

Exploring “internationalization” in political psychology: A bibliometric social network analysis exploring internationalization within the International Society for Political Psychology

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Declaration

This dissertation is submitted in partial fulfilment of the requirements for the degree of Master of Social Science (Counselling Psychology), in the Graduate Programme in the School of Psychology, University of KwaZulu-Natal, Pietermaritzburg, South Africa.

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Nikolas Pautz

Date

Dr Michael Quayle

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To Mike, for always pointing me in the direction I needed to go, even if I initially did not want to go there.

To Mom and Dad, for the genes, paying my fees, and the support - I needed all three.

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Abstract

This research set out to describe the level of internationalization that exists within the journal, *Political Psychology*. The primary way in which this was done was through exploring the patterns of coauthorship between authors from different countries who have published together. The terms ‘WEIRD’ (Western, Educated, Industrialized, Rich, and Democratic) and ‘non-WEIRD’ were adopted from Heinrich et al., (2010) and used in this research to differentiate between ‘Western/core’ countries (WEIRD) and ‘non-Western/periphery’ (non-WEIRD). Bibliographic data was used to extract and produce social network maps of academic co-author collaborations that have occurred within *Political Psychology* since 1985 (when the journal was first uploaded and stored on the Thompson Reuters Web of Knowledge database) until the data was collected in 2013. These patterns of collaboration were analysed using social network analysis, and it was found that, on average, much of the scientific knowledge published by the journal originated from WEIRD countries, particularly the USA, Canada, and the UK. Additionally, WEIRD authors generally preferred to collaborate with other WEIRD authors. When authors were involved in an international collaboration, non-WEIRD authors also preferred to collaborate with WEIRD authors, but when collaboration between these two categories of authors took place, WEIRD authors were more likely to have first author status on the article as well as being more likely to publish multiple times. It is likely that these structures of collaboration restrict the ability of non-WEIRD authors to produce their own relevant knowledge within the field of political psychology, in that their collaborations are limited and usually mediated by international connections. However, the fact that there was no significant difference in degree centrality between WEIRD and non-WEIRD authors suggests there was equal activity and opportunities to collaborate with other authors in the network regardless of an authors’ categorization as WEIRD or non-WEIRD. This finding also suggests that non-WEIRD nations are not in the periphery of this network

of authors, as well as lending evidence to a state of non-dependency on WEIRD nations. Despite these findings, the patterns of authorship of publications in the journal highlights the possible risk that some knowledge disseminated in *Political Psychology* favours WEIRD interests and may not be globally relevant and applicable.

Keywords: Political psychology, internationalization, bibliometric analysis, social network analysis, social psychology, research collaboration

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Chapter 1: Introduction

This research will be focusing on the phenomenon of ‘internationalization’, specifically within the psychological subfield of political psychology. The International Society for Political Psychology (ISPP), an “interdisciplinary organisation representing all fields of inquiry concerned with exploring relationships between political and psychological processes” (ISPP, 2014), specifies “internationalization” as a key aim in its constitution. The society publishes the academic journal *Political Psychology* which will be used as the vehicle in which the level of ‘internationalization’ will be investigated.

It is becoming increasingly difficult to ignore the role of internationalization within the global academic community and the role that international collaboration plays in academic research. Collaboration can be described as the fostering of links between individuals and institutions which enables the transfer of knowledge, skills, and resources (Katz and Martin, 1997). Academic collaboration occurs when researchers work together to achieve the common goal of producing new scientific knowledge (Katz and Martin, 1997). There are many benefits that occur for both parties in a collaboration, particularly when the scientists collaborating are from different countries and bring different strengths and expertise to the research; these benefits are both direct and indirect, and occur in both the micro and macro levels of the research venture (Harrap, n.d.).

The involvement in collaborative research is facilitated by authorship and ‘sub-authorship’ (coauthorship); sub-authors, or co-authors, are individuals who contribute in some way to the research and are acknowledged by the authors of the document (Glanzel and Thijs, 2004). Adebowale (2001) asserts that “academic publishing has gathered, sieved and engraved the work of researchers, disseminating their products to the corners of the globe, and thus ensuring them a place in knowledge production in a more accentuated information-driven world” (p. 1).

The past thirty years have seen increasingly rapid advances in the field of social network analysis (Glanzel, 2003). Abbasi, Hossain, Uddin, and Rasmussen (2011) define a social network as a collection of individuals, each of whom is acquainted with some other subset of others by one or more different types of relations, such friendship, kinship, and coauthorship. Science is a social network and social networks can be studied in cases where one can

identify a relationship based upon some type of affiliation or event (Wanger and Leydesdorff, 2006). One of the ways in which these scientific social networks can be studied and analysed is through a coauthorship network; Glanzel and Schubert (2004) suggest that the coauthorship network is “one of the most tangible and well documented forms of scientific collaboration [and] almost every aspect of scientific collaboration networks can be reliably tracked by analysing coauthorship networks by bibliometric methods” (p. 1).

By mapping coauthorship networks certain academic communities (such as the International Society for Political Psychology) one may be able to describe the patterns within these networks. This could assist in identifying influential authors - such as those who are gatekeepers, deal makers, and definitive sources of information - within the network through which the knowledge is produced. It also allows one to assess the roles that the academics play in the community, and, where there is a global community, allows one to determine the level of internationalization within it.

This is why it is argued that “a coauthorship network is as much a network depicting academic society as it is a network depicting the structure of our knowledge” (Newman, 2004, p. 5200). Similarly, Krumov, Fretter, Müller-Hannemann, Weihe, and Hutt (2011) suggest that coauthorship networks should be viewed as a ‘snapshot’ of the system that produces scientific knowledge, which is shaped at the same time by social aspects contributing to scientific activity and the contemporary organisation of knowledge. Thus, this research can be viewed as investigating a snapshot of the International Society for Political Psychology’s journal, *Political Psychology*, in order to explore the level of internationalization within it.

Statement of the Problem

Psychological authorship has been characterised by a geographical imbalance. For many years, psychological research and practices have originated from primarily one country – the United States -which could in part be due to the origin and history of the discipline of psychology. Sue (1999, pp. 1072-1073; cited in Arnett, 2008, p. 602) asserted that:

“Americans are the largest producers of psychological research. The overwhelming subject of the research is Americans... [Nevertheless,] theories and principles are

developed that are mistakenly assumed to apply to human beings in general; that is, they are assumed to be universal”.

The International Society for Political Psychology (ISPP), possibly seeking to address these imbalances, explicitly states in its constitution that it strives “to facilitate communication of scientific research, theory, and practice across disciplinary, national, and ideological boundaries, both among members of the Society and those outside the Society” (Constitution of the International Society of Political Psychology, 2012). This constitutional aim of the ISPP is important as the application of internationalization to academic societies is important. One of the reasons why both the phenomenon of internationalization and the ISPP’s intention to pursue it, particularly in the broader field of psychology, is because in order for a truly universally applicable psychology to exist, it needs to originate from more than just a select few countries. These countries, such as those within the traditional Western world, have a historical majority over the publication of academic work in the field. It is important to note that the populations that are analysed in these studies are also typically unrepresentative of the rest of the world’s population, yet the conclusions reached from them are often deemed to be ‘universally applicable’ (Henrich, Heine, and Norenzayan 2010). This suggests that not all knowledge generated from these countries would be applicable, or of any use at all, to nations and people outside who do not reside in these countries.

Taking into account this historical geographical imbalance, as well as noting that the overwhelming number of members of the International Society for Political Psychology were resident in Europe or North America, Reicher (2008, cited in Nesbitt-Larking and Kinnvall, n.d.) wrote that “the challenge for ISPP [is to] build political psychology in new places, not as an add-on but as a lens through which we interrogate everything we do” (p. 17). By promoting internationalization within *Political Psychology* there is a greater chance of creating universally applicable and relevant work; cultures and societies different to those in the West may provide new ways of thinking, and new solutions to old problems. However, even if work is not more universally relevant (since each context will have specific non-generalizable characteristics) an increase in internationalization will at least demonstrate the weaknesses and non-generalizable features of political psychology models and theories. A more internationalized *Political Psychology* would, therefore, have a greater chance to be more beneficial to all people and not just a small, unrepresentative, WEIRD population.

Thus, this study aims to explore the extent to which the ISPP is achieving its constitutional intention of promoting internationalization by analysing bibliographic records from the society's journal (*Political Psychology*) to explore the degree to which the peer-reviewed academic work of the society can be considered internationalized. Of course, there may be other contexts in which the activities of the society are more or less internationalized than the society's journal, but these fall outside the scope of the present study.

Chapter 2: Review of Literature

2.1 Political Psychology

Before discussing the literature and theories related to the concept of internationalization and how one can go about assessing the level of it in an academic journal, it is important to specify the focus of the enquiry – the field of political psychology, as disseminated by the International Society for Political Psychology, and its journal, *Political Psychology*. This section of the literature will explore what political psychology is, what the academics of the field attempt to study, where it is studied, and which population of people benefit from it.

Political psychology, as the name implies, explores the intersection of political science and psychology (Perry, 2011). It is an interdisciplinary academic field which has not only experienced rapid growth, but has also become an important and influential area of research in social science. Theoretical and practical approaches of political psychology have been applied in many contexts, including leadership roles, domestic and foreign policy making, behaviour in ethnic violence, war, genocide, group dynamics and conflict, racist attitudes and behaviour, voting, nationalism, and political extremism (Cottom et al., 2010). Historically, political psychology has drawn heavily on a foundation of social psychological approaches that began in the 1940's which were designed to explore the nature and underlying foundations of human social and political behaviour (McDermott, 2012). It has evolved into a field which is dedicated to understanding politics, politicians, and political behaviour from a psychological perspective (Cottom, Dietz-Uhler, Mastors, and Preston, 2010).

Political psychologists are often focussing on large-scale social ills, such as racism and genocide (Hatemi and McDermott, 2012). In most of these politico-psychological investigations, the researchers conduct studies that either examine small samples, in order to understand the process by which it happens, or make statistical inferences for the mass publics using what they call 'representative populations' (Hatemi and McDermott, 2012).

Henrich, Heine, and Norenzayan (2010) argue that Westernised, Educated, Industrialised, Rich, and Democratic (WEIRD) nations are a truly unrepresentative group of the world demographic. There are key differences between WEIRD and non-WEIRD nations in areas such as population, income, education, and health (Arnette, 2008).

It is estimated that by 2050 the world population is expected to grow past 9 billion people; it is forecasted that nearly all of the increase will take place in the least economically developed countries in the world, and that WEIRD nations will experience little, if any growth (Ratzan, Filerman, and LeSar, 2000). According to the United Nations Human Development Report (2006), 90% of the population residing in WEIRD nations are in the top 20% of the global income distribution, while some non-WEIRD nations, such as those in sub-Saharan Africa, are currently in a situation where about half of the entire population is in the bottom 20%. A similar trend exists in the level of education a person living in a WEIRD nation, as opposed to a non-WEIRD nation, can expect to receive; in 'developing countries' (as defined by the UNDP, 2006) 20% of the children do not complete primary school, only about half of which enrol into secondary school, and tertiary education is usually reserved for the wealthy elite. In WEIRD nations, nearly all children receive primary and secondary education, and half of them progress to completing a tertiary education (UNDP, 2006). It is important to note that, regarding public health, many communicable diseases (such as malaria, pneumonia, and tuberculosis) that have been virtually eliminated in WEIRD nations, still kill millions of people every year in developing countries (Kent and Yin, 2006; cited in Arnette, 2008).

Thus, when only theories and strategies from these WEIRD nations are taken into account, the end result is something that is not internationally generalizable or even relevant to many other nations. Unfortunately, WEIRD countries have historically, and presently, produce the vast majority of scientific knowledge. An analysis of top journals from six different sub-disciplines of psychology showed that approximately 68% of participants were from the United States, and 96% of them were from WEIRD countries (Arnett, 2008). With respect to authorship, 73% of first authors were from residing at American universities and 99% of all the authors were from WEIRD countries. These findings present a situation where 99% of authors and 96% of samples used in the top six psychological journals come from countries with only around 12% of the world's population. Something crucial is lost when leaving out such a large proportion of the human population; perhaps something, which could revolutionise current theories and paradigms (Arnett, 2008; cited in Heinrich et al., 2010.).

Many of the existing models of political psychology provide useful theories and hypotheses regarding the nature and function of politically orientated differences, but they have often failed to describe large portions of the international population (Hatemi and McDermott, 2012) which lowers the overall applicability of the models. One of the reasons that this occurs is because research that lacks internationalization achieves a false sense of

generalizability; it is relevant only to the population that was taken into account during the research process (i.e. WEIRD nations and WEIRD people). Therefore, internationalization is not likely to result in unified theories that bring simplicity to the discipline, rather, internationalization will demonstrate the culture-based weaknesses and limitations embedded in current research that is so dominated by WEIRD nations.

According to Nesbitt-Larking and Kinnvall (2012), the still emerging field of political psychology takes stock of its progress, achievements, and future developments every ten years or so. Since its foundation in the 1970's, political psychology has found it useful to “construct spatial maps of the field and, in particular, to trace origins, development and impact of the field across different countries and regions (Nesbitt-Larking and Kinnvall, 2012, p. 45). Nesbitt-Larking clarifies that they were referring to a range of country and region-specific articles and chapters that have cropped up over the decades in the pages of *Political Psychology* (many of which are referenced within their article) and collections on political psychology that put together create an evolving intellectual mapping of the contributions of political psychology from different parts of the world (personal communication, June, 2014). This study, in some ways, will be following this tradition by attempting to trace the national origins of authors and co-authors and map this data using social networks maps. By doing this, internationalization in the International Society for Political Psychology can be tracked from the inception of the journal to the most recent edition. Chapter 2.2 will discuss various aspects of internationalization in detail.

2.2 Internationalization and international collaboration within academic research

2.2.1 Internationalization

Henrich et al. (2010) argue that the majority of the world's psychological research originates from a truly unusual group, that group of people being Western, Educated, Industrialised, Rich, and Democratic (WEIRD) – this group of countries is often referred to less precisely as ‘Western’. These authors maintain that while WEIRD nations comprise the majority of authors and participants in published research, they poorly represent the world's vast number of cultures, societies, beliefs, norms, traditions, and so on.

For instance, when comparing the psychological phenomenon of self-concept between Western (e.g. Australians, Americans, Canadians, and Swedes) and non-Western (Native

Americans, Maasai, and Samburu) societies, research has found that Westerners have a more independent view of the self than other non-Westerners (Heine, 2008). Personal choice is another difference between these two types of societies; it was found that feelings of free choice in one's life were considerably higher in Western nations (such as Finland) than in non-Western nations (such as Japan and Turkey; Inglehart et al., 1998). This suggests that perceptions of choice are experienced more often, and are a greater concern, in Western populations as opposed to non-Western populations. How people reason is another psychological difference between Western and non-Western populations: Western populations have been found to be and place more value in analytic reasoning, while Asian populations (and possibly more, see Norenzayan, Choi, and Peng, 2007) have more holistic reasoning (Peng and Nisbett, 1999). These examples demonstrate that it is unwise to assume that findings in one country or culture will generalize unproblematically to other countries or contexts without empirical evidence.

Therefore, research using only WEIRD population samples cannot be universalised to every other society and peoples in the world, which psychology often attempts to do. For instance, Arnett (2008) asserts that in the USA, psychological knowledge that is produced “implicitly appl[ies] to the entire human population... the entire species” (p. 602). This is one of the main reasons that the topic of internationalization is important; for a truly internationally applicable political psychology to exist – such as that within the ISPP's *Political Psychology* - there must be a more equal distribution of scientific knowledge generated from countries which encompass these different cultures, societies, and traditions.

Non-WEIRD, or ‘third world’ or ‘developing’ nations have an enormous potential to develop and increase the knowledge we have within the sciences. For example, Africa alone has roughly the same population size as Europe and North America combined; between Cairo in the North, and Cape Town in the South, there are a myriad of different cultures, languages, and environments. However, it is not just African countries that fall under the category of ‘non-WEIRD’ – it also includes countries in Asia, South America, Eastern Europe, and the Middle East, as well as many others. It does not take some complex theory or statistics to know that there is a lot that could be discovered if these countries collaborated and pooled their resources together; the amalgamation of different ways of thinking from the many different cultures and people could lead to discoveries never before even thought of and may even disrupt the ‘truths’ that have been considered universally developed with empirical research in WEIRD countries.

Whilst the term internationalization has changed definitions multiple times (van den Besselaar, Inzelt, Reale, and Turckheim, 2012), the definition that will be used in this research is simple: internationalization shall be defined as (1) the degree of participation by authors from different countries, (2), the representation of non-WEIRD as well as WEIRD countries, and (3), the extent to which there is collaboration between Non-WEIRD and WEIRD nations, and where WEIRD and non-WEIRD authors have equal position and representation within an academic community.

The section of the definition that asserts that internationalization can be equated to ‘*equal representation*’ refers to the historical, and arguably, current, WEIRD domination of psychological (and possibly other fields of) academic literature. There have been conflicting reports on research as to whether psychology as a discipline in itself has actually become more internationalized, with Arnett (2008, p. 604), concluding that “little change was found over the past 20 years”, whilst Webster, Nichols, and Schember (2009, p. 566) stated that “American psychology was becoming more international” with major American Psychology Association (APA) journals already becoming representative of the world’s research psychologists “in some respects” (p. 566).

The section of the definition, ‘*reducing the unequal position*’, refers to Alatas’s (2003) thesis that there is a global academic division of labour in scientific research (specifically in the social sciences) between WEIRD scientific ‘power countries’ other non-WEIRD countries. Alatas (2003, p. 607) describes three main characteristics of this division of labour: (1) the division between theoretical and empirical intellectual labour; (2) the division between other country studies and own country studies, and; (3) the division between comparative and single case studies. In relation to this study, these characteristics would suggest that WEIRD nations, and their academics, are in a position of being theoretical thinkers and empirical data gatherers, being able to conduct research on their own country as well as others, and have the option of conducting comparative studies. Non-WEIRD academics, however, are often in a position that is primarily limited to gathering empirical data only or testing theories developed elsewhere, are limited to conducting research within their own country only, and are subsequently limited to conducting non-comparative research.

To support his thesis, Alatas argues that one merely needs to look at the leading journals in a discipline. In his example to support the first characteristic mentioned, he looked at the author affiliation information of several issues of a leading sociology journal and found that more

than half of the articles were authored by individuals based at universities in the United States, and the vast majority of all of them were authored by academics from what he defines as scientific power countries. To support the second and third characteristics, Alatas (2003) analysed the journal, *Comparative Studies in Society and History*, and again found that most of the authors were based in WEIRD countries. However, what was interesting was the fact that many of the articles “written on Second and Third World topics... were authored by people based in one of the social science powers” (p. 608). Additionally, after analysing multiple issues of the journal, it was found that articles with a comparative perspective were most often written by academics based at a WEIRD university.

Supporting the argument that unequal relations exist between WEIRD and non-WEIRD nations regarding academic production - with WEIRD nations being in a far more powerful position - research conducted by Quayle and Greer (2012) suggests that most social psychology knowledge and expertise is located in a relatively few advanced countries, such as those classified as ‘WEIRD’. Additionally, it was found that non-WEIRD authors (specifically, those in Africa) were represented in far fewer numbers in academic journals, and have contributed much less to the available social psychological knowledge. However, it is important to note that the overall position of non-WEIRD authors within the network of social psychology journals was not too marginal. This suggests that while the position of non-WEIRD countries is far from ideal, they are in a position that can be improved upon if measures that encourage internationalization are taken. Collaboration between these WEIRD countries and other non-WEIRD countries provides an important bilateral exchange of knowledge and new ideas. If equal internationalized collaboration occurs, the ideas, knowledge, and models that can be generated have a greater chance of creating knowledge that is truly generalizable and globally relevant.

Psychology has been spread and promoted across the world with the expectation that the discipline will eventually become more internationalized and that there will be more authors representing a diverse range of countries across the globe (Adair and Huynh, 2012). However, it has been suggested that APA (American Psychological Association) journals are too narrowly focused on Americans, who comprise less than 5% of the world’s population, which has led to an understanding of psychology which is incomplete and does not adequately represent all humans (Arnett, 2008). This goes back to the argument that internationalization is necessary for an internationally applicable and relevant psychology, and subsequently, political psychology, to exist.

One of the most telling aspects of the level of ‘internationalization’ is the amount of collaboration that exists between authors of different countries – especially between WEIRD and non-WEIRD countries. Collaborative research has the potential to provide many benefits to all parties within collaborative ventures, such as access to scientific facilities that may not be locally available. However, despite the benefits that increased international collaboration can result in, this cooperation also creates its own unique problems and challenges, and, in extreme cases, may even hinder progress. There are many different factors involved when international collaborations are in play which may influence the success, or lack thereof, of international academic collaboration; for example, economic, political and intra-scientific factors have an influence on international collaboration links among individual countries (Luciana and Mourad, 2009). Some of the aspects which promote and hinder successful international collaboration will be discussed below.

2.2.2 Prompts for international collaboration.

This section will examine some of the factors which play a role in prompting international collaboration between academics. Some of these aspects include topics which draw researchers together, policies which promote collaboration between different countries, and effects that proximity may have on international collaborative activities.

Common problems, promoting policies, and geographical proximity.

Research collaboration in the sciences is a growing phenomenon and has resulted in the proportions of international co-publications increasing steadily (Ponds et al, 2007). Research suggests that problems which affect all countries, such as the current crisis of global warming, may encourage collaboration between different countries, even between WEIRD and non-WEIRD countries. A recent report from the Royal Society (London, UK) reveals the fact that non-WEIRD nations, such as Brazil, China, South Korea, and countries in the Middle East, such as Iran, are playing an increasingly prominent role in the global research network. The growing role played by these countries is driven by common causes, such as: climate changes, water, food, and energy security, population change, and loss of biodiversity (Vasconcelos et al., 2012).

Traditionally recognised scientific powerhouses, such as the United States of America, Canada, the United Kingdom, and Germany (all of which can be referred to as WEIRD

nations) have both sought out and accepted offers of research collaboration with non-WEIRD newcomer nations, such as China, Brazil, and India (Vasconcelos et al., 2012). Specifically in Brazil, scientific activity is growing so exponentially that the field of science in Brazil is considered a “hot-spot destination for seekers of science” (Vasconcelos et al., 2012, p. 405).

Many of these research collaborations are based on policies implemented at both national and international levels. The national and international policies that are introduced and implemented, or not, have an impact on the level of scientific output as well as overall collaboration with other researchers. In 2011, the Brazilian Ministry of Science and Education introduced an exchange programme named “Science Without Borders” which encourages and helps Brazilian students and post-graduates sign up for international collaborative activities in over 300 institutions belonging to both WEIRD and non-WEIRD nations (Vasconcelos et al., 2012). An example of a policy promoting collaboration on the international level is that which exists in the European Union, where collaboration is a prerequisite for funding (Ponds et al., 2007).

Often it is assumed that geographical proximity results in greater chances of research collaboration, most likely because of the implicit character of knowledge requires face-to-face interaction (Ponds, van Oort, and Frenken, 2007). However, this assumption has recently been questioned by several authors (Melmberg and Maskell, 2002; Terre and Rallet, 2005; cited in Ponds et al., 2007). These authors have suggested that geographical proximity has an indirect rather than direct role in research collaboration; it is neither a prerequisite nor is it by itself sufficient for successful collaboration. As stated by Ponds et al. (2007, p.424):

“Geographical proximity plays a more subtle and indirect role in positively influencing collaboration and knowledge exchange”. Related to the concept of proximity in collaboration is the fact that internationalization has recently received a lot of academic attention due to the increased viability of the concept, facilitated mainly by the advent of the Internet, which allows instant communication at low costs, and cheaper air travel which allows for the sharing of geographically located resources. These improvements in communication technology and lower collaboration costs seem to also reduce the importance of geographical proximity in collaborative ventures. Adding to the argument that geographic proximity no longer plays a major role in international academic collaboration, Greer and Quayle’s (2012) research reveals that African academics have better networks internationally than with neighbouring African countries, showing that proximity is not necessarily a primary factor in collaboration.

Some of the other reasons which may promote the idea of internationalization as well as international collaboration are: (1) due to the large growth in scientific fields and sub-fields (such as political psychology) there is an increasing demand and dependency in research on knowledge from different areas of expertise; (2) as many advanced scientific facilities have a high cost, it is now usual for resources to be pooled together, sometimes at the international level, which forces researchers to collaborate more closely and intensely (Ponds et al., 2007). For instance, if a super computer was needed to analyse certain data, and only certain institutions, such as universities (and their researchers), had access to these computers, the researchers who did have access to them may be included in research primarily because they have access to equipment that many other researchers do not have access to.

Despite these factors which either promote international collaboration or reduce the difficulties of collaborating, there are still other factors which present barriers to such collaborations. Some of these factors will be discussed in detail below.

2.2.3 Barriers to international collaboration

In international collaborations, especially between those in WEIRD and non-WEIRD countries, one has to take into account a myriad of differences that exist between the different countries; some of these differences stand as obstacles to internationalization and international collaboration. This section will discuss some of these differences, such as the differing costs of collaborative activities in WEIRD and non-WEIRD nations, how culture can be an impediment to research, and the power relations that may exist between WEIRD and non-WEIRD nations and, subsequently, their authors.

Costs

Living in a developing country or non-WEIRD nation usually means having a low to medium per capita income, a minority tax payer base (in terms of overall population), and lower investment and expenditures on social security (van Helden, 2012). However, the term ‘low to medium’ does not mean that the proportion of money spent on research, education, health, and so on, are lower than those of WEIRD nations; rather, it refers to the fact that these sums of expenditure are small when converted to Dollars or Euros and/or in per capita terms. This issue poses a challenge on multiple levels, but particularly for academic research which

requires a stable and reasonable amount of funding (in Euro or Dollar proportions, i.e. ‘absolute’ funding) in order to function (van Helden, 2012).

van Helden (2012) suggests that academic scholars in non-WEIRD, developing countries, face a two-fold funding challenge: the first challenge is that these nations have lower levels of absolute funding than WEIRD countries, as discussed above; secondly, developing countries also have higher absolute costs of research, despite the fact that labour costs in these nations are generally low. This results in researchers from WEIRD nations being able to do more with less money while researchers resident in developing nations may appear to be ‘too pricey’ for collaboration work (van Helden, 2012). van Helden (2012) also suggests that funding originating from agencies and organisations within WEIRD nations are critical of funding requests that appear to be overpriced, in relation to what they normally work with. It must be noted that research in some areas is generally more expensive than research in other areas; for instance, research in the natural sciences often necessitates the use of expensive equipment, such as laboratory apparatus, whilst social science research typically makes use of relatively inexpensive methods, such as interviews and surveys. Therefore, one can speculate that the type of research being conducted can affect the likelihood of non-WEIRD involvement.

One of the major challenges appears to be the removal of barriers for funding from international agencies (who may view collaboration with these non-WEIRD nations as too expensive) as international collaborations have many benefits and academics are usually enthusiastic to participate in such collaborations (van Helden, 2012). However, despite the advantages that arise when individuals from different backgrounds come together, there are also possible issues that may arise because of their differences.

Effect of culture and other nuances on collaboration

As researchers are increasingly focused on addressing social, political, and historical issues in their research, as well as discovering new knowledge and applying their studies to real-life contexts, the work of the researcher is increasingly cross-national, as well as cross-cultural in nature (Sloan and Arrison, 2011).

A central challenge has arisen from this development, that being: ensuring that individuals from different cultural backgrounds can work effectively together (Sloan and Arrison, 2011). Culture can be viewed as a management system: a shared, mutual understanding of how the world operates – subsequently, different cultures view how the world works differently,

which can lead to conflict. An individual is not limited to just one culture; for example, an individual may belong to an institutional culture (such as UKZN, or Oxford), disciplinary (psychology, or sociology), and national (South Africa, Australian). There may even be sub-cultures within these, such as theoretical preference in the same field of work (Freudian, Jungian). These cultural and sub-cultural differences are only exemplified when international collaboration takes place, and thus could be a hindrance to internationalization as much as a benefit.

Sloan and Arrison (2011) suggest that barriers to international scientific collaboration can include cultural noise; this can be defined as misunderstandings that may occur even when collaborating researchers speak the same language. Additionally, material differences in the collaborating environment can create barriers, such as when some members of the collaboration team have more privileges than other members, or earn more money - this also suggests that cultural differences may also bring certain power relations into play.

Compatible formal ethical codes, on both national and international levels, are also important to ensure smooth collaboration. If ethics and integrity are not addressed soon after a collaboration team has formed, problems (real or perceived) may arise later on and cause significant issues for the research project (Sloan and Arrison, 2011).

Whilst scientific collaboration has been investigated in the social sciences (Moody, 2004; Endersby, 1996) and natural sciences (Newman, 2004), there has been very little research conducted on the internationalization of the field of Political Psychology. Although research has found that there is an overall increasing trend in collaboration in all sciences (Moody, 2004) the tendency that it emerges varies according to different fields of inquiry. One of the main reasons for this variation in collaboration could be attributed to the approach the researchers take to research, i.e. whether they use qualitative or quantitative methods (De Stefano, Giordano and Vitale, 2012)

An African proverb states that 'he who does not know one thing knows another'; this can be expanded to today's world as 'everyone knows something, but no one knows everything'. Continuing the line of thought this proverb provokes, one can assume the benefits of successful cross-national and cross-cultural collaboration can bring into existence arrangements, understandings and discoveries that no single researcher, or a single demographic of researchers, would be able to make on their own. From this, it seems evident that for an effective and truly globally relevant political psychology to exist,

internationalization must take place in order to account for the many differences that exist within the international sphere.

