer conception services for HIV-affected couples, South Africa	Crankshaw T.L., Mindy D., Munthre C., Letsoalo T., Maharaj P.	Journal of the International AIDS Society	17		10	8	39
2015	Prevalence and health impact of intimate partner violence and non-partner sexual violence among female adolescents aged 15-19 years in vulnerable urban environments: A multi-country study	Decker M.R., Peitzmeier S., Olumide A., Acharya R., Ojengbedo O., Covarrubias L., Gao E., Cheng Y., Delany-Moretwe S., Brahmabhatt H.	Journal of Adolescent Health	55	6	10	6	40
2015	Gender patterns in the contribution of different types of violence to posttraumatic stress symptoms among South African urban youth	Kaminer D., Hardy A., Heath K., Mosdell J., Bawa U.	Child Abuse and Neglect	37	5	10	0	41

2014	Where are the men? Targeting male partners in preventing mother-to-child HIV transmission	Koo K., Makin J.D., Forsyth B.W.C.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	25	1	10	1	42
2015	Reported physical and sexual abuse in childhood and adult HIV risk behaviour in three African countries: Findings from project accept (HPTN-043)	Richter L., Komarek A., Desmond C., Celentano D., Morin S., Sweat M., Chariyalertsak S., Chingono A., Gray G., Mbwambo J., Coates T.	AIDS and Behavior	18	2	10	4	43
2014	Intimate Partner Violence Among Adolescents in Cape Town, South Africa	Russell M., Cupp P.K., Jewkes R.K., Gevers A., Mathews C., LeFleur-Bellerose C., Small J.	Prevention Science	15	3	10	3	44
2016	Sexual partnership types as determinant of HIV risk in South African MSM: An event-level cluster analysis	Sandfort T., Yi H., Knox J., Reddy V.	AIDS and Behavior	17	1	10	0	45
2016	Effects of hazardous and harmful alcohol use on HIV incidence and sexual behaviour: A cohort study of Kenyan female sex workers	Chersich M.F., Bosire W., King'ola N., Temmerman M., Luchters S.	Globalization and Health	10	1	9	13	46
2014	Drinking before and after pregnancy recognition among South African women: The moderating role of traumatic experiences	Choi K.W., Abler L.A., Watt M.H., Eaton L.A., Kalichman S.C., Skinner D., Pieterse D., Sikkema K.J.	BMC Pregnancy and Childbirth	14	1	9	12	47
2014	Early adolescent pregnancy increases risk of incident HIV infection in the eastern cape, south africa: A longitudinal study	Christofides N.J., Jewkes R.K., Dunkle K.L., Nduna M., Shai N.J., Sterk C.	Journal of the International AIDS Society	17		9	8	48
2014	Re-focusing the gender lens: Caregiving women, family roles and HIV/AIDS vulnerability in Lesotho	Harrison A., Short S.E., Tuoaane-Nkhasi M.	AIDS and Behavior	18	3	9	0	49
2013	Exposure to violence across multiple sites among young South African adolescents	Kaminer D., du Plessis B., Hardy A., Benjamin A.	Peace and Conflict	19	2	9	0	50
2013	Risk and Protective Factors for Physical and Sexual Abuse of Children and Adolescents in Africa: A Review and Implications for Practice	Meinck F., Cluver L.D., Boyes M.E., Mhlongo E.L.	Trauma, Violence, and Abuse	16	1	9	16	51
2013	Ethnic differences in alcohol and drug use and related sexual risks for HIV among vulnerable women in Cape Town, South Africa: Implications for interventions	Myers B., Kline T.L., Browne F.A., Carney F., Parry C., Johnson K., Wechsberg W.M.	BMC Public Health	13	1	9	2	52
2015	Mental health consequences of intimate partner violence in Vhembe district, South Africa	Peltzer K., Pengpid S., MacFarlane J., Banyini M.	General Hospital Psychiatry	35	5	9	0	53
2014	HIV knowledge and sexual risk behavior among pregnant couples in South Africa: The partnerplus project	Villar-Loubet O.M., Cook R., Chakrouh N., Peltzer K., Weiss S.M., Shikwane M.E., Jones D.L.	AIDS and Behavior	17	2	9	1	54
2015	A brief intervention for drug use, sexual risk behaviours and violence prevention with vulnerable women in South Africa: A randomised trial of the Women's Health CoOp	Wechsberg W.M., Jewkes R., Novak S.P., Kline T., Myers B., Browne F.A., Carney T., Lopez A.A.M., Parry C.	BMJ Open	3	5	9	3	55
2014	Rethinking HIV prevention to prepare for oral PrEP implementation for young African women	Celum C.L., Delany-Moretlwe S., McConnell M., Van Rooyen H., Bekker L.-G., Kunh A., Bukusi E., Desmond C., Morton J., Baeten J.M.	Journal of the International AIDS Society	18		8	3	56
2014	Drinking in the context of life stressors: A multidimensional coping strategy among south African Women	Choi K.W., Watt M.H., Macfarlane J.C., Sikkema K.J., Skinner D., Pieterse D., Kalichman S.C.	Substance Use and Misuse	49	1-2	8	1	57
2015	Intimate partner violence among rural South African men: alcohol use, sexual decision-making, and partner communication	Hatcher A.M., Colvin C.J., Ndlovu N., Dworkin S.L.	Culture, Health and Sexuality	16	9	8	2	58
2014	From work with men and boys to changes of social norms and gender inequities in gender relations: A conceptual shift in prevention of violence against women and girls	Jewkes R., Flood M., Lankester M.	The Lancet	385	9977	8	105	59
2016	The Contribution of Emotional Partners to Sexual Risk Taking and Violence among Female Sex Workers in Mombasa, Kenya: A Cohort Study	Luchters S., Richter M.L., Bosire W., Nelson G., Kingola N., Zhang X.-D., Temmerman M., Chersich M.F.	PLoS ONE	8	8	8	3	60
2014	Intimate partner violence during pregnancy in Zimbabwe: A cross-sectional study of prevalence, predictors and associations with HIV	Shamu S., Abrahams N., Zarowsky C., Shefer T., Temmerman M.	Tropical Medicine and International Health	18	6	8	2	61
2014	Depression and resilience in women with HIV and early life stress: Does trauma play a mediating role? A cross-sectional study	Spies G., Seedat S.	BMJ Open	4	2	8	3	62
2014	In the wake of violence: Enacting and witnessing hope among people	Kotze E., Hulme T., Geldenhuys T., Weingarten K.	Family Process	52	3	7	2	63
2013	Sexual risk, serostatus and intimate partner violence among couples during pregnancy in Rural South Africa	Peltzer K., Jones D., Weiss S.M., Villar-Loubet O., Shikwane E.	AIDS and Behavior	17	2	7	1	64
2013	Hidden harms: Women's narratives of intimate partner violence in a microbicide trial, South Africa	Stadler J., Delany-Moretlwe S., Palanee T., Rees H.	Social Science and Medicine	110		7	12	65
2015	Efficacy of SISTA South Africa on sexual behavior and relationship control among isiXhosa women in South Africa: Results of a randomized-controlled trial	Wingood G.M., Reddy P., Lang D.L., Saleh-Onoya D., Braxton N., Sifunda S., DiClemente R.J.	Journal of Acquired Immune Deficiency Syndromes	63	1	7	2	66
2014	Is younger really safer? A qualitative study of perceived risks and benefits of age-disparate relationships among women in Cape Town, South Africa	Beauclair R., Delva W.	PLoS ONE	8	11	6	1	67
2015	A Qualitative Exploration of Researcher Trauma and Researchers' Responses to Investigating Sexual Violence	Coles J., Astbury J., Dartnall E., Linjerwala S.	Violence Against Women	20	1	6	17	68
2014	Reconstructing masculinity? A qualitative evaluation of the Stepping Stones and Creating Futures interventions in urban informal settlements in South Africa	Gibbs A., Jewkes R., Sikweyiya Y., Willan S.	Culture, Health and Sexuality	17	2	6	3	69
2013	Stepping Stones and Creating Futures intervention: Shortened interrupted time series evaluation of a behavioural and structural health promotion and violence prevention intervention for young people in informal settlements in Durban, South Africa	Jewkes R., Gibbs A., Jama-Shai N., Willan S., Misselhorn A., Mushinga M., Washington L., Mbatha N., Sikweyiya Y.	BMC Public Health	14	1	6	15	70