It has been suggested that collaborative ventures on the global scale have historically led to disparities between the partners (Alatas, 2003) and, in conjunction with the aspects mentioned above, the possible dependency of non-WEIRD nations on WEIRD nations may play a role in the efficacy of international collaboration, as well as internationalization of the ISPP and other academic communities. This issue will be discussed in more detail below.

Dependency theory – cores and peripheries

It is important to critically consider why the need for internationalization exists in the first place. One has to take into account, amongst other things, the historical context of academic knowledge production – i.e., what happened in the past that put WEIRD nations in their current position of being academic power houses whilst non-WEIRD nations are not, as well as why and how these positions are maintained. The dependency theory - a politico-economic theory which hypothesizes that resources for wealth creation flow from the poor and underdeveloped (non-WEIRD) nations which are called ‘peripheries’ to more developed and wealthy (WEIRD) countries which are called ‘cores’ – offers one possible path to take when attempting to answer to these questions. This research will assume that the core and periphery model of nations hypothesized in the dependency theory extends into the academic community.

In support of this assumption, Alatas (2003) suggests that many non-WEIRD, previously colonised countries, are still feeling the metaphorical yoke of imperialistic ideals – specifically in scientific research. He states that many of these nations are in a state of academic dependency – a condition whereby non-WEIRD, mostly ‘third world/developing country’, researchers are dependent on their counterparts in the WEIRD ‘West’ for concepts, theories, funding, technology and research, as well as the prestige attached to publishing in Journals published in WEIRD countries; and example being the countries referred to by Alatas (2003) as “World Social Science Powers” (p. 602), like Germany, France, Britain, and North America. Alatas (2003, p. 602) defines these ‘World Social Science Power’ countries as those which (1) generate large outputs of social science research in the form of papers published in peer-reviewed journals, (2) have a global reach of ideas and information contained in these works, (3) have the ability to influence other nation’s social science

research due to the consumption of original work, and (4) have a great deal of respect and prestige internationally for their scientific work.

In the case of this research, dependency theory could possibly illuminate some of the inequalities between WEIRD (core) and non-WEIRD (periphery) nations, which could subsequently affect the internationalization of *Political Psychology*. In figure 1 below, the dependency theory's view of the 'flow' of the world is illustrated. WEIRD nations are represented as the 'core' bubble, as one whole, whilst non-WEIRD nations are represented as isolated 'peripheries'. This situation is represented in Greer and Quayle's (2013) research, where African countries are more likely to collaborate with WEIRD nations than other African countries.

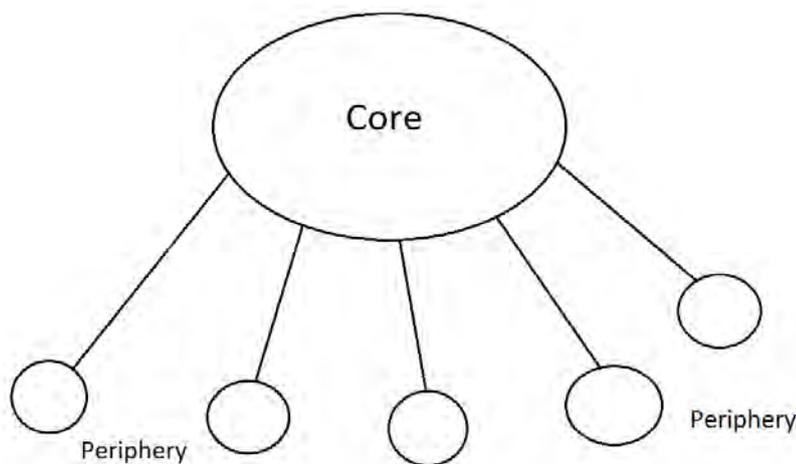


Figure 1: Diagram of dependency theory view of world. Adapted from Deiner (1999).

Some of the major propositions of the dependency theory are discussed next. Firstly, non-WEIRD nations do not exist in isolation; they are in an asymmetrical relationship with WEIRD nations, where the flow of power and control is from WEIRD (core) nations to non-WEIRD (periphery) nations. It must be clarified that the theorized control that core nations have over periphery nations is not overt; not by might. It is covert, embedded in structures, institutions, knowledge flows, and other subtle elements of the global community. Events such as policy changes and crises in WEIRD nations have a large impact on non-WEIRD nations, but not usually the other way round. Underdevelopment in non-WEIRD nations is

not a natural state, but rather an effect of the unequal relationships between cores and peripheries. Relatedly, the dependency theory also holds the view that the underdevelopment of periphery nations stimulates the development of core nations.

Importantly in dependency theory, there is a belief that this type of unequal, top to bottom, dynamic is replicated within the periphery nations themselves (Deiner, 1999). Certain agencies within these periphery nations have more power and control over others which serves to further entrench the global relationship between cores and peripheries (Deiner, 1999). The relationship between the national core, the rest of the nation, and the global system in light of the dependency theory is illustrated in figure 2 below. In relation to this research, the flow of ‘national core’ to ‘world core’ in the illustration can be considered as the asymmetrical relationship of non-WEIRD dependency on WEIRD nations, whilst the flow from ‘national peripheries’ to the national core can be considered as a replication of the former asymmetrical relationship, but within the non-WEIRD nation itself.

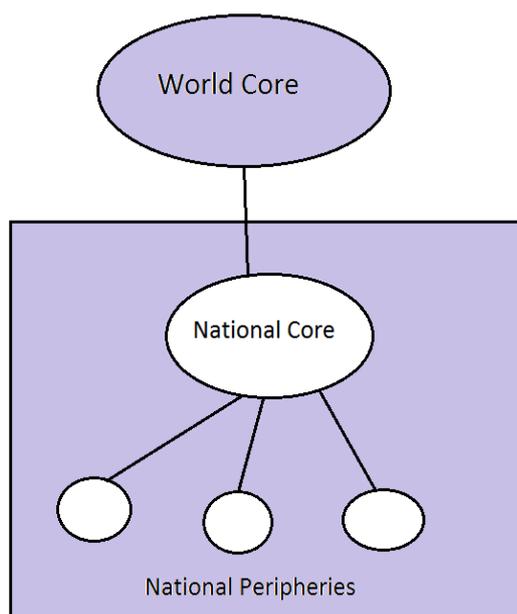


Figure 2: Diagram illustrating the dependency theory’s view of the relationship between national cores, the rest of the nation, and global cores. Adapted from Deiner (1999).

It therefore seems that there are two different types of internationalization that may occur: firstly, there is collaboration that represents any academic collaboration between authors of any two different countries – taking the collaboration at face-value; this type of internationalization will be referred to as basic internationalization. Secondly, there is collaboration that represents a more profound set of differences such as historical, cultural,

power, and so on; this type of internationalization will be referred to as depth internationalization. This research will be assessing both types of internationalization. In order to investigate the level of collaboration, and subsequently, the level of internationalization within the ISPP's journal, *Political Psychology*, this research will be making use of bibliometric and coauthorship techniques to create and analyse a social network – the social network of the collaborating authors of the journal. The history, theory, and utility of these methods will be discussed in detail below.

2.2.4 Benefits of internationalization

So far in this review of the literature, the phenomenon of internationalization has been portrayed in a mostly negative light; it has been portrayed as something that is riddled with persisting historical inequalities, such as power discrepancies between WEIRD/core nations and their affiliated authors and non-WEIRD/periphery nations and their authors. In this section, the benefits of internationalization to both WEIRD and non-WEIRD authors will be examined.

Internationalization (i.e., increased international collaboration between countries), particularly between WEIRD and non-WEIRD countries, has the potential to add much to the quality and overall relevance of academic work, both for 'core' (WEIRD) nations, as well as for 'periphery' (non-WEIRD) nations. For instance, some of the possible benefits that may occur with an increased level of internationalization can include: increased standards of scientific research, different theories and models with wider applicability, and an increase in the amount of resources that are dedicated towards education.

If non-WEIRD nations are to experience greater international exposure through collaborative research ventures, then these nations will also have to produce work which is on par with international standards; these standards include aspects such as ethics, sample selection, and dissemination of the research. This is beneficial for both WEIRD and non-WEIRD nations, as WEIRD nations will be able to benefit from the generation of this knowledge, and non-WEIRD nations will produce work of a higher quality, as well as gain exposure (and possibly more funding). Bender et al. (2011) argue that with increased international collaboration, education institutions will have a greater chance of receiving support (possibly in the form of funding) to meet the similarly increased need support the infrastructure of these ventures.

This will primarily be in the form of more post-graduates and PhD graduates being able to conduct research, but also in the form of hosting conferences and making the position of a researcher more lucrative so that brain drain, particularly in non-WEIRD nations, can be halted.

Additionally, Harrap (n.d.) suggests that there are direct and indirect benefits of international collaboration at both the micro and macro level. He lists the direct benefits that occur with the micro level as: (1) being able to access foreign or joint facilities and equipment; (2) sharing and having access to other scientist's techniques and skills; (3) increasing overall knowledge capacity, and (4); accessing unique site and populations. The indirect benefits within the micro level can include: (1) personal inspiration and reputation; (2) encourage further or additional collaborative opportunities, and (3); cultural and personal experiences (which is important when considering cultural differences are one of the main barriers to international collaboration).

Within the macro level of international collaboration, some of the direct benefits can include: (1) sharing the costs and risk of conducting the research; (2) being able to strengthen areas of weakness and (3); address transnational or global issues. The indirect benefits of international collaboration at the macro level, according to Harrap (n.d.) are: (1) an improvement of economic performance which results from increasing science and technology capacity; (2) the promotion of goodwill and understanding between authors of different nations; (3) increased inward investment, and; (4) having increased access to foreign markets.

While inequalities, such as power discrepancies, do exist within international collaboration between scientists and researchers – particularly between core/WEIRD and periphery/non-WEIRD nations – there are many possible benefits involved for authors and their affiliated nations from both categories. One can speculate that if internationalization will continue to be promoted (as it is in the ISPP) then the benefits involved in international scientific collaboration, both direct and indirect, will become more salient.

2.3 Investigating internationalization: Bibliometrics, social networks, and coauthorship networks

In this section, the history, theory, and examples of the use of bibliometrics, social networks (and social network analysis), and coauthorship networks will be discussed. In chapter 4, the methods section, how these techniques and methods will be applied in this research specifically will be discussed in detail.

2.3.1 Bibliometrics.

Alan Pritchard coined the term ‘bibliometrics’ in 1969, and suggested that it should replace the intermittently used term of ‘statistical bibliography’. He went on to define bibliometrics as the application of mathematics and statistical methods to highlight the processes of written communication and on the nature and course of development of a discipline (in so far as this is displayed through written communication), by means of counting and analysing the various facets of written communication (Pritchard, 1969).

Bibliometrics started to greatly increase from the late 1960’s. During the 70’s, the field of bibliometrics could have been considered more of a hobby by enthusiastic researchers more than a distinguished scientific discipline. During the 80’s, bibliometrics evolved into a distinct scientific discipline with several sub-disciplines and appropriate academic communication, such as journals. This was primarily due to the development of computer technology which made vast databases of bibliometric information available. During the 90’s, the decreasing cost, and increasing effectiveness, of computer technology and the development of the internet made it possible to establish metrics of the sciences outside of the United States of America (Glanzel, 2003).

Scientific research has become such a large and specialised enterprise that personal knowledge and experience, while previously sufficient, is no longer enough to fully understand trends and patterns within scientific research (Newman, 2004). Bibliometrics is one method that can highlight significant or promising areas of research and identify specific trends in scientific research (Glanzel, 2003).

Archambault and Gagne (2004) assert that bibliometrics is based on two underlying assumptions: (1) the goal of academic researchers is to advance knowledge they have found with others, which demands dissemination of the research through different media outlets, but specifically writing, which lies at the core of academic tradition; and (2) scholars must

publish (a traditional form of dissemination) in order to gain reputation and advance their careers (p. 2). If they did not write, and thus did not publish their research, their research would not be sufficiently visible to conduct a valid bibliometric analysis.

The ability to accurately track authors and the work they have published is one of the primary reasons that standardized formats for referencing and citing, such as the American Psychological Association (APA) and Harvard styles, are usually enforced in academic work. If referencing styles were unstandardized, large-scale bibliometric research would become an impossibly complicated venture.

Bibliometric research evaluates, primarily quantitatively but possibly also qualitatively, the impact that authors have within an academic community; it also analyses certain characteristics of documents or publications to find various patterns of scientific communication (Al, Taskin, and Duyzol, 2002). One of the primary quantitative methods which can make use of bibliometric data is a coauthorship network analysis. After gathering the bibliometric data of a specific journal (such as *Political Psychology*) or multiple journals, researchers then use metrics to determine author influence and identify relationships between two or more authors.

A large part of the growth and success of the field of bibliometrics has been due to the advent of tools and techniques developed by the Institute for Scientific Information (the ISI) and the research of Eugene Garfield, who was also the founder of ISI (Archambault and Gagne, 2004). The ISI, now known as the Web of Knowledge (WoK) is an online database which provides systematically organised articles from many academic journals, especially those regarded as ‘prestigious’ (Archambault and Gagne, 2004). Web of Knowledge is one of the most important indexes covering the most recent publications of natural sciences as well as social sciences and humanities from different countries around the globe; this systemic organisation of articles has considerably reduced the effort required to conduct bibliometric research (Abassi et al., 2011).

2.3.1.1 Online Databases

Online databases are, quite simply, online catalogues which store hundreds of thousands of journals and articles. While it is possible to conduct a bibliometric analysis using manually compiled data, it is much more practical to use databases which, in many cases, are constructed for the primary purpose of conducting bibliometric research (Archambault and Gagne, 2004). The fact that databases eliminate manual bibliometric data collection (which

can be extremely time consuming, as well as inaccurate) is exactly what makes them essential to bibliometric research.

2.3.1.2 Limitations of bibliometrics and online databases

While bibliometric methods are effective and useful for measuring scientific knowledge, they are more effective in some fields, such as the natural sciences, and less effective in others, such as in applied sciences (engineering, for example) (Archambault and Gagne, 2004). The variation in effectiveness of bibliometric methods on different scientific fields could be due to “fundamental differences in knowledge production and dissemination” (Archambault and Gagne, 2004, p. 9). For instance, in the Social Sciences and Humanities, peer-reviewed articles may be a lesser used medium of dissemination when compared to fields of study in the Natural Sciences and Engineering; in the Social Sciences and Humanities conference papers, non-scientific literature (such as blog posts) and monographs are commonly used to disseminate research.

Within the field of Social Sciences and Humanities there are specific bibliometric challenges that have been highlighted which reduce the effectiveness and reliability of bibliometric methods. Among these are: (1) limited coverage and the exclusion of certain types of documents (such as conference abstracts); (2) problems related to disambiguation when names are recorded differently for different publications by the same author; (3) the same terms having different meanings – i.e. unstandardized terminologies - and; (4) the distribution of research (i.e., the means of dissemination; Archambault and Gagne, 2004). One important challenge which is related to the idea of comprehensive internationalization is the fact that many lesser known academic journals are excluded from these online databases; this issue will be discussed below.

Exclusion of smaller journals

As there are many different disciplines and sub-disciplines within the social sciences (and other fields of academia) there is, consequently, a vast diversity of academic journals. Some of these journals could be considered the central or ‘core’ journals of a specific discipline, and others could be considered ‘periphery’ journals – journals which do not have as much prestige, or awareness as the ‘core’ journals. Many of these periphery journals are not well known and some are not being listed in some online databases. This may result in

bibliographic data of lesser known journals being excluded from bibliometric databases, such as the Thomson Reuters WoK.

Research in the social sciences sometimes focuses on local issues, and the target audience for the dissemination of the research can be limited to these regions or countries (when it is written in a local language, for example). Once again, this may lead to an exclusion of these types of research from international databases (Archambault and Gagne, 2004). These points also need careful consideration when examining the phenomenon of internationalization as only certain forms of ‘internationalization’ will be accessible using these methods.

However, it must be noted that the exclusion of some journals is not a problem if the research explores an area in which it can be confirmed that the index has full coverage, such as this study which analyses all papers in a single journal that has full coverage in the WoK. Additionally, despite the fact that the field of political psychology can be classified as a sub-field of the Social Sciences and Humanities, the less formal methods of scientific dissemination – such as those mentioned in section 2.3.1.2 - are not applicable for this research. This study focused on assessing whether the ISPP’s constitutional goal of increasing internationalization was being met, and did this by analysing the primary means of formal dissemination of the society, that being the journal, *Political Psychology*.

2.3.2 Social Networks

Abassi et al. (2011) define a social network as a collection of individuals, each of whom is acquainted with some other subset of others by one or more different types of relations, such as friendship, kinship, or coauthorship. Social Network Analysis (SNA) is a set of methodological tools and techniques which are used specifically to identify social structures that appear when there are interactions between individuals (Ardanuy, Urbano, & Quintana, 2009).

On a basic level, a social network consists of nodes (which are the people in the network under analysis) and groups (which the nodes construct based on their affiliations), while the links show relations or flows between nodes and groups. By identifying and analysing these social structures which individuals relate to one another, we are able to determine what specific type of structures they form, and through analysis of these, which groups and

individuals hold power and status (Ardanuy et al., 2009). In the case of this research, the primary social structure that will be identified and analysed is the academic collaboration between two or more authors within the ISPP's journal, *Political Psychology*.

Social network analysis developed initially from the theorising of Radcliffe-Brown, especially around his ideas of 'social structure'. The concept of a 'social structure' is articulated well by Brown (1965; cited in Freeman, 2013):

"Social structures become actually visible in an anthill; the movements and contacts one sees are not random but patterned. We should also be able to see structure in the life... of community if we had a sufficiently remote vantage point, a point from where persons would appear to be small moving dots... we should see that these dots do not randomly approach each other, that some meet, some never... if one could get far enough away from it, human life would become pure pattern" (p. 267).

Radcliffe-Brown (1940) describes social structures as being "just as real as are individual organisms" (p. 3) and suggests that the social phenomena which we observe in any human society (such as the ISPP) are not "the immediate result of the nature of individual human beings, but are the result of the social structure by which they are united" (p.3). According to Radcliffe-Brown, when one attempts to study a social structure, the reality with which we are concerned is "the set of actually existing relations, at a given moment of time, which link together certain human beings... it is on this that we can make direct observations" (p. 4).

Multiple fields of academia, particularly anthropology and sociology, began to expand and build upon these ideas and developed new metaphors, such as those of 'social fabric' and the 'web' of social life. A basic example of this view could be thought of in the metaphor of the spider's 'web', where every strand is somehow related or connected to the other pieces of the web, and together they make up the entire, interlinked web. From the 1930's to the 1950's, the metaphor of the social 'network' began to emerge, and with this development, investigations of the 'density' and 'texture' of these new social networks began. More formal and technical applications of these concepts began to emerge from the 1970's – this is when contemporary social network analysis was constructed.

It shall be by viewing the International Society for Political Psychology at this sufficiently remote vantage point - that of a social network map - that the patterns and social structures of internationalization, or lack thereof, within the organisation will become evident, at least in so far as the publications in the journal represent the primary activities of the society. The

specific type of social structure – or social network – that will be created in this research is a coauthorship network. The theory behind the coauthorship network and how it will be used to determine the level of internationalization within the ISPP’s journal, *Political Psychology*, will be discussed in detail below.

2.3.3 Coauthorship networks

Science is produced by academics and researchers operating within a social network, and social networks can be studied in cases where one can identify a relationship based upon some type of affiliation or event (Wanger and Leydesdorff, 2005). The relationships that will be identified in this research are the collaborations that authors undertake when conducting research and writing a multi-author paper. Relationships can be defined in many ways, including friendship, professions, or coauthorship (in the case of this research), but each type of relationship leaves some traceable indicator or are reportable in some type of way, and it is these traces and indicators that are used to draw out network maps. Researchers lay claim to their ideas or research by publishing the results of their work; this is where they leave a trace of their communications and it is here where most bibliometric data is collected. Intellectual links and collaborative scientific relationships are also likely to be acknowledged through citations, references, in-text acknowledgements, and, most importantly for this research, coauthorships (Wanger and Leydesdorff, 2005).

Coauthorship networks are social networks where the nodes are authors and the links between nodes represent joint publications, i.e., a multi-author paper. Coauthorship networks are undeniably helpful visual representations for studying and understanding the processes that shape the scientific community (see figure 3, for an example; Krumov, Fretter, Muller-Hannermann, Weike, and Hutt, 2011). It is the hope of this research that the data contained within the coauthorship network of *Political Psychology* will be useful in exploring the level of the internationalization that may exist with the journal.

The involvement in collaborative research is facilitated by authorship and ‘sub-authorship’ (coauthorship); sub-authors, or co-authors, are individuals who contribute in some way to the research and are acknowledged by the authors of the document. Authorship and sub-authorship are usually related to order; the author who is listed first is the first author, and the second listed author is the first of the sub-authors (Patel, 1973; cited in Glanzel and Schubert,

2004). It is the relationships between these authors, as well as demographic information of the individual authors, that will be used in order to determine the level of internationalization within the ISPP's *Political Psychology*.

It has been realised for some time now that the coauthorship in scientific journals provides a view on the different patterns of collaboration within an academic community (Newman, 2004). Glanzel and Schubert (2004, p. 1) go so far as to describe coauthorship as "...one of the most tangible and well documented forms of scientific collaboration. Almost every aspect of scientific collaboration networks can be reliably tracked by analysing coauthorship networks by bibliometric methods". Thus, because of its tangibility, the high level of documentation it possesses, and the fact that some authors assert it can track almost every aspect of scientific collaboration networks, this research takes the view that if any method will be able to explore the level of internationalization, coauthorship networks and their subsequent analysis can.

Scientific collaboration has become a popular topic in bibliometrics – this is mainly because collaboration can be studied almost anywhere and at any level in any social organisation (Glanzel, 2003). However, in a somewhat recent study, Laudel (2001), found that a major part of collaboration is not necessarily formally acknowledged in author credits, citations or references. One example of a less formal collaborative activity is a research colloquium: researchers often present their research in these types of forums, and it is common for some of the research that gets presented to not get published in peer-reviewed journals. Thus, although some collaborations do not lead to publication, coauthorship almost always results from, and includes, these less formal types of engagement. That is one of the main reasons that coauthorship networks are able to track almost any aspect of scientific collaboration. The two main issues that may arise when conducting a coauthorship analysis would, therefore, lay with acknowledgement of coauthorship from contributing authors and having access to records of these less formal collaborative activities (such as past conference agenda abstracts).

Newman (2004) describes coauthorship of a paper as "documenting collaboration between two or more authors"; when these authors publish multiple papers in different collaborative groups, together these collaborations form a coauthorship network. An example of a coauthorship network depicting collaborations among scientists from research institutions associated with different countries can be seen in figure 3, where nodes represent authors, and

two authors are connected to each other by a line if they have co-authored one or more papers (Newman, 2004).

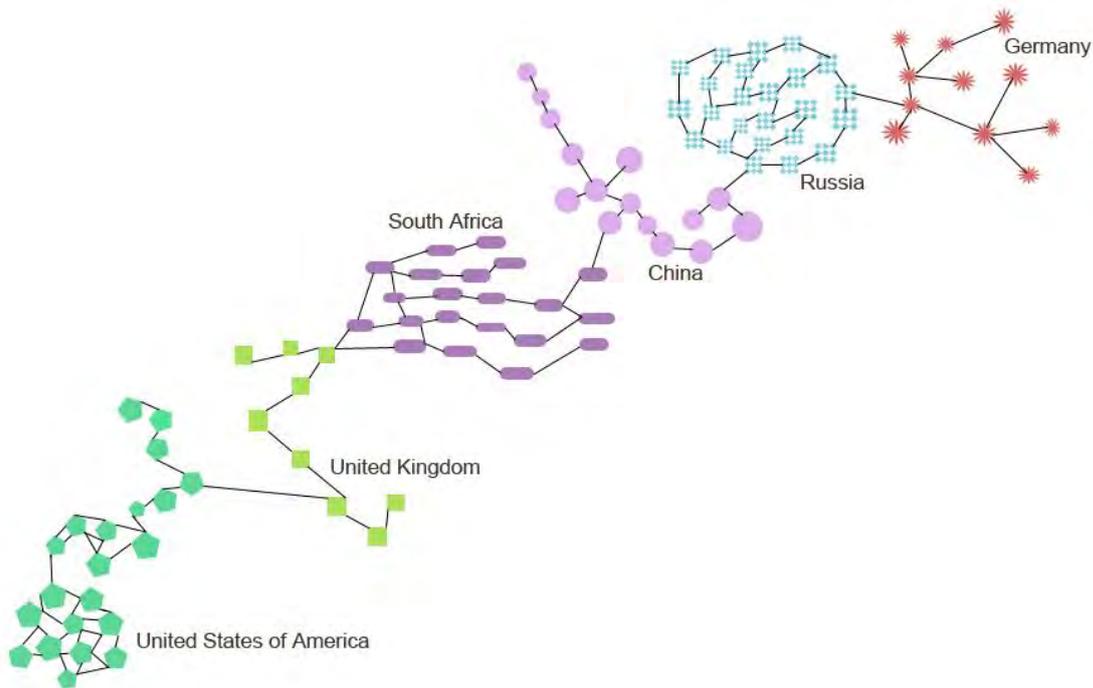


Figure 3: A fictional example of an international coauthorship network

According to Newman (2001), coauthorships are an important sub-type of social networks which have been analysed in depth, both at the general network level and the individual node level, to explore different statistical and visual characteristics. The average degree, in a coauthorship network, is the number of other authors an author is connected to in the network, and is a measure of the spread of possible influence across the network. The spread of possible influence can be described as looking at which authors have connections with other authors in the network; the more connections an authors has, the more papers they have co-published, and, therefore, the higher their level of academic prestige will be. The average distance across the network, which can be described as the number of steps it takes to go from any single author in the network to go to any other author in the network, can also be used to measure which nodes (in this case, authors) have access to other authors, and through which authors they need to go through in the network to reach others (Wagner and Leydesdorff, 2005).

The specific statistical and visual characteristics that will be used in the analysis will be discussed in chapter 4 (Methods), however, it can be said that the use of these statistics and calculations mentioned above, as well as others, allows one to gain insight into the roles that these authors play in the network. It is the aim of this research to be able to determine which authors in the network are WEIRD or non-WEIRD (by creating an index) and then to examine the role that the different categories of authors within the coauthorship network have. If there is a high level of coauthorship between authors from countries within the two categories, one can tentatively assume that there is a high level of internationalization, and vice versa. Thus, by creating a coauthorship social network using bibliometric data from *Political Psychology*, it is hoped that the present study will be able to determine, at least on a formal level, the level of internationalization that exists within the ISPPs *Political Psychology*.

When nationality information is extracted from authors' institutional affiliation records, coauthorship analysis can be useful in determining if internationalization has increased, decreased, or showed any change at all over the time period that shall be investigated. For example, if the average degree of non-WEIRD authors (the measure of spread of influence across the network) is found to be increasing over a number of years, say from the earliest published accessed paper to the most recent, it would suggest that non-WEIRD authors are in an increasingly influential position in the network. If the average distance across the network was a low number and was continuing to drop, it would suggest that the network was becoming more interconnected over time. If the betweenness measure of the graph (which shows the distribution of influence across a coauthorship network) is decreasing over time, it will suggest a trend of decentralisation of power and influence among the nodes (authors) in the network (Wagner and Leydesdorff, 2005).

This research takes the position that the formal level used in this research - i.e. the authorship data used from the peer-reviewed journals published in *Political Psychology* – is more important than all the informal internationalization that is not reflected in the research (for example, conference presentations and blog posts). The reason for this stance is that, since peer-reviewed publications are the highest-status activity in the academic endeavour, and because of the high status they hold in academia, using peer-reviewed articles instead of other means may lead to results which indicate power more effectively than other forms of collaboration.

Much research has been conducted into investigating the structures of research collaboration networks, as well as in describing and theoretically analysing the patterns involved in such social networks. Newman (2004) suggests that this type of research is useful within the field of social psychology, as it aims to describe the patterns of coauthorship networks which are created as a response to the production of knowledge and power within an international framework. The patterns and relationships of power and knowledge production within a coauthorship network will be discussed below.

2.4 The relationship between coauthorship networks, power, and the organisation of knowledge

As coauthorship networks are representative of the collaborative activities of an academic community (such as the ISPP), the analysis of these collaborative activities makes it possible to gain insight into the structure of knowledge that exists within these communities (Newman, 2004). For instance, if a coauthorship network shows that many of the authors have a large number of co-authors, as opposed to just a few co-authors, it may reflect the labour-intensive and possibly experimental nature of the research being conducted. Much research has been conducted into the investigation of the different structures that emerge within collaborative research networks, and in describing and theoretically analysing the patterns within such networks (Glänzel and Schubert, 2005; Newman, 2010). By understanding the patterns of the individuals who create our knowledge (i.e. the academic authors), it is possible to gain insight into how that knowledge production is produced.

As mentioned before, academic collaboration can be described as a type of communication between scientists, and bibliometrics can be described as a method used to analyse this communication. Therefore, coauthorship networks can be (and often are) built to analyse a specific type of communication that goes on in a specific community. In the case of this research, the community will be authors who have published in *Political Psychology* and the communication will be the formal record of collaboration from the product of that collaboration (i.e., the peer-reviewed article published in *Political Psychology*). In other words, this research will be using retrospective evidence that the authors have collaborated. The difference between using these formal records of collaboration as opposed to less formal records (such as conference agenda abstracts) is that the coauthorship network that will be

mapped from the bibliometric data extracted from these records will contain only *successful* collaborations; any unsuccessful attempts to collaborate will not be reflected.

It is important to note that there are many factors which can influence the structure of an academic community; some of these factors are overt, such as policies, and others are more subtle and are less easily identified. For instance, while science operations at the national-level are managed and directed by certain policies and funding requirements, “no global ministry of science connects people at the international level” (Wagner and Leydesdorff, 2006, p. 7). Wagner and Leydesdorff (2006) suggest that science networks at the global level self-organise into complex knowledge systems. They also assert that collaboration at the international level may very well be due to the dynamics created by the self-interest of individual researchers seeking rewards and creativity (through collaboration) more than any type of policy at the national level.

One of the less overt factors that can influence the structure of an academic community is the idea that ‘success breeds success’. This idea is presented in a general theory of bibliometric advantage, Price’s (1976) theory of cumulative advantage, which characterises some aspects of the processes involved in academic collaboration and communication. Price describes the theory of cumulative advantage below:

“Success seems to breed success. A paper which has been cited many times is more likely to be cited again than one which has been little cited. An author of many papers is more likely to publish again than one who has been less prolific. A journal which has been frequently consulted for some purpose is likely to be turned to again than one of previously infrequent use” (p.304).

Another aspect which can influence many of the choices that scientists make in collaborative work may be motivated by the reward structure within science; where coauthorships and other forms of professional recognition lead to reputation and access to additional resources (Wanger and Leydesdorff, 2006). Collaboration, perhaps even more-so within international collaboration, is dependent not only on the extent to which the outcome will enrich the resources of the individual and the organisation they are associated with, but also on how the products will add credibility to the authors’ future work (Aniekew, Hayman, Mdee, Akuni, Lall, Stevens, 2012). Thus, because so much is at stake for all parties involved in academic collaboration, the power relations within a coauthorship network may compromise the goal of internationalization within an academic society – such as if WEIRD authors were to routinely

claim first author status when collaborating with non-WEIRD authors in *Political Psychology*.

Wagner and Leydesdorff (2005) suggest that international scientific collaboration is a self-organising network, which means that the network organises itself through a process of preferential attachment. This preferential attachment occurs because of the systemic requirements for researchers and scientists to compete and collaborate with each other in order to gain recognition. Many researchers will seek out other researchers who already have acquired recognition and reputation because collaborating with these renowned researchers may increase the chance that the research results will gain attention. The concept of preferential attachment may operate more freely at an international level compared to a national level, as connections are “less encumbered by political requirements and social obligations” (Wagner and Leydesdorff, 2006, p. 4).

Whilst the influences of power mentioned by Wanger and Leydesdorff (2006) above are relatively confined to the individual scientist, power relations between academics also influences academic collaboration on a wider scale. After analysing various journals within the Social Sciences and Humanities, Alatas (2003) contentiously asserted that there is a global academic division of labour in scientific research between WEIRD scientific ‘power countries’ and non-WEIRD countries. According to Alatas (ibid.) the former are theoretical thinkers, and can conduct research on their own country as well as others, and they thus have the option of conducting comparative studies; the latter, however, are primarily limited to gathering empirical data only, are limited to conducting within their own country only, and are subsequently generally limited to non-comparative studies. This hypothesized distribution of scientific labour, if true, will have far-reaching consequences. As non-WEIRD authors are less likely to conduct international studies, this may cause their exposure to international academic circles to be reduced – subsequently reducing the level of internationalization that may be possible - as they are less likely to partake in theory-making from the empirical data they are allocated to collect, they are also likely to have a less prestigious role in the final publication.

Another factor which may have an influence on the structure and power of an academic community is the symmetry, or asymmetry, in the way that research is read and cited. For instance, authors in WEIRD countries may have higher international visibility because WEIRD journals have a higher amount of prestige and renown and are often published in

non-WEIRD countries as well as WEIRD ones (Aniekew et al., 2012). However, this is often not the case for non-WEIRD authors publishing in non-WEIRD journals.

While briefly discussed before, the role that funding plays within research must be mentioned again, but within the context of power relations in academic research. While funding is necessary for most researchers to be able to conduct and write up research, there are many factors of funding which may play an important role in the failure or success of international collaboration, and more broadly, the internationalization of research. One of these factors is that of disparities in funding; as WEIRD nations generally have a greater total spending power, one can assume that WEIRD authors subsequently also have access to more funding than their non-WEIRD counterparts. As funding has been found to increase collaboration as well as researcher productivity (Defazio, Lockett, and Wright, 2008) it stands to reason that if WEIRD authors are more likely to receive more funding, more often, they are also more likely to be involved in collaborative activities and have more chances at publication. Another important aspect of funding is that the funders may impose some of their own interests on the research (for example, pharmaceutical studies) which may limit the level of collaboration possible, as well as determining when the results should get disseminated.

One of the possible ways in which this research will attempt to distinguish between actual collaboration of equals, as opposed to disempowered collaborations, is by analysing the position which these authors occupy in journals that have both WEIRD and non-WEIRD authors. Another possible way would be qualitatively analysing the topics of WEIRD only and non-WEIRD only papers to see if there is indeed a disparity in the type of research that authors from these categories can conduct. Regardless, it appears that for international scientific collaboration to succeed effectively, a redistribution of scientific labour is needed; whether this is merely idealistic or an actual reality is beyond the scope of this research project.

From what was discussed, it seems evident that there are many underlying factors – some overt, and others more subtle - which influence the power and distribution of academic collaboration. Some of these underlying power relations may be caused by the self-promoting interests that cause academics and their respective organisation to conduct the research in the first place, whilst others are externally enforced, such as policies on the national and international levels, funding requirements, as well as the fact that there may be a disparity between what WEIRD and non-WEIRD authors are able to research and write about

Conclusion

From the literature reviewed, it seems evident that there are two possible types, or levels, of ‘internationalization’ that are possible: Firstly, there is basic level of collaboration, which involves any collaboration between authors of any two different countries (i.e. a level of international collaboration that exists across national boundaries). This first type of internationalization will be referred to as ‘basic internationalization’ in the rest of this dissertation. The secondly type of international collaboration is one that represents a more profound set of differences. Some of these differences include the more subtle elements of power, distribution of scientific labour, and the dependency of some countries on other countries (and subsequently, some authors on other authors). This type of internationalization will be referred to as ‘depth internationalization’.

The overall aim of this research was to determine whether or not the International Society for Political Psychology lives up to its explicitly stated goal within its constitution “to facilitate communication of scientific research, theory, and practice across disciplinary, national, and ideological boundaries, both among members of the Society and those outside the Society” (Constitution of the International Society of Political Psychology, 2012). In order to do this, this research will be aiming to firstly explore the basic level of internationalization within the ISPP’s journal, as mentioned above, as well as attempting to determine and explain some of the more subtle nuances which affect the second, more profound, concept of internationalization.

This research has adopted and built upon the terminologies introduced by Henrich et al. (2010), specifically that of WEIRD and non-WEIRD countries. These authors suggested that there is a large disparity between the subjects used for research within Western, educated, industrialised, rich, and democratic countries, as opposed to non-WEIRD countries; however, despite this disparity, these subjects are still used as samples for much of the research that is published in popular journals. The WEIRD and non-WEIRD terminologies will be used in order to help explore some of the more profound aspects of internationalization, such as the relative power and influence that the authors in the journal have in the coauthorship social network. These terms, and subsequent indexing and categorization of the authors, may also be beneficial in gaining insight into the basic level of internationalization, as a good indicator

of internationalization may be an increase in the frequency of non-WEIRD authors (and their respective nations) in research publications within *Political Psychology*.

It was also implied within the literature that non-WEIRD nations and their academics are more likely to be in a disempowered position compared to WEIRD nations and their academics. This is because, in the global network, WEIRD nations are suggested to be cores, whilst non-WEIRD nations are suggested to be peripheries, with the former ‘feeding’ the latter at their own expense. Some have theorised that the open-system of international collaboration promotes preferential attachment, which may lead to an exacerbation of the marginalized position of non-WEIRD nations in academic research. Academic collaboration that occurs within this context of inequality is not a positive type of collaboration – positive collaboration being defined as occurring when all partners within the academic process are equal and benefit equally from the collaboration.

However, despite these difficulties, it was also discussed that there are many possible benefits involved for all parties involved in scientific collaboration; these benefits are both direct and indirect, occur on both the micro and macro scale, and effect not only the scientists involved in the collaborative venture, but also possibly the institutions with which the scientists are affiliated with (and subsequently the country that those intuitions are based in). Whilst identifying whether the collaboration between the authors is truly positive or negative is beyond the scope of this research, using some methods, such as analysing authorship position (which will be discussed in detail in chapter 4), this research may be able to gain a tentative idea of whether there are certain types of equality, or lack thereof, in WEIRD and non-WEIRD author collaborations in the journal.

It was argued in the literature that academic knowledge would be poorer if non-WEIRD nations were excluded from international collaboration. As so much of the world’s human diversity would be lost or ignored in academic research, many views, beliefs, and perspectives which could offer new ways of thinking would be overlooked. By overlooking these different perspectives, researchers run the risk of their research being taken as a true-for-all (i.e., universally applicable) whereas more internationalized research, which takes into account these multiple perspectives, would demonstrate that the research is only true-for-some.

By creating a coauthorship social network of the collaborative activities of the ISPP’s journal, *Political Psychology*, using bibliometric data collected from an online database, it is possible

to map the level of collaboration between the authors in the journal. It will be possible to determine, at least in the domain of peer-reviewed publications in the society's journal, the level internationalization that exists within the ISPP. As the journal is a key outlet in the field of political psychology, it will provide a tentative estimate of the level of internationalization in the field of political psychology as a whole.

Chapter 3: Aims and Rationale

This research aimed to explore the internationalization of the *International Society for Political Psychology* (ISPP), focussing particularly on the activities of the society's journal, *Political Psychology*. Coauthorship analysis of the journal from 1985 (as this was the earliest listed publication of the journal) until June 2013 (when the data was collected) was used to generate social network maps detailing the relationships of multi-author collaborations specifically:

- 1) Cataloguing the nationality of all authors;
- 2) Creating an index of WEIRD and non-WEIRD countries and categorizing the countries represented by authors in the journal;
- 3) Identifying and mapping multi-national collaborations; and
- 4) Exploring whether and how international collaboration has changed over time, comparing past and more recent publications and to determine whether the International Society for Political Psychology has held true to its constitutional values of increasing internationalization.

With these aims identified, a number of research questions were developed to define, elucidate, and guide the purpose of this research. Some of the questions that were answered by undertaking this research were:

- 1) To what extent can the ISPP's publication and dissemination platforms be considered "internationalized"?
 - a) From which countries do most first authors originate?
 - b) What are the patterns of international collaboration, and do these favour authors from WEIRD countries (eg. in terms of first-authorship, or being listed as the corresponding author)?
- 2) Has internationalization increased or decreased over time?
- 3) What are the patterns of collaboration for authors from non-WEIRD countries compared to WEIRD countries?

By answering these questions, the research may be able to illuminate the level of internationalization that has taken, and is taking, place within the ISPP's journal, *Political Psychology* and to describe the form that this internationalization takes.

Chapter 4: Method

4.1 Research Design

The purpose of this research aimed to achieve insight into the characteristics of networks of publishing authors and co-authors publishing in *Political Psychology*, the journal of the International Society for Political Psychology, in order to map the development of internationalization within this organisation over a set period of time. This study may therefore be considered a descriptive study, which is a research approach obtains information about concerns the current status of the phenomena under investigation to describe ‘what exists’ with respect to the variables or conditions in a specific situation. The range of methods that can be used in descriptive research is quite large, including an investigation of the current status quo, investigating the relationship between variables, as well as developmental studies which seek to determine changes over time (Key, 1997). Whilst one of the main aims of this study was to map the development of internationalization of the journal, which could be considered a developmental study, other aspects of the phenomenon, such as the current status quo and the relationships between certain variables, were also investigated.

This research made use of bibliometric social network analysis to map patterns of collaboration between WEIRD and non-WEIRD authors who have had their research published in the International Society for Political Psychology’s journal, *Political Psychology*. To do so, the WoK database was used to identify all publications within *Political Psychology*, from the oldest publication released that was available on the database to the most recent (at the time of data collection). The oldest issue of *Political Psychology* on the WoK database was volume six, issue one, published in the year 1985; this suggests that the first 5 issues of the journal were excluded from the database, and thus this research. Details about the journal itself are discussed in detail in section 4.4.

From this corpus of publications, the author affiliation details were extracted allowing inferences to be made regarding their country of affiliation. From the sample of papers extracted, the researchers identified those that featured an author with one or more co-authors (since single author publications are generally of little use in a coauthorship network analysis). Author information was then extracted for this sample of papers, and social network analysis was used to map the authors and their patterns of connections to one another

using bibliometric data collected from the database. Each unique author constituted a node and each collaboration on a single paper constituted a link.

4.1.1 Social network analysis, bibliometrics and coauthorship networks

In chapter 2, the literature review, the history and theoretical application of social networks, bibliometrics, and coauthorships were discussed in detail. In this section, the more applied side of these methods and techniques that were used within this research are discussed.

Abassi et al. (2011) define a social network as a collection of individuals, each of whom is acquainted with some other subset of others by one or more different types of relations, such as friendship, kinship, and coauthorship. Bibliometrics refers to the source of where the data can be retrieved, whereas network analysis refers to the process of performing statistical analyses of the generated network maps (Cobo, et al., 2011).

Coauthorship networks are social networks where the nodes are authors and the links between nodes represent joint publications. They are helpful visual representations for studying and understanding the processes that shape the scientific community (Krumov et al., 2011). This section entails a description of the method of investigation that was used within the present research, the concepts used within social network analysis that pertain to the current research, as well as discussing why the methods used were useful in understanding the social structure, interconnections, and relationships of collaborating authors.

4.1.2 Units of analysis

Social network analysis maps entities (nodes) and their connections (ties) enabling a social structure to be depicted as a network (Figure 4) connecting members and directing resources. In this research a 'tie' will be depicted as any collaboration on a single publication. At the most basic level, a linkage or relationship establishes a tie between two nodes – this is also known as a dyad (Wasserman, 1994). The range and type of ties – such as the a tie between two authors, and the ties between three authors, and so on - can be quite extensive (Wasserman, 1994), but the defining feature of 'ties' is that they connect members, or authors noted on a publication, which are represented by a 'node' (Figure 4). The tie, or in the case of

this research, the publication, is considered to be property of both the nodes (authors) and therefore is not thought of as pertaining to an individual node or author (Wasserman, 1994). Social network analysis focuses on the characteristics of the ties as much as on the properties of the individual members (Otte & Rosseau, 2002). Additionally, a social network depicts the relationship between the ties that connect individuals to one another, holding to the assumption that such relationships are fostered, maintained and used by other individuals in the network (Otte & Rosseau, 2002). Thus, it may be said that social network analysis focuses on social structures and relationships between individuals forming a structured group.

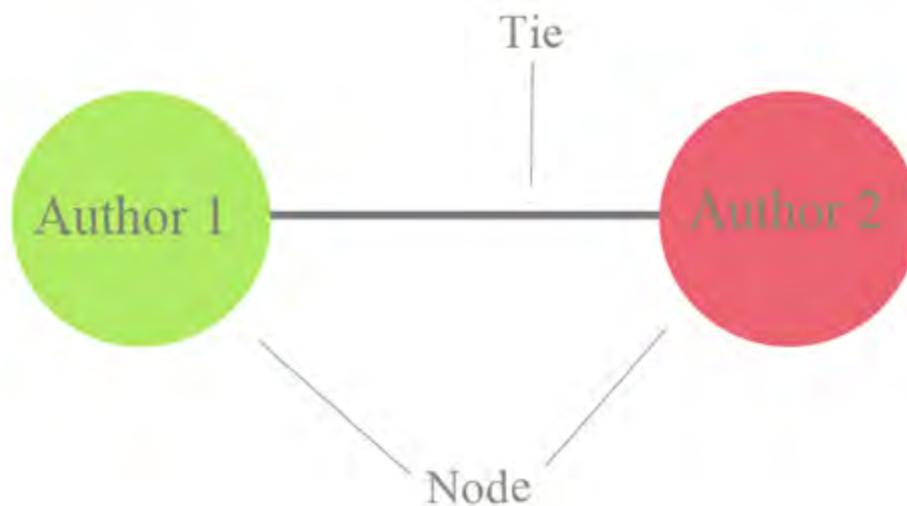


Figure 4: Figure showing the relationship between a node and a tie: Author 1 (left) and Author 2 (right) are the nodes and the thick line in the middle which connects them represents a publications that Author 1 and Author 2 have co-authored together.

4.1.3 The importance of understanding social structures

Social structures can be described as patterned social arrangements in society that are created by the actions of individuals; however, these patterned social arrangements also determine the actions that the same individuals can make. Using the quantitative metrics available in social network analysis (discussed in detailed in section 4.6.1), one is able to gain insight into the way in which networks of ties develop between people. Thus, by understanding the social network under investigation this research may provide further indication of the level of

internationalization within the ISPP's journal, *Political Psychology*, and the role that WEIRD and non-WEIRD authors play within the society.

4.1.4 Social networks analysis, bibliometrics and coauthorship: Conclusions

Using the bibliometric data in conjunction with social networks allows an analysis to be conducted which has the ability to reveal important influences that individuals have with one another in a certain society. Indeed, one of the fundamental principles of the social network theory rests on the assumption that seemingly independent and separate individuals are ultimately interconnected by social relationships and interactions. By mapping and analysing a coauthorship network of the International Society for Political Psychology's journal, *Political Psychology*, it is expected that it will be possible to determine the level of internationalization within the society, as well as to highlight the interrelatedness of WEIRD and non-WEIRD authors affiliated with *Political Psychology*.

4.2 Sample

This study will involve collecting coauthorship information from every article published in *Political Psychology* from its inception to the date that data collection was undertaken using the WoK (Thomson Reuters Web of Knowledge), which has almost full coverage of that journal. This time period ranges from 1985 to 2012; in using this time frame, it was acknowledged that those articles released prior to 1985 and therefore not on the WoK database, would be missing. However, the database allowed complete coverage of publications in the journal during that time period. One of the reasons for using this timeframe was so that the results would be longitudinal; to track changes in internationalization over time, if there has been any.

Choosing the type of archive one is making use of to collect the bibliometric data was a major decision in constructing a coauthorship network, as depending on the choice one makes, the definition of the ties in a coauthorship network and the population which is being covered will both be effected. For example, international journals, such as the journal, *Political Psychology*, may not be able to cover all kinds of papers (such as books, articles in

local journals and conference presentations) that are written by researchers as a means to communicate the outcomes of their studies (Hicks, 1999). De Stefano et al. (2012), suggest that attempting to access local databases (though they may be difficult to get access to, or may not be updated frequently) in conjunction with international databases may help to define coauthorship relationships through all types of research outputs. However, as mentioned, this research only made use of one journal, *Political Psychology* (in order to determine if the ISPP's constitutional aim of increasing internationalization is evident in the societies' journal), taken from one database (because it has almost complete coverage of the publications), the only problems that may be experienced in this research is that of different formats used in the database, which will be discussed in detail in section 4.5.2 and possible bias involved on behalf of the journal itself during its selection process for publications.

The population of authors used for the research was drawn from the WoK database, for two reasons: firstly, it has full coverage of the journal *Political Psychology* during the time period being analysed (as mentioned above), and secondly, it allows exporting of author affiliation data for individual authors instead of just for the corresponding author, as allowed by other databases.

4.2.1 Ethical issues in relation to the sample

As the data to be used was from the public domain, and no human subjects were used in this project, the level of ethical risk for this project was minimal. As the data to be used in this research project was accessed through a database, Thompson Reuters Web of Knowledge, which was subscribed to by the University of KwaZulu-Natal, and the ISPP archives, which is publically accessible, informed consent was not needed to access the details which will be necessary to complete this research project. No parties were exposed to any level of risk as a result of this procedure. The ethical concern of social justice were also satisfied by the addition to the current body of literature on social network analysis, bibliometrics, and internationalization. This research will also be available on the internet for anyone to read freely and to use in future research.

4.3 Validity, Reliability and Rigour

Prell (2011, p. 77) defines the concept of reliability as that which is “concerned with the extent to which a measurement will yield the same results time and time again”. This implies that the measured variable will stay stable over time. This is, generally, problematic for the analysis of ‘live’ social networks as their features tend to change more frequently than other variables, such as gender or socio-economic class (Prell, 2011). However, as the aims for this study were descriptive in nature and the aim is to describe a historical dataset, issues of reliability were therefore not relevant and researchers will be able to analyse the same publicly available data and reach the same conclusions.

Validity is concerned with the extent to which a measurement truthfully reflects the concept or variable that one is attempting to measure (Prell, 2011). Campbell (1957) conceptualized two types of validity for research, that of external validity (which refers to the generalisability of the results) and that of internal validity (which refers to the internal logic of the research project); the latter of which he described as “prior and indispensable to consideration” (Campbell, 1957, p. 165).

Campbell also provided an overview of threats to both types of validity. The threats for internal validity are: history (the threat of covarying effects), maturation (the threat of independent natural change), testing (reactive effects to participating in a study), instrument decay (measurement unreliability), regression to the mean (statistical regression of extreme subjects) and subject mortality (participant dropout). None of these threats to internal validity were of concern for this research, primarily for the reason that the study is descriptive in nature, the data used is archival and from a set time-frame and the measured variables (social network analysis indices) are fixed constructs that cannot not change in relation to testing.

Campbell’s threats to external validity include: subject selection (generalisability to participants), generalising to other conditions (other operationalisations of the same type of study), and generalising to other operationalisations of the outcome measures (dependant variables). There was some concern for the first threat, subject selection; whilst the full population of authors who have published multi-author papers within the journal will be used in this study, the outcomes of this particular sub-context of the International Society for Political Psychology will be used to make comments about the society as a whole – thus, there will be some implicit generalization. It has already been discussed that the journal will

not have the same types or level of internationalization as other less formal activities and outlets, such as the ISPP's annual conference. The methodology used within this research may be used in other similar research if the same theoretical frameworks (bibliometrics and social network analysis) and analysis software (Sci2, Visone, SPSS) were used.

4.4 Political Psychology – the Journal

Political Psychology is a peer-reviewed academic journal published on behalf of the International Society of Political Psychology. According to a report (Journal Citation Reports, 2012), in 2012, the journal had an impact factor of 1.418, ranking it 30th out of 157 journals in the category 'Political Science' and 19th out of 59 journals in the category 'Psychology, Social'. The oldest reference that was found to the journal was an article published in volume six, issue one, in the year 1985; whilst at the time that the data was collected, the journal was on volume 34. This information was found on the Thomson Reuters WoK database (as of June, 2013), which has coverage from this time point until when the data for this research was collected. The first volume of *Political Psychology*, was published in 1980; generally, one volume gets published a year, with different issues being released on a bi-monthly frequency. It must be noted that there was very little trace of these earlier journal volumes; one can speculate that because internet access was not widespread in the early 1980's, volumes 1-5 of *Political Psychology* were not digitally stored. Thus, the data that was extrapolated from the journal encompassed all multi-author papers published in *Political Psychology* that had been uploaded and stored on the WoK database at the time of data collection (June, 2013).

4.5 Data Collection

The search strategy used in this research was exclusively limited to the use of the ISPP's journal, *Political Psychology's*, name. The reason for this is that this research was focused only on discovering the articles within this journal, and no other. Raw data was exported from the WoK database and saved in a Text File (.txt) format. These raw files were then imported into the free software tool called the 'Science of Science (Sci²) Tool' (<http://sci2.cns.iu.edu/>).

The team who designed and programmed this software describe it has ‘a modular toolset that provides several methods to deal with bibliometric (citation, co-author) data, to prepare it for later analysis (Cobo, López-Herrera, Herrera-Viedma and Herrera, 2011, p. 1389; Sci2 Team, 2009). This tool allowed the dataset to be converted to a format compatible with Microsoft Excel. Once the dataset was imported onto Excel, a custom VBA Script was run to extract the individual authors and affiliation information. This script had already been written and tested and the process will be described below (Quayle and Greer, 2012). Once processed, the extracted bibliographic coauthorship data was then imported to both Visone (Visone, 2011), which was used in the analysis and visualization of social networks, and Statistical Package for the Social Sciences (SPSS), which was used for statistical comparisons that were not available in Visone. This procedure will now be discussed in detail.

4.5.1 Software tools used.

Before a discussion on the procedures used in this research can take place, it is necessary to establish an understanding of the software tools that were used in both in the collection and the analysis of the data. The software tools, and what they were used for, were:

- (1) *ISI Web of Knowledge Web platform*: this was used to collect the bibliographic records of the journal in a text-format.
- (2) *Sci2*: This software tool was used to process WoK format text records (.isi), remove duplicates, and convert the format of the data to a delimited table.
- (3) *Excel/Visual Basic Script*: This custom script was used to step through records and extract information, such as author, country, and continent, as well as extract the link list.
- (4) *Visone*: this software allows the visualization and analysis of the coauthorship network under investigation.
- (5) *Statistical Package for the Social Sciences (SPSS)*: SPSS was used for statistical comparisons.

4.5.2 Bibliometric data extraction from Thomson Reuters WoK database and collation.

This section shall entail a step by step discussion of the procedure that was used to extract the author details that were needed for this research from the Thomson Reuters Web of Science database.

Step one: Thomson Reuters Web of Knowledge was accessed through the University of KwaZulu-Natal subscription.

Step two: A search was conducted for all articles published in the journal *Political Psychology*. The earliest multi-author publication stored on the Thomson Reuters Web of Knowledge database for *Political Psychology* was in the year 1985 whilst the most recent publications were from the 2012.

Step three: In June, 2013, all available publications from the journal were downloaded and saved as a Plain Text format, in batches of 500 records (as that is the maximum allowed per batch), with each batch saved separately.

Step four: Once all the articles/records that were available on the Thomson Reuters Web of Knowledge database for the Journal of Political Psychology had been successfully saved and stored, the next step was to collate all the records together in one plain text format file using Notepad++ (Don Ho, 2011) to accommodate the very large file size of the combined file.

This was the final product of this stage of the data collection. From here, this single file containing all the Thomson Reuters Web of Knowledge's bibliometric data about the ISPP's journal, *Political Psychology*, and the authors who wrote the papers published within it was processed further. In the following section, this process will be discussed in detail.

4.5.3 Procedure for converting extracted WoK data into a Microsoft Excel spreadsheet.

Step one: The .txt combined journal and keyword search file containing all the raw data records was imported into the 'Science for Science (Sci2) Tool' to remove duplicate records and convert the combined dataset to.csv format so that it could be opened as a Microsoft

Excel spread sheet: (a) firstly, the Sci2 software was launched and (b) the .txt file was then opened in Sci2, specifying WoK as the database format; (c) the duplicates were then removed using Sci2 algorithms, and (d) the processed data was then saved in comma-delimited (.csv) format.

Step two: The .csv file was then opened in Microsoft Excel.

Step three: A custom-written VB script was then run on the data that:

- a. Extracted each author from each bibliographic record in surname, initial format.
- b. Extracted the affiliation data for each author where the format of the WoK record allowed. A small proportion of records used an older version of the WoK format that did not allow affiliation data to be extracted for middle-ranked authors on publications with more than two authors. The information needed for these ‘middle-ranked authors’ and their publications was manually searched for on the Wiley Online Library database, which hosts the “world’s broadest and deepest multidisciplinary collection of online resources” (Wiley Online Library, 2013), searching specifically for the author and the PDF version of the paper they wrote to find out which university or organisation, and subsequently, which country they wrote it from.
- c. Extracted the country information from the affiliation record for each author.
- d. Extracted the date of the publication for each collaborative article.
- e. Wrote the author and affiliation information for each author to an “author properties” table.
- f. Ran through the author properties table and removed duplicate entries, saving only the most recent country location for each author and wrote to the table details of each author including; (i) author surname and initials, (ii) the publication address, (iii) the mean number of authors that have been involved in that author’s publications, (iv) the mean position of the author in publications, (v) the total number of multi-author papers published by the author, (vi) the continent that the author was from, and (vii) the year that they published their most recent article. The VB script also calculated each author’s mean homogenous country collaboration indicator; this indicator was calculated by coding all papers with author from only one country as ‘1’ and papers with authors from more than one country were coded as ‘0’, and then calculating the average of these scores. The higher an author’s homogenous country

collaboration indicator, the greater the proportion of their collaborations were with authors of the same nationality as themselves.

Although the custom VB-script was able to extract most of the information needed, it must be noted that the WoK database is not consistent in the way that it records full names for each author. For example, in the case of authors with multiple publications, their names sometimes appear in *author-initial* format, and sometimes in *full surname, first name* format, as well as sometimes in the *surname, first name, initial* format. Therefore, the algorithm used to extract the author information has to choose between two evils: (1) accidentally treating one author of two publications as different authors when their name appears in different formats in the database; or (2) accidentally treating two authors with the same surname and first initials as the same author when only surname and initial were recorded. In the case of this research, after the data was collected, it was found that many highly published authors appeared with multiple name formats, and it was decided to convert to surname-initial format despite the risk of accidentally combining papers by multiple authors with the same surname-initial combination into a single author record.

g. Wrote entries in a linked-list specifying a social network tie between each author-pair for the authors collaborating on a paper, repeating the procedure for each paper in the database (see figure 5 for an example of a linked list)

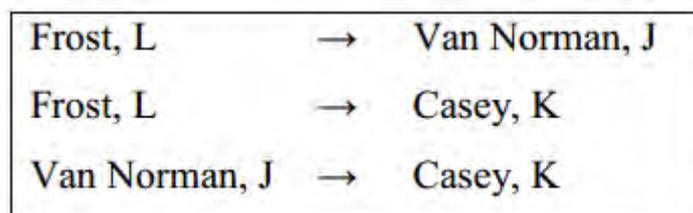


Figure 5: An example of a Linked List: Three collaborating authors working on a single paper

At this point in the data processing, the VBA script produced two forms of data. The first data was the linked-list defining social network connections (links), as shown above. A linked-list can be described as a data structure consisting of a group of nodes which, together, represent a sequence. In the case of this research, the nodes were the authors who were linked to other authors based on multi-author publications. The second form of data that was produced was a table of author data recording features of each author (nodes); these features were discussed in section 4.5.3, step 3-f.