2016	Intimate partner violence: Associations with low infant birthweight in a South African birth cohort	Koen N., Wyatt G.E., Williams J.K., Zhang M., Myer L., Zar H.J., Stein D.J.	Metabolic Brain Disease	29	2	6	2	71
2014	Risk and Protective Factors for Physical and Emotional Abuse Victimization amongst Vulnerable Children in South Africa	Meinck F., Cluver L.D., Boyes M.E., Ndhlovu L.D.	Child Abuse Review	24	3	6	4	72
2013	How adolescents perceive their communities: A qualitative study that explores the relationship between health and the physical environment	Mmari K., Lantos H., Brahmabhatt H., Delany-Moretlwe S., Lou C., Acharya R., Sangowawa A.	BMC Public Health	14	1	6	16	73
2014	Community empowerment and involvement of female sex workers in targeted sexual and reproductive health interventions in Africa: A systematic review	Moore L., Chersich M.F., Steen R., Reza-Paul S., Dhana A., Vuylsteke B., Lafort Y., Scorgie F.	Globalization and Health	10	1	6	1	74
2013	Mental health, childhood abuse and HIV sexual risk behaviour among university students in Ivory Coast	Peltzer K., Pengpid S., Tiembre I.	Annals of General Psychiatry	12	1	6	7	75
2015	Gender-based violence, alcohol use, and sexual risk among female patrons of drinking venues in Cape Town, South Africa	Pitpitan E.V., Kalichman S.C., Eaton L.A., Cain D., Sikkema K.J., Skinner D., Watt M.H., Pieterse D.	Journal of Behavioral Medicine	36	3	6	0	76
2014	Gender and racial stereotyping in rape coverage: An analysis of rape coverage in a South African newspaper, <i>Grocott's Mail</i>	Bonnes S.	Feminist Media Studies	13	2	5	4	77
2016	Child and adolescent suicide attempts, suicidal behavior, and adverse childhood experiences in South Africa: A prospective study	Cluver L., Orkin M., Boyes M.E., Sherr L.	Journal of Adolescent Health	57	1	5	12	78
2014	Men who report recent male and female sex partners in Cape Town, South Africa: An understudied and underserved population	Eaton L.A., Pitpitan E.V., Kalichman S.C., Sikkema K.J., Skinner D., Watt M.H., Pieterse D.	Archives of Sexual Behavior	42	7	5	2	79
2014	Associations between perceptions of school connectedness and adolescent health risk behaviors in south african high school learners	Govender K., Naicker S.N., Meyer-Weitz A., Fanner J., Naidoo A., Penfold W.L.	Journal of School Health	83	9	5	2	80
2014	Sustained High HIV Incidence in Young Women in Southern Africa: Social, Behavioral, and Structural Factors and Emerging Intervention Approaches	Harrison A., Colvin C.J., Kuo C., Swartz A., Lurie M.	Current HIV/AIDS Reports	12	2	5	3	81
2015	Intimate partner violence and engagement in HIV care and treatment among women: A systematic review and meta-analysis	Hatcher A.M., Smout E.M., Turan T.M., Christofides N., Stock LH.	AIDS	29	16	5	17	82
2014	The independent associations of recorded crime and perceived safety with physical health in a nationally representative cross-sectional survey of men and women in New Zealand	Lovasi G.S., Goh C.E., Pearson A.L., Breitzke G.	BMC Open	4	3	5	2	83
2014	Perceived need for substance use treatment among young women from disadvantaged communities in Cape Town, South Africa	Myers B., Klins T.L., Dolery L., Carney T., Wechsberg W.M.	BMC Psychiatry	14	1	5	1	84
2014	Responses to and Resources for Intimate Partner Violence: Qualitative Findings From Women, Men, and Service Providers in Rural Kenya	Odero M., Hatcher A.M., Bryant C., Onono M., Romfo P., Bukusi E.A., Turun J.M.	Journal of Interpersonal Violence	29	5	5	2	85
2015	Men (and Women) as "Sellers" of Sex in Alcohol-Serving Venues in Cape Town, South Africa	Pitpitan E.V., Kalichman S.C., Eaton L.A., Watt M.H., Sikkema K.J., Skinner D., Pieterse D., Cain D.	Prevention Science	15	3	5	3	86
2015	Emergency nurses' experiences of caring for survivors of intimate partner violence	Van der Wath A., van Wyk N., Jansen van Rensburg E.	Journal of Advanced Nursing	69	10	5	9	87
2016	Adolescents' and adults' experiences of being surveyed about violence and abuse: A systematic review of harms, benefits, and regrets	Appollis T.M., Lund C., De Vries P.J., Mathews C.	American Journal of Public Health	105	2	4	1	88
2013	Epidemiology of posttraumatic stress disorder: Prevalence, correlates, and consequences	Avetisyan S., Sierra D., Krause N., Jelic K., Jelic M., Koen N.	Current Opinion in Psychiatry	28	4	4	3	89
2014	Gender, relationship dynamics and South African girls' vulnerability to sexual risk	Bhana D., Anderson B.	African Journal of AIDS Research	12	1	4	1	90
2013	Bullying Victimization, Internalising Symptoms, and Emotional Problems in South African Children and Adolescents: A Longitudinal Investigation	Biles M.E., Bowden J., Cluver L.D., Gardner R., Laddock N.A.	Journal of Abnormal Child Psychology	42	8	4	9	91
2013	Development and preliminary validation of a screen for interpersonal childhood trauma experiences among school-going youth in Durban, South Africa	Collings S.J., Valjee S.R., Penning S.L.	Journal of Child and Adolescent Mental Health	25	1	4	0	92
2013	What do young people think makes their relationships good? Factors associated with assessments of dating relationships in South Africa	Gevers A., Jewkes R., Mathews C.	Culture, Health and Sexuality	15	9	4	3	93
2014	Framing of school violence in the South African printed media - (mis)information to the public	Jacobs L.	South African Journal of Education	34	1	4	0	94
2014	Sexual risk behavior, alcohol use, and social media use among secondary school students in informal settlements in Cape Town and Port Elizabeth, South Africa	Kaufman Z.A., Braunschweig E.N., Feeney J., Dringus S., Weiss H., Delany-Moretlwe S., Ross D.A.	AIDS and Behavior	18	9	4	5	95
2013	The 39-item child exposure to community violence (CECV) scale: Exploratory factor analysis and relationship to PTSD symptomatology in trauma-exposed children and adolescents	Martin L., Revington N., Seedat S.	International Journal of Behavioral Medicine	20	4	4	1	96
2013	Exploring mental health adjustment of children post sexual assault in South Africa	Mathews S., Abrahams N., Jewkes R.	Journal of Child Sexual Abuse	22	6	4	0	97
2013	Is Ukuthwala Another Form of 'Forced Marriage'?	Monyane C.	South African Review of Sociology	44	3	4	16	98
2015	Alcohol Use, Sexual Relationship Power, and Unprotected Sex Among Patrons in Bars and Taverns in Rural Areas of North West Province, South Africa	Nkosi S., Rich E.P., Morojele N.K.	AIDS and Behavior	18	11	4	1	99
2014	"The paper that you have in your hand is my freedom": Migrant domestic work and the sponsorship (Kafala) system in Lebanon	Pande A.	International Migration Review	47	2	4	1	100
2013	Implementing intimate partner violence care in a rural sub-district of South Africa: A qualitative evaluation	Rees K., Zweigenthal V., Joyner K.	Global Health Action	7	1	4	1	101
2013	Alcohol Use, Partner Violence, and Depression: A Cluster Randomized Controlled Trial Among Urban South African Mothers Over 3 Years	Rotheram-Borus M.J., Tomlinson M., Roux I.L., Stein J.A.	American Journal of Preventive Medicine	49	5	4	15	102

2016	Predictors of acute stress disorder severity	Suliman S., Troeman Z., Stein D.J., Seedat S.	Journal of Affective	149	1-3	4	1	103
2015	Correlates of sexual risk among sexual minority and heterosexual South African youths	Thurston I.B., Dietrich J., Bogart L.M., Otwombe K.N., Sikkema K.J., Nkala B., Gray G.E.	American Journal of Public Health	104	7	4	1	104
2015	Promoting sexual and reproductive health among adolescents in southern and eastern Africa (PREPARE): Project design and conceptual framework	Aaro L.E., Mathews C., Kaaya S., Katahoire A.R., Onya H., Abraham C., Klepp K.-I., Wubs A., Eggers S.M., De Vries H.	BMC Public Health	14	1	3	5	105
2014	Untangling the lion's tale: Violent masculinity and the ethics of biography in the 'curious' case of the apartheid-era policeman Donald card	Bank L., Bank A.	Journal of Southern African Studies	39	1	3	1	106
2016	When caring is not enough: The limits of teachers' support for South African primary school-girls in the context of sexual violence	Bhana D.	International Journal of Educational Development	41		3	0	107
2013	Association between childhood adversities and long-term suicidality among South Africans from the results of the South African Stress and Health study: A cross-sectional study	Bruwer B., Govender R., Bishop M., Williams D.R., Stein D.J., Seedat S.	BMJ Open	4	6	3	4	108
2016	Firearm injuries to children in Cape Town, South Africa: Impact of the 2004 Firearms Control Act	Campbell N.M., Colville J.G., Heyde Y.V.D., As A.B.V.	South African Journal of Surgery	51	3	3	1	109
2013	A systematic review of the effects of poverty deconcentration and urban upgrading on youth violence	Cassidy T., Inglis G., Wiyongse C., Matzopoulos R.	Health and Place	26		3	4	110
2016	The role of mental health in primary prevention of sexual and gender-based violence	Gevers A., Dartnall E.	Global Health Action	7	1	3	1	111
2013	(How) Can We Reduce Violence Against Women by 50% over the Next 30 Years?	Jewkes R.	PLoS Medicine	11	11	3	72	112
2014	The Western Cape Government's new Integrated Provincial Violence Prevention Policy Framework: Successes and challenges	Matzopoulos R., Myers J.E.	Aggression and Violent Behavior	19	6	3	1	113
2014	Male Partner Influence on Women's HIV Prevention Trial Participation and Use of Pre-exposure Prophylaxis: the Importance of "Understanding"	Montgomery E.T., van der Straten A., Stadler J., Hartmann M., Magazi B., Mathebula P., Laborde N., Soto-Torres L.	AIDS and Behavior	19	5	3	0	114
2015	Sexual HIV risk behaviour and associated factors among pregnant women in Mpumalanga, South Africa	Peltzer K., Mlambo G.	BMC Pregnancy and Childbirth	13		3	6	115
2014	Female genital mutilation and intimate partner violence in the Ivory Coast	Peltzer K., Pengpid S.	BMC Women's Health	14	1	3	11	116
2015	Bullying and its associated factors among school-aged adolescents in Thailand	Pengpid S., Peltzer K.	The Scientific World Journal	2013		3	3	117
2015	Mental health and HIV sexual risk behaviour among University of Limpopo students	Pengpid S., Peltzer K., Skaal L.	South African Journal of Psychiatry	19	2	3	0	118
2015	Intentional injury and violence in Cape Town, South Africa: An epidemiological analysis of trauma admissions data	Schumann N., Chiaman J., Walker B.B., Rawcett V., Nicol A., Hameed S.M., Matzopoulos R.	Global Health Action	8	1	3	3	119
2014	Psychological research and South Africa's violence prevention response	Seedat M., Van Niekerk A., Suffla S., Ratele K.	South African Journal of Psychology	44	2	3	0	120
2014	Shared and unique predictors of antisocial and substance use behavior among a nationally representative sample of South African youth	Waller R., Gardner F., Cluver L.	Aggression and Violent Behavior	19	6	3	0	121
2013	Sexual abstinence and HIV knowledge in school-going adolescents with intellectual disabilities and non-disabled adolescents in Nigeria	Aderemi T.J., Pillay B.J.	Journal of Child and Adolescent Mental Health	25	2	2	0	122
2015	Gender inequality and the use of maternal health services in rural Saharan Africa	Adjuikaku V., Grand	Health and Place	29		2	7	123
2014	Association between parental psychopathology and suicidal behavior among adult offspring: Results from the cross-sectional South African Stress and Health survey	Atwoli L., Nock M.K., Williams D.R., Stein D.J.	BMC Psychiatry	14	1	2	9	124
2014	Hope: A new approach to understanding structural factors in HIV acquisition	Barnett T., Seeley J., Levin J., Katongole J.	Global Public Health	10	4	2	0	125
2014	Correlates of sexual activity versus non-activity of incoming first-year students at a South African university	Blignaut R.J., Vergnani T., Jacobs J.J.	African Journal of AIDS Research	13	1	2	0	126
2016	The second wave of violence scholarship: South African synergies with a global research agenda	Bowman B., Stevens G., Eagle G., Langa M., Kramer S., Kiguwa P., Nduna M.	Social Science and Medicine	146		2	0	127
2016	Relationships Between Familial HIV/AIDS and Symptoms of Anxiety and Depression: The Mediating Effect of Bullying Victimization in a Prospective Sample of South African Children and Adolescents	Boyes M.E., Cluver L.D.	Journal of Youth and Adolescence	44	4	2	6	128
2015	Maladaptive coping mediates the influence of childhood trauma on depression and PTSD among pregnant women in South Africa	Choi K.W., Sikkema K.J., Vellozo J., Marais A., Jose C., Stein D.J., Watt M.H., Joska J.A.	Archives of Women's Mental Health	18	5	2	6	129
2014	From Esther to Kwezi: Sexual violence in South Africa after twenty years of democracy	Claassens L.J., Gouws A.	International Journal of Public Theology	8	4	2	0	130
2014	Adolescents' Beliefs About Forced Sex in KwaZulu-Natal, South Africa	De Vries H., Eggers S.M., Jinabhai C., Meyer-Weitz A., Sathiparsad R., Taylor M.	Archives of Sexual Behavior			2	5	131
2013	The contribution of different forms of violence exposure to internalizing and externalizing symptoms among young South African adolescents	du Plessis B., Kaminer D., Hardy A., Benjamin A.	Child Abuse and Neglect	45		2	0	132
2014	Exploring the relationships among food insecurity, alcohol use, and sexual risk taking among men and women living in South African townships	Eaton L.A., Cain D.N., Pitpitan E.V., Carey K.B., Carey M.P., Mehlomakulu V., Simbayi L.C., Mwaba K., Kalichman S.C.	Journal of Primary Prevention	35	4	2	3	133
2015	The relationship between attending alcohol serving venues nearby versus distant to one's residence and sexual risk taking in a South African township	Eaton L.A., Kalichman S.C., Pitpitan E.V., Cain D.N., Watt M.H., Sikkema K.J., Skinner D., Pieterse D.	Journal of Behavioral Medicine	37	3	2	5	134