It was also necessary to separate those countries classified as WEIRD to those classified as non-WEIRD, according to the article written by Henrich et al. (2010) which was discussed in detail in chapter 2 (the literature review). This process, and the rationale behind it, will be discussed in the following section.

4.5.4 Categorizing WEIRD and non-WEIRD nations and affiliated authors

The nations that have been included in the WEIRD category must meet all five of the requirements set out by Henrich et al. 2010; these requirements were that the country must be Westernised, Educated, Industrialised, Rich, and Democratic. Nations that meet some of these requirements, but not all, will still be classified as non-WEIRD. It was recognised that there were countries that do not fall neatly into these classifications, but for the purpose of this research, only these two broad categories will be used.

One of the primary sources for determining whether or not a country was to be categorised as a WEIRD nation or a non-WEIRD nation was the United Nations Regional Group list (UNAIDS, The Governance Handbook, 2010). The United Nations officially divided its member nations into five geopolitical groups: the African group, the Asia-Pacific group, the Eastern European group, the Latin American and Caribbean Group, and lastly, the Western European and Others group. The last group, the Western European and Others group, has territory dispersed on all of the continents, though it is mostly centred in Western Europe and North America; Australia and New Zealand are part of this group as they are culturally and politically descended from Western European states, but are geographically located far away from them. The United States of America is part of this group as an ‘observer’ only, and chooses to be so voluntarily (UNAIDS, The Governance Handbook, 2010). For the purposes of this research, the Western European and Others group will be used as an index to list all WEIRD countries, and all other groups will be considered non-WEIRD countries.



Figure 6: World map highlighting the nations which belong to the Western European and Others group.

The only issue that was involved within this list was the case of Israel; and, to a lesser extent, the country of Turkey. Israel is also a member of the Western European and Others group, but it is on a basis of a “permanent renewal of temporary full membership” (UNAIDS, The Governance Handbook, 2010, p. 29). The country of Israel presented a challenge to this research, primarily due to the fact that it can be argued that it is both WEIRD and non-WEIRD; this issue will be discussed in detail below.

4.5.4.1 The Israel dilemma

As mentioned above, some of the nations that are represented in the journal were difficult to classify according to Heinrich et al.’s. (2010) definition of ‘WEIRD’ and ‘non-WEIRD’ countries. However, the main challenge for this classification process was the country of Israel, since a relatively large proportion of authors in the sample were Israeli.

One of the primary reasons that Israel is categorized within the Western European and Others group is because their acceptance into their main geographic area, the Asian group, was continually blocked by Arab countries (UN-HABITAT's Global Report on Human Settlements, 2007). The Western European and Other group have allowed this nation to be part of their group on a temporary basis which is subject to continual renewal.

Despite this, Israel appears to qualify for multiple requirements of being classified as a WEIRD nation: (i) Israel, as of 2012, was ranked 16th among 187 nations on the United Nations Human Development Index, placing the country in the category of ‘very highly developed’; (ii) according to a study conducted by the World Health Organisation in 2000,

Israel had the 28th best health care system in the world, and (iii) the 2009 Human Development Report on illiteracy rates, Israel's literacy rate was 97.1% and 39.7% of the adult population (classified as age 25 years or older) had achieved a high attainment level of education. Israel is also, according to a UN report (United Nations National Report, n.d.) highly industrialised; the fastest growth rates in the Israeli economy are to be found in the hi-tech sections. Additionally, because Israel lacks natural resources and raw materials, it has developed a highly qualified scientific and research labour force. This suggests that Israel meets the conditions for being Educated, Industrialised and Rich. However, whether the nation can be considered Westernised and Democratic was the area in which there were discrepancies.

Simon and Schuster (1996; cited in Kurth, 2004) suggest that 'Western' civilization was formed from three distinct traditions, those being (1) the classical culture of Greece and Rome; (2) the Christian religion, particularly Western Christianity, and (3) the Enlightenment and modern era. As delving into this topic in-depth would surpass the range of this research topic, this research will merely take the stance that Israel does not meet the first two traditions, and aspects of the third are disputable. Kurth (2004) asserts that one of the ideas to come out of modern Enlightenment was that of liberal democracy; being a Democratic nation is also one of the requirements to become a WEIRD nation, according to Henrich et al. (2010). As Henrich et al. do not give their own definition of what constitutes a democratic nation, this research will be using a commonly used definition of democracy: a system of government by the whole population or all the eligible members of a state, typically through elected representatives (Oxford Online Dictionary, 2014).

In direct contradiction with this definition are some Israeli laws that are currently in practice which blatantly discriminate against certain people; for instance, according to a statute implemented by the Jewish National Fund (JNF), sales or leases of land to non-Jews are prohibited (Country Reports on Human Rights Practices, 2005.) Additionally, not all residents in Israel have equal access to state resources: The Orr Commission of Inquiry's report – which was a state commissioned inquiry into the clashes between security forces and Israeli civilians - reported that the Israeli government handling of the Arab sector has been primarily neglectful and discriminatory, that the government did not show sufficient sensitivity to the needs of the Arab population, and did not take enough action to allocate state resources in an equal manner (Official summary of the Or Commission report, 2003).

After careful consideration, it was decided that the default classification of Israel in this research would be WEIRD. However, during statistical analysis, calculations were conducted on both classifications of Israel – as WEIRD and as non-WEIRD – and any results that were significantly different based on this classification were listed in a table. The purpose of this deliberation was for the results of this research show an accurate portrayal of just how internationalized *Political Psychology* is in terms of the position that affiliated non-WEIRD authors have within the journal. As will be shown in the analysis, a fairly high proportion of authors were affiliated to Israeli institutions, and so substantially changed the pattern of results depending on their inclusion as WEIRD or non-WEIRD.

4.5.4.2 Indexing WEIRD and non-WEIRD nations

In order to use this information in the form of a social network map, an index was created in which each country was classified as either WEIRD or non-WEIRD using Henrich et al’s. (2010) definition of Western, Educated, Industrialized, Rich, and Democratic.

After the initial index of WEIRD and non-WEIRD nations was created using the criteria discussed in section 4.5.4, the countries listed were then cross-checked against the Organisation for Economic Co-operation and Development (OECD) country members. The OECD is an international economic organisation, founded in 1961, acting as a forum for 34 countries which are committed to democracy and the market economy (OECD, 2014). Additionally, these 34 member countries were cross-checked against the World Bank’s classification of ‘high-income OECD members’ (World Bank, 2014). Countries which fit into both the ‘Western and Others’ group of the United Nations Regional Group list, as well as the World Bank’s high-income OECD classifications were considered Western, Educated, Industrialized, Rich, and Democratic. Those which only met some of the criteria, or none, were considered non-WEIRD. This information is listed in the table below for each continent.

Table 1: <i>Tabulating WEIRD countries listed by continent</i>			
<u>North America</u>	<u>Europe</u>	<u>Oceania</u>	<u>Asia</u>
Canada	Austria	Australia	Israel
United States	Belgium	New Zealand	
	Denmark		

Finland
France
Germany
Greece
Iceland
Ireland
Italy
Luxembourg
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland
United Kingdom
*Turkey

*The inclusion of Turkey as a WEIRD nation may appear contentious, as it is essentially a Muslim (but secular) society. However, under the conditions set out by Henrich et al. (2010) Turkey must be considered WEIRD. It is a member of the Western and Others Group (UNAIDS, The Governance Handbook, 2010), one of the members of the high-income OECD group, and classified as a ‘newly industrialised country’ (Bozyk, 2006). Turkey therefore met the basic criteria for being considered WEIRD. The importance of the classification of Turkey, compared to that of Israel, for this research was limited due to the fact that there was only one single-author paper published in the journal by a Turkish researcher.

Table 2: *Non-WEIRD Countries listed per continent*

<u>Africa</u>	<u>Asia</u>	<u>Europe</u>	<u>North America</u>	<u>Oceania</u>	<u>South America</u>
Algeria	Afghanistan	Albania	Antigua and	Fiji	Argentina
Angola	Bahrain	Andorra	Barbuda	Kiribati	Bolivia
Benin	Bangladesh	Armenia	Bahamas	Marshall	Brazil
Botswana	Bhutan	Belarus	Barbados	Islands	Chile
Burkina	Brunei	Estonia	Belize	Micronesia	Colombia
Burundi	Burma	Georgia	Costa Rica	Nauru	Ecuador
Cameroon	(Myanmar)	Latvia	Cuba	New	Guyana
Cape Verde	Cambodia	Lithuania	Dominica	Palau	Paraguay
Central	China	Moldova	Dominican	Papua	Peru
African	East Timor	Russia	Rep.	New	Suriname
Republic	India	Bosnia and	El Salvador	Guinea	Uruguay
Chad	Indonesia	Herzegovina	Grenada	Samoa	Venezuela
Comoros	Iran	Bulgaria	Guatemala	Solomon	
Congo	Iraq	Croatia	Haiti	Islands	
Congo(Dem.	Israel	Czech	Honduras	Tonga	
Rep.)	Japan	Republic	Jamaica	Tuvalu	
Djibouti	Jordan	Estonia	Mexico	Vanuatu	
Egypt	Kazakhstan	Hungary	Nicaragua		
Equatorial	Korea	Kosovo	Panama		
Guinea	(north)	Latvia	St. Kitts and		
Eritrea	Korea	Lithuania	Nevis		
Ethiopia	(south)	Liechtenstein	St. Lucia		
Gabon	Kuwait	Macedonia	St. Vincent		
Gambia	Kyrgyzstan	Monaco	and the		
Ghana	Laos		Grenadines		
Guinea	Lebanon		Trinidad and		
Guinea-	Malaysia		Tobago		
Bissau	Maldives				
Ivory Coast	Mongolia				
Kenya	Nepal				

Lesotho	Oman	Montenegro
Liberia	Pakistan	Poland
Libya	Philippines	Romania
Madagascar	Qatar	
Malawi	Russian	San Marino
Mali	Federation	Serbia
Mauritania	Saudi Arabia	Slovakia
Mauritius	Singapore	
Morocco	Sri Lanka	Slovenia
Mozambique	Syria	
Namibia	Tajikistan	
Niger	Thailand	
Nigeria	Turkmenista	
Rwanda	n	
Sao Tome and Principe	United Arab dot Emirates	
Senegal	Uzbekistan	
Seychelles	Vietnam	
Sierra Leone	Yemen	
Somalia		
South Africa		
Sudan		
Swaziland		
Tanzania		
Togo		
Tunisia		
Uganda		
Zambia		
Zimbabwe		

Once the WEIRD/non-WEIRD index was finalized, the custom VB Script stepped through the data extracted for the WoK database and used this list to code each author as WEIRD or non-WEIRD.

4.5.5 Procedure for importing bibliometric data into social network analysis software

Once the authors' country was extracted from their most recent affiliation information, and their country was coded for WEIRD/non-WEIRD status the processed social network data was imported into Visone, an open source social network analysis platform which allows the visualization and analysis of the coauthorship network under investigation (Visone Team, n.d., visone.info/index.html). The steps that were taken during this procedure will be discussed below.

Step one: The first step was to import the LinkList.csv file, which was created by the VB-script, into Visone. This enabled the generation of the basic coauthorship network, with each author being represented as a node, and each node being linked to other nodes (authors) based on the multi-author publications within the journal, *Political Psychology*.

Step two: After completing step one, the output of the Linked List being imported to Visone was just a basic social network map and only showed the pattern of nodes (authors) and links, but contained no other information. The author details data, produced after being processed in Sci2 and extracted by the VB-script into a comma-delimited (.csv), were then added to the newly created social network. The nodes that were in the social network were identified by the authors ID (which, in this case was their names) and the author details were imported based on that ID. This enabled one to visually manipulate the social network map in order to show specific trends: For example, in analysing a more basic level of internationalization (the first type of internationalization mentioned in the literature review) it allowed the researcher to simply look at which country each author was from, and measuring and describing the extent of inter-country collaborations. However, this network also allowed a more in-depth analysing of internationalization such as how the coauthorship network would look if each node was a colour determining whether or not the author was affiliated with a WEIRD or non-WEIRD and using this level of categorization as the distinguishing criteria to explore the extent to which periphery voices and evident in the coauthorship network, and their status within it.

4.6 Data Analysis

This research investigated the level of internationalization that exists within *Political Psychology*, and subsequently, the ISPP by investigating both types of internationalization mentioned above: the first analysis will focus on a more basic type of internationalization, looking simply at which country each author was from, and measuring and describing the extent of inter-country collaborations; the second analysis focused on the second type of internationalization described, depth internationalization, using WEIRD/non-WEIRD as the distinguishing criteria to explore the extent to which periphery voices were evident in the coauthorship network, and their status within it. To explore more nuanced features of patterns of collaboration, a qualitative analysis was also conducted.

4.6.1 Quantitative analysis

The quantitative analysis was divided into multiple sections, as listed below.

Analysis of the level of internationalization by country (basic internationalization)

- 1) This section was an analysis of the overall sample of authors (multi-author and single-author publications) collected from the WoK database that were successfully extracted; this included looking at which country each author was from and the amount of publications each country has published in the journal.
- 2) An analysis on the extent of collaboration between these countries. This was identified by conducting statistical analysis on the variable ‘mean homogenous country collaboration indicator’ (where papers with authors from only one country were coded as ‘1’ and papers with authors from more than one country were coded as ‘0’; and the mean averages this score across all the papers authored by the individual). Both of these analyses did not take into account WEIRD or non-WEIRD categorization.

Analysis of the level of internationalization between authors from WEIRD and non-WEIRD countries (depth internationalization)

- 1) Firstly, an analysis of the sample was conducted. This section looked at the percentage of authors from each continent, the percentage of authors who were categorized as either WEIRD or non-WEIRD, the percentage of European countries which could be considered WEIRD or non-WEIRD, the total number of different nations that were represented in this

sample, and the percentage of the world's population that encompass the WEIRD and non-WEIRD categorisations.

2) The second part of the analysis looked more closely at the nations that constitute the WEIRD and non-WEIRD categorisations. This step involved calculating the percentage of authorship that each category of countries (i.e. WEIRD or non-WEIRD) contributes to their category.

3) An analysis of the frequency of WEIRD and non-WEIRD publications in *Political Psychology*. This analysis includes both single and multi-author publications.

4) The third section encompassed a chronological analysis of WEIRD and non-WEIRD collaborations in *Political Psychology*. This section included chi-square tests being conducted on each year to determine the probability of the amount of publications of WEIRD and non-WEIRD authors being equal, as well as graphically illustrating the temporal movement of these yearly proportions.

5) A social network analysis of the coauthorship map, including (a) a distance analysis where, for each author, the social distance to the nearest non-WEIRD author was calculated and compared, and (b) an analysis of the measures of centrality for WEIRD and non-WEIRD authors.

6) An analysis of the WEIRD and non-WEIRD author positions in *Political Psychology*. 'Author position' refers to the order in which authors and co-authors were listed in the article, with the assumption that the closer an author is to being the first author of the article, the more prestige and academic renown that author will receive.

4.6.1.1 Detailed discussion of quantitative methods of analysis

In this section the metrics and calculations that will be used in the quantitative analysis will be discussed in detail. The metrics will involve a discussion on the measures of centrality that will be used in the analysis, such as: (1) degree centrality, (2) closeness centrality, (3) betweenness centrality, and (4) eigenvalue; whilst the calculations will involve a discussion on: (1) the shortest-distance and the procedure for determining what the shortest distance is, (2) the procedure for calculating the social network centralities, (3) the chronological analysis and, (4) the procedure for the analysis of author publication frequency.

Metrics of analysis

All of the measures that were used in this analysis were measures of centrality. These are some of the most important and useful types of measurement in social network analysis (Newman, 2010). Measures of centrality quantify the importance of nodes and links in a specific network and considerable effort on behalf of social network analysts has been put into studying these measures (Newman, 2010). There are a wide variety of mathematical measures, some of which have different notions of what it means to be central in a social network (Newman, 2010). The measures of centrality chosen for this project were based on what they can reveal about the relationships of WEIRD and non-WEIRD nations and whether or not ‘true’ internationalization has taken place within the ISPP. The procedure of how this was conducted will be discussed below.

Degree centrality

Degree centrality, often referred to simply as ‘degree’ in social network literature (Newman, 2010), is a measure that, quite simply, calculates the amount of ties (coauthorship relationships) that each node has connected to it.

Nodes (which in this research represent authors) who have higher degrees of centrality – and thus have more ties to other nodes – may be in a more advantaged position in the network. As these nodes have many ties, they have alternative options (routes on the network) to meet their needs, whilst those nodes which have lower degree centrality would be more dependent on other nodes for flows of information, future publication opportunities and so on (Newman, 2010). As these high degree centrality nodes have so many links, there is a possibility that they have access to more resources and contacts within the network as a whole.

Closeness centrality

Closeness centrality is a measure of the mean geodesic distance from one node to each other node in a network. Closeness centrality, as indicated by the name of the term, focuses on how close a node is to all other nodes in a network; this is different to degree centrality, which is defined as the number of nodes that are connected to a specific node; in fact, degree centrality (sometimes called farness) is inversely related to closeness centrality. The more central a node is, the lower its total distance to all other nodes; thus, the lower an author’s closeness centrality score is, the better the author’s position in the network is. Closeness centrality describes the extent of influence of a node on the network (Ni, Sugimoto, and Jiang, n.d.). For example, in a social network, individuals with lower closeness values may find that their opinions reach others faster than those with high closeness centrality values (Newman, 2010).

Subsequently, the concept of closeness centrality is also referred to as the ‘shortest distance’. For example, between node 1 and node 3 illustrated in figure 7 below, there is a social distance of 2. What this means is that it takes 2 ‘hops’ to get from node 1 to node 3. Closeness centrality takes into account an author’s overall position in the network, whilst distance allows one to gain greater insight into the specific type of collaborative pathways that are established in the network (such as the paths that link WEIRD and non-WEIRD authors).

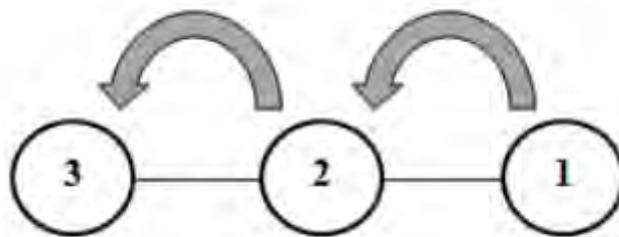


Figure 7: Figure illustrating the concept of distance – the number of “jumps” between nodes.

Betweenness centrality

Betweenness measures the extent to which a node lies on the shortest distance between all other nodes (Newman, 2010). Nodes which have high betweenness values are on a large proportion of the possible shortest distances between nodes in the network. They are deemed to have considerable influence within a network due to the fact that they have a large amount of control over information passing between other nodes (Newman, 2010). The nodes with high betweenness centrality are important by virtue of the fact that if they get removed from the network, communications between other nodes will get disrupted as they are situated between many different interconnecting collaborative pathways. In other words, the removal of nodes with high betweenness would cause disproportionate reductions in network connections, since a disproportionate number of shortest distance connections would be severed. Whilst in real world situations individuals do not always use the shortest distance available to them, the measure of betweenness is still an approximate guide to the influence certain nodes have over the flow of information between others (Newman, 2010).

Eigenvalue

The eigenvalue measure of centrality is a calculation that measures how close a node is to other highly close nodes in a network. A node may have a high eigenvalue, and thus is rated

as important by this measure for two reasons: (1) an author may have a high eigenvalue if they have a large amount of connections with authors who have lower degree scores (i.e. not that important in the overall network) or (2) an author may have a few ties to authors who have high degree scores (who are also rated as important) (Newman, 2010). In other words, the eigenvalue centrality accounts for both who you know, and the importance of your connections and their connections in the network thereby identifying the most central nodes of the overall makeup of the network (Newman, 2010).

Now that the basic metrics of analysis that were used in this research have been discussed, we can proceed to a discussion of the calculations that were conducted in the quantitative analysis side of the study.

Shortest distances and the small-world-effect.

The finding that the typical distance (the minimum number of ‘hops’ it that takes to go from one author to another) between various nodes in a network are surprisingly small has been termed the ‘small-world-effect’. The small-world-effect is also one of the most remarkable and widely discussed phenomena in social network literature (Newman, 2010). The study which was the inspiration for the name, Stanley Milgram’s letter-passing experiment, gave letters addressed to a given person in New York to people in random locations in the USA and asked them to forward it to someone known to them who could pass it on. The results of this study showed that letters reached the target, on average, in seven hops. This suggested that human society forms a small-world type of network which is characterised by short distance lengths (Milgram, 1967), This section of the analysis attempted to conduct a similar study, at least in principle, to determine the shortest distances for the authors in this network. The process for doing this calculation will be discussed below.

Network distance analysis procedure.

Two network distance analyses were conducted: firstly, the shortest distance from each WEIRD author to the nearest non-WEIRD author was measured; and secondly, the shortest distance between each non-WEIRD author and the nearest other non-WEIRD author was measured. What determines the shortest distance is the number of links or ties that need to be traversed to reach the nearest non-WEIRD author. If there was no connection, i.e. the authors were completely disconnected from each other, the resulting value will show as infinite. For a detailed description of how this distance analysis was conducted, refer to Appendix A.

IBM SPSS statistics base 20 (statistical package for the social sciences) was then used to conduct a t-test with the independent variable being the WEIRD or non-WEIRD categorization of the authors, and the dependent variable being each authors' distance score calculated as described above.

Social network analysis procedure

The linked list and author detail files that were processed as described in section 4.5.1 were imported into Visone. Using Visone, it was possible to produce a visualization of the coauthorship network. In this network, each node represents a different author who has published an article with one or more other authors in the journal *Political Psychology*. Each link or tie connecting the authors represents a collaboration between two authors. It was possible to visualize the nodes by different coloured categories (such as categorization by country, continent, or WEIRD/non-WEIRD) to better see the relationships between the authors and the flow of information in the network. It was also possible to calculate social network measurements in Visone (each of the calculations that were used will be discussed below). IBM SPSS statistics base 20 (statistical package for the social sciences) was then used to perform significance analyses to determine if there was a significant difference between the values of WEIRD and non-WEIRD authors. In this section, Independent Samples t-tests using WEIRD/Non-WEIRD as the independent variable and the social network calculation as the dependent variable was conducted in SPSS. The alpha level, even when not stated, will always be set to 0.05. Levene's Test for Equality of Variances was used to determine if the assumption of homogeneity of variances was met and non-parametric independent sample tests were used if this assumption was not met.

Chronological analysis.

This section focused on investigating the differences in levels of publication in *Political Psychology* by WEIRD and non-WEIRD authors from the oldest publication in the journal (1985) to the most recent (2012). In this section of analysis, it was hypothesised that if internationalization was truly existent in the journal, then there should be at least an equal proportion of WEIRD and non-WEIRD author publications in each year that the journal has been in publication¹. Thus, a one-way chi-square test for each period was conducted to assess the probability that the proportions observed deviate from the hypothetical norm – the

¹ Note that this is, in fact, a very conservative assessment of fairness in representation, since the non-WEIRD countries represent a far larger proportion of the world population than WEIRD countries.

hypothetical norm being that the proportion of WEIRD to non-WEIRD author publications should be equal during each time period. While this research recognised that conducting two separate 1-way Pearson Chi-square tests is a much less commonly used statistic compared to a 2x2 table crosstabs, it was appropriate given that this method would test whether the proportion significantly deviates from chance at each time period.

Publication frequency analysis.

What was investigated here were how many times each author has co-published in the journal multiple times as opposed to just once, and whether there was a difference between WEIRD and non-WEIRD author co-publication counts. IBM SPSS statistics base 20 (statistical package for the social sciences) was used to perform significance tests and other calculations.

4.6.2 Qualitative analysis

It has been suggested by academics that “qualitative understanding of research practices and context help us not only to evaluate quantitative outcomes, but also to further evolve our quantitative methods...” (Velden, Haque, and Legoze, 2010, p.3). It was for these reasons (evaluation and evolution) that a qualitative analysis was conducted in conjunction with the aforementioned quantitative analysis.

While the quantitative side of this research was focused on the ‘whole picture’, the qualitative side focused on more individually orientated aspects of the social network, such as why certain groups of authors were connected to each other, as opposed to being connected to other authors. The qualitative side of the analysis analyses the content of titles and abstracts of publications authored by different groups of authors, determining what WEIRD and non-WEIRD collaborations were researching compared to those clusters which were just WEIRD authors. The aim of this is to get some insight into the topics being studied and how they drive or hinder the internationalization of the International Society for Political Psychology’s journal, *Political Psychology*. By using this qualitative approach in conjunction with the results of the quantitative analysis, a greater level of insight into the overall role that non-WEIRD nations play in the journal was available. This in turn allowed some insight into the current level of internationalization that exists within the society itself.

The analysis began by looking at the global picture, illustrating the entire network, and then moved towards a detailed discussion of several specific groups on the network. These several specific groups were chosen because of their defining characteristics; for example, groups of authors who were primarily WEIRD will be analysed and then compared to groups of authors who were both WEIRD and non-WEIRD, as well as certain groups who were only non-WEIRD. These different groups were labelled according to the main themes being researched by the authors within the cluster: for example, the first cluster contains research with a particular focus on social dominance orientation, and thus that cluster was named the ‘social dominance orientation cluster’. By looking closely at these specific author groups and going beyond the author details available in the quantitative analysis, more detail into the structure of the journal and the role that non-WEIRD authors play within it may become visible.

Chapter 5: Results

5.1. Quantitative analysis: internationalization as collaboration between countries (basic internationalization)

5.1.1 Sample (investigating the authors within the journal)

This section, as discussed in chapter 4, entailed an analysis of the sample – i.e., the different authors (nodes) in the coauthorship social network. This included looking at which country and continent each author was from and the number of publications each country has published in the journal.

From the initial 1755 WoK records retrieved, a total of 847 authors with two or more authors were used for calculations. As single-author publications cannot be included in coauthorship analysis, the number of single-author papers that were dropped from the data was 908.

However, some of the calculations in this analysis, such as human population, coauthorship frequency, and chronological analysis, made use of the single-author publications in conjunction with the multi-author publications. Out of the 1755 publications, 1704 of these were used; the other 51 papers had missing data which led to exclusion. From these 1704 papers, there were 1200 authors, since some authors had been involved in multiple publications. When including single-author papers, there were four additional countries that had affiliated authors within the journal: Austria, Portugal, Turkey, and Venezuela.

According to the predefined classification process, Austria and Portugal and Turkey would be considered ‘WEIRD’ nations, whilst Venezuela would be considered a ‘non-WEIRD’ nation.

Table 3: Table listing, by most papers, the authors represented in the journal by country and continent, as well as the number of authors for each country, the percentage of authors each country contributes to the journal, as well as the number of publications released by each country

<u>Country</u>	<u>Continent</u>	<u>Number of Authors</u>	<u>Percentage of authors in the journal</u>	<u>Paper Count</u>
USA	North America	820	68.3	1191
United Kingdom	Europe	59	4.9	91
Canada	North America	55	4.6	74
Israel	Asia	46	3.8	60
Netherlands	Europe	31	2.6	45
Germany	Europe	30	2.5	33
Italy	Europe	18	1.5	29
New Zealand	Australia (Oceania)	9	0.8	24
Australia	Australia (Oceania)	20	1.7	23
Belgium	Europe	12	1	16
Japan	Asia	11	0.9	13
Switzerland	Europe	9	0.8	13
Ireland	Europe	6	0.5	10
South Africa	Africa	8	0.7	9
Spain	Europe	8	0.7	9
Sweden	Europe	6	0.5	7
Chile	South America	5	0.4	6
Denmark	Europe	4	0.3	6
Poland	Europe	4	0.3	6
China	Asia	5	0.4	5
Russia	Europe	5	0.4	5
Bulgaria	Europe	4	0.3	4
France	Europe	3	0.3	3
Norway	Europe	3	0.3	3
Austria	Europe	2	0.2	2
Mexico	North America	2	0.2	2
South Korea	Asia	2	0.2	2
Taiwan	Asia	2	0.2	2
Venezuela	South America	2	0.2	2
Brazil	South America	1	0.1	1
Hungary	Europe	1	0.1	1
Iceland	Europe	1	0.1	1
Portugal	Europe	1	0.1	1
Serbia	Europe	1	0.1	1
Singapore	Asia	1	0.1	1
Slovakia	Europe	1	0.1	1
Sri Lanka	Asia	1	0.1	1
Turkey	Asia/Europe	1	0.1	1
Total		N = 1200	100	1704

In total, there were 34 different countries involved in multi-author publications that were represented in the journal. While there is no conclusive number of countries in the world, most of the current world almanacs list the total number of countries to be 193 (World Atlas, 2014). This means that 17.6% (34/193) of the countries in the world have published an article in the journal since 1985. When taking into account the additional single-author paper countries, this percentage rises to 19.7% (38/193). The percentages of represented nations reflects, at least superficially, a relatively low level of internationalization within the journal, in that the publications in the journal represent only about one fifth of countries in the world.

Table 4: Table listing the total number of authors and the total percentage of authors of each represented continent, using both multi author and single author publications

<u>Continent</u>	<u>Multi-author papers</u>		<u>Including single-author papers</u>	
	Total authors	Percentage of authorship	Total authors	Percentage of authorship
Africa	n = 7	0.8	n = 9	0.5
Asia	n = 58	6.8	n = 83	4.9
Australia (Oceania)	n = 22	2.6	n = 47	2.8
Europe	n = 175	20.7	n = 289	17
North America	n = 579	68.4	n = 1265	74.2
South America	n = 6	0.7	n = 11	0.6
Total	n = 847	100	n = 1704	100

From Table 4, shown above, it was clear that countries within the continents of North America and Europe dominate the publication of the journal. North America accounted for 68.4% of all multi-author papers, and 74.2% of all papers including single-author papers; Europe accounts for 20.7%, and 17% respectively.