2015	High risk sexual behaviors are associated with sexual violence among a cohort of women in Durban, South Africa	Gaffoor Z., Wand H., Daniels B., Ramjee G.	BMC Research Notes	6	1	2	3	135
2013	Illegal yet developmentally normative: A descriptive analysis of young, urban adolescents' dating and sexual behaviour in Cape Town, South Africa	Gevers A., Mathews C., Cupp P., Russell M., Jewkes R.	BMC International Health and Human Rights	13	1	2	2	136
2014	Differences in the association between childhood trauma and BMI in black and white South African women	Goedecke J.H., Forbes J., Stein D.J.	African Journal of Psychiatry (South Africa)	16	3	2	0	137
2015	The shrinking world of girls at puberty: Violence and gender-divergent access to the public sphere among adolescents in South Africa	Hallman K.K., Kenworthy N.J., Diers J., Swan N., Devnarain B.	Global Public Health	10	3	2	5	138
2015	Economic inequality as a source of interpersonal violence: Evidence from Sub Saharan Africa and south Africa	Harris G., Vermaak C.	South African Journal of Economic and Management Sciences	18	1	2	0	139
2014	The Management of Unwanted Pregnancy Among Women in Nairobi, Kenya	Izugbara C., Egesa C.	International Journal of Sexual Health	26	2	2	1	140
2014	Management of physical child abuse in South Africa: Literature review and children's hospital data analysis	Janssen T.L., van Dijk M., Al Malki I., van As A.B.	Paediatrics and International Child Health	33	4	2	0	141
2013	Impact of exposure to intimate partner violence on CD4+ and CD8+ T cell decay in HIV infected women: Longitudinal study	Jewkes R., Dunkle K., Jama-Shai N., Gray G.	PLoS ONE	10	3	2	3	142
2015	Mistreatment of Women in Childbirth: Time for Action on This Important Dimension of Violence against Women	Jewkes R., Penn-Kekana L.	PLoS Medicine	12	6	2	25	143
2013	A cross-sectional study on the effect of post-rape training on knowledge and confidence of health professionals in South Africa	Jina R., Jewkes R., Christofides N., Loots L.	International Journal of Gynecology and Obstetrics	126	2	2	2	144
2016	Feasibility of an HIV/STI Risk-Reduction Program for Incarcerated Women Who Have Experienced Interpersonal Violence	Johnson J.E., Peabody M.E., Wechsberg W.M., Rosen R.K., Fernandes K., Zlotnick C.	Journal of Interpersonal Violence	30	18	2	5	145
2015	African adolescent males and rape in the Eastern Cape, South Africa: A need for sexuality education	Kheswa J.G., Davy X., Gqumani L.	Mediterranean Journal of Social Sciences	5	10	2	0	146
2014	Emotional Dysregulation and Risky Sex History of Interpersonal Violence Among Incarcerated Women with	Kuo C., Johnson J., Rosen R.K., Wechsberg W., Gobin R.L., Reddy M.K., Peabody M., Zlotnick C.	Women and Health	54	8	2	0	147
2016	Posttraumatic stress symptoms among adults caring for orphaned children in HIV-endemic South Africa	Kuo C., Reddy M.K., Operario D., Cluver L., Stein D.J.	AIDS and Behavior	17	5	2	1	148
2013	Retrospective review of trends in assaults and seclusion at an acute psychiatric ward over a 5-year period	Luckhoff M., Jordan E., Swart Y., Cloete K.J., Koen L., Niehaus D.J.H.	Journal of Psychiatric and Mental Health Nursing	20	8	2	1	149
2013	So now i'm the man': Intimate partner femicide and its interconnections with expressions of masculinities in South Africa	Mathews S., Jewkes R., Abrahams N.	British Journal of Criminology	55	1	2	3	150
2014	Relationship power, communication, and violence among couples: Results of a cluster-randomized HIV prevention study in a South African township	Minis A.M., Doherty L.A., Kline T.L., Zule W.A., Myers B., Carney T., Wechsberg W.M.	International Journal of Women's Health	7	2	2	2	151
2014	Perceptions of child discipline and its contributions to child abuse in a low-income community in Nairobi, Kenya	Mudany M.J., Nduti R., Mbori-Ng'ara J., Rutherford G.W.	Paediatrics and International Child Health	33	4	2	0	152
2014	Association between traumatic events and post-traumatic stress disorder: Results from the ESEMeD-Spain study	Olava B., Alonso J., Atwoli L., Kessler R.C., Uguz T., Haro J.M.	Epidemiology and Psychiatric Sciences	24	2	2	4	153
2014	Health risk behaviour among in-school adolescents in the philippines: Trends between 2003, 2007 and 2011, a cross-sectional study	Peltzer K., Pengpid S.	International Journal of Environmental Research and Public Health	13	1	2	3	154
2015	Mental health, partner violence and HIV risk among women with protective orders against violent partners in Vhembe district, South Africa	Pengpid S., Peltzer K.	Asian Journal of Psychiatry	6	6	2	1	155
2014	Perpetration, revictimization, and self-injury: Traumatic reenactments of child sexual abuse in a nonclinical sample of south african adolescents	Penning S.L., Collings S.J.	Journal of Child Sexual Abuse	23	6	2	0	156
2015	Experiences of Violence and Association with Decreased Drug Abstinence Among Women in Cape Town, South Africa	Reed E., Myers B., Novak S.P., Browne F.A., Wechsberg W.M.	AIDS and Behavior	19	1	2	2	157
2013	Histories of forced sex and health outcomes among Southern African lesbian and bisexual women: A cross-sectional study	Sandfort T., Frazer M.S., Matebeni Z., Reddy V., Southey-Swartz I.	BMC Women's Health	15	1	2	5	158
2013	Opportunities and obstacles to screening pregnant women for intimate partner violence during antenatal care in Zimbabwe	Shamu S., Abrahams N., Temmerman M., Zarowsky C.	Culture, Health and Sexuality	15	5	2	0	159
2015	Prevalence and risk factors for intimate partner violence among grade 8 learners in urban South Africa: Baseline analysis from the Skhokho supporting success cluster randomised controlled trial	Shamu S., Gevers A., Mahlangu B.P., Shai P.N.J., Chirwa E.D., Jewkes R.K.	International Health	8	1	2	1	160
2014	Serious, Violent Young Offenders in South Africa: Are They Life-Course Persistent Offenders?	Souverein F.A., Ward C.L., Visser I., Burton P.	Journal of Interpersonal Violence	31	10	2	0	161
2013	Screening and diagnostic considerations in childhood post-traumatic stress disorder	Van Den Heuvel L.L., Seedat S.	Neuropsychiatry	3	5	2	0	162
2013	Creative Arts Therapy as treatment for child trauma: An overview	van Westrhenen N., Fritz E.	Arts in Psychotherapy	41	5	2	0	163
2015	Experiences of Forced Sex Among Female Patrons of Alcohol-Serving Venues in a South African Township	Watt M.H., Sikkema K.J., Ablor L., Vellozo J., Eaton L.A., Kalichman S.C., Skinner D., Pieterse D.	Journal of Interpersonal Violence	30	9	2	1	164

2014	Adapting an evidence-based HIV behavioral intervention for South African couples	Wechsberg W.M., El-Bassel N., Carney T., Browne F.A., Myers B., Zule W.A.	Substance Abuse: Treatment, Prevention, and Policy	10	1	2	2	165
2014	Fear of the perpetrator: A major reason why sexual assault victims delayed presenting at hospital	Adefolalu A.O.	Tropical Medicine and International Health	19	3	1	5	166
2013	South African Sexual Assault Survivors' Experiences of Post-Exposure Prophylaxis and Individualized Nursing Care: A Qualitative Study	Arend E., Maw A., de Swardt C., Denny L.A., Roland M.	Journal of the Association of Nurses in AIDS Care	24	2	1	0	167
2014	Spousal violence in sub-Saharan Africa: Does household poverty-wealth matter?	Bamiwuye S.O., Odimegwu C.	Reproductive Health	11	1	1	6	168
2014	An analysis of early developmental trauma in social anxiety disorder and posttraumatic stress disorder	Bishop M., Rosenstein D., Bakelaar S., Seedat S.	Annals of General Psychiatry	13	1	1	21	169
2015	Bridging risk and enactment: The role of psychology in leading psychosocial research to augment the public health approach to violence in South Africa	Bowman B., Stevens G., Eagle G., Matzopoulos R.	South African Journal of Psychology	45	3	1	0	170
2016	Children and adolescents treated for post-traumatic stress disorder at the Free State Psychiatric Complex	Calitz F.J.W., de Jongh N.J., Horn A., Nel M.L., Joubert G.	South African Journal of Psychiatry	20	1	1	0	171
2015	Profile of rape victims referred by the court to the free state Psychiatric Complex, 2003 - 2009	Calitz F.J.W., de Ridder L., Gericke N., Pretorius A., Smit J., Joubert G.	South African Journal of Psychiatry	20	1	1	0	172
2014	Sexual HIV risk among substance-using female commercial sex workers in Durban, South Africa	Carney T., Petersen Williams P.M., Pluddemann A., Parry C.D.	African Journal of AIDS Research	14	2	1	3	173
2014	Perpetration of physical and sexual abuse and subsequent fathering of pregnancies among a cohort of young South African men: A longitudinal study	Christofides N.J., Jewkes R.K., Dunkle K.L., McCarty F.A., Shai N.J., Nduna M., Sterk C.E.	BMC Public Health	14	1	1	2	174
2013	Experiences of sexual relationships of young black women in an atmosphere of coercion	Cluver F., Elkoni D., Young C.	Sahara J	10	1	1	4	175
2013	Effects of a community intervention on HIV prevention behaviors among men who experienced childhood sexual or physical abuse in four African settings: Findings from NIMH project accept (HPTN 043)	Daniels J., Komarek A., Makusha T., Van Heerden A., Gray G., Chingono A., Mwanambwa J.K.E., Oates T., Richter D.	PLoS ONE	9	6	1	2	176
2013	A Public Health Approach to Address the Mental Health Burden of Youth in Situations of Political Violence and Humanitarian Emergencies	de Jong J.T.V.M., Berekmoes L.H., Kohrt B.A., Song S.J., Tol W.A., Reis R.	Current Psychiatry Reports	17	7	1	0	177
2015	Childhood in exile: The agency of second-generation exiles seeking refuge from apartheid	De Sas Kropiwnicki Z.O.	Refuge	30	1	1	0	178
2015	Silence, nostalgia, violence, poverty... What does 'culture' mean for South African sexuality educators?	DePalma R., Francis D.	Culture, Health and Sexuality	16	5	1	2	179
2016	Addressing childhood trauma in a developmental context	Gosgorowski C., Seedat S.	Journal of Child and Adolescent Mental Health	25	2	1	7	180
2015	Prevalence, Rates and Correlates of Intimate Partner Violence Among South African Women During Pregnancy and the Postpartum Period	Groves A.K., Moodley D., McNaughton-Reyes L., Martin S.L., Eshree V., Mufson S.	Maternal and Child Health Journal	19	3	1	0	181
2013	Type and severity of intimate partner violence and relationship with PTSD in HIV-infected women	Hansrod F., Spies G., Seedat S.	Psychology, Health and Medicine	20	6	1	5	182
2016	Protective Factors and HIV Risk Behavior Among South African Men	Heeren G.A., Icard L.D., O'Leary A., Lemmon D.H., Ngwenze Z., Middel A.	AIDS and Behavior	18	10	1	1	183
2016	Mandatory reporting of child abuse in South Africa: Legislation explored	Hendricks M.	South African Medical Journal	104	8	1	0	184
2013	Mediators of interpersonal violence and drug addiction severity among methamphetamine users in Cape Town, South Africa	Hobfack A., Ward J., Green K., Bodman R., Schaner D., Meade GS.	Addictive Behaviors	42		1	3	185
2013	Relationship between single and multiple perpetrator rape perpetration in South Africa: A comparison of risk factors in a population-based sample	Jewkes R., Sikweyiya Y., Dunkle K., Morrell R.	BMC Public Health	15	1	1	3	186
2016	The challenges of research on violence in post-conflict Bougainville	Jewkes R., Sikweyiya Y., Jama-Shai N.	The Lancet	383	9934	1	5	187
2015	Knowledge and confidence of South African health care providers regarding post-rape care: A cross-sectional study	Jina R., Jewkes R., Christofides N., Loots L.	BMC Health Services Research	13	1	1	6	188
2013	The harm of Male-on-Female rape: A response to David Benatar	Kelland L.	Journal of Interpersonal Violence	29	15	1	6	189
2014	HIV prevalence correlates with high-risk sexual behavior in Ethiopia's regions	Kenyon C.R., Tsoumanis A., Schwartz I.S.	PLoS ONE	10	10	1	1	190
2015	"Go back and tell them who the real men are!" gendering our understanding of Kibera's post-election violence	Kihato C.W.	International Journal of Conflict and Violence	9	1	1	0	191
2016	Prevalence and risk factors of attempted suicide in adult war-affected population of Eastern Uganda	Kinyanda E., Weiss H.A., Mungherera M., Onyango-Mangen P., Ngabirano E., Kajungu R., Kagugube J., Muhwezi W., Muron J., Patel V.	Crisis	34	5	1	0	192
2015	Negotiating heteronormativity: Exploring South African bisexual women's constructions of marriage and family	Lynch I., Maree D.J.F.	Feminism and Psychology	23	4	1	0	193
2015	Screening and brief intervention for intimate partner violence among antenatal care attendees at primary healthcare clinics in Mpumalanga province, South Africa	Matseke G., Peltzer K., Habil	South African Journal of Obstetrics and Gynaecology	19	2	1	0	194
2014	Increase of perceived frequency of neighborhood domestic violence is associated with increase of women's depression symptoms in a nationally representative longitudinal study in South Africa	Meffert S.M., McCulloch C.E., Neylan T.C., Gandhi M., Lund C.	Social Science and Medicine	131		1	1	195

2015	The rhetoric of rape: An extended note on apologism, depoliticisation and the male gaze in Ndou v S	Modri J.M.	South African Journal on Human Rights	30	1	1	0	196
2014	No association between cumulative traumatic experiences and sex in risk for posttraumatic stress disorder among human immunodeficiency virus-positive adults	Morris T., Naidoo P., Cloete K.J., Harvey J., Seedat S.	Journal of Nervous and Mental Disease	201	6	1	2	197
2014	Taking feminist activism online: reflections on the 'Keep Saartjie Baartman Centre Open' e-campaign	Mudavanhu S., Radloff J.	Gender and Development	21	2	1	3	198
2015	Forced sex, rape and sexual exploitation: attitudes and experiences of high school students in South Kivu, Democratic Republic of Congo	Mulumiederwa M., Harris G.	Culture, Health and Sexuality	17	3	1	5	199
2013	The life experiences of adolescent sexual offenders: Factors that contribute to offending behaviours	Naidoo L., Sewpaul V.	Social Work (South Africa)	50	1	1	0	200
2014	Prevalence and factors associated with depressive symptoms among young women and men in the Eastern Cape Province, South Africa	Nduna M., Jewkes R.K., Dunkle K.L., Jama Shai N.P., Colman I.	Journal of Child and Adolescent Mental Health	25	1	1	1	201
2014	Associations between psychosocial factors and incidence of sexually transmitted disease among South African adolescents	O'Leary A., Jemmott J.B., Jemmott L.S., Teitelman A., Heeren G.A., Ngwane Z., Icard L.D., Lewis D.A.	Sexually Transmitted Diseases	42	3	1	1	202
2013	High rates of homicide in a rural South African population (2000-2008): Findings from a population-based cohort study	Otieno G., Marinda E., Barnighausen T., Tanser F.	Population Health Metrics	13	1	1	3	203
2013	Sexual behaviour among HIV-infected new mothers in South Africa 3-12 months after delivery	Peltzer K.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	26	2	1	4	204
2013	Evaluation of the effectiveness of protection orders for female victims of intimate partner violence in vhembe district of South Africa	Peltzer K., Pengpid S., McFarlane J., Banyini M.	Journal of Psychology in Africa	23	3	1	0	205
2016	Types of domestic violence experienced by women in abusive relationships	Slabbert L., Green S.	Social Work (South Africa)	49	2	1	0	206
2015	Political transition and sexual and gender-based violence in South Africa, Kenya, and Zimbabwe: A comparative analysis	Thomas K., Mashumba M., Bere E.	Gender and Development	21	3	1	1	207
2015	Open globe injuries in patients seen at Groote Schuur Hospital, Cape Town, South Africa	Loff N.D., Mustak H., Lovelace C.	South African Journal of Surgery	51	3	1	0	208
2013	Family resilience resources in coping with child sexual abuse in South Africa	Vermeulen J., Greeff A.P.	Journal of Child Sexual Abuse	24	5	1	1	209
2013	Intimate partner violence, relationship power inequity and the role of sexual and social risk factors in the production of violence among young women who have multiple sexual partners in a peri-urban setting in South Africa	Zembe Y.Z., Townsend L., Thorson A., Suberschmidt M., Ekstrom A.M.	PLoS ONE	10	11	1	1	210
2016	Prevalence of HIV infection among survivors of sexual assault at presentation in Hospital	Adefolaju A.O.	Tropical Doctor	43	3	0	1	211
2015	A framework for the leadership of youth victims of violence to wellness	Ahanonu E.L., Jooste K.	Africa Journal of Nursing and Midwifery	17		0	0	212
2013	Review of sexuality studies in Africa: Setting a new post-2015 research agenda	Akinyemi J.O., De Wet N., Odimegwu C.O.	African Journal of Reproductive Health	20	1	0	0	213
2015	Caregiver-youth communication about sex in South Africa: The role of maternal child sexual abuse history	Anton E.E., Hipp T.N., Daniels D.A., Arora S., Cook S., Skinner D.	Journal of Child Sexual Abuse	23	6	0	1	214
2013	Association between witnessing traumatic events and psychopathology in the South African Stress and Health Study	Atwoli L., Bui J., Williams D.R., Stein M.A., Koenen K.C.	Social Psychiatry and Psychiatric Epidemiology	50	8	0	1	215
2014	Women's experiences leaving abusive relationships: a shelter-based qualitative study	Baholo M., Christofides N., Wright A., Sikweyiya Y., Shai N.J.	Culture, Health and Sexuality	17	5	0	8	216
2015	High prevalence of depression symptomatology among adolescents in Soweto, South Africa associated with being female and cofactors relating to HIV transmission	Barhafumwa B., Dietrich J., Closson K., Samji H., Cescon A., Nkala B., Davis J., Hogg R.S., Kaida A., Gray G., Miller C.L.	Vulnerable Children and Youth Studies	11	3	0	0	217
2014	Police reaction to the male victim of domestic violence in South Africa: case study analysis	Barkhuizen M.	Police Practice and Research	16	4	0	0	218
2015	Relationship between constructions of masculinity, health risk behaviors and mental health among adolescent high school boys in Durban, South Africa	Basterfield C., Reardon C., Govender K.	International Journal of Men's Health	13	2	0	0	219
2013	Rape and the Straw Man: A Response to Lindsay Kelland	Benatar D.	Journal of Interpersonal Violence	30	19	0	3	220
2014	Untold history with a historiography: A review of scholarship on afrikaner women in South African history	Blignaut C.	South African Historical Journal	65	4	0	0	221
2013	Sexual Relations between British Soldiers and Boer Women: A Methodological Approach	Boje J.	South African Historical Journal	68	2	0	0	222
2015	Education and income imbalances among married couples in malawi as predictors for likelihood of physical and emotional intimate partner violence	Bonnes S.	Violence and Victims	31	1	0	0	223
2016	Domestic violence and gendered socio-economic rights: An agenda for research and activism?	Bonthuys E.	South African Journal on Human Rights	30	1	0	0	224
2014	Responding to Men's Violence Against Women Partners in Post-apartheid South Africa: On the Necessity of Identification Across Identity's Intersections	Boonzaier F.A., Gordon S.F.	British Journal of Criminology	55	6	0	1	225
2014	Expurgating the monstrous: An analysis of the South African Daily Sun's coverage of gang rape	Boshoff P., Prinsloo J.	Feminist Media Studies	15	2	0	1	226
2015	Framing the problem of rape in South Africa: Gender, race, class and state histories	Buiten D., Naidoo K.	Current Sociology	64	4	0	1	227

2014	The experience of non-offending caregivers following the disclosure of child sexual abuse: Understanding the aftermath	Bux W., Cartwright D.J., Collings S.J.	South African Journal of Psychology	46	1	0	0	228
2015	From knowledge to action: Participant stories of a population health intervention to reduce gender violence and HIV in three southern African countries	Cameron M., Cockcroft A., Waichigo G.W., Marokoane N., Laetsang D., Andersson N.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	26	12	0	1	229
2015	Madness and defence: Interventions with sexually abused children in a low-income South African community	Capri C.	European Journal of Psychotherapy and Counselling	15	1	0	0	230
2014	BSAFER: A Web-based intervention for drug use and intimate partner violence demonstrates feasibility and acceptability among women in the emergency department	Choo E.K., Zlotnick C., Strong D.R., Squires D.D., Tape C., Mello M.J.	Substance Abuse	37	3	0	6	231
2015	Rape victim assessment: Findings by psychiatrists and psychologists at Weskoppies Hospital	Coetzee K., Lippi G.	South African Journal of Psychiatry	21	1	0	0	232
2013	Relationship Power and Sexual Violence Among HIV-Positive Women in Rural Uganda	Conroy A.A., Tsai A.C., Clark G.M., Boum Y., Hatcher A.M., Kawuma A., Hunt P.W., Martin J.N., Bangsberg D.R., Weiser S.D.	AIDS and Behavior	20	9	0	5	233
2014	Awareness campaigns as survival tools in the fight against gender-based violence in peri-urban communities of bulawayo in zimbabwe	Damba G., Lunga W., Musarurwa C.	Jamba: Journal of Disaster Risk Studies	5	2	0	0	234
2013	The question of "the black lesbian": monstrous, ideal and fictitious postapartheid citizen	de Robillard B.	Safundi	17	1	0	4	235
2013	Pre-registration nursing students' perceptions and experiences of violence in a nursing education institution in South Africa	de Villiers T., Mayers P.M., Khalil D.	Nurse Education in Practice	14	6	0	0	236
2015	Black adolescents experiences of domestic violence in South Africa: A Solution Focused Group Therapy intervention approach	Diale B.M.	Mediterranean Journal of Social Sciences	5	16	0	0	237
2015	Women's approval of domestic physical violence against wives: Analysis of the Ghana demographic and health survey	Doku D.T., Assante K.O.	BMC Women's Health	15	1	0	3	238
2014	Sexual behaviour of women in rural South Africa: A descriptive study	Dubbink J.H., Van Der Eijk L., McIntyre J.A., Mbambazela W., Jobson G.A., Ouburg S., Morze S.A., Strathers H.E., Peters R.P.H.	BMC Public Health	16	1	0	5	239
2013	The African women's protocol and sexual rights	Durajaye E., Muringi L.N.	International Journal of Human Rights	18		0	10	240
2013	Engaging with intergroup prejudice in victims of violent crime/attack	Eagle G., Benn M., Fletcher T., Shishe H.	Peace and Conflict	19	3	0	0	241
2013	Tackling gender inequalities and intimate partner violence in the response to HIV: moving towards effective interventions in Southern and Eastern Africa	Gibbs A.	African Journal of AIDS Research	15	2	0	5	242
2016	Men value their dignity': Securing respect and identity construction in urban informal settlements in South Africa	Gibbs A., Sikweyiya Y., Jewkes R.	Global Health Action	8	1	0	0	243
2014	Social support, sexual violence, and transactional sex among female transnational migrants to South Africa	Giorgio M., Townsend L., Zembe Y., Gutmacher S., Kapadia F., Cheyip M., Mathys F.	American Journal of Public Health	106	6	0	5	244
2013	Measuring Men's Gender Norms and Gender Role Conflict/Stress in a High HIV-Prevalence South African Setting	Giorgio M., Mathys F., Pettifor E., McNaughton-Reyes H.L., Maman S., MacPhail C., Kahn K., Selin A., Twine A., Pappa M., S.A.	AIDS and Behavior	20	8	0	2	245
2013	"Then you are a man, my son": Kipling and the Zuma rape trial	Graham L.	Comparative Studies of South Asia, Africa and the Middle East	36	2	0	0	246
2013	Relationship factors and trajectories of intimate partner violence among South African women during pregnancy and the postpartum period	Groves A.K., McNaughton-Reyes H.L., Foshee V.A., Moodley D., Maman S.	PLoS ONE	9	9	0	6	247
2014	How Theory Shapes Practice: Approaches to Woman Abuse and Child Abuse in South Africa	Hanson S., Patel L.	British Journal of Social Work	44	8	0	0	248
2014	Do not forget the boys – gender differences in children living in high HIV-affected communities in South Africa and Malawi in a longitudinal, community-based study	Hensels I.S., Sherr L., Skeen S., Macedo A., Roberts K.J., Tomlinson M.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	28		0	1	249
2013	The lived experiences of street children in Durban, South Africa: Violence, substance use, and resilience	Hills F., Meyer-Weitz A., Asante K.O.	International Journal of Qualitative Studies on Health and Well-being	11		0	6	250
2016	Genito-anal injury patterns and associated factors in rape survivors in an urban province of South Africa: A cross-sectional study	Jina R., Jewkes R., Vetten L., Christofides N., Sigsworth R., Loots L.	BMC Women's Health	15	1	0	0	251
2013	The dangers of educated girls and women	John V.M.	Education, Citizenship and Social Justice	11	2	0	2	252
2013	Quality of care for intimate partner violence in South African Primary Care: A qualitative study	Joyner K., Mash B.	Violence and Victims	29	4	0	0	253
2014	The development and validation of the Indian Family Violence and Control Scale	Kalokhe A.S., Stephenson R., Kelley M.E., Dunkle K.L., Paranjape A., Solas V., Karve L., Del Rio C., Sahay S.	PLoS ONE	11	1	0	3	254
2015	Uneven and Still Insufficient: South African Police Services' Station-Level Compliance With Sexual Offences Laws	Keehn E., Stemple L., Sanger C., Peacock D.	Feminist Criminology	9	2	0	2	255