There was a need to distinguish European nations, primarily into two categories: that of Western Europe and Eastern Europe (including ex-USSR nations). Western European countries have a much higher percentage of author publications at 19% (161/847) of the total multi-author publications. In contrast, Eastern European countries only account for 1.7% (14/847) of the multi-author publications (see appendix B for index used to distinguish between Eastern and Western European countries).

5.1.2 An analysis on the extent of collaboration between these countries

This section examines the extent of collaboration between all countries represented within the ISPP’s journal, *Political Psychology*. This was done by tabulating the mean international collaboration indicator of each author. As was explained in detail in chapter 4, this indicator was calculated by coding all papers with authors from only one country as ‘1’ and papers with authors from more than one country were coded as ‘0’, and then, for each author, calculating the average of these scores for the papers on which that author had collaborated. What this score represents is the extent with which an author has collaborated with authors from different countries over the course of their involvement in publishing within the journal. There were 36 authors the 847 for which an indicator score could not be calculated, due to ambiguous author affiliation information as recorded by the WoK database. These publications were treated as missing data. The mean indicator scores were tabulated in figure 8 below.

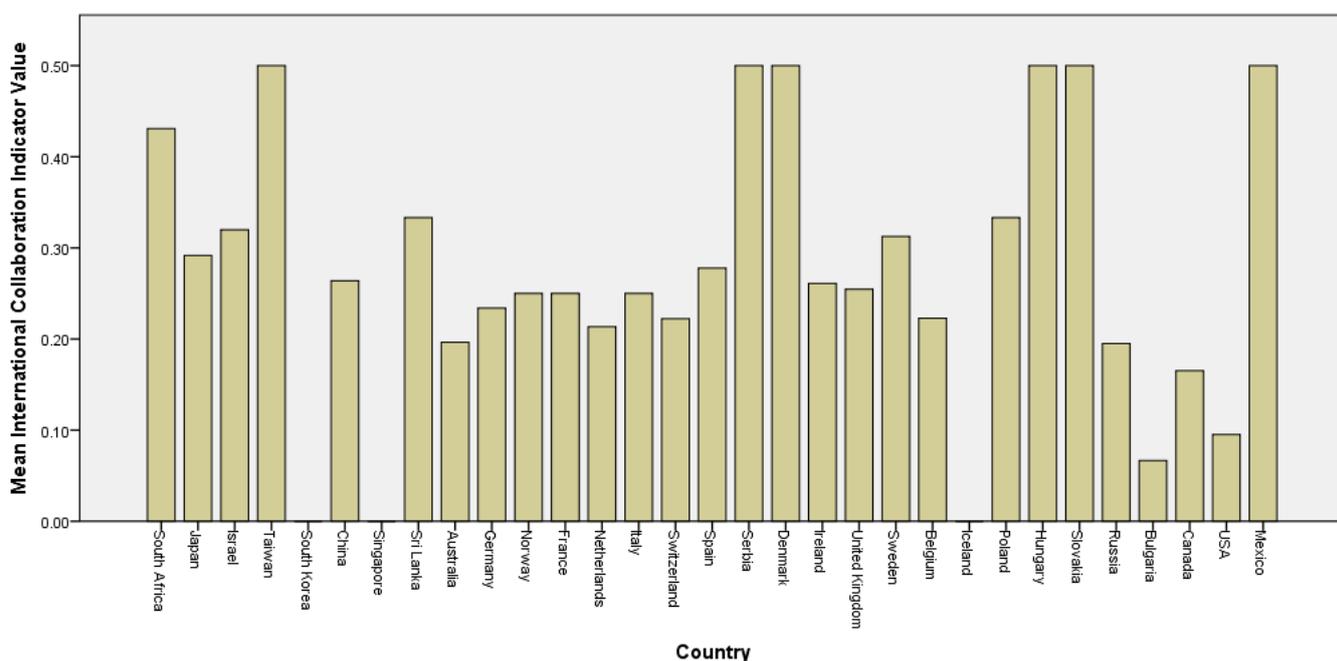


Figure 8: Bar graph indicating the mean inter-country collaboration homogeneity indicator values for each country.

From figure 8, it was evident that only 31 out of the 34 nations represented in the journal had a mean international collaboration indicator value calculated; this was most likely due to the aforementioned missing data. However, from the countries that were listed in the graph, all

had a mean international collaboration value of .50 or less; this means that each of the 31 nations listed had at least half of their listed publications conducted in collaboration with international authors. Some nations, such as South Korea and Iceland, have only published a single paper which was done in collaboration with an international author, and thus have an international collaboration value of 0.

5.2 Quantitative Analysis – In-depth analysis of internationalization using WEIRD and non-WEIRD categories as indicators

5.2.1 WEIRD and non-WEIRD author differences

The aim of this subsection was to analyse the percentage of authors who were associated with WEIRD nations and non-WEIRD nations, and to demonstrate these percentages graphically. This provided insight into just how large a role non-WEIRD countries play in the journal in terms of publications.

Out of the 34 different countries represented in the various articles in the journal *Political Psychology*; 18 of these were from WEIRD countries, and 16 were from non-WEIRD countries. However, out of all the nodes (authors) only 6% (51/847) were affiliated with non-WEIRD nations, in contrast to 94% (796/847) being affiliated with WEIRD nations. If Israel is to be considered a non-WEIRD nation, 89.8% (760/847) of the authors were affiliated with WEIRD nations, and only 10.2% (86/847) of the authors were affiliated with non-WEIRD nations.

Including single-paper papers and the associated countries, the total human population of both the WEIRD and non-WEIRD in the nations represented by authors that have publications within the journal *Political Psychology* amounts to 3,011,386,740. However, the vast majority of this human population was situated within non-WEIRD nations with 73.9% (2226379576/ 3011386740) of the human population, and with non-WEIRD nations accounting for only 26.1% (785007164/ 2962175403). Therefore, 26.1% of the human population that were situated within nations affiliated with the journal were producing 94% of the publications within the journal *Political Psychology*, whilst the non-WEIRD 76% produces just 6%.

Table 5: Listing the count of both single and multi-author papers by WEIRD and non-WEIRD categorization and affiliated country.

<u>WEIRD Nations</u>		<u>Non-WEIRD Nations</u>	
Country	Number of Authors	Country	Number of Authors
Australia	23	Brazil	1
Austria	2	Bulgaria	4
Belgium	16	Chile	6
Canada	74	China	5
Denmark	6	Hungary	1
France	3	Japan	13
Germany	33	Mexico	2
Iceland	1	Poland	6
Ireland	10	Russia	5
Israel	60	Serbia	1
Italy	29	Singapore	1
Netherlands	45	Slovakia	1
New Zealand	24	South Africa	9
Norway	3	South Korea	2
Portugal	1	Sri Lanka	1
Spain	9	Taiwan	2
Sweden	7	Venezuela	2
Switzerland	13		
Turkey	1		
United Kingdom	91		
USA	1191		
Total	N = 1642		N = 62

From Table 5, it was evident that WEIRD dominance of publications in the journal was not limited to multi-author publications, but extended to single-author papers as well. In fact, proportionately, WEIRD authors – and in particular authors from the USA – dominated single-author paper publications to a greater extent than multi-author papers. This is confirmed in figure 9, shown below, which illustrates that the USA's total author percentage increases to 69.89% (1191/1704), from 63.5% (538/847), when including single-author publications.

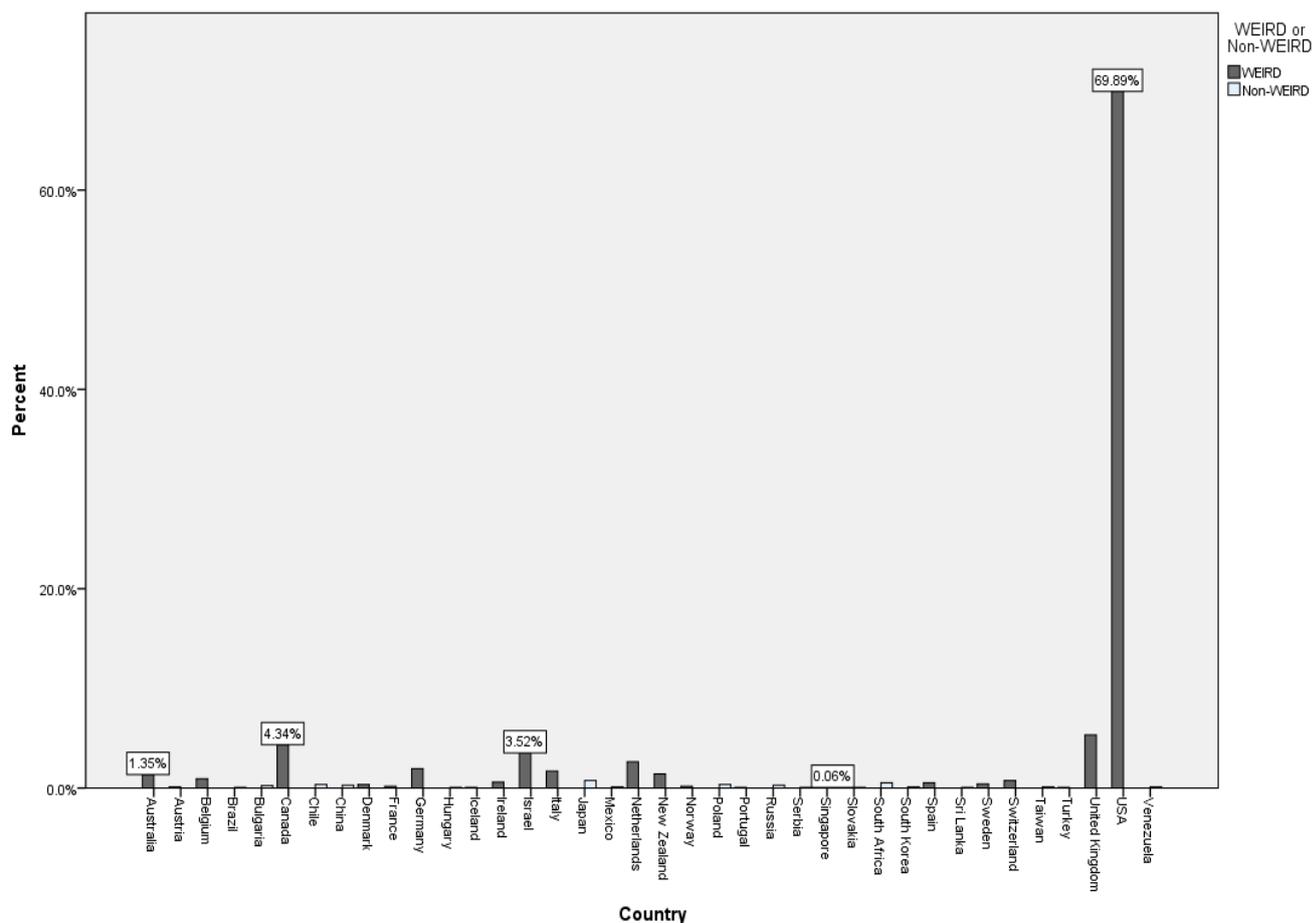


Figure 9: Bar graph illustrating the overall percentage of multi and single-author count of nations represented in the journal, categorized by WEIRD or non-WEIRD affiliation.

5.2.2 Comparing authors from WEIRD and non-WEIRD categories

In this section, a statistical analysis was conducted on the two different categories – those two categories being WEIRD and non-WEIRD author affiliation. This section sought to gain insight into the dynamics of the multi-author papers within these two groups, such as which countries were dominant in these groups. The affiliated country, the author count for that country, the percentage that country contributes to their group (either WEIRD or non-WEIRD) and the percentage that country contributes to the total author count within the journal *Political Psychology* will be tabulated below.

Table 6: *Listing the author count and percentages of WEIRD and Non-WEIRD countries.*

Country	WEIRD or Non-WEIRD	Author Count	Percentage within WEIRD or Non-WEIRD affiliation	Percentage within total
USA	WEIRD	538	67.6%	63.5%
United Kingdom	WEIRD	52	6.5%	6.1%
Canada	WEIRD	41	5.2%	4.8%
Israel	WEIRD	36	4.5%	4.3%
Netherlands	WEIRD	28	3.5%	3.3%
Germany	WEIRD	24	3%	2.8%
Italy	WEIRD	15	1.9%	1.8%
Australia	WEIRD	13	1.6%	1.5%
Belgium	WEIRD	11	1.4%	1.3%
New Zealand	WEIRD	9	1.1%	1.1%
Switzerland	WEIRD	9	1.1%	1.1%
Ireland	WEIRD	6	0.8%	0.7%
Spain	WEIRD	6	0.8%	0.7%
Sweden	WEIRD	4	0.5%	0.5%
Denmark	WEIRD	1	0.1%	0.1%
France	WEIRD	1	0.1%	0.1%
Iceland	WEIRD	1	0.1%	0.1%
Norway	WEIRD	1	0.1%	0.1%
Japan	Non-WEIRD	10	19.6%	1.2%
South Africa	Non-WEIRD	7	13.7%	0.8%
China	Non-WEIRD	6	11.9%	0.7%
Chile	Non-WEIRD	5	9.8%	0.6%
Russia	Non-WEIRD	5	9.8%	0.6%
Bulgaria	Non-WEIRD	4	7.8%	0.5%
Poland	Non-WEIRD	3	5.9%	0.4%
South Korea	Non-WEIRD	2	3.9%	0.2%
Taiwan	Non-WEIRD	2	3.9%	0.2%
Brazil	Non-WEIRD	1	2%	0.1%
Hungary	Non-WEIRD	1	2%	0.1%
Mexico	Non-WEIRD	1	2%	0.1%
Serbia	Non-WEIRD	1	2%	0.1%
Singapore	Non-WEIRD	1	2%	0.1%
Slovakia	Non-WEIRD	1	2%	0.1%
Sri Lanka	Non-WEIRD	1	2%	0.2%
Total		N=847	200	100

Table 6, affirms the fact that the USA dominates publications in the journal, showing that the USA dominated both WEIRD-only as well as the combined non-WEIRD/WEIRD categories,

with a total author percentage of 67.6% and 63.5% respectively. However, in the non-WEIRD-only group, Japan is the dominant nationality in the journal, accounting for 19.6% of the total non-WEIRD author count.

5.2.3 Frequency of co-publication in the ISPP

Next, the frequency of co-publication in the ISPP was quantitatively analysed. What was investigated here was how many times each author has co-published in the journal multiple times as opposed to just once, and whether there was a significant difference between WEIRD and non-WEIRD author publication counts. This analysis used single author papers as well as the default multi-author data.

The mean frequency of publication for non-WEIRD authors was $M = 1.11$, $SD = .412$, $N = 56$, and the mean frequency of publications for WEIRD authors was $M = 1.44$, $SD = 1.11$, $N = 1144$. Levene's Test for Equality of Variances was significant ($F = 15.620$, $p > .001$) indicating that assumption of equal variances amongst groups was not met. An Independent-Samples Mann-Whitney U Test with the independent variable being the number of papers that each author has published, and the dependent variable being the WEIRD or non-WEIRD affiliation of the authors, was significant ($N = 1200$, $U = 26,897$; $t = -2.784$; $p = .005$) indicating that the number of papers that each author had published was not the same across categories of WEIRD and non-WEIRD. WEIRD authors were likely to publish more papers compared to their non-WEIRD counterparts.

5.2.4 Chronological analysis of WEIRD and non-WEIRD author publications

In this section, a chronological analysis of the publications of WEIRD and non-WEIRD authors was conducted. The aim of this section was to determine whether the amount of non-WEIRD publications has changed over time, and if it has, how it has changed. If the International Society for Political Psychology was fully internationalized, one would expect at least as many papers from non-WEIRD authors as from WEIRD authors. Thus, the hypothetical norm of author publication was that the proportion of WEIRD to non-WEIRD author publications should be equal. To test this hypothesis, and thus, the level of internationalization, a one-way chi-squared test for each period was conducted to assess the

probability that the proportions observed deviate from this hypothetical norm. These results are presented in Table 7 below.

Table 6: *A tabulation of the proportion the total author count for Non-WEIRD authors for each year beginning from 1985 and ending in 2012*

<u>Year</u>	<u>Total Author Count</u>	<u>Non-WEIRD Author Count</u>	<u>Proportion of non-WEIRD authors to WEIRD authors</u>	<u><i>p</i></u>	<u><i>df</i></u>
1985	2	0	0	\	\
1986	13	0	0	\	\
1987	12	0	0	\	\
1988	16	0	0	\	\
1989	15	0	0	\	\
1990	19	0	0	\	\
1991	12	2	0.17	0.02	1
1992	14	0	0	\	\
1993	9	2	0.22	0.96	1
1994	11	0	0	\	\
1995	18	4	0.22	0.003	1
1996	24	4	0.17	0.001	1
1997	9	0	0	\	\
1998	33	1	0.03	0.001	1
1999	25	0	0	\	\
2000	34	3	0.09	0.001	1
2001	31	1	0.03	0.001	1
2002	43	0	0	\	\
2003	51	7	0.14	0.001	1
2004	21	0	0	\	\
2005	44	2	0.05	0.001	1
2006	61	2	0.03	0.001	1
2007	45	1	0.02	0.001	1
2008	46	7	0.15	0.001	1

2009	49	1	0.02	0.001	1
2010	48	8	0.17	0.001	1
2011	70	3	0.04	0.001	1
2012	86	3	0.03	0.001	1

p = the p-value of the one-way chi square test
 \ = no non-WEIRD publications, could not conduct comparison
 df = degree of freedom of the one-way chi square test

Table 7 showed that, out of the 28 year-periods, 39% (11/28) did not have any non-WEIRD publications, whilst, out of the years that did have both WEIRD and non-WEIRD author publications, all years except 1993 ($p = .096$) had significant results (with alpha at 0.025), indicating that 96% (27/28) of the journals publication history had significantly less than an equal number (50:50 author distribution ratio) of WEIRD and non-WEIRD authors.

However, looking at Table 7, this significant result did not occur because of an increase in the usual frequency of non-WEIRD authors (it was the same frequency as the previous year which had non-WEIRD authors), but rather it occurred because of a decrease in the usual amount of WEIRD authors.

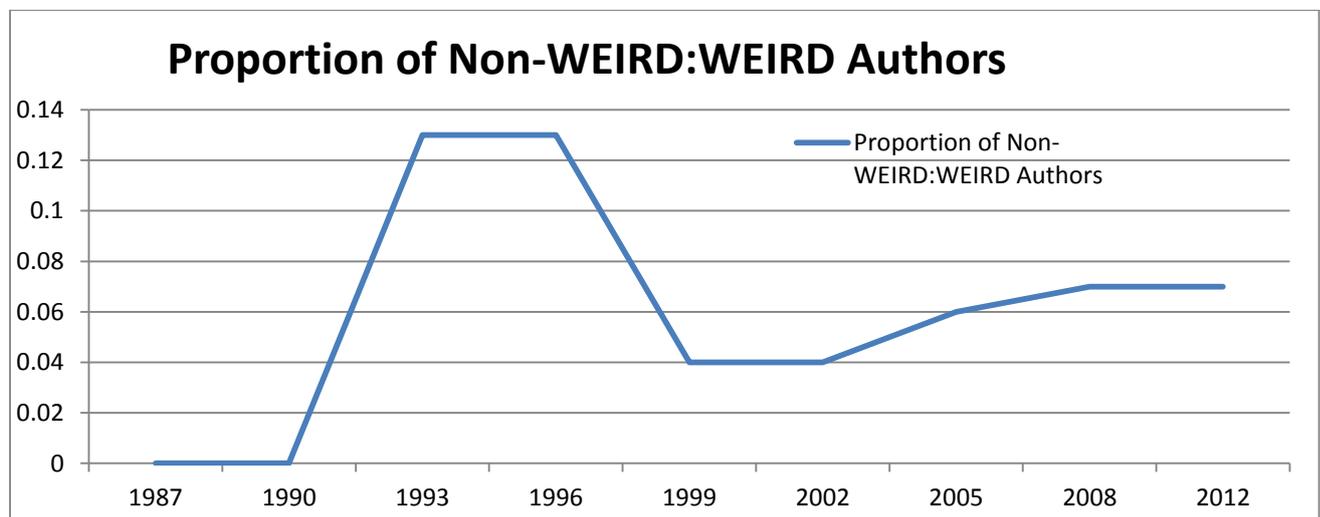


Figure 10: Line graph illustrating the yearly proportions of non-WEIRD (with a 3-year rolling average).

From figure 10, it was possible to see that the peak period for the highest proportion of non-WEIRD authors who published papers in the journal was between 1993 and 1996. However, after dropping sharply in the early 2000's, it began to steadily increase in smaller increments.

5.2.5 Social network analysis of the coauthorship map

This section entailed statistical social network analyses. Whilst there are many different calculations that can be made in a social network analysis, the calculations and statistics that were conducted here were chosen based on what they can tell the reader about the relationships between WEIRD and non-WEIRD relations in the coauthorship network. This section was divided into two parts: the first section was concerned with measuring the distance between the authors (nodes), and the second was concerned with measuring the centrality of the authors on the coauthorship map.

5.2.5.1 Analysis of Distance

The distance between two authors is the minimum number of hops it takes to go from one to another. This is also known as the geodesic distance. Those actors who are closer to others may be able to exert more influence (i.e. have more power) than those who are more distant; additionally, more connections often mean that individuals are exposed to more, and more diverse, information (Hanneman, n.d.).

Distance is an important metric to know, as the shorter the distance an author has (in relation to this research) may be linked to the number of opportunities they have for collaboration. In order to determine if there was any difference between the distance that WEIRD authors have to take to get a non-WEIRD author, compared to the distance that non-WEIRD authors have to traverse to collaborate with another non-WEIRD author, this section analysed the collaborative pathways that the authors in the coauthorship network have established. Two types of distances were analysed in this section: firstly, the distance between WEIRD and non-WEIRD authors, and secondly, the distance between non-WEIRD and other non-WEIRD authors.

In the first calculation, the distance score for WEIRD authors reflects levels of network collaboration between WEIRD and non-WEIRD countries. Note that both WEIRD and non-WEIRD authors with no distance (i.e., completely disconnected) to a non-WEIRD author were coded as '0' in the analysis.

The regions used in this analysis were the continents in which the countries were geographically situated; these continents were Africa, North America, South America, Asia, Europe, and Oceania (which in this research encompasses the countries of Australia and New Zealand). In the second calculation, t-tests or non-parametric tests were conducted to determine if there was a significant difference in WEIRD or non-WEIRD authors collaborating and having ties with other non-WEIRD authors.

It was found that 13.2% (112/847) of the author population had some tie, between 1 and 5 hops, with a non-WEIRD author. Only 17.6% (8/51) of non-WEIRD authors had ties with other non-WEIRD authors and 14% (104/797) of WEIRD authors had ties to non-WEIRD authors. An Independent Samples t-test with the distance from non-WEIRD nations as the dependent variable and the authors' associated continent as the independent variable was not significant ($F = 1.318, p = .268$). These results were illustrated on figure 11 below (note that all authors who had no ties – and thus no distance – were coded as '0').

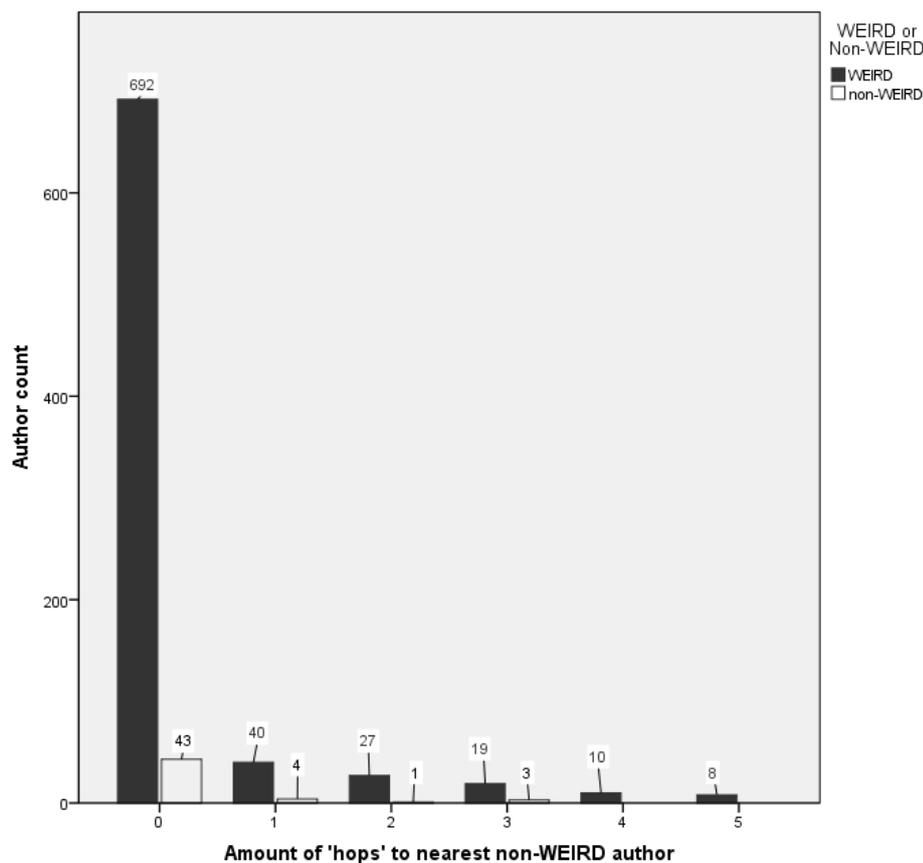


Figure 11: Bar graph illustrating the number of authors who have ties to non-WEIRD authors and how many hops they must take to reach these authors (0 'hops' = no connection with non-WEIRD author; 1 'hops' = direct connection with non-WEIRD author; 2 'hops' = connected to an author who has 1 'hops' from non-WEIRD author)

From this graph, it was evident that the vast majority of both WEIRD (692) and non-WEIRD (43) authors have no ties at all to non-WEIRD authors; 40 WEIRD and 4 non-WEIRD authors have a '1 hop distance' to a non-WEIRD author (i.e. they have been involved in direct collaboration with them); 27 WEIRD and 1 non-WEIRD author have a '2 hop distance' to a non-WEIRD author (i.e. they have collaborated with someone who has a '1 hop distance'); 19 WEIRD and 3 non-WEIRD authors have a 3 hop distance; 10 WEIRD authors have a 4 hop distance, and 8 WEIRD authors have a 5 hop distance to a non-WEIRD author.

The number of authors from each associated continent that had ties to other non-WEIRD nations – i.e. collaborations with all other non-WEIRD nations excluding collaborations from other authors from their own country - were: 1 from Africa (1/8; 12.5%) , 5 from Asia (5/58; 8.6%), 12 from Australia Oceania (12/22; 55%), 47 from Europe (47/174; 27%), 47 from North America (47/580; 8.1%), and none from South America.

To determine if there was any difference between whether non-WEIRD or WEIRD authors had more access to other non-WEIRD authors, a significance test (independent variable = WEIRD or non-WEIRD categorization; dependent variable = distance score) was conducted. Levene's Test of Homogeneity of Variance was not significant ($F = .514$, $t = .753$, $df = 110$, $p = .475$) indicating that the assumption of homogeneity of variance was met. Because of this, a parametric, independent sample t-test, was conducted which determined that there was no significant difference between the groups ($F = .567$, $df = 1$, $p = .453$) indicating that the distribution of distance from non-WEIRD nations was the same across both WEIRD and non-WEIRD groups. However, it must be noted that this was an unbalanced design, and therefore had diminished power.

In order to visualize what the distances between various authors looks like within the coauthorship network of the journal *Political Psychology*, Visone was used to generate figure 12, which can be seen below. This figure represents the ties or connections that the different authors that have published multi-author papers in *Political Psychology* have made between one another, based on their coauthorship history; one line represents a publication that was co-authored between authors (nodes) on the network. In this figure all nodes associated with WEIRD countries were blacked out, whilst every non-WEIRD country is represented by a yellow node.