2016	The Wife of Bath's ideal marriage and late medieval ideas about the domestic sphere	Knoetze R.	Scrutiny2	20	2	0	4	256
2015	Part 3: Medico-legal documentation practical completion of pages 2 and 3 of the J88 form	Kotze J.M., Brits H., Botes J.	South African Family Practice	57	1	0	0	257
2015	Part 2: Medico-legal documentation Practical completion of pages 1 and 4 of the J88 form	Kotze J.M., Brits H., Monatisa M.S., Botes J.	South African Family Practice	56	6	0	0	258
2014	HIV risk among pregnant teenagers with a history of interpersonal violence	Kuo C.C., Zlotnick C., Raker C., Tzilos G., Phipps M.G.	Journal of Aggression, Maltreatment and Trauma	23	7	0	3	259
2014	Violence against women in South Africa	Langa-Mlambo L., Soma-Pillay P.	Obstetrics and Gynaecology Forum	24	2	0	0	260
2015	Reviewing gender-based violence against women and HIV/AIDS as intersecting issues	Leburu G., Phetlho-Thekiso N.	Social Work (South Africa)	51	3	0	0	261
2015	Couples living with and around alcohol abuse: A study of a farmworker community in the Cape Winelands, South Africa	Lesch E., Adams A.R.	Social Science and Medicine	156		0	6	262
2014	Assessing sexual and reproductive health information and services: A mixed methods study of young women's needs and experiences in Soweto, South Africa	Lince-Deroche N., Hargey A., Holt K., Shochet T.	African Journal of Reproductive Health	19	1	0	0	263
2016	She's not a victim! she's my wife! Intimate partner violence: Fuelled by dangerous perpetrator attitudes	Londt M.	Social Work (South Africa)	50	4	0	0	264
2013	Domestic violence legislation for development, peace and security in nigeria	Madu J.C.	African Security Review	24	3	0	1	265
2015	Alcohol Use and Transactional Sex among Women in South Africa: Results from a Nationally Representative Survey	Magni S., Christofides N., Johnson S., Weiner R.	PLoS ONE	10	12	0	4	266
2013	Diagnosis and disclosure of HIV status: Implications for women's risk of physical partner violence in the postpartum period	Maman S., Groves A.K., Menaughton-Reves H.T., Moodley D.	Journal of Acquired Immune Deficiency Syndromes	72	5	0	5	267
2014	Performing identity': A narrative analysis of young people's talk of intimate partner violence	Marais A.	Narrative Inquiry	25	2	0	0	268
2015	Intimate partner violence in early adolescence: The role of gender, socioeconomic factors and the school	Mason-Jones A.J., De Koker P., Eggers S.M., Mathews C., Temmerman M., Leye E., de Vries P.J., de Vries H.	South African Medical Journal	106	5	0	0	269
2013	Effects of PREPARE, a Multi-component, School-Based HIV and Intimate Partner Violence (IPV) Prevention Programme on Adolescent Sexual Risk Behaviour and IPV: Cluster Randomised Controlled Trial	Mathews C., Eggers S.M., Townsend L., Aaro L.E., de Vries P.J., Mason-Jones A.J., De Koker P., McClinton Appolis T., Mtshizane Y., Koedl L., Wubs A., De Vries H.	AIDS and Behavior	20	9	0	3	270
2015	A Psychosocial Understanding of Child Sexual Abuse Disclosure Among Female Children in South Africa	Mathews S., Hendricks N., Abrahamson N.	Journal of Child Sexual Abuse	25	6	0	0	271
2013	Physical, emotional and sexual adolescent abuse victimisation in South Africa: Prevalence, incidence, perpetrators and locations	Meinck F., Cluver L.D., Boyce M.E., Loening-Voysey H.	Journal of Epidemiology and Community Health	70	9	0	19	272
2014	Violence in South African schools: Perceptions of communities about a persistent problem	Mokhele M., Mkhomo N.	Mediterranean Journal of Public Health Sciences	5	14	0	0	273
2013	Domestic violence in South Africa: Women and children's perspectives	Monaheng E.	Mediterranean Journal of Social Sciences	5	20	0	0	274
2013	Intimate partner violence as a factor associated with risky sexual behaviours and alcohol misuse amongst men in South Africa	Mthembu J.C., Khan G., Mabaso M.L.H., Simbayi L.C.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	28	9	0	5	275
2016	An assessment of the constitutional, legislative and judicial measures against harmful cultural practices that violate sexual and reproductive rights of women in South Africa	Mubangizi J.C.	Journal of International Women's Studies	16	3	0	0	276
2016	Women struggles and large-scale diamond mining in Marange, Zimbabwe	Muchadenyika D.	Extractive Industries and Society	2	4	0	7	277
2014	'A Girl Who Gets Pregnant or Spends the Night with a Man is No Longer a Girl': Forced Marriage in the Eastern Democratic Republic of Congo	Mulumeoderhwa M.	Sexuality and Culture	20	4	0	0	278
2016	Girlfriends, sex and violence: The attitudes and reported behaviours of adolescent males in a south african township	Mulumeoderhwa M., Harris G.	Social Work (South Africa)	49	2	0	0	279
2015	Social and structural factors associated with vulnerability to HIV infection among young adults in South Africa	Naidoo P., Chirinda W., Mchunu G., Swartz S., Anderson J.	Psychology, Health and Medicine	20	3	0	3	280
2013	Traumatic dissociation as a predictor of posttraumatic stress disorder in South African female rape survivors	Nothing J., Lammers K., Martin L., Seedat S.	Medicine (United States)	94	16	0	2	281
2015	Factors Contributing to Sexual Violence at Selected Schools for Learners with Mild Intellectual Disability in South Africa	Nyokangi D., Phasha N.	Journal of Applied Research in Intellectual Disabilities	29	3	0	2	282
2014	Gender, power and sexuality among youth on the streets of Durban: Socio-economic realities	Osthuis I.S., Sewpaul V.	International Social Work	57	4	0	0	283
2016	Traumatic experiences, posttraumatic stress symptoms, depression, and health-risk behavior in relation to injury among University of Nairobi students in Kenya	Othieno C.J., Okoth R., Peltzer K., Pengpid S., Malla L.O.	International Journal of Psychiatry in Medicine	50	3	0	1	284
2016	Domestic violence against women and HIV vulnerability in Nigeria	Oyekale A.S.	Mediterranean Journal of Social Sciences	5	20	0	0	285

2014	Rape Survivors' Experiences of the Silent Protest: Implications for Promoting Healing and Resilience	Padmanabhanunni A., Edwards D.	Qualitative Health Research	26	6	0	1	286
2016	Depressive symptoms and social demographic, stress and health risk behaviour among university students in 26 low-, middle- and high-income countries	Peltzer K., Pengpid S.	International Journal of Psychiatry in Clinical Practice	19	4	0	0	287
2013	Intimate partner violence victimization and associated factors among male and female university students in 22 countries in Africa, Asia and the Americas	Pengpid S., Peltzer K.	African Journal of Reproductive Health	20	1	0	0	288
2014	Sexual assault and other types of intimate partner violence in women with protection orders in Vhembe district, South Africa	Pengpid S., Peltzer K.	Violence and Victims	29	5	0	0	289
2013	Casper, crebis and the knegt: Rape, homicide and violence in the eighteenth-century rural western cape	Penn N.	South African Historical Journal	66	4	0	1	290
2016	Heavy drinking and interpersonal violence at and around different alcohol outlets in the North West Province, South Africa	Phettho-Thekiso N., Ryke E.H., Strydom H.	Social Work (South Africa)	49	1	0	0	291
2014	Who should own abuse? The nature of, and factors associated with, wife-battering	Phokojoe-Niboye M.	South African Review of Sociology	47	2	0	0	292
2013	Stigma, sexual health, and human rights among women who have sex with women in Lesotho	Poteat T.C., Logie C.H., Adams D., Mothopeng T., Lebona J., Letsie P., Baral S.	Reproductive Health Matters	23	46	0	7	293
2014	The role of fortitude in relation to exposure to violence among adolescents living in lower socio-economic areas in South Africa	Pretorius T.B., Padmanabhanunni A., Campbell J.	Journal of Child and Adolescent Mental Health	28	2	0	1	294
2013	The influence of social constructions of family on abused women's help-seeking after domestic violence	Rasool S.	South African Review of Sociology	46	4	0	0	295
2014	Help-Seeking After Domestic Violence: The Critical Role of Children	Rasool S.	Journal of Interpersonal Violence	31	9	0	3	296
2016	Trends in HIV risk behaviour of incoming first-year students at a south African university: 2007–2012	Renette J., Jacobs J., Vergnani T.	Sahara J	12	1	0	0	297
2016	Some challenges in policing domestic violence	Renzel R., Green S.	Social Work (South Africa)	51	1	0	0	298
2013	Exploring the Impact of Childhood Abuse on HIV Social and Attitudinal Factors Among Adults With and Without this History in Sub-Saharan Africa: Findings from NIMH Project Accept (HPTN 043)	Richter L., Makusha F., Komarek A., Daniels J., Coates T.	AIDS and Behavior	20	4	0	0	299
2014	High-frequency intimate partner violence during pregnancy, postnatal depression and suicidal tendencies in Harare, Zimbabwe	Shama S., Zarowsky C., Roelens K., Lemmerman M., Abrahams N.	General Hospital Psychiatry	38		0	1	300
2014	Exposure to violence and psychological well-being over time in children affected by HIV/AIDS in South Africa and Malawi	Skeen S., Macedo A., Tomlinson M., Hensels I.S., Sherr L.	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	28		0	2	301
2013	[The role of substance abuse in domestic violence: A social work perspective. Die rol van alkohol-en dwelmmisbruik by vrouemishandeling: N Maatskaplikewerk-perspektief]	Slabbert L.	Tydskrif vir Geesteswetenskap	55	4	0	0	302
2016	"They can't report abuse, they can't move out. They are at the mercy of these men": exploring connections between intimate partner violence, gender and HIV in South African clinical settings	Sprague C., Hatcher A.M., Woollett N., Sommers T., Black V.	Culture, Health and Sexuality	18	5	0	1	303
2015	When nurses are also patients: Intimate partner violence and the health system as an enabler of women's health and agency in Johannesburg	Sprague C., Woollett N., Hatcher A.M., Sommers T., Brown S., Black V.	Global Public Health	11	1-2	0	3	304
2015	South African women's conceptualisations of and responses to sexual coercion in relation to hegemonic masculinities	Stern E., Buikema R., Cooper D.	Global Public Health	11	1-2	0	0	305
2014	Clinical and neuropsychological predictors of posttraumatic stress disorder	Stubbins S., Stein D.J., Seedat S.	Journal of Affective Disorders	93	22	0	2	306
2014	Women handling of domestic violence in rural township of Alice in South Africa	Tanga P.T., Gutura P.	Anthropologist	23	3	0	0	307
2015	Safety-related moderators of a parent-based HIV prevention intervention in south Africa	Tarantino N., Goodrum N., Armistead L.P., Cook S.L., Skinner D., Toefy Y.	Journal of Family Psychology	28	6	0	1	308
2014	Silent no more: Sexual violence in conflict as a challenge to the worldwide church	Tombs D.	Acta Theologica	34	2	0	0	309
2015	Intimate Partner Violence and Depression Symptom Severity among South African Women during Pregnancy and Postpartum: Population-Based Prospective Cohort Study	Tsai A.C., Tomlinson M., Comulada W.S., Rotheram-Borus M.J.	PLoS Medicine	13	1	0	60	310
2013	Intimate partner violence and forced migration during pregnancy: Structural constraints to women's agency	Turan J.M., Hatcher A.M., Romito P., Mangone E., Durojaiye M., Odero M., Camlin C.S.	Global Public Health	11	1-2	0	2	311
2013	Racing risk, gendering responsibility: A qualitative study of how South African students talk about sexual risk and responsibility	Van Der Riet M., Nicholson T.J.	African Journal of AIDS Research	13	4	0	0	312
2014	Resilience and post-traumatic stress disorder in the acute aftermath of rape: A comparative analysis of adolescents versus adults	Van Der Walt L., Suliman S., Martin L., Lammers K., Seedat S.	Journal of Child and Adolescent Mental Health	26	3	0	2	313
2015	Emergency nurses' ways of coping influence their ability to empower women to move beyond the oppression of intimate partner violence	VanDer Wath A., Van Wyk N., Van Rensburg E.J.	African Journal of Primary Health Care and Family Medicine	8	2	0	2	314
2015	The invisibility of men in South African violence prevention policy: National prioritization, male vulnerability, and framing prevention	van Niekerk A., Tonsing S., Seedat M., Jacobs R., Ratele K., McClure R.	Global Health Action	8	1	0	4	315
2013	Does forgiveness mediate the impact of school bullying on adolescent mental health?	Van Rensburg E.J., Raubenheimer J.	Journal of Child and Adolescent Mental Health	27	1	0	2	316
2013	Selves' in contradiction: Power and powerlessness in South African shelter residents' narratives of leaving abusive heterosexual relationships	van Schalkwyk S., Boonzaier F., Gobodo-Madikizela P.	Feminism and Psychology	24	3	0	0	317

2015	Two male nurses' experiences of caring for female patients after intimate partner violence: A South African perspective	van Wyk N., van der Wath A.	Contemporary Nurse	50	1	0	0	318
2013	Depressive symptoms, burnout and the impact of events in non-professional volunteer counselors in Durban, South Africa	Vawda N.B.M.	African Journal of Psychiatry (South Africa)	17	2	0	0	319
2015	Coping behaviour, posttraumatic growth and psychological well-being in women with childhood sexual abuse	Walker-Williams H.J., Van Eeden C., Van Der Merwe K.	Journal of Psychology in Africa	23	2	0	0	320
2013	Safety and security in schools in KwaZulu-Natal	White C.J., Gina J.M., Coetzee I.E.M.	Educational Studies	41	5	0	0	321
2016	Social Cognition Variables and Victimization as Predictors of Sexual Debut Among Adolescents in South Africa and Tanzania: A Multi-group SEM Analysis	Wubs A.G., Aaro L.E., Kaaya S., Onya H., Mathews C.	AIDS and Behavior	19	12	0	0	322
2013	Associations between attitudes toward violence and intimate partner violence in South Africa and Tanzania	Wubs A.G., Aaro L.E., Mathews C., Onya H.E., Mbwambo J.	Violence and Victims	28	2	0	0	323
2015	Human rights violations among men who have sex with men in Southern Africa: Comparisons between legal contexts	Zahn R., Grosso A., Scheibe A., Bekker L.-G., Ketende S., Dausab F., Iipinge S., Beyrer C., Trapance G., Baral S.	PLoS ONE	11	1	0	3	324
2015	Risk of sexual violence: Perspectives and experiences of women in a hospital in the Democratic Republic of Congo	Zibindula G., Maharaj P.	Journal of Community Health	40	4	0	0	325



UNIVERSITY *of the*
WESTERN CAPE

Appendix H: Comparison of altmetric and citation scores

TOP CITATION SCORES							TOP ALTMETRIC SCORES							
Publication Year	Document Title	Authors	Jnl	2617	4025	MATCHED/ UNMATCHED	Publication Year	Document Title	Authors	Jnl	2617	4025		
2014	Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013	Naghavi M., Wang H., Lozano R., Davis A., Liang X., Zhou M., Vollset S.E., Abbasoglu Ozgoren A., Abdalla S., Abd-Allah F., Abdel Aziz M.I., Abera S.F., Aboyans V., Abraham B., Abraham J.P., Abuabara K.E., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M.E., Achoki T., Adetokun A., Ademi Z., Adofo K., Adou A.K., Adsuar J.C., Armlöv J., Agardh E.E., Akema D., Al Khatibouri M.J., Alasfoor D., Albittar M., Alegretti M.A., Alemán A.V., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali M.K., Ali R., Alla F., AlLami F., Allebeck P., Almazroo M.A., Al-Shahi Saliman R., Alsharif U., Alvarez E., Alvis-Guzman N., Amankwaa A.A., Amare A.T., Ameli O., Amini H., Ammar W., Anderson H.R., Anderson B.O., Antonio C.A.T., Anwari P., Apfel H., Argeseanu Cunningham S., Arsic	The Lancet	513	1279	1	MATCHED	2015	Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013	Naghavi M., Wang H., Lozano R., Davis A., Liang X., Zhou M., Vollset S.E., Abbasoglu Ozgoren A., Abdalla S., Abd-Allah F., Abdel Aziz M.I., Abera S.F., Aboyans V., Abraham B., Abraham J.P., Abuabara K.E., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M.E., Achoki T., Adetokun A., Ademi Z., Adofo K., Adou A.K., Adsuar J.C., Armlöv J., Agardh E.E., Akema D., Al Khatibouri M.J., Alasfoor D., Albittar M., Alegretti M.A., Alemán A.V., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali M.K., Ali R., Alla F., AlLami F., Allebeck P., Almazroo M.A., Al-Shahi Saliman R., Alsharif U., Alvarez E., Alvis-Guzman N., Amankwaa A.A., Amare A.T., Ameli O., Amini H., Ammar W., Anderson H.R., Anderson B.O., Antonio C.A.T., Anwari P., Apfel H., Argeseanu Cunningham S., Arsic	The Lancet	513	1279	1
2014	Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: Quantifying the epidemiological transition	A.A., Abd-Allah F., Abera S.F., Aboyans V., Abraham J.P., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M., Achoki T., Ackerman I.N., Ademi Z., Adou A.K., Adsuar J.C., Afshin A., Agardh E.E., Alam S.S., Alasfoor D., Albittar M.I., Alegretti M.A., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali R., Alla F., Allebeck P., Almazroo M.A., Alsharif U., Alvarez E., Alvis-Guzman N., Amare A.T., Ameh E.A., Amini H., Ammar W., Anderson H.R., Anderson B.O., Antonio C.A.T., Anwari P., Armlöv J., Arsenijevic V.S.A., Artaman A., Asghar R.J., Assadi R., Atkins L.S., Avila M.A., Awuah B., Bachman V.F., Badawi A., Bahit M.C., Balakrishnan K., Banerjee A., Barker-Collo S.L., Barquera S., Barregard L., Barrero L.H., Basu A., Basu S., Basulaiman M.O., Beardsley J., Bedi N., Beghi E., Bekele T., Bell M.L., Benjet C., Bennett D.A., Bensenor I.M., Benzian H., Bernabe E., Bertozzi-Villa A., Beyene T.J., Bhalla N., Bhalla A., Bhatta Z.A., Bienhoff K., Bikbov B., Biryukov S., Blore J.D., Blosser C.D., Blyth F.M., Bohensky M.A., Bolliger I.W., Basara B.B., Bornstein N.M., Bose D., Boufous S., Bourne R.R.A., Boyers L.N., Brainin M., Brayne C.E., Brazinova A., Breitborde N.J.K., Brenner H., Briggs A.D., Brooks P.M., Brown J.C., Brugha T.S., Buchbinder R., Buckle G.C., Budke C.M., Bulchis A., Bulloch A.G., Campos-Nonato I.R., Carabin H.,	The Lancet	76	597	2	MATCHED	2015	Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: Quantifying the epidemiological transition	Ozgoren A.A., Abd-Allah F., Abera S.F., Aboyans V., Abraham J.P., Abubakar I., Abu-Raddad L.J., Abu-Rmeileh N.M., Achoki T., Ackerman I.N., Ademi Z., Adou A.K., Adsuar J.C., Afshin A., Agardh E.E., Alam S.S., Alasfoor D., Albittar M.I., Alegretti M.A., Alemu Z.A., Alfonso-Cristancho R., Alhabib S., Ali R., Alla F., Allebeck P., Almazroo M.A., Alsharif U., Alvarez E., Alvis-Guzman N., Amare A.T., Ameh E.A., Amini H., Ammar W., Anderson H.R., Anderson B.O., Antonio C.A.T., Anwari P., Armlöv J., Arsenijevic V.S.A., Artaman A., Asghar R.J., Assadi R., Atkins L.S., Avila M.A., Awuah B., Bachman V.F., Badawi A., Bahit M.C., Balakrishnan K., Banerjee A., Barker-Collo S.L., Barquera S., Barregard L., Barrero L.H., Basu A., Basu S., Basulaiman M.O., Beardsley J., Bedi N., Beghi E., Bekele T., Bell M.L., Benjet C., Bennett D.A., Bensenor I.M., Benzian H., Bernabe E., Bertozzi-Villa A., Beyene T.J., Bhalla N., Bhalla A., Bhatta Z.A., Bienhoff K., Bikbov B., Biryukov S., Blore J.D., Blosser C.D., Blyth F.M., Bohensky M.A., Bolliger I.W., Basara B.B., Bornstein N.M.,	The Lancet	76	597	2
2013	Global health: Injuries	Norton R., Kobusingye O.	New England Journal of Medicine	69	97	3		2013	Prevalence of and factors associated with non-partner rape perpetration: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Jewkes R., Fulu E., Roselli T., Garcia-Moreno C.	The Lancet Global Health	31	489	3
2014	The global prevalence of intimate partner homicide: A systematic review	Stockl H., Devries K., Rotstein A., Abrahams N., Campbell J., Watts C., Moreno C.G.	The Lancet	67	431	4	MATCHED	2013	The global prevalence of intimate partner homicide: A systematic review	Stockl H., Devries K., Rotstein A., Abrahams N., Campbell J., Watts C., Moreno C.G.	The Lancet	67	431	4
2013	Prevalence of and factors associated with male perpetration of intimate partner violence: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Fulu E., Jewkes R., Roselli T., Garcia-Moreno C.	The Lancet Global Health	45	237	5		2014	Worldwide prevalence of non-partner sexual violence: A systematic review	Abrahams N., Devries K., Watts C., Pallitto C., Petzold M., Shamu S., Garcia-Moreno C.	The Lancet	23	305	5
2013	Improving Positive Parenting Skills and Reducing Harsh and Abusive Parenting in Low- and Middle-Income Countries: A Systematic Review	Knerr W., Gardner F., Cluver L.	Prevention Science	42	25	6		2015	Human rights violations against sex workers: Burden and effect on HIV	Decker M.R., Crago A.-L., Chu S.K.H., Sherman S.G., Seshu M.S., Buthelezi K., Dhalwal M., Beyrer C.	The Lancet	19	261	6
2014	Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: A propensity-score-matched case-control study	Cluver L., Boyes M., Orkin M., Pantelic M., Molwena T., Sherr L.	The Lancet Global Health	35	31	7		2013	Prevalence of and factors associated with male perpetration of intimate partner violence: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Fulu E., Jewkes R., Roselli T., Garcia-Moreno C.	The Lancet Global Health	45	237	7