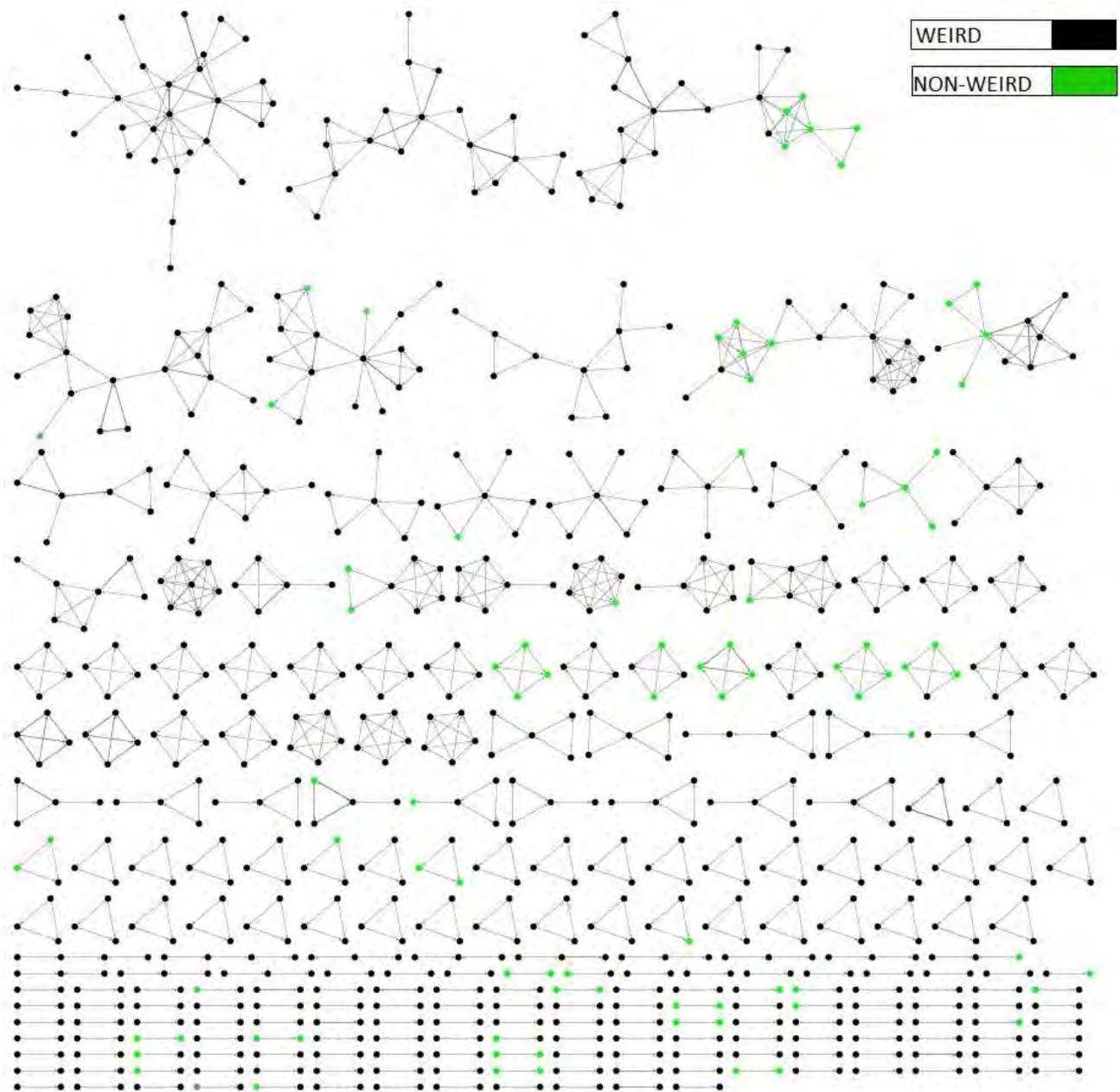


Figure 12: Coauthorship network highlighting non-WEIRD to non-WEIRD collaborations.

5.2.5.2 Analysis of Centrality

The second set of calculations that were performed were concerned with centrality of different nodes in the network. There are three main calculations for centrality, which measures the structural importance of a node; the first of these was ‘degree’ – this will be discussed below.

Degree

As mentioned in chapter 4, degree is simply a measure of the number of direct relations a node (author) has. If a node (author) has a high degree, we can tell something about them: for instance, an author with a high degree is generally an active player in the network, is often a connector or a hub, may be in an advantaged position in the coauthorship network, may be less dependent on other individuals, and are often identified as ‘third parties’ or ‘deal makers’.

The mean degree for WEIRD authors was $M = 2.386$, $SD = 1.82$ whilst the mean degree for non-WEIRD authors was $M = 2.686$, $SD = 1.95$. Using Levene’s Test for Equality of Variances, the assumption that the variances of WEIRD and non-WEIRD author degrees were equal was not met ($p = .044$) thus a non-parametric Independent-Samples Mann-Whitney U test was conducted. Using the degree scores as the dependent variable and WEIRD or non-WEIRD categorization as the independent variable, the non-parametric test result were not significant ($U = 21.413$; $t = .687$; $p = .492$). This means that between the groups, i.e. WEIRD and non-WEIRD, the distribution of degree centrality was not significantly different.

Closeness

The second measure of centrality that was calculated and analysed further in SPSS was ‘closeness’. Closeness centrality, as indicated by the name of the term, focuses on how close a node is to all other nodes in a network; this is different to degree centrality, which is defined as the number of nodes that are connected to a specific node; in fact, degree centrality (sometimes called farness) is inversely related to closeness centrality. Nodes with high measures of closeness generally have quick access to other nodes in a network (a short distance) and have a high visibility as to what is happening in the network.

The mean closeness centrality value for WEIRD authors was $M = 1.83$, $SD = 1.96$ and the mean closeness centrality value for non-WEIRD authors was $M = 2.19$, $SD = 2.18$. Levine’s Test for Equality of Variances was not significant ($F = 1.974$, $p = .160$) indicating that there was equal variance between the groups. Because there was equal homogeneity between groups, a parametric independent-samples t-test was conducted to determine if the difference between the two groups was significant; the independent variable was WEIRD or non-

WEIRD categorization, and the dependent variable was the closeness centrality score. The result of the t-test indicated that the relationship between non-WEIRD and WEIRD author closeness values was not significant ($t = -1.243$; $DF = 845$; $p = .0214$).

Betweenness

The third calculation of centrality was the measurement of ‘betweenness’. Betweenness centrality allows one to quantify the number of times a node (author) acts as a bridge along the shortest distance between two other nodes. This quantified score represents the control of a human on the communication between other humans in a social network (Freeman, 1977).

The mean betweenness centrality value for WEIRD authors was $M = 3.17$, $SD = 15.63$ and the mean closeness centrality value for non-WEIRD authors was $M = 2.20$, $SD = 11.44$. Levene’s Test for Equality of Variances was not significant ($F = 0.525$, $p = 0.469$) indicating that there was equal variance between the groups. Because there was equal homogeneity between groups, a parametric independent-samples t-test (with the independent variable being WEIRD or non-WEIRD categorization, and the dependent variable being the betweenness centrality score) was conducted to determine if the difference between the two groups was significant. The result of the t-test indicated that the mean difference between non-WEIRD and WEIRD author betweenness values was not significant ($t = .439$, $df = 845$; $p = 0.66$).

Eigenvalue

The eigenvalue measurement of centrality measures how close a node is to other nodes with high closeness values; the eigenvalue identifies the most central nodes in terms of the overall makeup of the network and nodes with high eigenvalues generally indicate a node is more central to the main pattern of the network among all other nodes, and it is also a reasonable measure of the nodes positional advantage in the overall network.

The mean eigenvalue for WEIRD authors was $M = 2.81$, $SD = 2.84$ and for non-WEIRD authors it was $M = 2.79$, $SD = 2.67$. Levene’s Test for Equality of Variances was not significant ($F = 1.422$, $p = .233$) indicating that the assumption of equal variances was met. After conducting an Independent Samples t-test with the independent variable being the WEIRD and non-WEIRD categorization and the dependent variable being the eigenvalue

score, the result was not significant ($t = .057$; $df = 845$; $p = .955$) indicating that there was no significance difference in mean eigenvalue between WEIRD and non-WEIRD nations.

5.2.6 Analysis of author positions

In this section, an analysis of the author position was conducted. By author position, it was meant that the first authors, second authors, third authors, and so on, will be analyzed in terms of their average position in relation to their affiliation with WEIRD or non-WEIRD classification. It is often assumed that the order in which the authors are positioned in the article has an effect on the prestige and recognition gained from the publication (Wagner and Leydesdorff, 2006). For this research, the author position importance was ranked ascending from 1 being the most important, upwards. In this case, the lower the score the better the position the author would be in.

An Independent Samples t-test was calculated with the author positions as the dependent variable and their affiliated with WEIRD or non-WEIRD nations as the independent variable. The mean author position for WEIRD nations was $M = 1.97$, $SD = 1.04$ whilst the mean for non-WEIRD author position was $M = 2.59$, $SD = 1.5$. An alpha of score of 0.05 was set. Levene's Test for Equality of Variances was significant ($F = 12.654$, $p > .001$) indicating that the assumption of homogeneity between groups was not met. After conducting an Independent-Samples Mann-Whitney U Test, the resulting score was significant ($U = 25.9$; $t = 3.167$; $p = .002$) indicating that the distribution author position was not the same across categories of WEIRD and non-WEIRD. WEIRD authors were more likely to be in a more advantageous author position when compared to their non-WEIRD counterparts.

5.2.7 Israel as a non-WEIRD nation

In this section, all calculations from section 5.2.4, *social network analysis of the coauthorship map*, were recalculated with Israel being classified as a non-WEIRD nation. This was to determine whether the classification of this country significantly altered the results of the analysis. The only calculation where Israel's WEIRD or non-WEIRD classification changed

the significance of the results was for the analysis of the distance between nodes. These calculations were tabulated below.

<i>Table 7: A tabulation of the social network analysis significance scores with Israel being classified as a non-WEIRD nation.</i>		
<u>Calculation</u>	<u>Difference in significance</u>	<u>p-score</u>
*Distance	Yes	$p = .02$
Degree	No	$p = .203$
Closeness	No	$p = .452$
Betweenness	No	$p = .096$
Eigenvalue	No	$p = .625$
Frequency of co-publication	No	$p = .007$
Author positions	No	$p = .008$
<i>*One of the primary reasons that the distance score changes in significance is because, if Israel is classified as non-WEIRD, it significantly increases the number of non-WEIRD authors (and subsequently the number of co-authored papers) and makes up a large percentage of the total.</i>		

5.3 Qualitative Analysis

The following analysis was primarily descriptive with the main aims of describing the underlying mechanisms within the coauthorship network representing the journal, *Political Psychology*. This analysis sought to gain more insight into which fields and areas of interest WEIRD and non-WEIRD authors seem to be focusing on with regards to their publications. This was mainly to determine if non-WEIRD researchers were focusing primarily on gathering empirical data and WEIRD researchers primarily conducting basic research and developing theories. The reason for gaining this insight was to determine whether the theories mentioned in the literature review (such as the core-periphery model, and the unequal distribution of academic labour) were relevant to this coauthorship network.

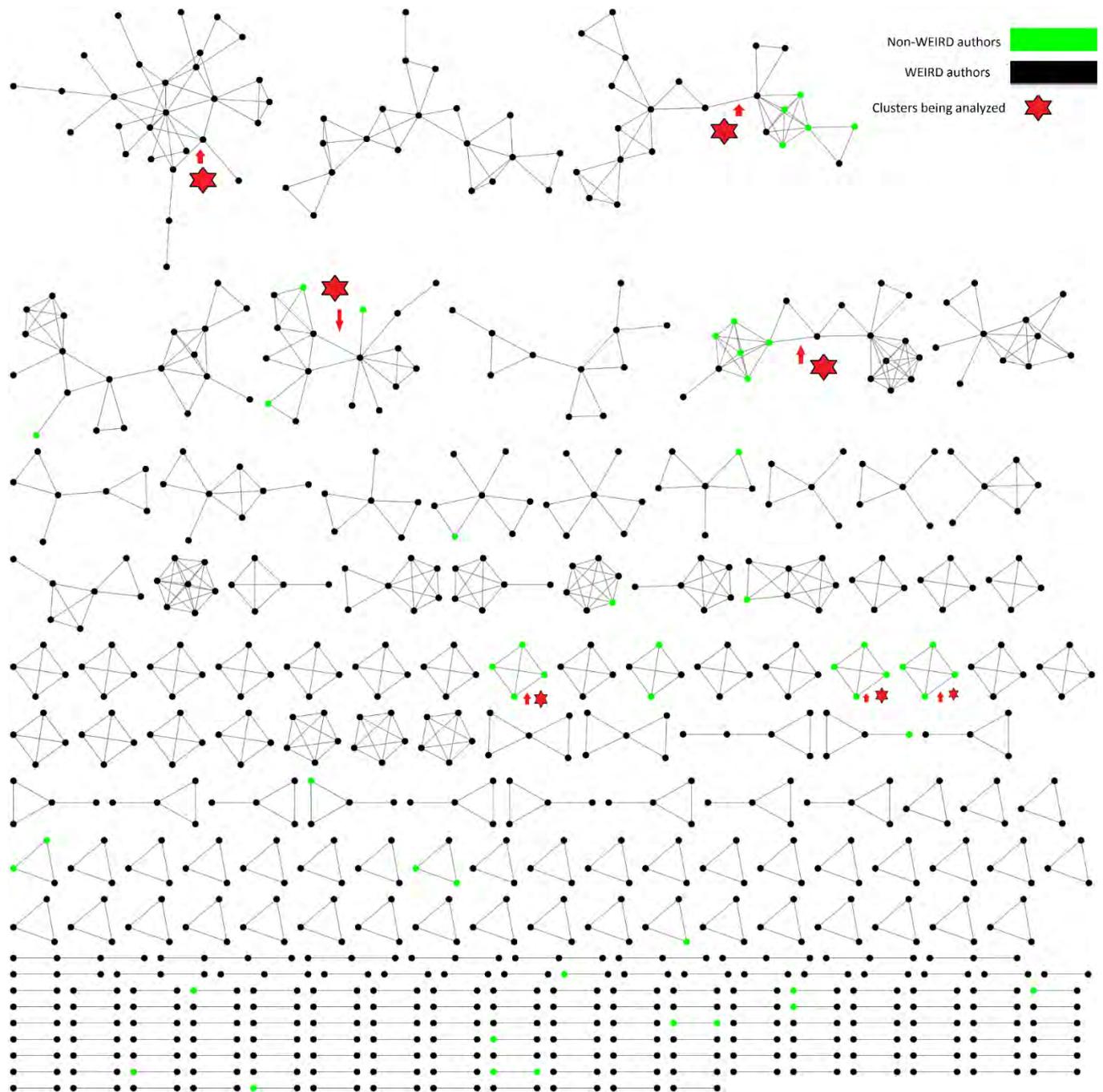


Figure 13: Complete coauthorship network highlighting clusters that will be analysed

In viewing the entire coauthorship network, it was apparent that there were multiple large connected clusters, as well as many smaller clusters. Some of these connected clusters were exclusively non-WEIRD, some were exclusively WEIRD, whilst others link WEIRD and non-WEIRD authors. All of the exclusively non-WEIRD clusters were relatively small groups of authors disconnected from larger clusters.

In the following analysis, several of these clusters will be analyzed in detail; the first of these clusters was a group of WEIRD authors, the three after that were mixed non-WEIRD and WEIRD clusters of authors and the final three were non-WEIRD only clusters. These clusters will be structured under the main theme of the specific cluster; for example, the first cluster will be labelled as the ‘Social Dominance Orientation’ cluster because the articles published by the authors in the cluster focus on that subject. This analysis will attempt to gain insight into what subjects these different types of clusters research, as well as if the research was basic or applied. In knowing this, a greater understanding of the role that non-WEIRD nations play in this network may be become available. All paper titles and their respective abstracts that are included in this section are shown in Appendix C.

Cluster 1: Social Dominance Orientation

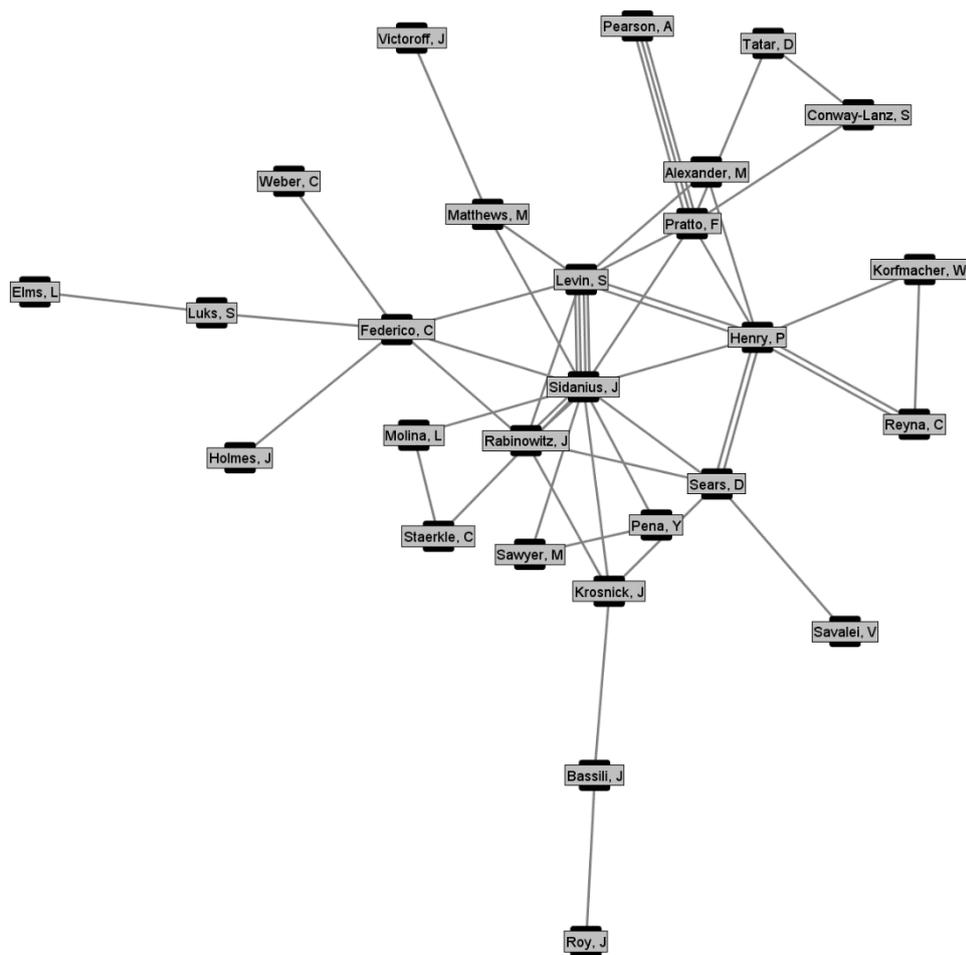


Figure 14: Cluster of WEIRD-only authors within the total social network

In this cluster there were 25 authors who published their work within the USA, two who published their work from Canada, and one from Switzerland. Thus, according to the WEIRD or Non-WEIRD country index listed in chapter 4, all of these authors were associated with WEIRD countries. There was also very limited international collaboration and, evidently, no collaboration with non-WEIRD countries at all. Every author except one was from North America (and from North America, all but two were from the United States).

Looking at figure 14, it was evident that there were two main authors within this cluster; those authors being Levin, S and Sidanius, J. Not only were they visibly more central than the other authors in terms of their positioning within the cluster, but they also had more ties with other authors in the cluster. Interestingly, these two authors also had many ties between each other, indicating that they had co-authored multiple papers together.

In the collaborations within this cluster, Levin and Sidanius have been the authors, or co-authors of publications such as: “Social dominance and social identity in the United States and Israel: In-group favouritism or out group derogation?”, “Ethnic identity, legitimizing ideologies, and social status: A matter of ideological asymmetry”, “Perceived group status differences and the effects of gender, ethnicity, and religion on social dominance orientation”, “Image theory, social identity, and social dominance: Structural characteristics and individual motives underlying international images”, as well as “Social dominance orientation, authoritarianism, and support for intergroup violence between the Middle East and America”. All of these publications were conducted with only intra-USA collaborations.

Investigating the non-USA nodes within this cluster, the Canadian authors were only connected to this network via the link between Bassili and Krosnick, the collaborative work being “Do strength-related attitude properties determine susceptibility to response effects? New evidence from response latency, attitude extremity, and aggregate indices”, while Joy, the second Canadian author, was linked to Bassili by the publication “On the representation of strong and weak attitudes about policy in memory”. The author from Switzerland was involved in a multi-author collaboration titled “Ethnic Minority-Majority Asymmetry in National Attitudes around the World: A Multilevel Analysis”.

Cluster 2: Social Identity Theory

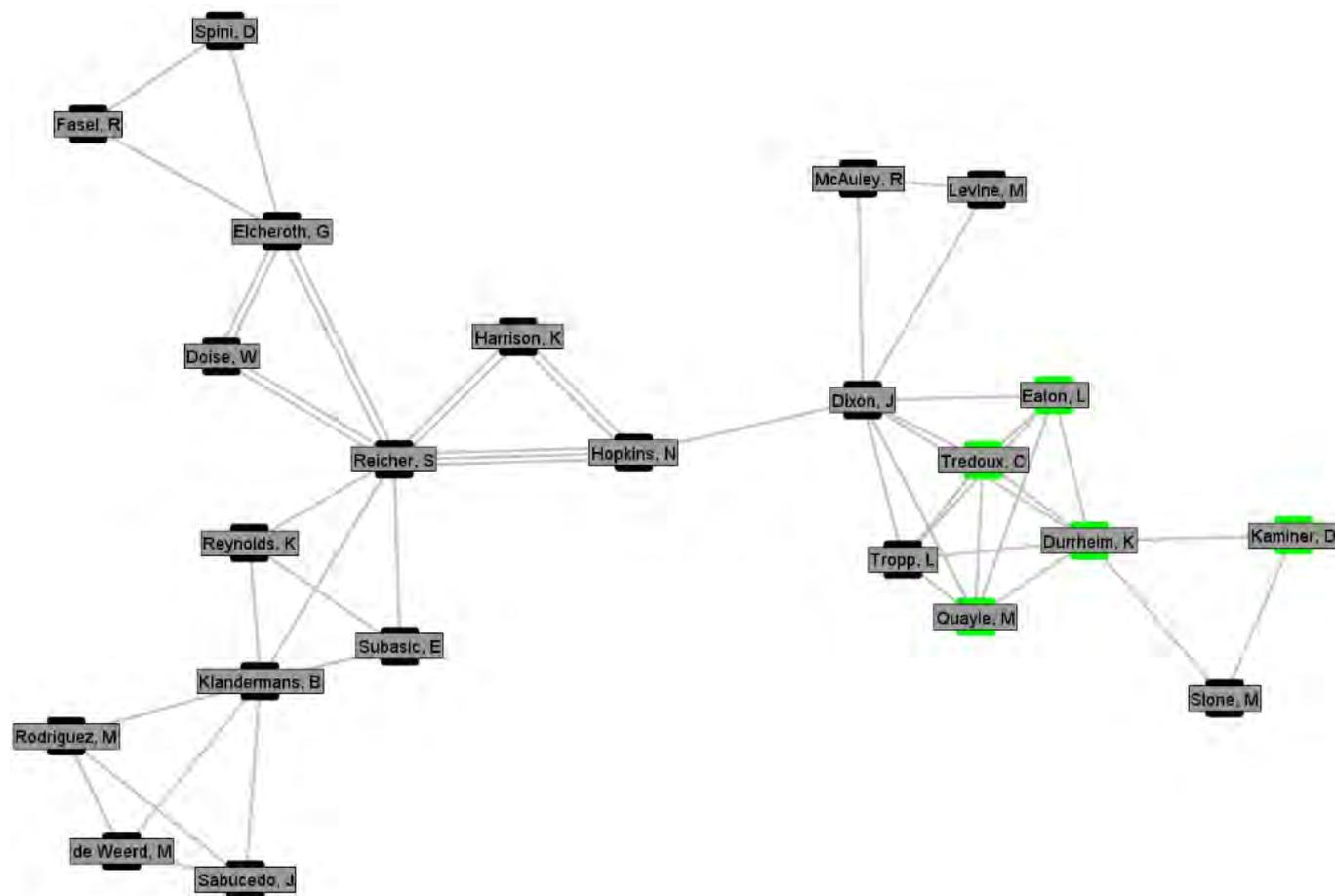


Figure 15: Cluster of WEIRD and Non-WEIRD authors within the total social network

This network cluster was much more internationalized than the previous one, with a total of eight different countries of author origin, namely: two authors from Australia (Oceania), one from Israel, two from Netherlands, five from South Africa, two from Spain, four from Switzerland, one from the USA, and six authors from the UK. Out of these 23 authors (nodes), five were from a non-WEIRD country (South Africa) and 18 were from WEIRD countries. However, what was interesting to note was that the WEIRD and non-WEIRD countries were almost divided and were only connected by one author, that being Dixon, J. Thus, that was where this analysis began.

The primary collaborative work that links the non-WEIRD authors in the coauthorship network to the WEIRD authors of the network is the publication titled “Challenging the

Stubborn Core of Opposition to Equality: Racial Contact and Policy Attitudes”, which was a collaboration between Dixon, Durrheim, Tredoux, Tropp, Clack, Eaton, and Quayle, while the work between Hopkins and Dixon, “Space, place, and identity: Issues for political psychology”, connects the completely WEIRD left side of this cluster, to the primarily non-WEIRD right side of the cluster.

Other than the article authored by Dixon et al. which was stated above, the non-WEIRD authors have worked on the publication, “The contribution of political life events to psychological distress among South African adolescents”.

The collaborations in the all-WEIRD left side of this cluster have resulted in some of the following publications: “Young people's deliberations on geographic mobility: Identity and cross-border relocation”, “Social identity and spatial behaviour: The relationship between national category salience, the sense of home, and labour mobility across national boundaries”, and “Psychology and the end of history: A critique and a proposal for the psychology of social categorization”.

Cluster 3: Race and Politics

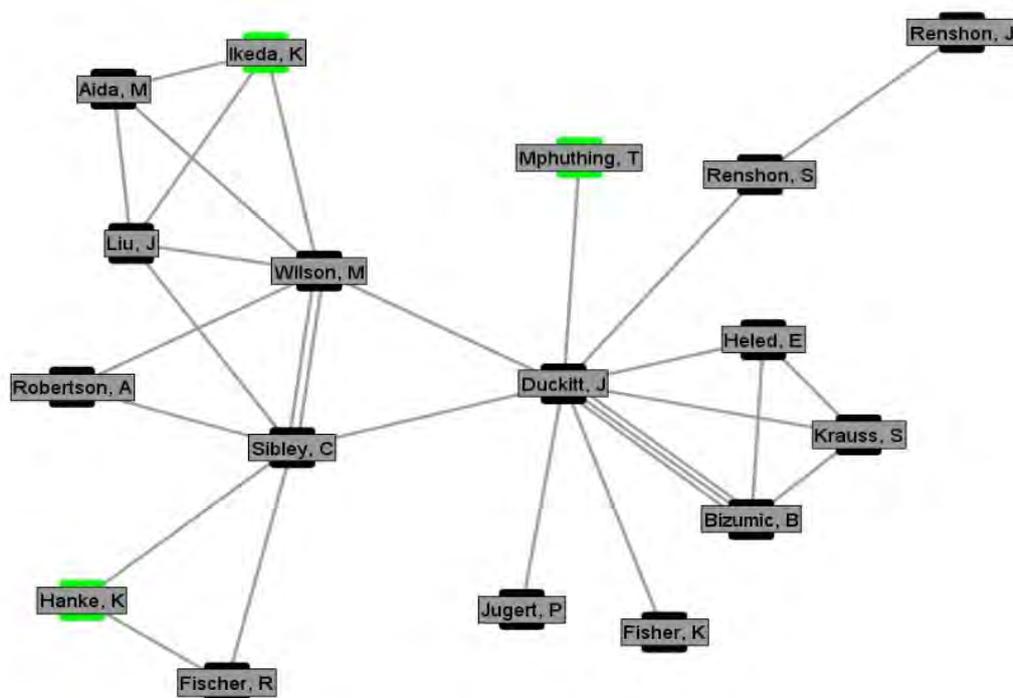


Figure 16: Cluster of WEIRD and isolated Non-WEIRD authors within the total social network

This cluster was different to the previous one in that the non-WEIRD nodes (authors) were not grouped together, nor were they linked directly to one another.

Looking at the WEIRD/non-WEIRD collaborations, the collaboration between Duckitt and Mpuhthing resulted in a publication titled “Political power and race relations in South Africa: African attitudes before and after the transition”; the collaborative work between Ikeda, Liu, Aida and Wilson resulted in the work of “Dynamics of interpersonal political environment and party identification: Longitudinal studies of voting in Japan and New Zealand”, and lastly, the collaborative work between Fischer, Hanke and Sibley resulted in the publication titled “Cultural and Institutional Determinants of Social Dominance Orientation: A Cross-Cultural Meta-Analysis of 27 Societies”.

The collaborative work between Ikeda, Aida, and Wilson was openly cross-cultural. As the authors were either from Japan or New Zealand, they pooled their resources together for this study to make the results, perhaps, more generalisable. The same could be said for the collaborative work done by Fischer et al.; all of these authors were from different countries, and could thus offer a different perspective of social dominance orientation.

Cluster 4: National identity

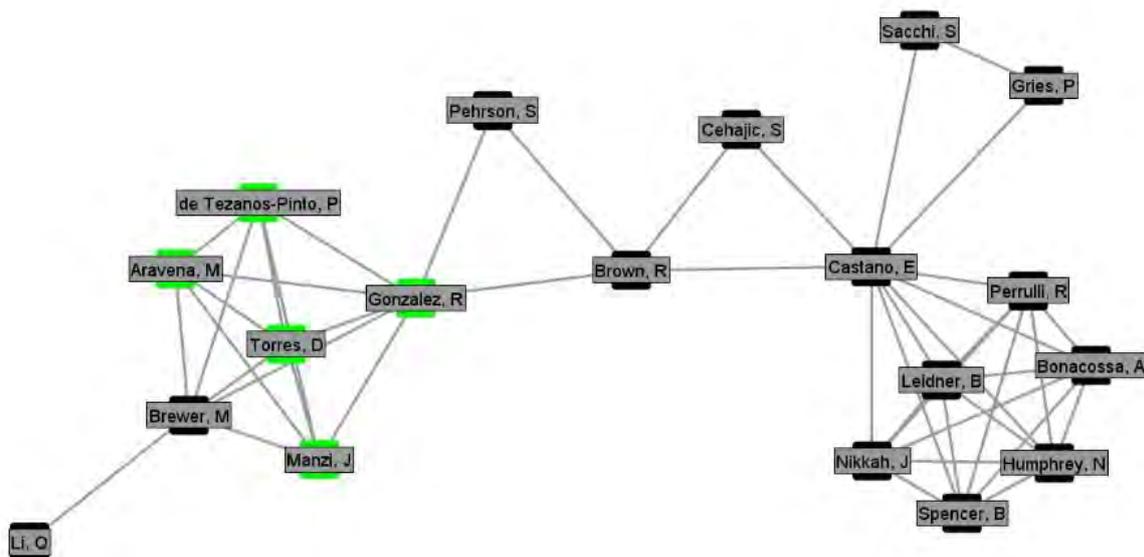


Figure 17: Cluster of WEIRD and closely connected Non-WEIRD authors within the total social network

This network cluster features five non-WEIRD authors who were all from the same country, that being Chile, as well as 14 WEIRD authors; one having the country of origin as Italy, nine from the USA, and four from the United Kingdom. The non-WEIRD authors appear to be more connected to each other than to the non-WEIRD authors.