2015	Prevalence of and factors associated with non-partner rape perpetration: Findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific	Jewkes R., Fulu E., Roselli T., Garcia-Moreno C.	The Lancet Global Health	31	489	8	2015	From work with men and boys to changes of social norms and reduction of inequities in gender relations: A conceptual shift in prevention of violence against women and girls	Jewkes R., Flood M., Lang J.	The Lancet	8	105	8
2016	Impact of a Gender-Transformative HIV and Antiviral Program on Gender Ideologies and Masculinities in Two Rural, South African Communities	Dworkin S.L., Hatcher A.M., Colvin C., Peacock D.	Men and Masculinities	28	12	9	2013	Global health: Injuries	Norton R., Kobusingye O.	New England Journal of Medicine	69	97	9
2014	Cumulative traumas and risk thresholds: 12-month ptsd in the world mental health (WMH) surveys	Karam E.G., Friedman M.J., Hill E.D., Kessler R.C., McLaughlin K.A., Petukhova M., Sampson L., Shahly V., Angermeyer M.C., Bromet E.J., De Girolamo G., De Graaf R., Demyttenaere K., Ferry F., Florescu S.E., Haro J.M., He Y., Karam A.N., Kawakami N., Kovess-Masfety V., Medina-Mora M.E., Browne M.A.O., Posada-Villa J.A., Shalev A.Y., Stein D.J., Viana M.C., Zarkov Z., Koenen K.C.	Depression and Anxiety	28	5	10	2015	Addressing violence against women: A call to action	Garcia-Moreno C., Zimmerman C., Morris-Gehring A., Heise L., Amin A., Abrahams N., Montoya O., Bhate-Deosthali P., Kilozzo N., Watts C.	The Lancet	11	92	10
2015	Sexual violence against women: The scope of the problem	Dartnall E., Jewkes R.	Best Practice and Research: Clinical Obstetrics and Gynaecology	27	11	11	2014	(How) Can We Reduce Violence Against Women by 50% over the Next 50 Years?	Jewkes R.	PLoS Medicine	3	72	11
2013	Male sex workers: Practices, contexts, and vulnerabilities for HIV acquisition and transmission	Baral S.D., Friedman M.R., Geibel S., Rebe K., Bozhinov B., Diouf D., Sabin K., Holland C.E., Chan R., Caerres C.F.	The Lancet	24	29	12	2016	Intimate Partner Violence and Depression Symptom Severity among South African Women during Pregnancy and Postpartum: Population-Based Prospective Cohort Study	Tsai A.C., Tomlinson M., Comulada W.S., Rotheram-Borus M.J.	PLoS Medicine	0	60	12



UNIVERSITY *of the*
WESTERN CAPE

Appendix I: Letter of information-Questionnaire



UNIVERSITY of the
WESTERN CAPE



16 December 2019

Dear Sir/ Madam,

My name is Natasha Langdown, a PhD student in the Department of Library and Information Science at University of the Western Cape, in Cape Town, South Africa. The questionnaire is part of my research for a PhD thesis. The topic of my research project is **“Bibliometric and Altmetric awareness and usage amongst Gender-Based Violence (GBV) researchers in South Africa”**.

The aim of this study is to investigate, within the changing scholarly communication landscape, the level of awareness and the usage of bibliometrics and altmetrics among GBV researchers in South Africa. I have a variety of questions that I want to ask you about your research and the value of using metrics for measuring impact.

I am therefore requesting South Africa gender-based violence (GBV) researchers on the Sexual Violence Research Initiative (SVRI) to please participate in this survey. As no names are required, your identity will remain anonymous. If you agree to participate, please read and confirm your participation by ticking the consent box. As the consent form indicates, your participation is completely voluntary, your identity remains anonymous, your responses will be kept confidential, and you are free to withdraw from the study at any time.

If you have any questions or concerns or wish to know more about this study, please contact me, Natasha Langdown at nlangdow@mrc.ac.za or you could contact my supervisor Prof Sandy Zinn at szinn@uwc.ac.za

Your participation in this study is greatly appreciated.

Kind regards,

Natasha Langdown

If you have questions about your role as a research participant, you could also contact:

University of the Western Cape

Office of the Director: Research (Research and Innovation Division)

Private Bag X17 Bellville 7535

Tel: (021) 959 2988 / 2948

Email: research-ethics@uwc.ac.za

Department of Library and Information Science University of the Western Cape

Private Bag X17 Bellville 7535 South

Africa

T: +27 (0)21 959 2137/2349

F: +27 (0)21 959 3659

jcalvertwood@uwc.ac.za/szinn@uwc.ac.za

A place of quality,
a place to grow, from hope
to action through knowledge

Appendix J: Consent Form: Questionnaire



Consent Form

University of the Western Cape

Research Project “BIBLIOMETRIC AND ALTMETRIC AWARENESS AND USAGE AMONGST GENDER-BASED VIOLENCE (GBV) RESEARCHERS IN SOUTH AFRICA”

Researcher: **Natasha Langdown**

Please initial box

4. I confirm that I have read and understand the information sheet explaining the above research project and I have had the opportunity to ask questions about the project.
5. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. (If I wish to withdraw I may contact the lead research at anytime)
6. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the reports or publications that result for the research.
7. I agree that the data collected from me can be used in future research.
8. I agree to take part in the above research project.

Name of Participant
(or legal representative)

Date

Signature

Name of person taking consent
(If different from lead researcher)

Date

Signature

Lead Researcher
(To be signed and dated in presence of the participant)

Date

Signature

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only.

Researcher:

Ms Natasha Langdown

PHD Student

021 9380470
nlangdown@mrc.ac.za

Supervisor:

Sandy Zinn, PHD

Associate Professor
University of the Western
Cape | Department of Library &
information Science
[27 21 9592349](tel:27219592349) | [27 82 5721684](tel:27825721684)

HOD:

Lizette King, PHD

Head of Department
University of the Western
Cape | Department of Library &
information Science
[27 21 9592535](tel:27219592535)
lking@uwc.ac.za

APPENDIX K: Questionnaire

Bibliometric and Altmetric awareness and usage amongst Gender-Based Violence (GBV) researchers in South Africa

Dear Sir/ Madam,

My name is Natasha Langdown, a PhD student in the Department of Library and Information Science at University of the Western Cape, in Cape Town, South Africa. The questionnaire is part of my research for a PhD thesis. The topic of my research project is "Bibliometric and Altmetric awareness and usage amongst Gender-Based Violence (GBV) researchers in South Africa"

The aim of this study is to investigate, within the changing scholarly communication landscape, the level of awareness and the usage of bibliometrics and alternative metrics (altmetrics) among GBV researchers in South Africa. I have a variety of questions that I want to ask you about your research and the value of using metrics for measuring impact.

I am therefore requesting South African gender-based violence (GBV) researchers on the Sexual Violence Research Initiative (SVRI) to please participate in this survey. As no names are required, your identity will remain anonymous. If you agree to participate, please read and confirm your participation by ticking the consent box. As the consent form indicates, your participation is completely voluntary, your identity remains anonymous, your responses will be kept confidential, and you are free to withdraw from the study at any time.

If you have any questions or concerns or wish to know more about this study, please contact me, Natasha Langdown at nlangdown@uwc.ac.za or you could contact my supervisor Prof Sandy Zinn at szinn@uwc.ac.za.

If you have questions about your role as a research participant, you could also contact:

University of the Western Cape
DVC Research and Innovation
Humanities and Social Sciences Research Ethics Committee, Research Development,
Private Bag X17 Bellville 7535
Tel: (021) 959 4111
Email: research-ethics@uwc.ac.za

Department of Library & Information Science University of the Western Cape
Private Bag X17 Bellville 7535 South Africa
T: +27 (0)21 959 2137/2349
F: +27 (0)21 959 3659
ic@redwood@uwc.ac.za/szinn@uwc.ac.za

Yours sincerely,

Researcher
Natasha Langdown
nlangdown@mrc.ac.za
0219380470

Supervisor
Prof Sandy Zinn
szinn@uwc.ac.za
021 959 2349

*Required

Informed Consent

1. 1. I confirm that I have read and understand the information sheet explaining the above research project and I have had the opportunity to ask questions about the project. *

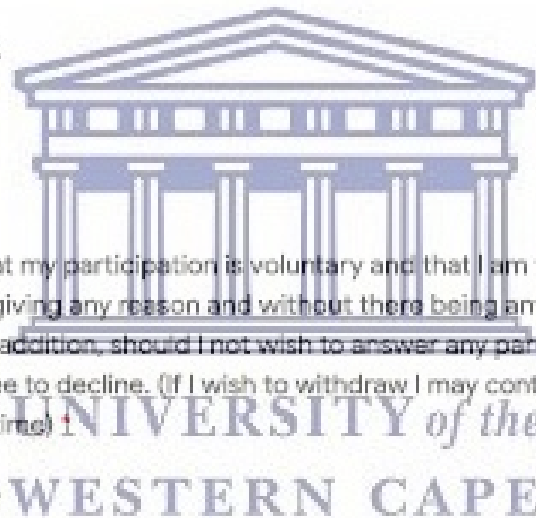
Mark only one oval.

Yes

2. 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. (If I wish to withdraw I may contact the lead researcher at anytime)

Mark only one oval.

Yes



3. 3. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the reports or publications that result from the research. *

Mark only one oval.

Yes

4. 4. I agree that the data collected from me can be used in future research. *

Mark only one oval.

Yes

5. 5. I agree to take part in the above research project. *

Mark only one oval.

Yes



UNIVERSITY *of the*
WESTERN CAPE

Section A: Demographics

Background Information

6. A.1 Age *

Mark only one oval.

30 or under

31-40

41-50

51 or Over

7. A.2 Gender

Mark only one oval.

- Female
- Male
- Other: _____

8. A.3 Type of Institution (Please choose one) *

Mark only one oval.

- University of Technology
- Historically Advantaged University
- Historically Disadvantaged University
- Research Institute/Council
- Corporate
- Non-Governmental Organisation
- Other: _____



UNIVERSITY *of the*
WESTERN CAPE

9. A.4 Please indicate your research career level? (Please choose one) *

Mark only one oval.

- Intern
- Research staff
- Junior Researcher
- Lecturer
- Senior Researcher
- Associate Professor
- Professor
- Other: _____

10. A. 5 How many years of experience do you have as a researcher? (Please exclude your Master's or PhD years of experience.) *

11. A.6 How would you describe your internet skills level? (Please choose one) *

Mark only one oval.

- Novice
 Intermediate
 Expert

12. A. 7 How often do you use social media tools? *

Tick all that apply.

	Daily	Weekly	Monthly	Never
Academia.edu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CiteULike	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connotea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F1000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facebook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Figshare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LinkedIn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mendeley	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slideshare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Twitter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wikipedia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youtube	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



UNIVERSITY of the
WESTERN CAPE

13. A.8 What motivates you as a researcher to publish? (You may choose more than one) *

Tick all that apply.

- Gaining visibility or awards
- Knowledge translation: translating research into policy and practice;
- Participating in international scientific discussion
- Gaining recognition for the quality of your research
- Sharing and collaboration

Other: _____

14. A.9 Which of the following factors do you consider when deciding to publish in a particular journal? (You may choose more than one) *

Tick all that apply.