All of the non-WEIRD authors, including one WEIRD author (Brewer, M) collaborated in the publication titled “Interparty attitudes in Chile: Coalitions as superordinate social identities”. The only other WEIRD/non-WEIRD collaboration in this cluster, but one that links the non-WEIRD authors indirectly to a cluster comprised of only WEIRD authors, was the collaboration between Pehrson, Gonzalez, and Brown titled “Indigenous Rights in Chile: National Identity and Majority Group Support for Multicultural Policies”.

The only other collaborative work Brewer, M did in this cluster was with Li, Q in a publication titled “What does it mean to be an American? Patriotism, nationalism, and American identity after 9/11”. Brown, was involved in another collaboration, this time with WEIRD authors, which led to a publication titled “Forgive and forget? Antecedents and consequences of intergroup forgiveness in Bosnia and Herzegovina”.

Investigating the context of these research topics, it was found that Chile has been involved in conflicts such as the ‘Mapuche conflict’ where indigenous inhabitants of certain areas were demanding jurisdictional autonomy, the return of ancestral lands as well as cultural identity. Bosnia and Herzegovina were also involved in a conflict (the Bosnian War) based on cultural and ethnic differences.

From the group of only WEIRD authors, Castano (who was involved in the collaboration with Brown) appears to be the bridge between the sub-clusters in this cluster of authors. This author has been involved in collaborations within this cluster such as: “Ideology, Fear of Death, and Death Anxiety” and “The perception of the other in international relations: Evidence for the polarizing effect of entitativity”.

Cluster 5: Non-WEIRD only clusters (non-WEIRD solutions for non-WEIRD problems)

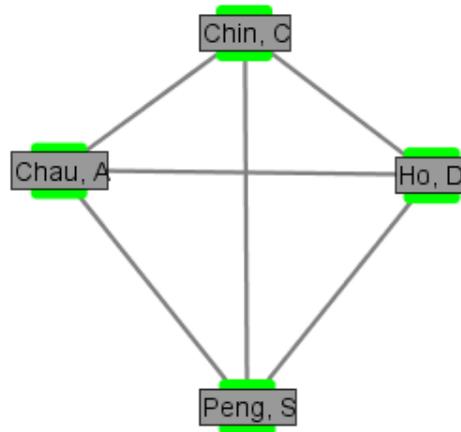


Figure 18: Cluster of only Non-WEIRD authors within the total social network

This was a non-WEIRD only cluster that was comprised solely of authors from China. This cluster was involved in only one collaborative venture which resulted in the publication titled “Ideological orientation and political transition in Hong Kong: Confidence in the future”.

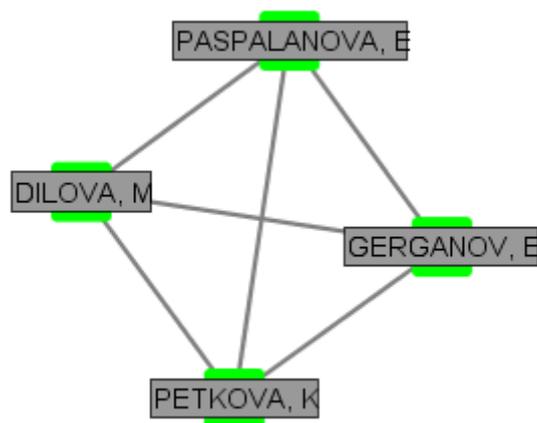


Figure 19: Cluster of only Non-WEIRD authors within the total social network

This non-WEIRD only cluster was comprised solely of authors from Bulgaria. This cluster was involved in one publications, which was: “Voting in the first post-totalitarian elections in Bulgaria”.

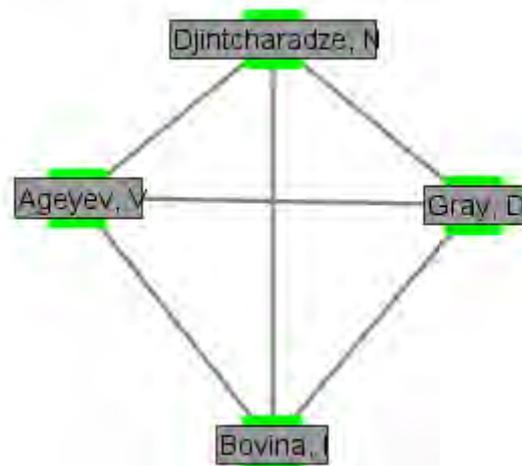


Figure 20: Cluster of only Non-WEIRD authors within the total social network

This was a non-WEIRD only cluster that was comprised solely of authors from Russia. This cluster was involved in only one collaborative venture which resulted in the publication titled “Belief in equality and democratic leadership behaviour in two Russian samples”.

Chapter 6: Discussion

As it was discussed in the literature, much research has been conducted into investigating academic collaborative work and analysing their patterns of connectivity (Endersby, 1996; Moody, 2004; Hatemi and McDermott, 2012). Throughout this dissertation, it has been emphasised that there are two types of internationalization that exist: the first being a more basic type of internationalization, examining the level and type of collaboration across national borders – this type of internationalization was subsequently labelled as *basic internationalization* in this research. The second type of internationalization was defined as being a more in-depth type of internationalization which examined the nuanced factors within the collaboration network - this type of internationalization was referred to as *depth internationalization*. Some of these nuanced factors included: power relations, information flows, author positions, distance, as well as which authors were considered central or ‘core’ to this network, and which were considered peripheral.

Both types of internationalization were analysed in this research. However, in order to study the latter type of internationalization (depth internationalization) it was necessary to have terms which accurately describe and take into account the differences between what is, traditionally, the ‘Western/developed world’ and the ‘non-Western, underdeveloped world’. To achieve this, the terms WEIRD and non-WEIRD were used to describe and distinguish between what Henrich et al. (2010) asserts are Western, Educated, Industrialised, Rich, and Democratic (WEIRD) countries and those countries that are not (non-WEIRD).

The primary reason for the dichotomous classification of authors (and their affiliated nations) as WEIRD or non-WEIRD was to determine how generalizable the work published in *Political Psychology*, and subsequently the ISPP, was at the time of data collection. It was argued in the literature that psychological knowledge has, historically, been dominated by a small number of mostly WEIRD scientific powers (such as the US, UK, Germany). It was argued that when this type of scientific domination occurs, it is at the expense of internationally generalizable and relevant scientific knowledge being generated; many ideas, theories, models and perspectives are lost when only WEIRD authors are collaborating. It was also suggested that WEIRD nations and their authors are more likely to be in the ‘core’ of the network, and in a win-lose situation with non-WEIRD nations and authors who are more likely to be on the ‘periphery’ of the network (Arnette, 2008).

One of the biggest decisions that had to be made in this research was the classifications of the countries (and their authors) into either WEIRD or non-WEIRD categories. A particular challenge to this classification process was the country of Israel, and to a lesser extent, Turkey; these countries met some of the requirements for being classified as a WEIRD nation (such as being Rich, Educated, and Industrialised), but, debatably, did not meet all of them (such as being Democratic, or Westernized). Therefore, in order to account for the variation in the results that these countries' classification could cause (more so for Israel than Turkey, due to the number of publications Israel has published in the journal), all calculations conducted in the analysis were done twice: one with Israel as a WEIRD country (default) and another with Israel as a non-WEIRD country). However, it was found that Israel's classification did not have a major impact on the significance of the findings, with only one calculation changing in significance depending on whether Israel was classified as WEIRD or non-WEIRD; as Turkey had only one author who had published a single-author paper in the journal, its categorization had little impact on the outcome of the results.

This research aimed to identify, map, and describe patterns of collaboration between authors of different countries, primarily through WEIRD or non-WEIRD categorization, within the International Society for Political Psychology's journal, *Political Psychology*. This would offer further insight into the level of internationalization (if any) that exists, both currently and historically, within *Political Psychology*. This research also takes the stance that the outcome of this study can be extrapolated and generalized to the ISPP itself.

The findings of this research do support the literature that was reviewed to some extent. The findings, as well as their connection to the literature, will be discussed below according to: (1) basic internationalization, and (2) the depth internationalization. The first will involve: (a) discussing which authors are associated with which countries and, (b) the frequency and scope of international collaboration, regardless of WEIRD/non-WEIRD categorization. The discussion on the depth internationalization will involve: (a) the presentation, connectivity, and position of WEIRD and non-WEIRD authors in the network, (b) the social distance between collaborating authors and (c) whether internationalization has increased or decreased over time and what the future trend for internationalization appears to be. The primary indicator of the aforementioned topics of inquiry will be the quantitative analysis; however, the qualitative analysis will be used to reinforce the conclusions that statistics point towards.

6.1 Discussion on basic internationalization

6.1.1 Author-country association

It was evident from the findings that there was an unequal distribution of authors based on their geographic location. Particularly striking was the fact that Africa has only one represented country in the journal, that being South Africa; this was while most of Europe and all of WEIRD North America have associated authors within the journal. This suggests that there are some factors at play which are mitigating the level of international collaboration within the journal. One of the reasons could be the fact that North American and European countries have access to more funding as well as being able to pursue research at a lower total cost, as suggested by van Halden (2012). Due to the fact that some developing countries, such as some nations in Africa, Asia, and South America, have a higher absolute cost of conducting research, they will also have less opportunities to publish, as well as being less attractive to potential funders of collaborative research (van Halden, 2012).

However, the fact that the percentage of authors associated with the some countries is far higher than other countries must also be considered; for instance, 63.5% of the authors within the journal are associated with the United States. This finding confirms Vasconcelos et al.'s (2012) categorization of the USA as a scientific powerhouse, at least in *Political Psychology*. It also supports Arnett's (2008) assertion that Americans are the largest producers of psychological research, and subsequently, that there is a risk that theories and principles that are developed and published in the journal are too narrow, and cannot be considered universally applicable.

6.1.2 Frequency and scope of international collaboration

There were 35 different countries represented within the journal, however, not all of the countries had an equal number of authors affiliated with them, as well as the affiliated authors not publishing the same frequency of publications. For example, the USA and the UK have 538 and 52 affiliated authors respectively, whilst nations such as Singapore, Sri Lanka, and Mexico have only one affiliated author each. These findings imply that there are more opportunities for collaborative ventures in certain countries, and fewer opportunities in

others. This was evident not only in multi-author papers, but also when including single-paper papers; when including single-author papers the percentage of authors being affiliated with the USA increased to 68.3%.

It must be noted that out of the authors analysed, there was no country with a mean international collaboration index score that was above .5 – meaning that no country had more than half of their associated authors involved in intra-national collaborations. This findings leads to a speculative assumption that academic collaborative activities are somewhat encouraged within the ISPP's journal, *Political Psychology*, and allows one to speculatively assume that there is at least a moderate level of internationalization that exists currently within the journal. However, the finding that only 17.6% of the countries in the world have published an article (single author or multi author) in the journal since 1985 reflects, again superficially, a low level of internationalization within the journal.

Based on these findings, one can assume that the basic internationalization level within the journal (and subsequently the ISPP) is mixed: countries and authors that are already represented in the journal are increasingly likely to be involved in collaborations with other already-represented countries, but this level of internationalization is not reaching the majority of the world's population (i.e., the other 82.4% of the world's countries). This could be because of author and even country/institutional preferential attachment with authors/institutions that have already collaborated together preferring to collaborate with each other over new or different partners (Wagner and Leydesdorff, 2005)

However, these findings do not take into account which countries undertake these collaborative ventures, thus the overall level of collaboration between countries may be limited to a few select countries, and not equally distributed throughout the network of authors. For example, the USA has one of the lowest international collaboration scores, which implies that the country has many collaborative multi-author publications with other countries; bit it was also found that the USA had very few ties with countries that were not categorized as WEIRD. Some nations, such as Iceland and South Korea, have an international collaboration index of 0 – a perfect international collaboration score; the reason for this was because all publications from authors associated with these countries have been with authors only from the same country. Therefore, one can conclude that not all countries engage in internationalization to the same degree, with some countries encouraging internationalization more than others, and some countries being preferred as collaborative partners over others.

One of the possible reasons why some countries have a higher collaboration score may be because of the policies implemented on a national level (Vasconcelos et al., 2012) which reward collaboration through funding. For instance, the United Kingdom's report on funding EU research and innovation stated that one of their goals was the "internationalization of research teams" (p. 6) and that the "UK also considers that that the potential involvement of 'third world countries' should be considered as appropriate within technology or challenge-driven research projects from the outset" (Funding for EU Research and Innovation, 2014, p. 11)

Continuing with this line of thought was the idea presented by Deiner (1999) that because countries such as the USA contribute such as a large proportion of the authors and subsequently publications, policy changes in these countries will affect the ability of other countries to collaborate and publish papers. This suggests that a level of dependency exists in the network, where countries with a lower number of authors and collaborative power are dependent on the policies enacted by countries which have a larger number of associated authors. There is also the possibility that, because the USA has such a large majority of authors, that the theories and principles being developed could 'mistakenly [be] assumed to apply to human beings in general; that is, they are assumed to be universal' (Sue, 1999, pp. 1072-1073; cited in Arnett, 2008, p. 602).

6.2 Discussion on depth internationalization

6.2.1 Author representation, connectivity, and overall position

This section consists of a discussion concerning the overall representation of WEIRD and non-WEIRD authors in the network, and subsequently, the collaborative ventures within *Political Psychology*.

Firstly, there appears to be a disparity between the proportions of authors associated with each continent. North America accounts for over 68% of all authors in the journal, while Europe accounts for over 20%; thus, together, these two continents account for just over 89% of all authors in the journal *Political Psychology*. In order of the highest author proportion, the other continents – Asia, Australia (Oceania), Africa, and South America – together account for fewer than 11% of the authors in the journal.

Secondly, there was also a large disparity between the number of WEIRD authors and non-WEIRD authors. WEIRD authors accounted for nearly than 94% of all authors, whilst non-WEIRD authors accounted for just 6%. This proportion of WEIRD to non-WEIRD authors was similar within Europe as well; WEIRD Europe accounted for 92% of the total European author count, and non-WEIRD Europe, contributed just 8%.

However, whilst the percentage of authors associated to non-WEIRD nations was low, the total global population of nations categorized as being non-WEIRD is much higher than that of nations categorized as being WEIRD. The non-WEIRD nations that were represented within the network, when combined, accounted for 73.9% of the human population; in contrast, WEIRD nations represented in the network only accounted for 26.1% of the population. It was interesting to discover how only 26.1% of the represented human population (WEIRD population) accounted for 94% of the total multi-author publications, whilst 76% accounted for only 6% of multi-author academic publications.

The difference between the average papers published by an author varied significantly depending on whether the author was associated with a WEIRD nation or a non-WEIRD nation. When compared against Price's (1976) theory of cumulative advantage, it seems like it is indeed the case "that an author of many papers is more likely to publish again than one who has been less prolific" (p. 304). This suggests that non-WEIRD nations may have fewer opportunities to be involved in future collaborative work when compared to WEIRD authors; it also suggests, speculatively, that WEIRD authors are more likely to get funding for their research based on their prolific nature in the network.

Wagner and Leydesdorff (2005) suggest that international scientific collaboration is self-organising and involves preferential attachment. They describe this preferential attachment mechanism as one where researchers and scientists compete and collaborate with each other in order to gain recognition. This suggests that many researchers will seek out other researchers who already have acquired recognition and reputation because collaborating with these renowned researchers may increase the chance that the research results will gain attention. In this research, as WEIRD authors have a significantly higher chance of having more papers published, this means that they also have a higher chance of being sought after by others authors merely because they have such a high amount of recognition. As this is a cumulative process, one can speculate that non-WEIRD authors will generally seek out WEIRD authors for collaborative work, and not the other way round.

The fact that an author who was associated with a WEIRD nation was significantly more likely to be in a first or second author position in a publication compared to non-WEIRD authors was revealing. Wagner and Leydesdorff (2006) asserted that coauthorships and collaborative academic ventures have a reward structure within science where first authors get rewarded with professional recognition and access to additional resources; it has also been suggested that first authors have more recognition and rewards than second authors, second have more than third authors, and so on. What this means for this research is that by having a significantly lower chance of being a first-author, non-WEIRD authors subsequently face significantly lower chances of gaining the benefits of collaborative academic work when compared to WEIRD authors.

6.2.2 Position and power of WEIRD and non-WEIRD authors

This section consists of a discussion of the centrality of, and distance between, WEIRD and non-WEIRD authors and how this effects their position and power within the network. This section will be looking at four main determinants of an author's position and power in a coauthorship network, those being: measures of centrality, distance, frequency of co-publication, and the position of the authors in publications.

6.2.2.1 Measures of centrality

The measures of centrality that will be discussed in this section are the same as the measures of centrality that were analysed, namely: degree, closeness, and betweenness centrality. The level of significance of all of the centrality calculations (degree, closeness, betweenness, eigenvalue) did not change based on Israel's categorization as a WEIRD or non-WEIRD nation.

Degree

The fact that there was no significant difference in degree centrality between WEIRD and non-WEIRD authors means that the average number of connections that each author had to other authors in the network was not significantly different; this suggests there was equal activity and opportunities to collaborate with other authors in the network regardless of an authors' categorization as WEIRD or non-WEIRD. This finding also points to a scenario where, (1) non-WEIRD nations are not in the periphery of this network of authors, and (2)

that non-WEIRD authors are in a state of non-dependency on WEIRD authors. One of the reasons for this equal state of opportunity and activity in the network may be due to decreasing costs of technology, travel, and the advent and expansion of the internet (Glanzel, 2003; Ponds et al., 2007) which has allowed non-WEIRD authors to have these collaborative opportunities, as well as the implementation of policies (such as those within the EU) which make collaboration a prerequisite to funding.

Closeness

There was no significant difference between the WEIRD and non-WEIRD authors in regards to their closeness centrality score. These findings indicate that both WEIRD and non-WEIRD authors can access other authors (nodes) in the network at approximately the same speed, use equally short collaborative pathways to reach other authors, as well as having high visibility of the entire network. Surprisingly, however, non-WEIRD authors do have a slightly higher mean closeness centrality score which suggests that they may have a slight advantage over WEIRD authors in terms of network access and the distance of the collaborative pathways they use to traverse the network.

This finding suggests that whilst non-WEIRD authors do have a much lower proportion of authors represented in the journal, the authors that are represented are in positions of equal centrality compared to authors from WEIRD authors. This may be because of an increasing dependency on knowledge from different areas of expertise, as suggested by Ponds et al. (2007); the suggestions that non-WEIRD authors are experts in specific areas was tentatively confirmed in the qualitative analysis where it was found that non-WEIRD authors appeared to be included in collaborations because of their probably expertise and access to resources.

Betweenness

The fact that this score, and any other centrality score, was still not significant - given the fact that the overwhelming majority of the authors in the network, regardless of Israel's classification are WEIRD - points to a situation where non-WEIRD authors, despite being a small minority within the journal, are still in a relatively equally powerful positions within the network. This also further adds evidence to the suggestion that non-WEIRD authors are neither on the periphery of this network, nor are they dependent on WEIRD authors to publish articles within the journal. The only contradicting factors which are in contrast this positive conclusion are the indexes of author positioning and the frequency of co-publication.

Eigenvalue

Both WEIRD and non-WEIRD author classifications were relatively similar with regards to the average distance authors are to another node which has a high closeness value. This result suggests that non-WEIRD authors can traverse the same distance as WEIRD authors to get to authors with high closeness values (which, as mentioned before, count as hubs in the network). This suggests that both WEIRD and non-WEIRD authors are central to the main pattern of the network; and the authors have no significant positional advantages over each other in terms of network centrality.

While the degree centrality findings point to a relatively equal distribution of power in the network, the qualitative analysis findings tentatively support Alatas's (2003) suggestions that there is a division of labour between WEIRD and non-WEIRD scientific nations, with the former being 'theoretical thinkers' conducting research in other countries, and the latter being 'empirical data gatherers' and limited to conducting research within their own country. For instance, it was found that non-WEIRD authors do sometimes act as sources of empirical information (such as Japan), and access to resources (South Africa, Chile). From the qualitative analysis, it appears that non-WEIRD authors may sometimes be involved in collaborations when comparative research needs to be done; from the qualitative analysis, it was often the non-WEIRD nation being the comparison.

It also appears that non-WEIRD authors generally collaborate intra-nationally with other non-WEIRD authors, as opposed to internationally; this reinforces the idea that non-WEIRD nations are limited, to an extent, to conducting research in their own countries. The qualitative analysis also suggests either one of two possibilities: (1) that much of the work that WEIRD authors conducted was not relevant to non-WEIRD societies or non-WEIRD problems, such as evidenced by non-WEIRD collaborative clusters that came together to write about country-specific issues, or; (2) WEIRD countries are not interested in conducting research on non-WEIRD specific problems because they do not, or no longer, experience the problems facing non-WEIRD nations.

6.2.3 Frequency of co-publication

Regardless of Israel's classification as a WEIRD or non-WEIRD nation, the mean difference between the frequency of publication within the ISPP journal, *Political Psychology*, was

significant with WEIRD nations having a higher number of average publications. This confirms the hypothesis that there was a significant difference between the number of publications published by WEIRD and non-WEIRD authors. This result can relate to the theory of cumulative advantage (Price, 1976) which asserts that the more one publishes, the more one is likely to publish again. It also suggests that non-WEIRD authors are less productive than WEIRD authors – perhaps because of the opportunities available to them.

Including single author publications in the analysis made it even more clear just how large the disparity was between the number of publications WEIRD and non-WEIRD authors have published within the journal, *Political Psychology*. This analysis led to a finding which suggests that non-WEIRD authors do not get many opportunities to publish single author papers within the journal, hinting at dependency on WEIRD authors for publication opportunities by non-WEIRD authors. This was important when taking into consideration that publishing is one of the primary ways in which academics advance their careers and get opportunities for further funding (Wanger and Leydesdorff, 2005). Another possible reason that there are few single-paper publications published by non-WEIRD authors could be that, as Ponds et al. (2006) suggests, the high costs of research facilities in non-WEIRD nations may prevent them from undertaking their own research.

6.2.4 Distance

14% of WEIRD authors had connections or collaborative ties to non-WEIRD authors, and 17.6% of non-WEIRD authors had these collaborative ties with other non-WEIRD nations and their authors. In contrast, when Israel was categorized as Non WEIRD, these percentages increased to 16.8% for WEIRD authors, and 21% for non-WEIRD nations. This finding suggests that Israel was a preferred collaborative partner for both WEIRD and non-WEIRD countries; this is true especially with African countries (South Africa), which when Israel was classified as non-WEIRD, has an 88% non-WEIRD collaboration rate with other non-WEIRD nations, but only 12.5% when Israel was classified as WEIRD. This suggests that South Africa and Israel have common research interests, which has led to them collaborating together.

It was interesting to find that the countries which had the highest percentage of non-WEIRD collaborations came from traditionally WEIRD continents; for instance, Australia (Oceania)

and Europe had 55% and 27% of their multi-author papers involved in a collaboration with a non-WEIRD author, whilst Africa and Asia had a non-WEIRD collaboration percentage of 12.5% and 8.6% respectively. North America had the lowest non-WEIRD collaboration percentage at 8.1%, whilst South American nations represented in the journal had no collaborations with other non-WEIRD nations.

This finding further supports the speculation that Europe has policies in place which promote collaboration with non-WEIRD nations, as well as suggesting that authors from Australia and New Zealand (Australia [Oceania]) are the most internationalized nations. However, in a broader sense, it also hints towards a preference of both WEIRD and non-WEIRD authors to engage in collaborative ventures with WEIRD authors, as opposed to their non-WEIRD counterparts.

There are many reasons why this may be the case; for instance, collaboration with WEIRD authors may result in a higher prestige outcome of the publication, a higher opportunity to publish in a prestigious journal (Wagner and Leydesdorff, 2006), more funding when collaborating with a WEIRD author (van Halden, 2012), and the possibility of non-WEIRD authors being a viable option for collaboration only when their specific type of expertise or access to a resource is required for the research. From the findings discussed in the literature, one can speculate that only a minority of WEIRD authors feel the need to collaborate with non-WEIRD authors and subsequently prefer to collaborate with other WEIRD authors; this may be exacerbated in nations which have no, few, or ineffective, policies promoting international collaboration (specifically non-WEIRD and WEIRD collaboration).

6.2.5 Change in level of internationalization over time

It was interesting, but not surprising, to find that the proportion of non-WEIRD author publications has been quite low throughout the time period analysed (1985-2012). As mentioned in chapter 4, this section was working under the hypothetical norm that if internationalization was fully implemented, there should be an equal amount of publications coming from WEIRD and non-WEIRD authors, i.e. a 50:50 distribution ratio. Regardless of Israel's categorization as a WEIRD or non-WEIRD nation, the vast majority of each yearly period differed significantly from the hypothetical norm. This finding points to a situation where one can assume that internationalization (i.e. equal publications between WEIRD and

non-WEIRD authors), at least on this level, does not exist within the journal, and possibly the ISPP, as of yet. One of the possible reasons that - both historically and currently - non-WEIRD nations have such low proportion of publications within the journal could be due to the theorized dependency that non-WEIRD authors have on WEIRD authors for collaborative, and therefore publication, opportunities.

One can speculate, based on the qualitative analysis, that the relatively small number of non-WEIRD publications within the journal exacerbates the dependency of non-WEIRD authors on WEIRD authors and their work. For instance, by making non-WEIRD authors more reliant on WEIRD countries and authors for basic science, such as new theories, techniques, and methods, non-WEIRD authors are limited to publishing papers relating to the empirical testing of these theories, techniques, and methods, and less on developing their own theories, and giving their non-WEIRD perspectives on WEIRD-developed ones (Alatas, 2003).

Israel's categorization did make a difference in the results to some extent. For instance, when Israel was categorized as a non-WEIRD nation, there were 5 years (5/28) which had no non-WEIRD publications in at all, and the peak of non-WEIRD author's publication proportion reached 0.17 (17% of the total publications of that year). However, when Israel was categorized as WEIRD, there were 11 years in which there were no non-WEIRD publications (11/28) and the peak of non-WEIRD publication proportions reached only 0.13 (13% of the total publications of that year). These findings again suggest that when Israel was classified as a non-WEIRD nation, because of its WEIRD-like characteristics, it distorts the results in a way that suggests internationalization is at a higher level than it actually is within the ISPP's journal, *Political Psychology*. Without Israel's additional publication count, the findings placed non-WEIRD countries and their authors in a precarious position within the network, especially when taking into account the chronological progression of the journal. This supports the earlier decision to classify Israel by default as WEIRD.

Regarding the change in internationalization over the period of time analysed, the findings suggest that non-WEIRD authors contributed the most to the journal in the during the years 1990-1999, with proportions hitting a trough during the early 2000's and beginning to slightly rise again towards the end years, such as 2010-2012. It is possible that the reason for the relatively high contribution of non-WEIRD authors in the 1990's may have been because of the increasing spread of technological availability and access, such as the internet and

cheaper traveling costs, which could have enabled non-WEIRD research to partake in research on the international level (Glazel, 2003).

6.3 Limitations and recommendations

This sub-section of the discussion chapter outlines the limitations that were experienced whilst conducting this research, as well as recommendations on how to better alleviate these limitations and recommendations on other aspects of the research. This section will be divided into two sections: firstly, in limitations, author name disambiguation, using journal-only bibliometric data, as well as the qualitative analysis will be discussed. Secondly, in recommendations, the ideas of exploring governmental policies and an auxiliary study of conference papers will be discussed.

6.3.1 Limitations

6.3.1.1 Author name disambiguation

As mentioned in the methods chapter, there is an inconsistency in the Thomson Reuters formatting, particularly before and after the year 2007. This resulted in author homonymy due to common first and last name initials or listing of the same author in different formats, distorting the coauthorship network and its structures. As the Web of Knowledge database inconsistently records the author names - sometimes using the full name, and other times only the initial of the first name and then the surname – a choice of which format would be used had to be made. Given the reasonably high proportion of publications which used the ‘First Initial, Surname’ format; this was the format that was followed in this research. A recommendation for future research on this topic would be to collect both formats and then cross check each author to eliminate duplications; whilst this work may be tedious and time-consuming, the output will be more comprehensive than choosing one format over the other.

6.3.1.2 Qualitative analysis

As the only viable way to make contact with the vast majority of the authors represented within the coauthorship network in this study was via email contact, it was decided that a traditional qualitative analysis would not be conducted within this study. Instead, the

qualitative analysis that was conducted was reduced to a secondary source descriptive study; i.e., it was limited to describing only what areas of research that the authors have written that has been published in academic journals. If an ethnographic study was conducted in conjunction to the descriptive and quantitative analysis, it is my opinion that it would provide much insight into the more nuanced factors involved within the level and process of internationalization within *Political Psychology*, as well as being able to confirm or disconfirm the conclusions that have been reached.

6.3.1.3 Journal-only data

This research made the assumption that the patterns and social structures of internationalization, or lack thereof, within the organisation will become evident, at least in so far as the publications in the journal represent the primary activities of the society. However, as discussed in the literature, there are limitations to using peer-reviewed journal articles as the only source of data. Some of the reasons that using this data may be a limitation is – a limitation in this case being something that may not accurately represent the true level of internationalization of the ISPP – is because peer-reviewed journals are the most formal means of dissemination and by looking at less formal means, such as the ISPP's annual conference, it may be possible to produce a more accurately representative level of internationalization.

6.3.2 Recommendations

6.3.2.1 Exploration of governmental and organisational policies

Exploring the different policies that different governments or organisations have adopted (or not adopted) would provide insight into what promotes or hinders the level of internationalization within academic collaboration and subsequently, academic journals. If one were to compare the different policies that different nations have with the amount of non-WEIRD collaboration within that country one could gain valuable insight into the process of internationalization. Whilst this was not a limitation for this study due to the fact that it was not part of this research, it is recommended that an examination of the policies and how they impact internationalization be conducted.

6.3.2.2 Auxiliary study of conference papers

A follow-up study is planned, which will involve collecting coauthorship data from archived abstract booklets of previous conferences held by the International Society for Political Psychology. The data for this sub-study will be collected from the International Society for Political Psychology's archives which are stored on the organisation's website. The reason that the ISPP archival database is suggested to be used as the source, is because it is the only known database that has the conference abstracts of the ISPP. It is believed that by gaining access to this data, there will be a higher chance of non-WEIRD authors being represented and thus a more comprehensive insight into the mechanisms of internationalization within the ISPP would be gained.

Chapter 7: Conclusion

The research presented set out to explore the level of ‘internationalization’ that exists within the International Society for Political Psychology’s journal, *Political Psychology*, with the assumption that the findings could be generalised to the society itself. In reviewing the literature, it was determined that two levels of internationalization exist that could be explored: first, there was a type of internationalization that was represented purely by collaboration between authors associated with different countries – this was referred to as *basic internationalization*. Secondly, there was a type of internationalization that looked more closely at the more nuanced characteristics of these international collaborations, primarily by using the terms of WEIRD and non-WEIRD to highlight the differences between the authors and to explore whether or not there are peripheries within the coauthorship network – this was referred to as *depth internationalization*. Both of basic and depth internationalization were analysed and discussed in this research.

The results of the analysis of the basic internationalization analysis found that some countries produce far more articles that are published within the journal, such as the USA, UK, and Canada and suggests that there is a low to moderate level of international collaboration between authors of different countries in journal. The analysis of depth internationalization gave insight into the more nuanced characteristics of the relationships of WEIRD and non-WEIRD authors represented within the journal. In terms of their overall centrality in the coauthorship network, no calculations were significant. This suggests that all authors, regardless of their categorization, have an equal chance of getting opportunities to collaborate with other authors within the network and there is no system of dependency between the authors. However, while non-WEIRD authors have an equal chance of entering into collaboration, WEIRD authors has a significantly higher chance of being a first author. Additionally, only a relatively small percentage of both WEIRD and non-WEIRD authors had ties (collaborations) with other non-WEIRD authors, suggesting an overall preference within the network to collaborate with WEIRD authors. This hints at a possible bias within the network that exists separately from the ISPP’s efforts to increase internationalization; a bias where authors prefer to collaborate with WEIRD authors over non-WEIRD when given the choice. To answer the question of how much the level internationalization has changed over

the course of the journal's publication history, the results pointed to a scenario where the peak of international collaboration within the network has already passed; however, while still relatively low compared to the historical peak, the proportion of non-WEIRD contributions within the journal seems to be on the rise.

In conclusion a moderate level of internationalization does exist within the journal, *Political Psychology*, and therefore in extension, a moderate level of internationalization exists within the International Society for Political Psychology. However, this level of internationalization is in a precarious position – positioned within cross-roads of sorts. Internationalization can either continue to be promoted and encouraged, which, if successful should show in the form of: (1) a higher count of non-WEIRD authors within the coauthorship network, (2) a higher level of equity in author positions in publications, (3) an increase in ties with non-WEIRD authors for authors of both categories and (4), a higher overall proportion of non-WEIRD publications in the forthcoming years. Otherwise, either stagnation or regression will occur. In the case of the former, the current level of internationalization will be maintained, but so will the obvious inequalities between WEIRD and non-WEIRD authors. In the case of the latter, the opposites of the points listed above will occur and a system of dependency will almost certainly take hold.

If a truly internationalized and globally relevant political psychology is to be developed, it seems important for WEIRD and non-WEIRD author collaborations to be fostered. It is equally, or even more, important that non-WEIRD authors have an increased level of collaborative ventures with other non-WEIRD authors. There is clearly a need for both intra and international organisations and institutions to redress the state of policy for not only political psychology, but also other areas of scientific collaboration, in a manner that will promote the production and dissemination of knowledge that is relevant to the advancement of institutional capacity as well as both WEIRD and non-WEIRD people who will be the beneficiaries of this knowledge.

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Appendix A: Distance-from calculation method

The procedure for analysing the shortest distance, using the 'distance from' algorithm in Visone, is as follows.

For the first calculation, after importing the author details from the VB-script output and assigning the details to the respective authors in Visone, all nodes associated with the non-WEIRD category were selected, and then the 'distance from selected' algorithm was executed and the resulting variables were saved under the variable name 'distance_from_non_WEIRD'.

For the second calculation, all non-WEIRD nations were selected then nodes (authors) from one of the non-WEIRD nations were deselected out of the current selection. Once this one was done, the ‘distance from’ algorithm was executed and saved as a new variable, such as ‘distancefromnonweird_not_southafrica’ in the case of testing the distance that non-WEIRD nations have with the South African authors (also non-WEIRD) represented within the coauthorship network. This process was repeated until all individual non-WEIRD nations were calculated. Once completed, the all ‘distance from’ variables were exported to an .xml document – sorted by the variable ‘associated country’. This .xml document was then imported to SPSS.

Once the data was imported into SPSS, each country’s own variable (such as ‘distancefromnonweird_not_southafrica’) was located and then imported to that country’s data location in the column of the variable ‘distance_from_non_WEIRD’. The reason that this was done is because the variable of ‘distance_from_non_WEIRD’ did not take into account the distance non-WEIRD authors had from other non-WEIRD authors when it was first calculated. Once this was completed for all countries and their associated nodes, and there is one column under the variable of ‘distance_from_non_WEIRD’ with all countries’ authors’ scores, statistical analyses were run on the data to explore the distances that each nation had from one another.

Appendix B: WEIRD and non-WEIRD European nations

WEIRD and non-WEIRD countries within Europe.

The following table distinguishes between the WEIRD and non-WEIRD classification of traditionally European (by geographic location) countries. The classifications used were based primarily upon the *Official United Nations list of Regional Groups (2010)*.

WEIRD Europe	Non-WEIRD Europe
 Andorra	 Lithuania
 Austria	 Albania.
 Belgium	 Bosnia and Herzegovina
 Denmark	 Bulgaria
 Finland	 Macedonia
 France	 Montenegro
 Germany	 Romania
 Greece	 Serbia
 Iceland	 Croatia
 Ireland	 Czech Republic
 Italy	 Hungary
 Liechtenstein	 Poland
 Luxembourg	 Serbia
 Malta	 Slovakia
 Monaco	 Slovenia
 Netherlands	 Russia
 Norway	 Kazakhstan
 Portugal	 Ukraine
 San Marino	 Belarus
 Spain	 Moldova
 Sweden	 Georgia
 Switzerland	 Armenia
 Turkey	 Azerbaijan
 United Kingdom	 Estonia
	 Latvia

Appendix C: Qualitative data abstracts

Cluster 1: Social Dominance Orientation

- Levin, S., and Sidanius, J. (1999). **Social dominance and social identity in the United States and Israel: Ingroup favoritism or outgroup derogation?** *Political Psychology*, 20, 99-126.

American and Israeli university students completed questionnaires in their native languages assessing ingroup identification, social dominance orientation (SDO) and ingroup and outgroup affect. The interrelationships among the variables were examined for high- and low-status groups in three intergroup contexts: whites and Latinos in the United States, Ashkenazim and Mizrachim in Israel, and Jews and Arabs in Israel. Theoretical predictions of social identity theory and social dominance theory were tested Results indicated that for all high- and low-status groups, stronger ingroup identification was associated with more positive ingroup affect, and for nearly all groups, higher SDO was associated with more negative affect toward the low-status group. In addition, SDO was positively associated with ingroup identification for all high-status groups, and negatively associated with ingroup identification for almost all low-status groups. Explanations for cross-cultural differences in the factors driving group affect are suggested, and theoretical refinements are proposed that accommodate them.

- Levin, S., Sidanius, J., Rabinowitz, J. L., and Federico, C. (1998). **Ethnic identity, legitimizing ideologies, and social status: A matter of ideological asymmetry.** *Political Psychology*, 19, 373-404.

This paper examines the ideological asymmetry hypothesis with respect to the interface between legitimizing ideologies and psychological attachment to one's ethnic group. The ideological asymmetry hypothesis suggests that hierarchy-enhancing legitimizing ideologies should be positively associated with ingroup attachment among high-status groups, but that among low-status groups these associations should be either less positive in magnitude (isotropic asymmetry) relative to high-status groups or negative in direction (anisotropic asymmetry). The opposite pattern should be found with respect to the interface between hierarchy-attenuating legitimizing ideologies and ingroup attachment: Among high-status groups these associations should be negative, but among low-status

groups these associations should be either less negative in magnitude (isotropic asymmetry) relative to high-status groups or positive in direction (anisotropic asymmetry). The presence of isotropic versus anisotropic asymmetry is hypothesized to depend on the degree of disparity in status between the groups being compared: Wider status gaps should tend toward anisotropic asymmetries. The relationships between legitimizing ideologies and ingroup attachment were compared for (1) relatively high-status ethnic groups (European and Asian Americans) versus relatively low-status ethnic groups (Latinos and African Americans) in the United States, (2) the higher-status Jewish ethnic group (Ashkenazim) versus the lower-status Jewish ethnic group (Mizrachim) in Israel, and (3) the high-status Israeli Jews versus the low-status Israeli Arabs. The data were largely consistent with the ideological asymmetry hypothesis. The implications of these findings are discussed within the theoretical frameworks of social dominance theory and other approaches to intergroup relations.

- Levin, S. (2004). **Perceived group status differences and the effects of gender, ethnicity, and religion on social dominance orientation.** *Political Psychology*, 25, 31-48.

Social dominance orientation (SDO) is a measure of general desire for group-based dominance. According to social dominance theory, the higher the status of one's group, the higher one's level of SDO should be. This study examined the extent to which between-group differences in SDO increase as the size of the perceived status gap between the groups increases. Data were collected in Israel, Northern Ireland, and the United States. In agreement with expectations, differences in SDO between arbitrary-set groups (e.g., ethnic and religious groups) were found to be greater when the status gap between the groups was perceived to be larger. In contrast, gender differences in SDO did not vary as a function of the size of the perceived status gap between men and women: Men had higher levels of SDO than women even when the gender status gap was perceived to be very small. These findings highlight the effects of perceived group status on SDO and the degree to which these effects vary depending on whether the salient group distinction is based on gender, ethnicity, or religion.

- Alexander, M. G., Levin, S., and Henry, P. J. (2005). **Image theory, social identity, and social dominance: Structural characteristics and individual motives underlying international images.** *Political Psychology*, 26, 27-45.

The present study provides an empirical test of international relations image theory and extends the theory by emphasizing that individuals' social identity and social dominance motives contribute to such images. One hundred forty-five Lebanese participants completed a survey that assessed their perceptions of U.S.-Lebanese relations, the images they have of the United States, their social identities, and their social dominance orientations. Participants were more likely to hold the barbarian image of the United States than the enemy, imperialist, or ally images. Participants also tended to perceive the United States as having relatively superior power, inferior cultural status, and goals that are incompatible with those of Lebanon. Consistent with image theory predictions, this constellation of structural perceptions was associated with stronger endorsement of the barbarian image. Furthermore, participants were more likely to endorse the barbarian image of the United States the more they identified with Arabs and Palestinians, the less they identified with Christians and the Western world, and the lower their social dominance orientation. Results highlight the importance of considering both structural characteristics and individual motives underlying international images and demonstrate the need for scholars to move beyond the enemy image of nations when describing international relations.

- Henry, P. J., Sidanius, J., Levin, S., and Pratto, F. (2005). **Social dominance orientation, authoritarianism, and support for intergroup violence between the Middle East and America.** *Political Psychology*, 26, 569-584.

Social dominance theory has generally posited that terror and intergroup violence can be explained in terms of social dominance struggles. Social dominance theorists have described terror mostly as a tool for maintaining intergroup hierarchies in society (Sidanius and Pratto, 1999). Although implications of the theory suggest that terror may also be used by lower status groups as a tool for the resistance of domination by higher status groups, this prediction heretofore has not been empirically demonstrated. Data from two samples, one in the United States and one in Lebanon, were collected regarding attitudes toward terrorism and intergroup violence. The results show that the American sample demonstrates the typical patterns of social dominance such that those who are higher in social dominance orientation

tend to support greater violence toward the Middle East. However, the Lebanese sample shows the opposite pattern, such that those who are lower in social dominance orientation tend to support violence toward the West. These results suggest that (1) support for terrorism among Middle East citizens is a project of counter dominance, and, more broadly, that (2) the relationship between social dominance orientation and support for violence depends on the dynamics of the conflict and the status of the perpetrators.

- Bassili, J. N., and Krosnick, J. A. (2000). **Do Strength-Related Attitude Properties Determine Susceptibility to Response Effects? New Evidence from Response Latency, Attitude Extremity, and Aggregate Indices.** *Political Psychology*, 21, 107-132.

A great deal of research has shown that small changes in question wording, format, or ordering can sometimes substantially alter people's reports of their attitudes. Although many scholars have presumed that these so-called response effects are likely to be more pronounced when the attitudes being measured are weak a number of studies have disconfirmed this notion. This paper presents several new tests of this hypothesis using a variety of measures and analytic techniques. The findings largely replicated previously documented effects and non-effects but also uncovered new effects not previously tested. No single strength-related attitude attribute emerged as a consistent moderator of all response effects. Rather, different individual attributes moderated different effects, and a conglomeration of strength-related dimensions did not emerge as a reliable moderator. Taken together these results support the conclusions that different response effects occur as the result of different cognitive processes, and that various strength-related attitude attributes reflect distinct latent constructs rather than a single one.

- Bassili, J. N., and Roy, J. P. (1998). **On the representation of strong and weak attitudes about policy in memory.** *Political Psychology*, 19, 669-681.

A priming paradigm was used to explore the representation of attitudes about government policies in memory. Participants performed pairs of tasks in quick succession. The focal tasks involved evaluating a policy or thinking of one of its consequences. The results showed that thinking of a consequence of a policy speeded up its subsequent evaluation, regardless of whether the participant held a strong or weak attitude about the policy. Evaluating the policy speeded up thinking of one of its consequences for strong attitudes but not for weak ones. In general, it took participants longer to think of a consequence of a policy than to evaluate it.

The implications of these results for existing views of the representation of attitudes in memory are discussed.

- Staerklé, C., Sidanius, J., Green, E. G., and Molina, L. E. (2010). **Ethnic Minority-Majority Asymmetry in National Attitudes around the World: A Multilevel Analysis.** *Political Psychology*, 31, 491-519.

Using data from the International Social Survey Programme, this research investigated asymmetric attitudes of ethnic minorities and majorities towards their country and explored the impact of human development, ethnic diversity, and social inequality as country-level moderators of national attitudes. In line with the general hypothesis of ethnic asymmetry, we found that ethnic, linguistic, and religious majorities were more identified with the nation and more strongly endorsed nationalist ideology than minorities (H1, 33 countries). Multilevel analyses revealed that this pattern of asymmetry was moderated by country-level characteristics: the difference between minorities and majorities was greatest in ethnically diverse countries and in egalitarian, low inequality contexts. We also observed a larger positive correlation between ethnic subgroup identification and both national identification and nationalism for majorities than for minorities (H2, 20 countries). A stronger overall relationship between ethnic and national identification was observed in countries with a low level of human development. The greatest minority-majority differences in the relationship between ethnic identification and national attitudes were found in egalitarian countries with a strong welfare state tradition.

Cluster 2: Social Identity Theory

- Dixon, J., Durrheim, K., Tredoux, C. G., Tropp, L. R., Clack, B., Eaton, L., and Quayle, M. (2010). **Challenging the stubborn core of opposition to equality: Racial contact and policy attitudes.** *Political Psychology*, 31, 831-855.

A Random Digit Dialing survey (n = 794) examined the interracial contact experiences and racial attitudes of White South Africans. The survey measured racial attitudes not only in terms of individuals' prejudice, but also in terms of their perceptions of group threat, perceived injustice, and support for various government policies designed to rectify the legacy of apartheid. The results indicated that the frequency and quality of interracial contact predicted Whites' support for both race compensatory and race preferential policies of

redress, and these effects were partly mediated by perceived threat, sense of fairness, and racial prejudice. The research points to a potential rapprochement between the social psychological theories of intergroup contact and group positioning theories derived from the work of Blumer. It also highlights the value of adopting a more expansive and politically nuanced conception of the "consequences" of contact and desegregation.

- Hopkins, N., and Dixon, J. (2006). **Space, place, and identity: Issues for political psychology.** *Political Psychology*, 27, 173-185.

No abstract available.

- Slone, M., Kaminer, D., and Durrheim, K. (2000). **The contributions of political life events to psychological distress among South African.** *Political Psychology*, 21, 465-487.

The psychological consequences of adverse political experiences among South African youth were studied in a sample of 540 black and white adolescents from age groups, evenly divided by gender. Three questionnaires were administered, measuring exposure to political life events, the presence of symptoms of psychopathology, and stressful personal life events during the previous 5 years. The first hypothesis, predicting a substantial contribution of stressful political experiences to psychopathology, was strongly supported; when stressful personal life events were partialled out, a significant effect for political life events remained both on general distress and symptomatology indices, the second hypothesis of a linear, relation between exposure to political life events and severity of distress was also confirmed. The findings underscore the enduring impact on children's mental health of past apartheid policies in South Africa specifically, and adverse political environments in general.

- Hopkins, N., Reicher, S., and Harrison, K. (2006). **Young People's Deliberations on Geographic Mobility: Identity and Cross-Border Relocation.** *Political Psychology*, 27, 227-245.

This paper considers how social identities may shape group members' spatial behaviour. Specifically, it reports a small-scale interview study (n = 30) conducted with young people (17 years of age) living in a Scottish town close to a national border (with England). This border has very little physical presence. However, the psychological significance of a Scottish identification remains strong, and we investigate the ways in which national identities are implicated in young people's deliberations about their future geographic mobility throughout

the United Kingdom. Our data suggest that national identity-related considerations are not always salient in our participants' deliberations. Yet, when national identity is salient and mobility is framed in national terms, we find our participants are often cautious about relocating to England. However, our data also suggest that the ways in which a national framing of self and mobility may be consequential is itself diverse.

- Reicher, S., Hopkins, N., and Harrison, K. (2006). **Social identity and spatial behaviour: The relationship between national category salience, the sense of home, and labour mobility across national boundaries.** *Political Psychology*, 27, 247-263.

This study explores the impact of manipulating the salience of national categories upon the willingness of highly identifying Scots to take up either short-term or long-term jobs in Scotland as compared to England. The results support the hypotheses (a) that high-identifying Scots increase preference for intra- over extranational locations when national categories are salient, (b) that this effect is fully mediated by fitting in—that is, the sense of being ‘at home’ in Scottish as compared to English locations, and (c) that these relationships only hold for long-term as opposed to short-term jobs. We discuss these results in terms of the impact of identity definitions upon spatialised action and the economic/political importance of this relationship.

- Reicher, S., and Hopkins, N. (2001). **Psychology and the end of history: A critique and a proposal for the psychology of social categorization.** *Political Psychology*, 22, 383-407.

This paper suggests that self-categories provide the basis for political action that those, who wish to organise political activity do so through the ways in which they construct self-categories, and that political domination can be achieved through reifying social categories and therefore denying alternative ways of social being. Hence, the way in which social psychology approaches the matter of self-categorization provides a touchstone for its politics. To the extent that we too take categories for granted, we are in danger of supporting conservative and undemocratic politics. The only way to eschew tendencies toward reification within social psychology is to add a historical dimension to our own analysis of self-categorical processes.

Cluster 3: Race and Politics

- Duckitt, J., and Mphuthing, T. (1998). **Political power and race relations in South Africa: African attitudes before and after the transition.** *Political Psychology*, 19, 809-832.

When an oppressed majority finally gains political power what happens to its attitudes to its erstwhile oppressor, and to its perceptions and feelings about its socioeconomic disadvantages that were established during its oppression? Longitudinal data from pre- and post-transition surveys of black South African college and high school students indicate marked reductions in perceptions of and outrage about intergroup socioeconomic inequity and deprivation relative to English-speaking and Afrikaans-speaking whites, but no change in attitudes toward these groups or toward whites in general. The findings are discussed in terms of contemporary theory and research on justice intergroup relations, and group conflict. Some tentative implications for the prospects for a democratic political culture in South Africa are noted.

- Ikeda, K. I., Liu, J. H., Aida, M., and Wilson, M. (2005). **Dynamics of interpersonal political environment and party identification: Longitudinal studies of voting in Japan and New Zealand.** *Political Psychology*, 26, 517-542.

The dynamical systems theory of groups claims that interpersonal political environment and party identification are dynamically interrelated to provide heuristics under uncertainty. Panel data over the course of a year examined the longitudinal dynamics between social networks, social identifications, and voting behaviour among a national sample of registered voters in Japan and a regional sample in Wellington, New Zealand. Respondents with more stable party identification had greater stability in the political preferences of their interpersonal network in both countries; moreover, stability in party identification was predicted by interpersonal political environment and older age in both countries. Stability of party identification predicted voting consistency in both countries, whereas stability of interpersonal political environment made an independent contribution to voting consistency in Japan only. There were cultural differences in levels of interpersonal political environment stability, but the amount of political discussion and ideological stability did not make independent contributions to any of the three main variables. Results provided support for the dynamical systems theory of groups.

- Fischer, R., Hanke, K., and Sibley, C. G. (2012). **Cultural and Institutional Determinants of Social Dominance Orientation: A Cross-Cultural Meta-Analysis of 27 Societies.** *Political Psychology*, 33, 437-467.

We investigate macro contextual antecedents of national levels of Social Dominance Orientation (SDO). The majority of previous research, in contrast, has tended to focus on individual-level correlates of SDO. We extend research on Social Dominance Theory by modelling national-level differences in institutional discrimination, macroeconomic development, and value ideologies as broad situational factors affecting SDO mean levels in previous studies. Our hypotheses were tested in a three-level meta-analysis of aggregate data from 50,971 individuals in 95 samples from 27 different societies. Strong effects for hierarchy-attenuating legitimizing ideologies and gender empowerment were found. Aggregate discrimination against arbitrary-set groups was less consistently linked to SDO, suggesting that these hierarchies are context-specific. Using mixed-effects three-level modelling, the patterns can be generalized to new contexts and suggest a particular institutional and social climate that fosters high SDO.

Cluster 4: National Identity

- González, R., Manzi, J., Saiz, J. L., Brewer, M., Tezanos-Pinto, D., Torres, D., ... and Aldunate, N. (2008). **Interparty attitudes in Chile: Coalitions as superordinate social identities.** *Political Psychology*, 29, 93-118.

This paper reports a survey (N = 1,465) conducted in Chile that was conceived to understand the role of coalition identification as an important sociopsychological mechanism for promoting positive affects toward own-coalition party members in a multiparty system, above and beyond interparty political differences. Participants judged their own political party, parties within coalitions (fellow coalition members and opposing parties), and political coalitions as a whole on affective dimensions (trust, liking, and admiration). The results provide substantial support for the five hypotheses addressed in the study. Overall, perceived interparty distance and political identity threat had a negative impact on affect toward coalition party members. Above and beyond these effects, identification with the coalition positively predicted affect toward allies. Ingroup party affect was positively correlated with affect toward own-coalition party members and own coalition as a whole, but was not negatively associated with affect toward opposing-coalition parties. Moreover, the

relationship between own-party affect and affect toward own-coalition party members was mediated by affect toward own coalition. Overall, evidence for the benefits of promoting coalition identification in a multiparty system is provided and discussed alongside the limitations and practical implications derived from the study.

- Li, Q., and Brewer, M. B. (2004). **What does it mean to be an American? Patriotism, nationalism, and American identity after 9/11.** *Political Psychology*, 25, 727-739.

The period of heightened nationalism in the United States that followed the terrorist attacks of 11 September 2001 provided unusual conditions for investigating issues surrounding the distinction between patriotism and nationalism and the relationship between national identification and pluralistic values. In a survey of national identity and social attitudes conducted in late September 2001, two different definitions of national unity were inserted in the introduction to the questionnaire in an attempt to prime activation of different conceptualizations of nationality. Results demonstrated that the priming conditions did have an effect on the pattern of interrelationships among measures of patriotism, nationalism, and tolerance for cultural diversity.

- Cehajic, S., Brown, R., and Castano, E. (2008). **Forgive and forget? Antecedents and consequences of intergroup forgiveness in Bosnia and Herzegovina.** *Political Psychology*, 29, 351-367.

The present study examines the effects of contact and common-ingroup identification on intergroup forgiveness and outgroup behavioral tendencies. A sample of Bosnian Muslims (N = 180) were asked to report their readiness to forgive the misdeeds committed by Bosnian Serbs during the 1992-95 war in Bosnia and Herzegovina. A path analysis of the presumed antecedents and consequences of forgiveness revealed that frequent and good quality contact with members from the perpetrator group predicted forgiveness (positively) and desire for social distance (negatively). Moreover, the positive relationship between contact and forgiveness was mediated by empathy and trust towards the outgroup and by perceived outgroup heterogeneity. Common-ingroup identification was also found to be positively associated with forgiveness and negatively with social distance towards the outgroup. Finally, intergroup forgiveness also predicted social distance from the outgroup. The theoretical and applied implications of these findings are discussed.

- Castano, E., Leidner, B., Bonacossa, A., Nikkah, J., Perrulli, R., Spencer, B., and Humphrey, N. (2011). **Ideology, fear of death, and death anxiety.** *Political Psychology*, 32, 601-621.

Ideological beliefs have long attracted the attention of social psychologists, who have investigated their genesis as well as their influence on a host of social phenomena. Conservatism, from the Motivated Social Cognition framework, stems from epistemic and existential needs of the individual, and notably the fear of death. However, Terror Management Theory proposes a view of conservatism and its contrary, liberalism, as equivalent cultural worldviews, equally fit to fulfil such needs. In the present contribution, results are presented from five studies, which test the contrasting hypotheses derived from these two perspectives. A new perspective is considered that accounts for these and previous findings.

- Castano, E., Sacchi, S., and Gries, P. H. (2003). **The perception of the other in international relations: Evidence for the polarizing effect of entitativity.** *Political Psychology*, 24, 449-468.

In an international relations context, the mutual images held by actors affect their mutual expectations about the Other's behavior and guide the interpretation of the Other's actions. Here it is argued that the effect of these images is moderated by the degree of entitativity of the Other—that is, the extent to which it is perceived as a real entity. Two studies tested this hypothesis by manipulating the entitativity of the European Union (EU) among U.S. citizens whose images of the EU varied along the enemy/ally dimension. Results of these studies yielded converging evidence in support of the hypothesized moderating effect of entitativity. Specifically, entitativity showed a polarizing effect on the relationship between the image of the EU and judgments of harmfulness of actions carried out by the EU.

Cluster 5: Non-WEIRD only clusters

- Ho, D. Y., Chau, A. W., Chiu, C. Y., and Peng, S. Q. (2003). **Ideological orientation and political transition in Hong Kong: Confidence in the future.** *Political Psychology*, 24, 403-413.

In the two-component model of ideological orientation, a person's ideological position is jointly influenced by attitudinal and affective components. The present study adopted this

conceptual model to predict confidence in the future of Hong Kong. Questionnaire responses were collected from 395 adults (56.8% men and 43.2% women) in Hong Kong in April 1995, some 2 years before its transfer from British to Chinese control. The results show that the level of confidence in Hong Kong was related to both attitudinal and affective identification with Hong Kong and China. These findings suggest that the transfer of government may have brought to the surface a collision of the divergent political cultures of Hong Kong and mainland China, resulting in two antagonistic political orientations that predicted confidence in the future of Hong Kong.

- Gerganov, E. N., Dilova, M. L., Paspalanova, E. P., and Petkova, K. G. (1995). **Voting in the first post-totalitarian elections in Bulgaria.** *Political Psychology*, 16, 737-748

The voting intentions of Bulgarians as a function of their attitudes toward political formations and the impact of the social environment were studied on the basis of a representative sampling survey. Rosenberg's (1956, 1960) theoretical model of attitude was adopted, Social influence was investigated by means of Ajzen and Fishbein's (1973, 1980) concept of the subjective norm. The relative strength of the impact of the two factors, attitude and social influence, on voting intentions was obtained by means of stepwise regression analysis. As expected, attitude was the more powerful determinant of intention. The results revealed significant differences between the followers of the two main political formations (the Bulgarian Socialist Party, the former Communists, and the Union of Democratic Forces, an anti-Communist coalition) with regard both to the way they perceived the political situation at the time and to the motivation for their voting intentions.

- Gray, D. B., Ageyev, V., Djintcharadze, N., and Bovina, I. (1996). **Belief in equality and democratic leadership behavior in two Russian samples.** *Political Psychology*, 17, 473-495.

Does the belief in equality significantly affect democratic leadership in contemporary Russia? The belief in equality is defined as a set of assumptions that human ability and potential are widely distributed rather than concentrated in elite minorities. A reliable and valid inventory of the belief in equality (BE scale) which had been developed in the United States was successfully translated into Russian. Two separate samples were studied—one of Russian university students ($N = 200$) and the other from the Russian workforce ($N = 213$). Among the university students, high BE participants exhibited higher democratic leadership behaviors than low BE participants (especially those of the

under-20-year-old students); however, this effect was just barely detectable for the older work-force sample. Speculations are offered regarding the differences in results between the university and the work-force sample.