- Academic reputation
- Acceptance Rate
- Approved Accredited Journal lists
- Impact Factors
- Open Access
- Peer Review

Other: _____



UNIVERSITY of the
WESTERN CAPE

15. A.10 Are you aware of open access (OA) journals in your field? Open access (OA) literature is a digital, online, free of charge, and most copyright and licensing restrictions. *

Mark only one oval.

- Yes
- Maybe
- No

16. A.11 Have you published your work in an open access publication? *

Mark only one oval.

- Yes
- Maybe
- No

17. A. 12 Will you consider publishing your work in OA publications in the future? *

Mark only one oval.

- Yes
- Maybe
- No

18. A.13 Do you as a researcher share your research? *

Mark only one oval.

- Yes
- Maybe
- No



UNIVERSITY *of the*
WESTERN CAPE

19. A.14 How do you as a researcher share/promote your research? (You may choose more than one) *

Tick all that apply.

- Present my work in conferences
- Present or share my work on a website
- Link up with other researchers from similar fields
- Give talks to general public
- Appear in the media
- Update my own website regularly
- Update my work on social media (e.g., twitter, slideshare, etc.)
- Write articles in blogs
- Initiate forums related to my work
- Network with other researchers from conferences and meetings
- Participate in academic social networking sites (e.g., Academia.edu, Research Gate, etc.)
- Other:

Section B: Traditional Metrics
Metrics Part 1



20. B.1 Which of the following definitions best meet your understanding of traditional metrics? (Please choose one)

Mark only one oval.

- Traditional bibliometrics, such as citation counts, journal impact factors, etc., are being used in measuring research impact.
- Traditional methods for measuring research impact include familiar metrics of bibliographic citations, peer-review and journal impact factors.
- It is metrics that measure the number of citations by people other than the authors
- Traditional metrics only measure the impact of your research through the number of citations a published paper receives. It also takes into account the impact factor of the journal to determine the impact of your research.
- Quantitative measures used to evaluate research outputs such as publications.

21. B.2 How do you assess the impact of your research? (You may select more than one response) *

Tick all that apply.

- Peer Review
- Knowledge Translation
- Quality of the research outputs (Citation counts, the h-index, and journal impact factors.)
- Funding received

Other: _____

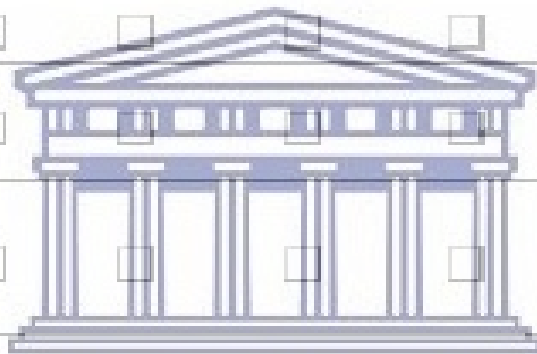


UNIVERSITY *of the*
WESTERN CAPE

22. B.3 How familiar are you with the following traditional metrics? *

Tick all that apply.

	Not at all familiar	Somewhat familiar	Moderately familiar	Extremely familiar
5-Year Journal Impact Factor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Article Influence Score	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H-index	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eigenfactor Score	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Journal Impact Factor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Journal Impact Factor Quartile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SJR (SCImago Journal Rank)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SNIP (Source Normalized Impact per Paper)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total number of citations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



UNIVERSITY of the
WESTERN CAPE

Total
number of
citations
without
self-
citations

23. B. 4 Do you consider traditional metrics when deciding whether to read a particular publication? (Please choose one)

Mark only one oval.

- Do not know/cannot answer
 Never, or almost never
 Rarely
 Sometimes
 Most of the time

24. B.5 Do you consider any of the following aspects when deciding on where to publish? (You may select more than one response) *

Tick all that apply:

- Relevance to research subject
 Publication type
 Journal quality (Impact Factor)
 Peer Review
 Open Access

Other: _____



UNIVERSITY of the
WESTERN CAPE

28. B. 9 How often do you include your Journal Impact Factors in your promotion or performance documentation? (Please choose one) *

Mark only one oval.

- Do not know/cannot answer
 Never, or almost never
 Rarely
 Sometimes
 Most of the time

29. B. 10 How often do you include your H-index in your promotion or performance evaluations? (Please choose one) *

Mark only one oval.

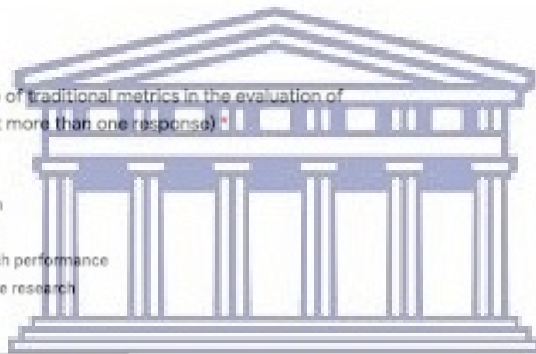
- Do not know/cannot answer
 Never, or almost never
 Rarely
 Sometimes
 Most of the time

30. B. 11 What is your opinion of the use of traditional metrics in the evaluation of scientific research? (You may select more than one response) *

Tick all that apply.

- Provides credibility for your research
 Does not reflect all research impact
 Reflects quantitatively on your research performance
 Provides the best method to evaluate research
 Measures your research successes

Other: _____



UNIVERSITY *of the*
WESTERN CAPE

25. B. 6 Do you use citations or journal impact factors to decide if an article is worth reading? (Please choose one) *

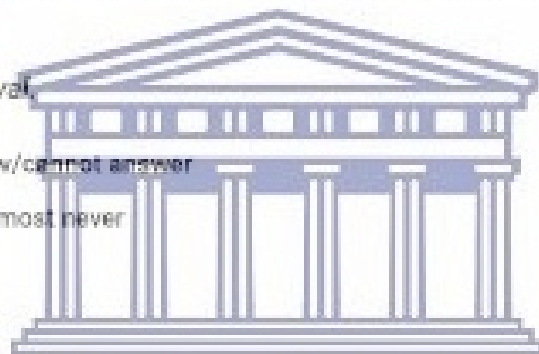
Mark only one oval.

- Do not know/cannot answer
- Never, or almost never
- Rarely
- Sometimes
- Most of the time

26. B. 7 Do you use traditional metrics in your research assessments? (Please choose one) *

Mark only one oval.

- Do not know/cannot answer
- Never, or almost never
- Rarely
- Sometimes
- Most of the time



UNIVERSITY *of the*
WESTERN CAPE

27. B. 8 How often do you include your citation counts in your promotion or performance documentation? (Please choose one) *

Mark only one oval.

- Do not know/cannot answer
- Never, or almost never
- Rarely
- Sometimes
- Most of the time

31. B. 12 Have you ever setup a citation alert for the following? (Please choose either Yes or No) *

Mark only one oval per row.

	Yes	No
Scopus	<input type="radio"/>	<input type="radio"/>
Google	<input type="radio"/>	<input type="radio"/>
Web of Science	<input type="radio"/>	<input type="radio"/>
ORCID	<input type="radio"/>	<input type="radio"/>
ResearchGate	<input type="radio"/>	<input type="radio"/>
Mendeley	<input type="radio"/>	<input type="radio"/>

32. B.12.1 If there is an alternative used for a citation alert please state below.



33. B. 13 For what purpose have you setup a citation alert? (You may select more than one response) *

Tick all that apply.

- Do not know/cannot answer
- Promotion or Performance
- Nice to know
- To track your citations
- To be notified of new articles

Other: _____

34. B. 14. Would you consider requesting a Research Officer or a Librarian to include traditional metrics in your research impact analysis? (Please choose one) *

Mark only one oval.

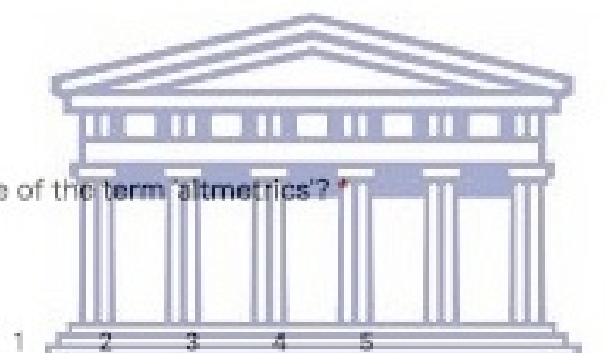
- Do not know/cannot answer
- Definitely Not
- Possibly
- Very Probably
- Definitely

Section C: Altmetrics

Metrics Part 2

35. C.1 Are you aware of the term 'altmetrics'? *

Mark only one oval.



Not at all aware

UNIVERSITY of the

Extremely aware

WESTERN CAPE

36. C.2 Which of the following definitions best meet your understanding of Altmetrics? (Please choose one) *

Mark only one oval.

- Altmetric is a system that tracks the attention that research outputs receive online
- Altmetrics measures and monitors the reach and impact of scholarship and research through online interactions
- Altmetrics, or alternative citation metrics, provides researchers and scholars with new ways to track influence across a wide range of media and platforms.
- Altmetrics tools track mentions, likes and shares on a variety of platforms
- Do not know/cannot answer

37. C.3 How important is the use of altmetrics sources for demonstrating societal impact? (Please choose one)

Mark only one oval.

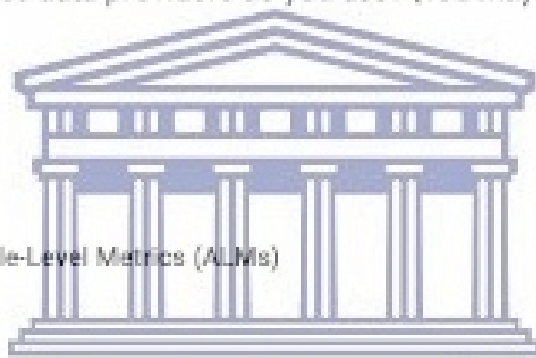
- Do not know/cannot answer
- Not Important
- Moderately Important
- Very Important

38. C.4 What altmetrics data providers do you use? (You may select more than one response) *

Tick all that apply.

- Altmetric.com
- ImpactStory
- PLOS ONE Article-Level Metrics (ALMs)
- Not Applicable

Other:



UNIVERSITY of the
WESTERN CAPE

39. C.5 How often do you include your altmetrics counts in your promotion or performance documentation? *

Mark only one oval.

- Do not know/cannot answer
- Never, or almost never
- Seldom
- Most of the time

40. C.6 Compared to citation counts, how important are altmetrics counts to you for research impact? (Please choose one) *

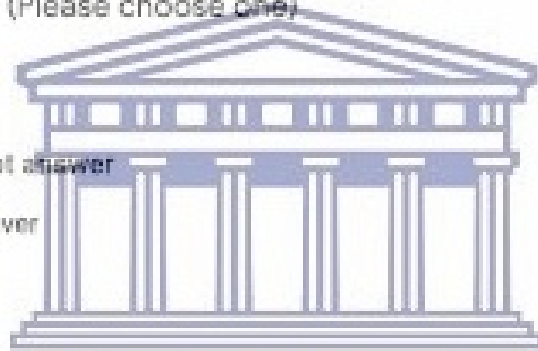
Mark only one oval.

- Do not know/cannot answer
- Not Important
- Moderately Important
- Very Important

41. C.7 Do you consider altmetrics counts when deciding whether to read a particular publication? (Please choose one)

Mark only one oval.

- Do not know/cannot answer
- Never, or almost never
- Rarely
- Sometimes
- Most of the time



UNIVERSITY *of the*
WESTERN CAPE

42. C.8 Would you consider requesting a Research Officer or a Librarian to include Altmetrics in your research impact analysis? (Please choose one)

Mark only one oval.

- Do not know/cannot answer
- Definitely Not
- Possibly
- Very Probably
- Definitely

43. C.9 Do you have any other comments?

This content is neither created nor endorsed by Google.

Google Form



UNIVERSITY *of the*
WESTERN CAPE